

# **NIMS GUIDE TO THE E17 ORBIT**

**Original: September 1998**

**Revised: May 2000**

## Foreword to the Revised Edition

This document was originally published by the NIMS team as a preview to data acquisition for one orbit. It has been revised and corrected after data receipt and systematic processing for inclusion on the CD-ROMs containing NIMS Experimental Data Records (EDRs) and Systematic Data Products (Cubes). It is also available on the NIMS website in both PostScript (PS) and Portable Document Format (PDF) form. Some material in the original document has been omitted, and a chapter added describing the data actually returned.

The aim of this guide is to provide detailed information on the various NIMS observations and calibrations. Also included in this document is background information on the orbit. A brief overview of the guide is given below. Please refer to the beginning of each chapter for a detailed list of contents.

Chapter 1 gives a brief introduction to the orbit. Chapter 2 gives an overview and summarizes the NIMS science objectives using tables, spreadsheets and timelines. Chapter 3 contains diagrams of various aspects of spacecraft geometry. Chapter 4 summarizes the NIMS observations in terms of a comprehensive sequence summary and a NIMS Observation Table (Obstab). Chapter 5 is a collection of the Detailed Observation Designs made up of OAPEL forms and POINTER plots. Chapter 6 contains plots of the NIMS wavelength edit tables used. Chapter 7 summarizes the NIMS data return from the orbit.

For more information, please refer to the Galileo Orbit Planning Guide (OPG) and the Galileo Orbit Activity Plan (OAP) for this orbit. Both of these documents are produced by the Galileo Project.

For more information on the NIMS instrument, please refer to the NIMS instrument paper: R.W. Carlson, P.R. Weissman, W.D. Smythe, J.C. Mahoney and the NIMS Science and Engineering Teams, "Near-infrared Mapping Spectrometer Experiment on Galileo", Space Science Reviews, Vol 60, pp 457-502, 1992.

## Acknowledgements

The NIMS observations in this guide were designed by the NIMS Science Coordinators: Kevin Baines, John Hui, Rosaly Lopes-Gautier, Adriana Ocampo and Marcia Segura. Materials were also provided by Elias Barbinis, Paul Herrera, Bob Mehlman, Jim Shirley, Al Stevenson and Bill Smythe. Some figures and plots produced by various members of the Galileo Project were incorporated into this guide. Frank Leader provided some materials and edited the guide under the direction of Bob Mehlman and Bill Smythe.

## Foreword

This document serves as a guide to the E17 Orbit for the NIMS Team. The aim of this guide is to provide detailed information on the various NIMS E17 observations and calibrations. Also included in this document is background information on the E17 orbit. This guide was produced before the start of the E17 orbit. After analysis of the NIMS E17 data is complete, it will be revised and corrected. A brief overview of the guide is given below. Please refer to the beginning of each chapter for a detailed list of contents.

Chapter 1 gives a brief introduction to the E17 orbit. Chapter 2 gives an overview of the E17 orbit and summarizes the NIMS science objectives for the E17 orbit using tables, spreadsheets and timelines. Chapter 3 contains diagrams of various aspects of spacecraft geometry for the E17 orbit. Chapter 4 summarizes the NIMS E17 observations in terms of a comprehensive sequence summary and a NIMS Observation Table (Obstab). Chapter 5 is a collection of the Detailed Observation Designs made up of OAPEL forms and POINTER plots. Chapter 6 contains plots of the NIMS wavelength edit tables used during the E17 orbit.

For more information on the E17 orbit, please refer to the Galileo Orbit Planning guide and the Galileo Orbit Activity Plan for the E17 Orbit. Both of these documents are produced by the Galileo Project.

For more information on the NIMS instrument, please refer to the NIMS instrument paper: R.W. Carlson, P.R. Weissman, W.D. Smythe, J.C. Mahoney and the NIMS Science and Engineering Teams, "Near-infrared Mapping Spectrometer Experiment on Galileo", Space Science Reviews, Vol 60, pp 457-502, 1992.

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# Chapter 1 - Introduction

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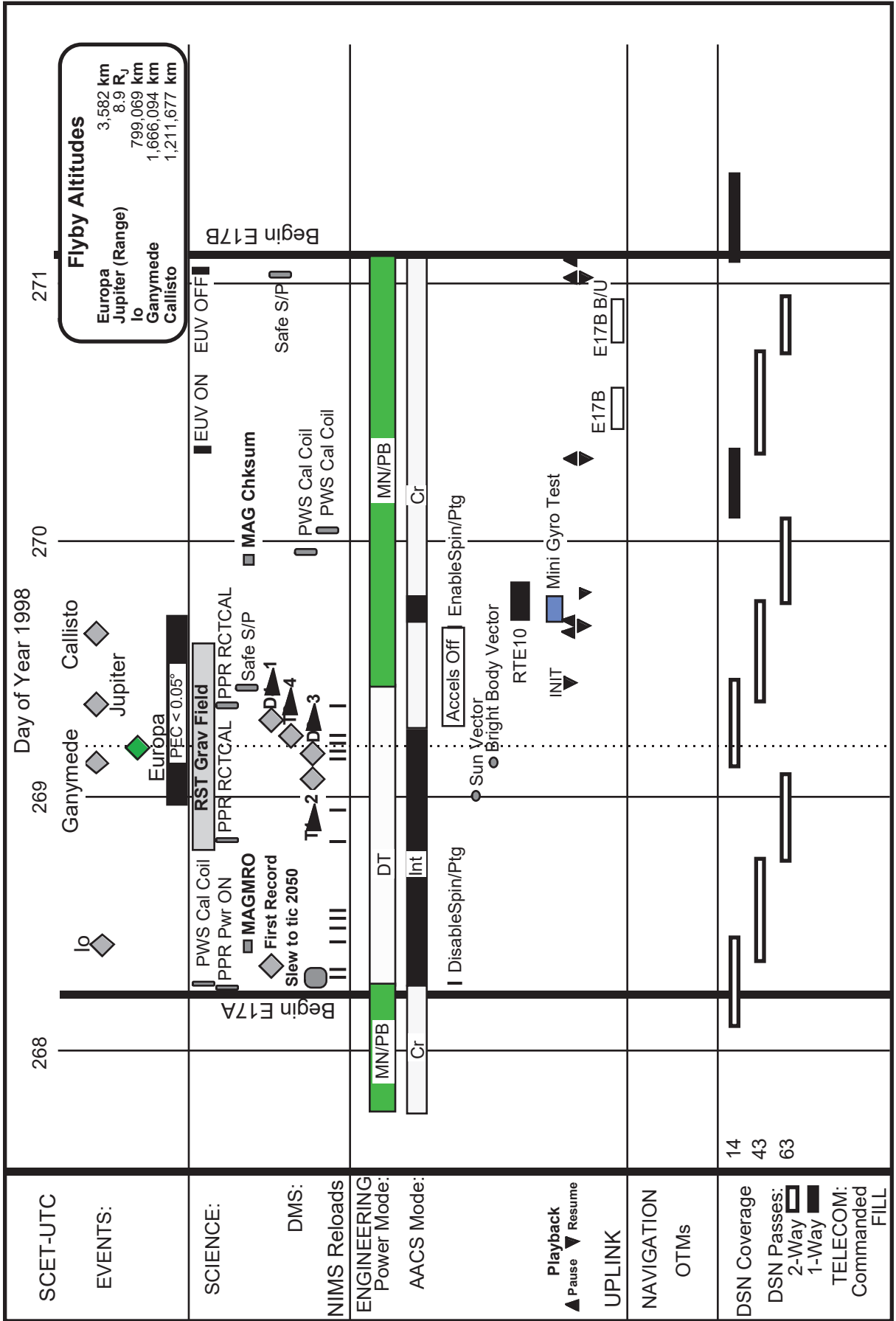
## Introduction

This E17 orbit is the seventeenth of twenty-five orbits in Galileo's Tour of the Jovian system and the sixth orbit in the Galileo Europa Mission (GEM). This orbit has a targetted satellite flyby of Europa. NIMS will make observations of Jupiter in this orbit.

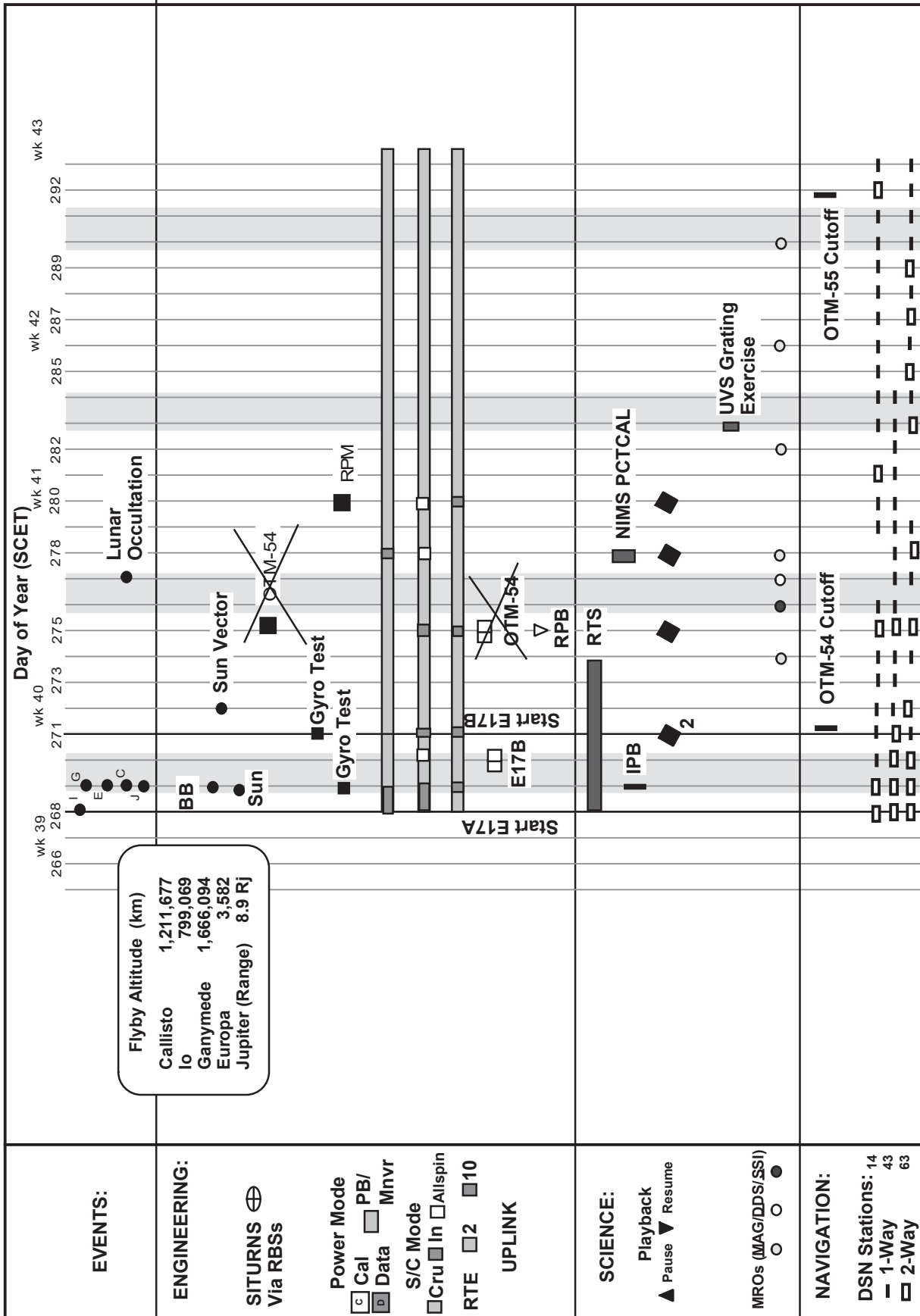
There are 13 autonomous reloads of the NIMS RAM code from CDS planned during the E17A encounter period, one just before each science observation. These reloads are in response to the on-going flight-anomalies where the NIMS RAM code takes some bit hits and halts the instrument during when the spacecraft is close to Jupiter. NIMS personnel will monitor the NIMS engineering telemetry data on a regular schedule to track the instrument's status.

The E17 orbit is divided into 2 sequence loads: one Encounter Load (E17A) and one Orbital Cruise Load (E17B). The E17A load begins on D268 (09/25/98) and ends on D271 (09/28/98). This load contains the flybys of Jupiter and Europa. The Cruise Load E17B runs from D271 to D325. Playback of the recorded data takes place during the Cruise phase, E17B. A high-level overview timeline of the E17 orbit can be found on the following three pages.

# E17A Sequence Overview

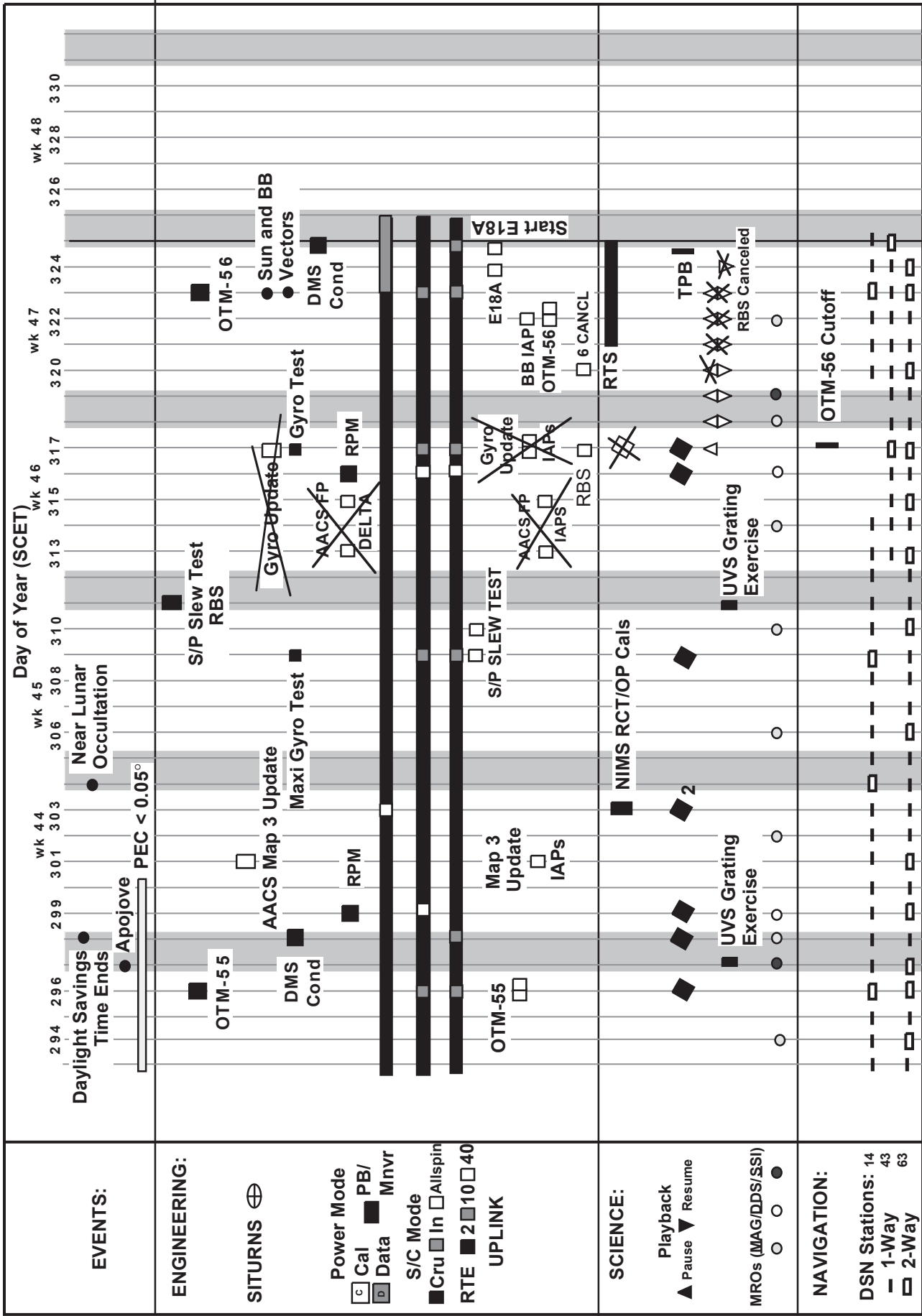


# E17 Overview (Part 1)





# E17 Overview (Part 2)



October 1998

November 1998

A. Allbaugh/ B.MCL  
11/17/98

21 23 26 28 30 02 04 06 09 11 13 16 18 20 23 25 27  
Th F Sa Su M Tu W Th F Sa Su M Tu W Th F Sa Su M Tu W Th F Sa Su

## Introduction

The following table lists the major events during E17, including NIMS Real Time observations, in UTC.

|          |                 |                                  |
|----------|-----------------|----------------------------------|
| 09/25/98 | 98-268/04:00:00 | E17 Encounter Start              |
| 09/25/98 | 98-268/06:26:00 | NIMS RAM Reload 01               |
| 09/25/98 | 98-268/06:32:00 | NIMS R/T Jupiter 01              |
| 09/25/98 | 98-268/06:48:00 | NIMS RAM Reload 02               |
| 09/25/98 | 98-268/10:32:00 | NIMS RAM Reload 03               |
| 09/25/98 | 98-268/11:50:00 | NIMS RAM Reload 04               |
| 09/25/98 | 98-268/12:10:00 | NIMS RAM Reload 05               |
| 09/25/98 | 98-268/12:16:00 | NIMS R/T Jupiter 02              |
| 09/25/98 | 98-268/12:27:00 | NIMS RAM Reload 06               |
| 09/25/98 | 98-268/14:18:00 | NIMS RAM Reload 07               |
| 09/25/98 | 98-268/14:24:00 | NIMS R/T Jupiter 03              |
| 09/25/98 | 98-268/22:49:00 | NIMS RAM Reload 08               |
| 09/26/98 | 98-269/03:04:00 | NIMS RAM Reload 09               |
| 09/26/98 | 98-269/03:51:10 | E17 - Europa Closest Approach    |
| 09/26/98 | 98-269/03:52:00 | NIMS RAM Reload 10               |
| 09/26/98 | 98-269/04:17:00 | NIMS RAM Reload 11               |
| 09/26/98 | 98-269/04:42:00 | NIMS RAM Reload 12               |
| 09/26/98 | 98-269/08:26:11 | PJ-17 - Jupiter Closest Approach |
| 09/26/98 | 98-269/09:07:00 | NIMS RAM Reload 13               |
| 09/28/98 | 98-271/02:00:00 | Start E17 Playback               |
| 10/05/98 | 98-278/21:28:00 | NIMS R/T PCT CAL                 |
| 10/30/98 | 98-303/18:34:00 | NIMS R/T RCT CAL                 |
| 11/20/98 | 98-324/23:15:00 | End E16 Playback                 |

## Chapter 2 - Orbit Overview

### Contents

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## Introduction to Chapter 2

This chapter gives an overview of the NIMS observations in the E17 Orbit.

The text on page 3 summarizes the NIMS science objectives for E17. The NIMS calibrations are discussed on page 3. Early data return and E17 playback are also discussed on page 3.

The table on page 4 is a time-ordered listing of the NIMS Oapels for E17.

The plot on page 5 shows the geometry of the NIMS E17 observations using a north trajectory pole view projection. The plot on page 6 shows the NIMS Europa regional observations along the trajectory of the E17 Europa flyby. The plot on page 7 shows the geometry of the NIMS E17 calibrations.

The table on page 8 lists various NIMS E17 observing parameters: target latitude/longitude, range, cone angle, incidence angle (light), emission angle (view) and phase angle.

The spreadsheet on page 9 summarizes the various inputs for the NIMS E17 Observations. The spreadsheet on pages 10 and 11 summarizes the resource usage for the NIMS E17 observations.

The timeline on page 12 shows the placement of the E17 observations for all instruments during the E17 Encounter Period.

The tapemap on page 13 shows the placement of the E17 observations on the spacecraft's tape recorder.

The timeline on pages 14 through 22 shows the preliminary E17 playback schedule.

The NIMS E17 mosaic designs are summarized on page 23 and 24 in time-order.

## NIMS E17 SCIENCE OVERVIEW

### Jupiter Science

There are six Jupiter observations in E17. Three are realtime and three are recorded. One of the realtime observations looks along the equator and the other two look at the daylit middle north latitude region. The three recorded observations look at the white oval region in the southern hemisphere near -30 latitude to investigate the newly created merged white ovals.

### Io Science

Io was not observed in E17.

### Europa Science

There are seven Europa observations planned for E17: Four regional observations, two half-disk global observation and one distant global observation. ENSUCOMP01 looks at 7N 225W, a region with strong non-ice material spectral features. ENSUCOMP02 is a long spectrometer mode observation that looks for non-water-ice material near -63S 120W. ENSUCOMP03 is a single swath in the leading-side southern hemisphere south of -60 latitude. ENSUCOMP04 looks for diffuse dark material near -30S 90W. ENGLOBAL01 covers pole to pole 120 to 220 degrees West longitude. ENGLOBAL02 covers pole to pole 70 to 160 degrees West longitude. ENEUR20H01 is a distant observation of Europa with two identical LPU scans across the half-lit disk. The first scan in gain state 4 with emphasis on longer wavelengths. The second scan in gain state 3 with emphasis on shorter wavelengths.

### Ganymede Science

Ganymede was not observed in E17.

### Callisto Science

Callisto was not observed in E17.

### Calibration

There are three NIMS calibration observations planned for E17: one RCT cal, one PCT cal and one OPCAL.

### Early Data Return

There are six realtime observations in E17: Three 408 wavelength Jupiter observations (JUPRTS), one RCT calibration, one PCT calibration and one OPCAL.

### E17 Playback

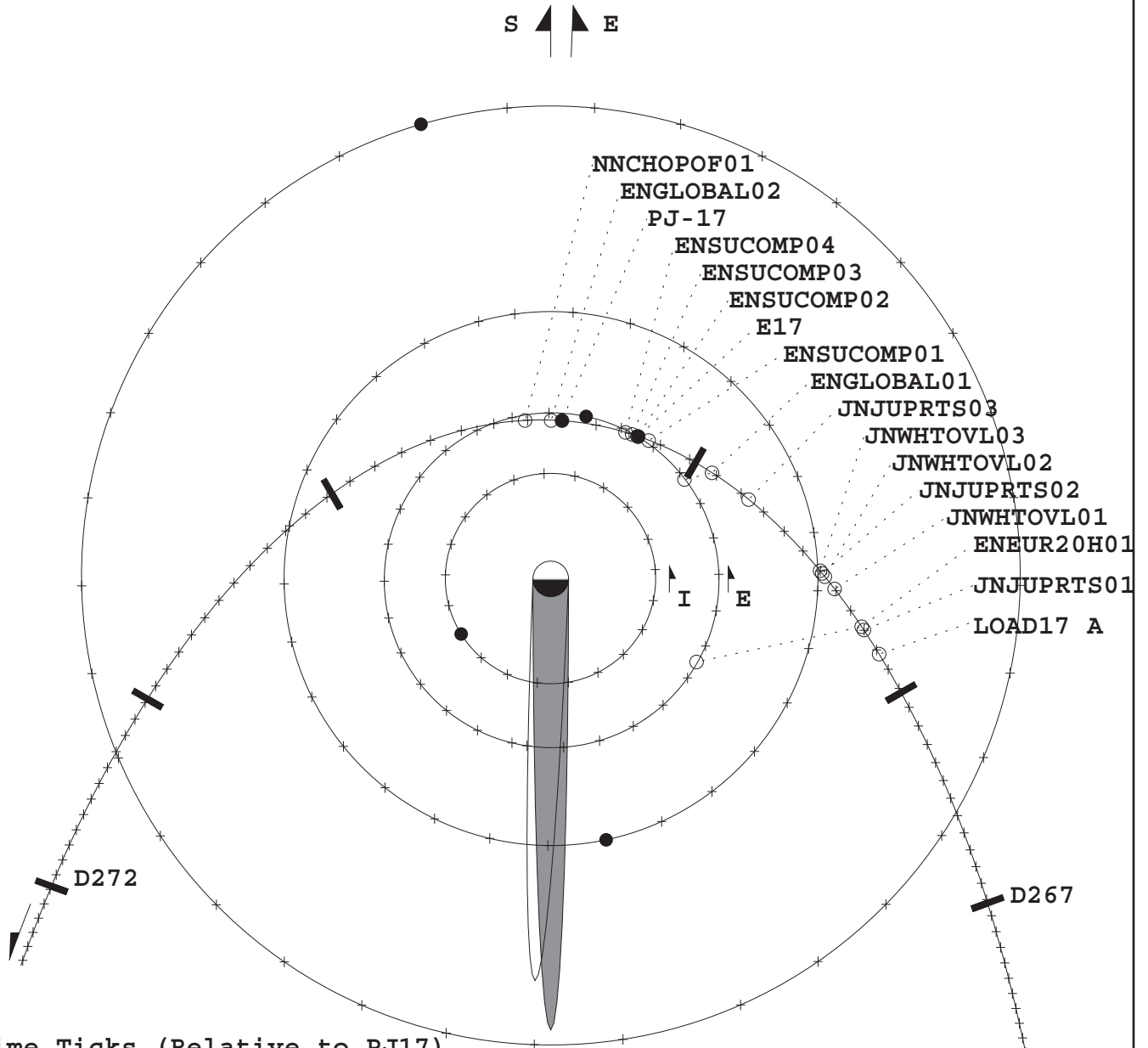
E17 playback is split into two passes through the tape.

E17 Time-Ordered Listing

| OAPEL         | Start (UTC)     | End (UTC)       | Duration     |
|---------------|-----------------|-----------------|--------------|
| 17NNJUPRTS01- | 98-268/06:17:55 | 98-268/06:28:02 | 000/00:10:06 |
| 17JNJUPRTS01* | 98-268/06:28:02 | 98-268/06:42:11 | 000/00:14:09 |
| 17NNEUR20H01- | 98-268/06:44:12 | 98-268/06:48:15 | 000/00:04:02 |
| 17ENEUR20H01- | 98-268/06:48:15 | 98-268/07:02:24 | 000/00:14:09 |
| 17NNWHTOVL01- | 98-268/10:27:40 | 98-268/10:37:46 | 000/00:10:06 |
| 17JNWHTOVL01- | 98-268/10:37:46 | 98-268/10:50:55 | 000/00:13:08 |
| 17NNWHTOVL02- | 98-268/11:41:28 | 98-268/11:51:35 | 000/00:10:06 |
| 17JNWHTOVL02- | 98-268/11:51:35 | 98-268/12:05:44 | 000/00:14:09 |
| 17NNJUPRTS02- | 98-268/12:01:42 | 98-268/12:11:48 | 000/00:10:06 |
| 17JNJUPRTS02* | 98-268/12:11:48 | 98-268/12:25:58 | 000/00:14:09 |
| 17NNWHTOVL03- | 98-268/12:25:58 | 98-268/12:27:59 | 000/00:02:01 |
| 17JNWHTOVL03- | 98-268/12:27:59 | 98-268/12:42:08 | 000/00:14:09 |
| 17NNJUPRTS03- | 98-268/14:10:06 | 98-268/14:20:13 | 000/00:10:06 |
| 17JNJUPRTS03* | 98-268/14:20:13 | 98-268/14:35:23 | 000/00:15:10 |
| 17NNGLOBAL01- | 98-268/22:36:40 | 98-268/22:46:47 | 000/00:10:06 |
| 17ENGLOBAL01- | 98-268/22:46:47 | 98-268/23:37:20 | 000/00:50:33 |
| 17NNSUCOMP01- | 98-269/03:01:35 | 98-269/03:11:42 | 000/00:10:06 |
| 17ENSUCOMP01- | 98-269/03:11:42 | 98-269/03:35:58 | 000/00:24:16 |
| 17NNSUCOMP02- | 98-269/03:44:03 | 98-269/03:54:10 | 000/00:10:06 |
| 17ENSUCOMP02- | 98-269/03:54:10 | 98-269/04:11:21 | 000/00:17:11 |
| 17NNSUCOMP03- | 98-269/04:04:16 | 98-269/04:14:23 | 000/00:10:06 |
| 17ENSUCOMP03- | 98-269/04:14:23 | 98-269/04:37:38 | 000/00:23:15 |
| 17NNSUCOMP04- | 98-269/04:37:38 | 98-269/04:39:40 | 000/00:02:01 |
| 17ENSUCOMP04- | 98-269/04:39:40 | 98-269/04:50:47 | 000/00:11:07 |
| 17NNGLOBAL02- | 98-269/08:54:28 | 98-269/09:04:34 | 000/00:10:06 |
| 17ENGLOBAL02- | 98-269/09:04:34 | 98-269/09:34:54 | 000/00:30:20 |
| 17NNCHOPOF01- | 98-269/10:35:34 | 98-269/10:45:41 | 000/00:10:06 |
| 17NNPCTRLT01- | 98-278/15:00:24 | 98-278/22:50:34 | 000/07:50:10 |
| 17NNRCTRLT01- | 98-303/06:00:03 | 98-303/19:15:47 | 000/13:15:44 |

# NIMS E17 OBSERVATIONS

**Bold** - Returned  
 Gray - Not Returned



Time Ticks (Relative to PJ17)

- Io - 2 Hrs
- Europa - 3 Hrs
- Ganymede - 6 Hrs
- Callisto - 12 Hrs
- Spacecraft - 2 Hrs

Europa Flyby (E17): 26-SEP-1998 (D269) 03:51:10 UTC  
 Perijove (PJ17): 26-SEP-1998 (D269) 08:26:11 UTC

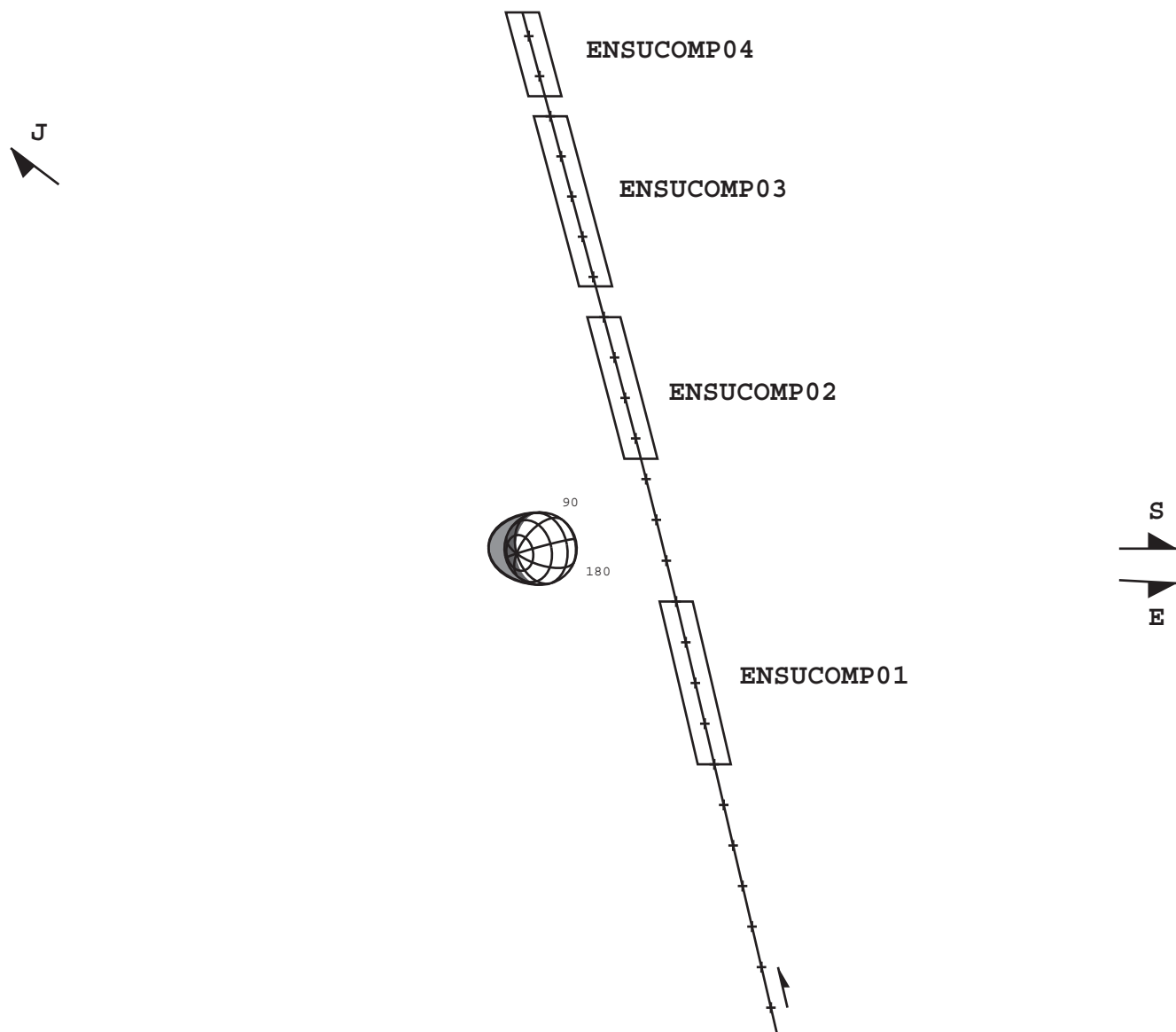
E17 North Trajectory Pole View

# NIMS E17 EUROPA FLYBY OBSERVATIONS

Europa Flyby (E17): 26-SEP-1998 (D269) 03:51:10 UTC

Time Ticks (Relative to E17)

Spacecraft - 5 Minutes



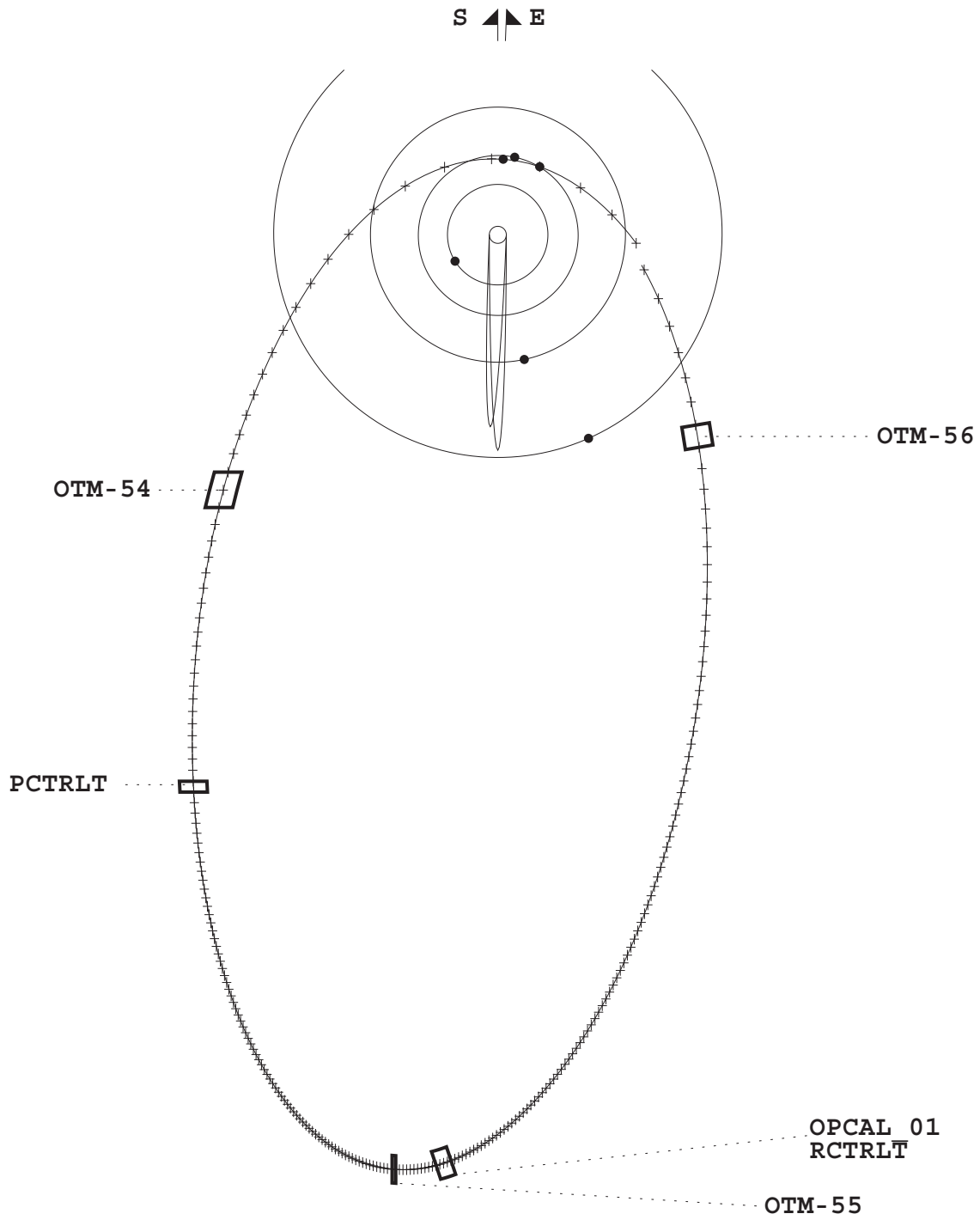
E17 North Trajectory Pole View, +/- 1 Hour



# NIMS E17 CRUISE CALIBRATIONS

Europa Flyby (E17): 26-SEP-1998 (D269) 03:51:10 UTC  
Perijove (PJ17): 26-SEP-1998 (D269) 08:26:11 UTC  
Apojove (AJ17): 24-OCT-1998 (D297) 16:00:00 UTC

Time Ticks (Relative to E17)  
Spacecraft - 6 Hours



E17 North Trajectory Pole View, Perijove to Perijove

NIMS E17 OBSERVING GEOMETRY

| OAPL         | Latitude<br>(deg) | Longitude<br>(deg) | Range<br>(km) | Cone<br>(deg) | Light<br>(deg) | View<br>(deg) | Phase<br>(deg) |
|--------------|-------------------|--------------------|---------------|---------------|----------------|---------------|----------------|
| 17JNJUPRTS01 | +10 to +40        | 107 to 131         | 1220K         | 84            | 57 to 73       | 32 to 61      | 100            |
| 17ENEUR20H01 | -90 to +90        | 60 to 230          | 666K          | 107           | 6 to 167       | 0 to 90       | 77             |
| 17JNWHTOVL01 | -35 to -25        | 334 to 23          | 1106K         | 95            | 119 to 152     | 44 to 90      | 89             |
| 17JNWHTOVL02 | -35 to -25        | 344 to 08          | 1030K         | 96            | 89 to 115      | 31 to 43      | 89             |
| 17JNJUPRTS02 | -05 to +05        | 313 to 348         | 1020K         | 95            | 51 to 80       | 9 to 40       | 90             |
| 17JNWHTOVL03 | -35 to -25        | 343 to 06          | 1015K         | 96            | 70 to 95       | 31 to 38      | 88             |
| 17JNJUPRTS03 | +25 to +45        | 38 to 55           | 962K          | 100           | 66 to 74       | 32 to 54      | 85             |
| 17ENGLOBAL01 | -90 to +90        | 120 to 230         | 100K          | 107           | 11 to 97       | 10 to 90      | 77             |
| 17ENSUCOMP01 | +06 to +15        | 226 to 233         | 6.3 to 11.6K  | 122 to 132    | 76 to 84       | 37 to 65      | 50 to 62       |
| 17ENSUCOMP02 | +63               | 113 to 128         | 4.2 to 8.6K   | 97 to 126     | 67 to 72       | 35 to 58      | 50 to 79       |
| 17ENSUCOMP03 | -70 to -60        | 69 to 151          | 10 to 17K     | 87 to 92      | 62 to 90       | 61 to 76      | 83 to 88       |
| 17ENSUCOMP04 | -40 to -30        | 73 to 91           | 17 to 21K     | 83 to 86      | 70 to 83       | 30 to 39      | 89 to 92       |
| 17ENGLOBAL02 | -90 to +90        | 74 to 164          | 116K          | 75            | 18 to 97       | 15 to 90      | 101            |

# E17 NIMS INPUTS

| Activity ID   | Observation Title              | NIMS Edit Table | NIMS PB Table  | Mode | Gain  | Grating Start | Grating Offset | Record Format | PSID |
|---------------|--------------------------------|-----------------|----------------|------|-------|---------------|----------------|---------------|------|
| 17NNJUPRTS01- | NIMS Software Reload           |                 |                |      |       |               |                |               |      |
| 17JNJUPRTS01* | Jupiter Realtime Observation   | E17JLM408/MB    | R/T            | LM   | 2     | 0             | 4              | R/T           | DA   |
| 17NNEUR20H01- | NIMS Software Reload           |                 |                |      |       |               |                |               |      |
| 17ENEUR20H01  | Europa 20 Hour Map             | E17B_ELM240T    | E17B_ELM240T   | LM   | 4     | 0             | 4              | LPU           | EA   |
| 17ENEUR20H01  | Europa 20 Hour Map             | E17B_ELM240V    | E17B_ELM168V   | LM   | 3     | 0             | 4              | LPU           | EA   |
| 17NNWHTOVL01- | NIMS Software Reload           |                 |                |      |       |               |                |               |      |
| 17JNWHTOVL01- | Jupiter White Oval             | E17JSB253B      | E17JSB253B     | LM   | 4     | 0             | 4              | LPU           | EB   |
| 17NNWHTOVL02- | NIMS Software Reload           |                 |                |      |       |               |                |               |      |
| 17JNWHTOVL02- | Jupiter White Oval             | E17JSB253B      | E17JSB253B     | LM   | 4     | 0             | 4              | LPU           | EC   |
| 17NNJUPRTS02- | NIMS Software Reload           |                 |                |      |       |               |                |               |      |
| 17JNJUPRTS02* | Jupiter Realtime Observation   | E17JLM408/MB    | R/T            | LM   | 2     | 0             | 4              | R/T           | DB   |
| 17NNWHTOVL03- | NIMS Software Reload           |                 |                |      |       |               |                |               |      |
| 17JNWHTOVL03- | Jupiter White Oval             | E17JSB253B      | E17JSB253B     | LM   | 2     | 0             | 4              | LPU           | ED   |
| 17NNJUPRTS03- | NIMS Software Reload           |                 |                |      |       |               |                |               |      |
| 17JNJUPRTS03* | Jupiter Realtime Observation   | E17JLM408/MB    | R/T            | LM   | 2     | 0             | 4              | R/T           | DC   |
| 17NNGLOBAL01- | NIMS Software Reload           |                 |                |      |       |               |                |               |      |
| 17ENGL0BAL01- | Europa Global Observation      | E17ELM442       | E17B_ELM228C_1 | LM   | 3     | 0             | 4              | MPW           | DD   |
| 17NNSUCOMP01- | NIMS Software Reload           |                 |                |      |       |               |                |               |      |
| 17ENSUCOMP01- | Europa Surface Composition     | E17ELM442       | E17ELM360      | LM   | 4     | 0             | 4              | MPW           | DE   |
| 17NNSUCOMP02- | NIMS Software Reload           |                 |                |      |       |               |                |               |      |
| 17ENSUCOMP02- | Europa Surface Composition     | E17ELM442       | E17ELM360      | LS   | 4     | 0             | 4              | MPW           | DF   |
| 17NNSUCOMP03- | NIMS Software Reload           |                 |                |      |       |               |                |               |      |
| 17ENSUCOMP03- | Europa Surface Composition     | E17ELM442       | E17ELM360      | LM   | 4     | 0             | 4              | MPW           | DG   |
| 17NNSUCOMP04- | NIMS Software Reload           |                 |                |      |       |               |                |               |      |
| 17ENSUCOMP04- | Europa Surface Composition     | E17ELM442       | E17ELM360      | LM   | 4     | 0             | 4              | MPW           | DH   |
| 17NNGLOBAL02- | NIMS Software Reload           |                 |                |      |       |               |                |               |      |
| 17ENGL0BAL02- | Europa Global Observation      | E17ELM442       | E17B_ELM228C_1 | LM   | 4,3,4 | 0             | 4              | MPW           | DI   |
| 17NNCHOP0F01- | NIMS Chopper off               |                 |                |      |       |               |                |               | DN   |
| 17NNPCTRLT01- | NIMS Real-Time PCT Claibration | E17PCT252       | R/T            | LM   | 4     | 0             | 4              | R/T           | FB   |
| 17NNRCTRLT01- | NIMS RCT Real-Time Calibration | E17RCT252       | R/T            | LM   | 1     | 0             | 4              | R/T           | XE   |
| 17NNOPCAL_01- | NIMS OPCAL                     | E17OPCAL48      | R/T            | LM   | 4     | 0             | 4              | R/T           | DC   |

## E17 RESOURCES

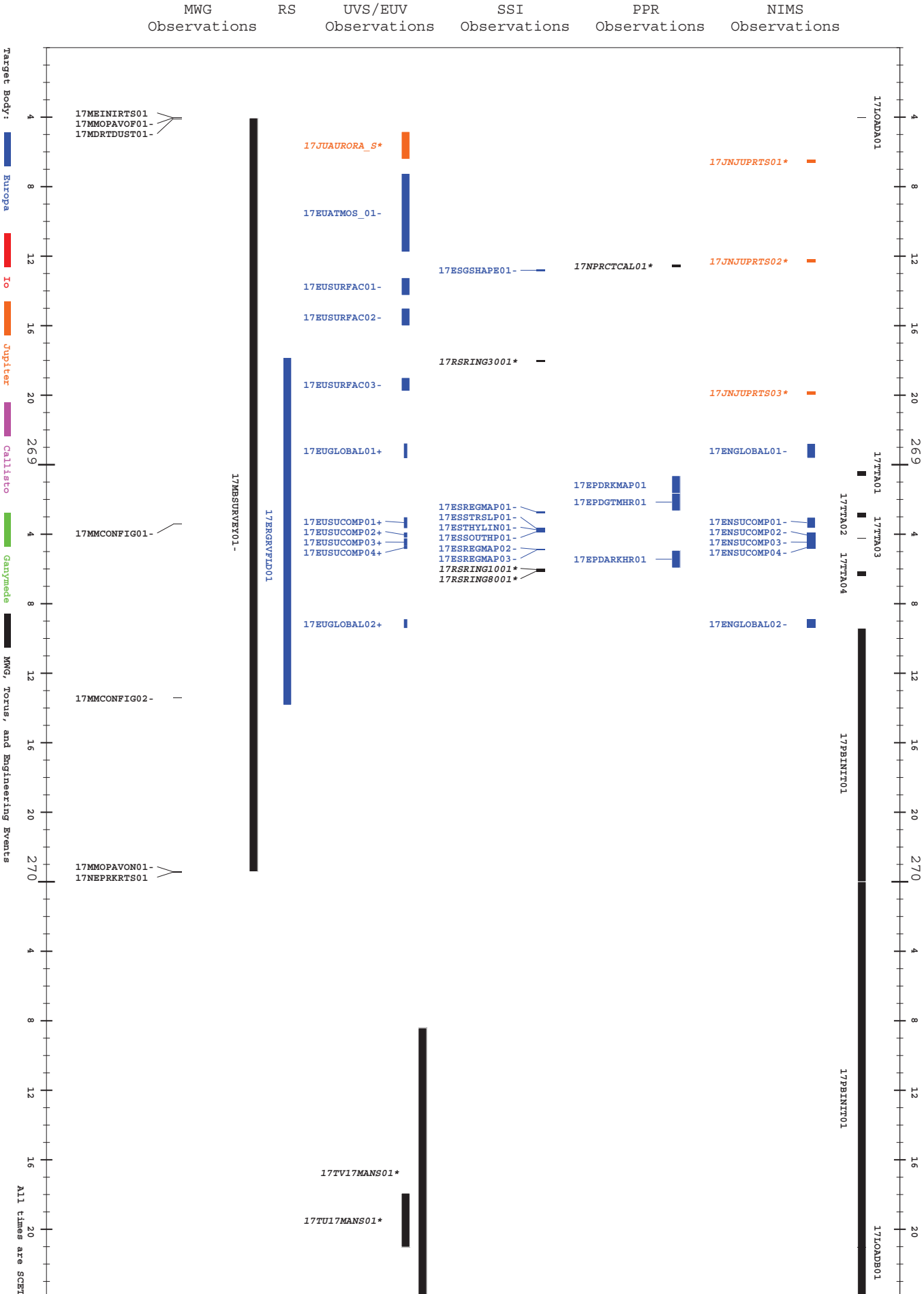
| Activity ID            | Mode | Record Mode | Obs.          |              | Obs. Cost (tracks) | Obs. Cost (ticks) | Number Wavelengths Returned | Obs           |           | Selected     |              | Bits to     |       | Mode Cycle time (sec) |
|------------------------|------|-------------|---------------|--------------|--------------------|-------------------|-----------------------------|---------------|-----------|--------------|--------------|-------------|-------|-----------------------|
|                        |      |             | Cost (tracks) | Cost (ticks) |                    |                   |                             | Record (sec.) | PB (sec.) | sBOT (MBITS) | Bits to Tape | MBOT (Mbit) | Tape  |                       |
| 17JNJUPRTS01           | LM   | R/T         |               |              |                    |                   | 360                         |               |           |              |              |             |       |                       |
| 17ENEUR20H01           | LM   | LPU         | 0.0092        | 53           | 53                 | 240               |                             |               |           |              |              |             |       |                       |
| 17ENEUR20H01           | LM   | LPU         | 0.0092        | 53           | 53                 | 168               |                             |               |           |              |              |             |       |                       |
| 17JNWHTOVL01           | LM   | LPU         |               |              |                    | 253               |                             |               |           |              |              |             |       |                       |
| 17JNWHTOVL02           | LM   | LPU         | 0.0246        | 143          | 143                | 253               |                             |               |           |              |              |             |       |                       |
| 17JNJUPRTS02           | LM   | R/T         |               |              |                    | 360               |                             |               |           |              |              |             |       |                       |
| 17JNWHTOVL03           | LM   | LPU         | 0.0246        | 143          | 143                | 253               |                             |               |           |              |              |             |       |                       |
| 17JNJUPRTS03           | LM   | R/T         |               |              |                    | 360               |                             |               |           |              |              |             |       |                       |
| 17ENGLOBAL01           | LM   | MPW         | 0.4077        | 2376         | 2376               | 228               | 2700                        | 2700          | 31.10     | 31.10        | 31.10        | 31.10       | 8.667 | 8.667                 |
| 17ENSUCOMP01           | LM   | MPW         | 0.1814        | 1057         | 1057               | 360               | 1200                        | 1200          | 13.82     | 13.82        | 13.82        | 13.82       | 8.667 | 8.667                 |
| 17ENSUCOMP02           | LM   | MPW         | 0.1543        | 899          | 899                | 360               | 1020                        | 1020          | 11.75     | 11.75        | 11.75        | 11.75       | 8.667 | 8.667                 |
| 17ENSUCOMP03           | LM   | MPW         | 0.1995        | 1163         | 1163               | 360               | 1320                        | 1320          | 15.21     | 15.21        | 15.21        | 15.21       | 8.667 | 8.667                 |
| 17ENSUCOMP04           | LM   | MPW         | 0.0909        | 530          | 530                | 360               | 600                         | 600           | 6.91      | 6.91         | 6.91         | 6.91        | 8.667 | 8.667                 |
| 17ENGLOBAL02           | LM   | MPW         | 0.2719        | 1585         | 1585               | 228               | 1800                        | 1800          | 20.74     | 20.74        | 20.74        | 20.74       | 8.667 | 8.667                 |
| 17NNRCTRLT01           | LM   | R/T         |               |              |                    |                   |                             |               |           |              |              |             |       |                       |
| 17NNPCTRLT01           | LM   | R/T         |               |              |                    |                   |                             |               |           |              |              |             |       |                       |
| <b>Total Resources</b> |      |             | <b>1.3058</b> | <b>7609</b>  | <b>7609</b>        |                   |                             |               |           |              |              |             |       |                       |

## E17 RESOURCES

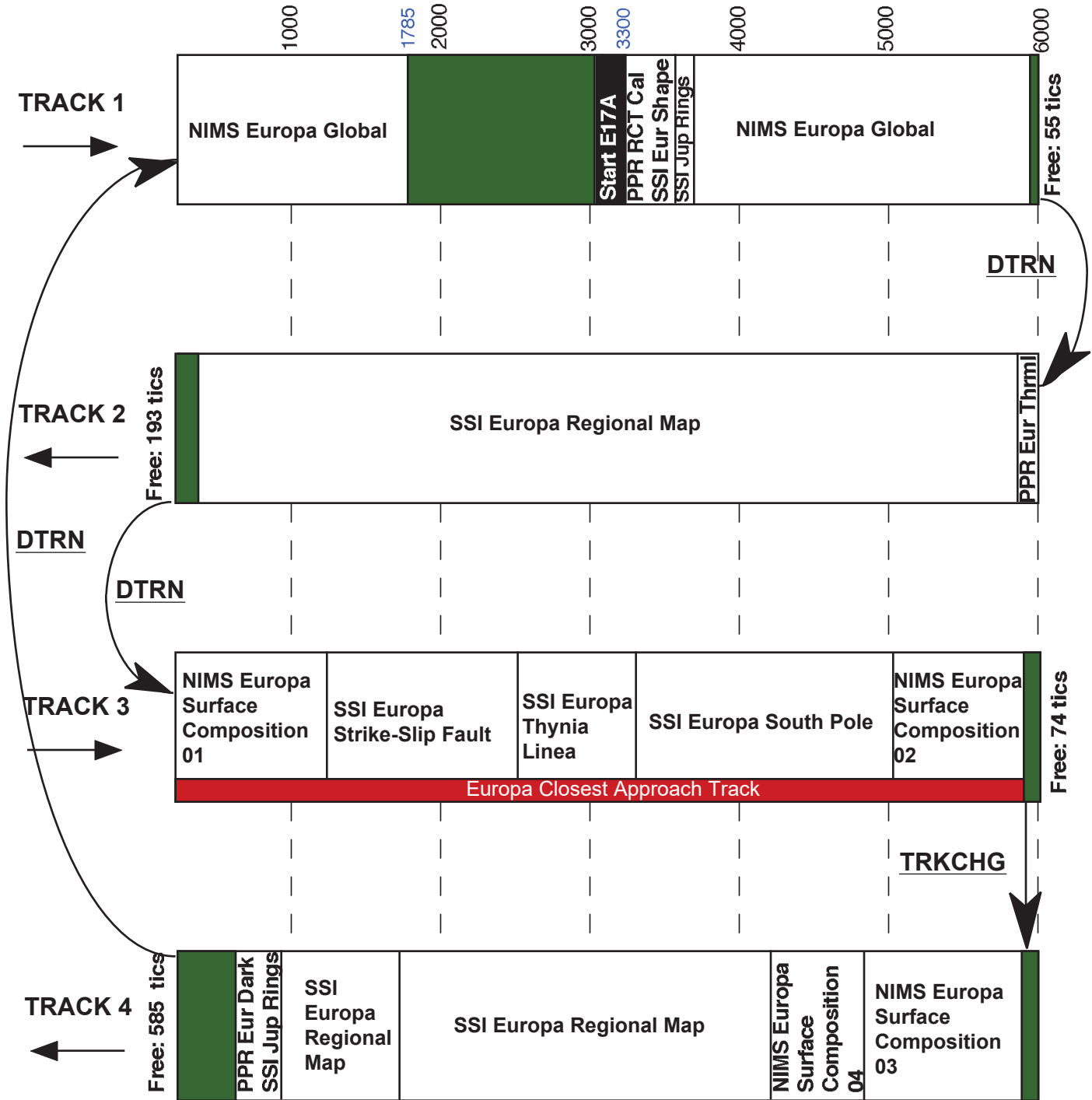
| Activity ID                       | ACS Mbits | Comp | Thold | RT BTG Mbits | Total BTG Mbits (w/4% overhead) | Data Reduction Factor (sBOT/BTG) | Pass |
|-----------------------------------|-----------|------|-------|--------------|---------------------------------|----------------------------------|------|
| 17JNJUPRTS01                      |           |      |       | 0.16         |                                 |                                  |      |
| 17ENEUR20H01                      |           |      |       |              |                                 |                                  |      |
| 17ENEUR20H01                      |           |      |       |              |                                 |                                  |      |
| 17JNWHTOVL01                      |           |      |       |              |                                 |                                  |      |
| 17JNWHTOVL02                      |           |      |       |              |                                 |                                  |      |
| 17JNJUPRTS02                      |           |      |       | 0.16         |                                 |                                  |      |
| 17JNWHTOVL03                      |           |      |       |              |                                 |                                  |      |
| 17JNJUPRTS03                      |           |      |       | 0.16         |                                 |                                  |      |
| 17ENGLOBAL01                      | 0.16      | 1.5  |       |              | 9.8492                          | 3.2                              |      |
| 17ENSUCOMP01                      | 0.07      | 1.3  |       |              | 7.9751                          | 1.7                              |      |
| 17ENSUCOMP02                      | 0.06      | 1.3  |       |              | 6.7788                          | 1.7                              |      |
| 17ENSUCOMP03                      | 0.08      | 1.3  |       |              | 8.7726                          | 1.7                              |      |
| 17ENSUCOMP04                      | 0.03      | 1.3  |       |              | 3.9875                          | 1.7                              |      |
| 17ENGLOBAL02                      | 0.10      | 1.5  |       |              | 6.5661                          | 3.2                              |      |
| 17NNRCTRLT01                      |           |      |       |              | 0.1400                          |                                  |      |
| 17NNPCTRLT01                      |           |      |       |              | 0.2000                          |                                  |      |
| <b>Total Resources Allocation</b> |           |      |       |              | <b>44.2694</b>                  |                                  |      |
| <b>Over/Under</b>                 |           |      |       |              |                                 |                                  |      |

E17 ENCOUNTER  
Plot Time: 98-268/00:00:00.000 to 98-271/00:00:00.000  
Date of Plot: 17-Sep-97 8:27:38

# GEM OPG: E17



# E17 HIGH-LEVEL TAPEMAP

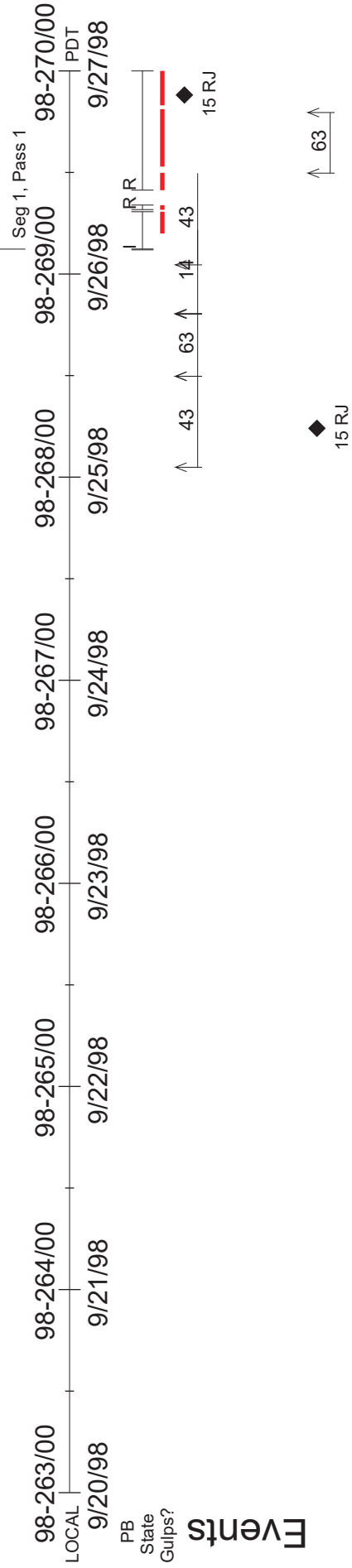


J. Gross, 8/13/97

# E17PDB

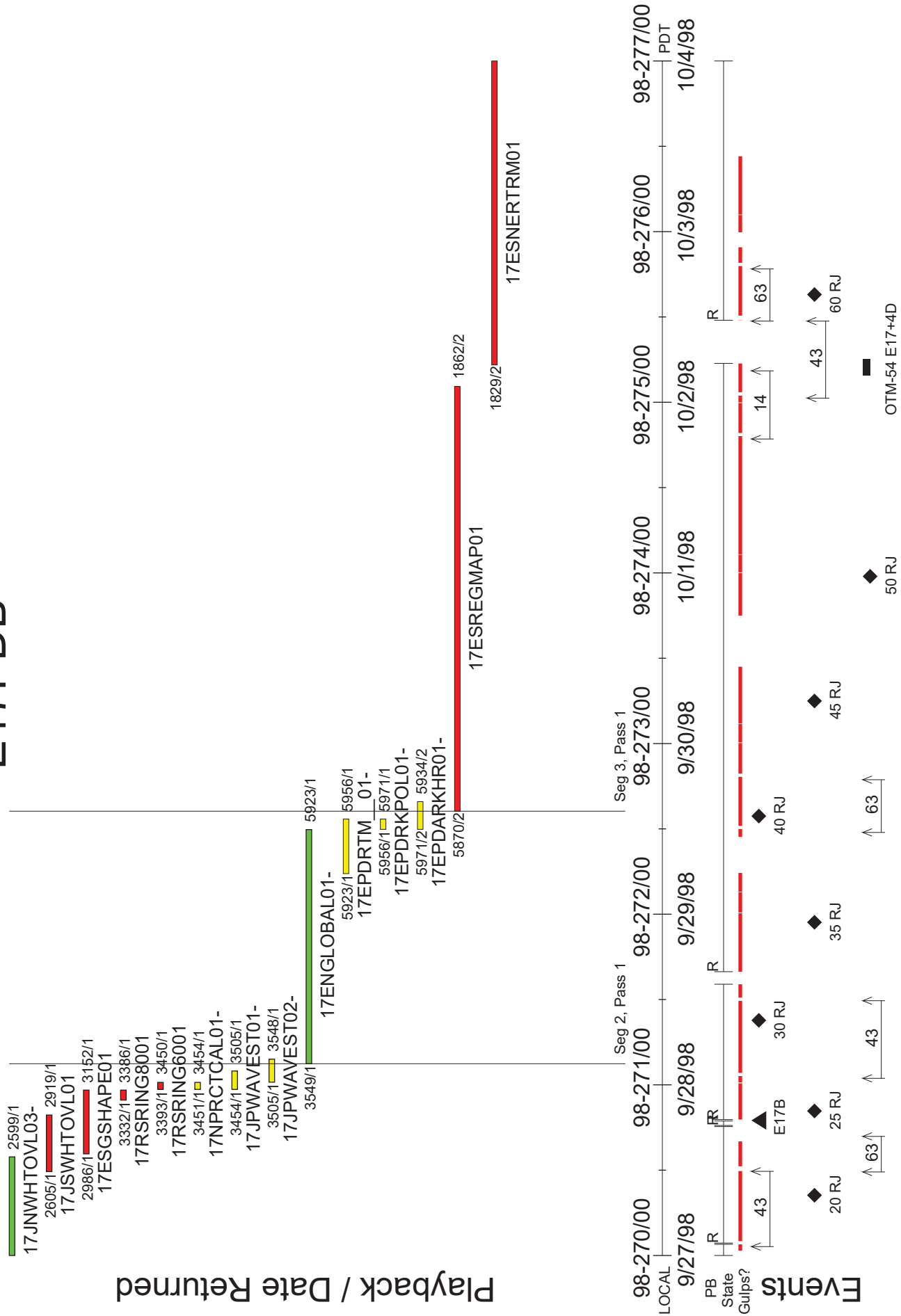
2048/1 2176/1  
 17ENEUR20H01-  
 2176/1 2317/1  
 17JNWHTOVL01-  
 2458/1  
 17JNWHTOVL03-

Playback / Date Returned





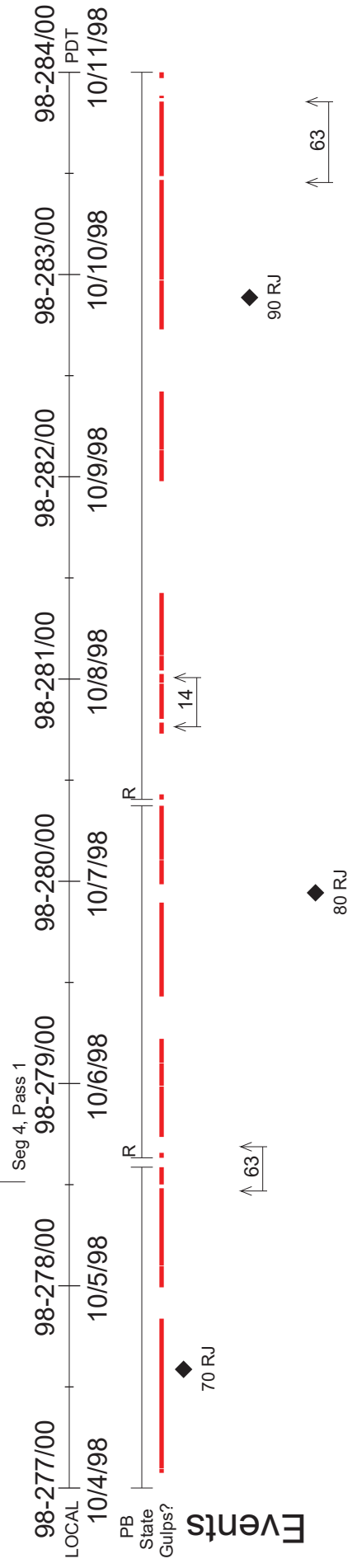
# E17PDB



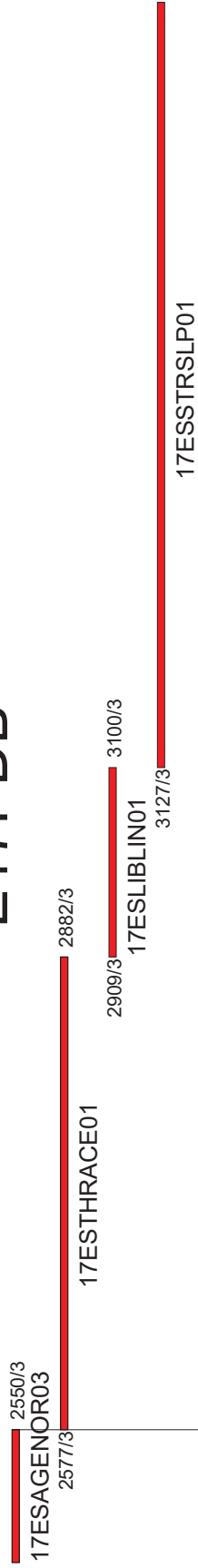
# E17PDB



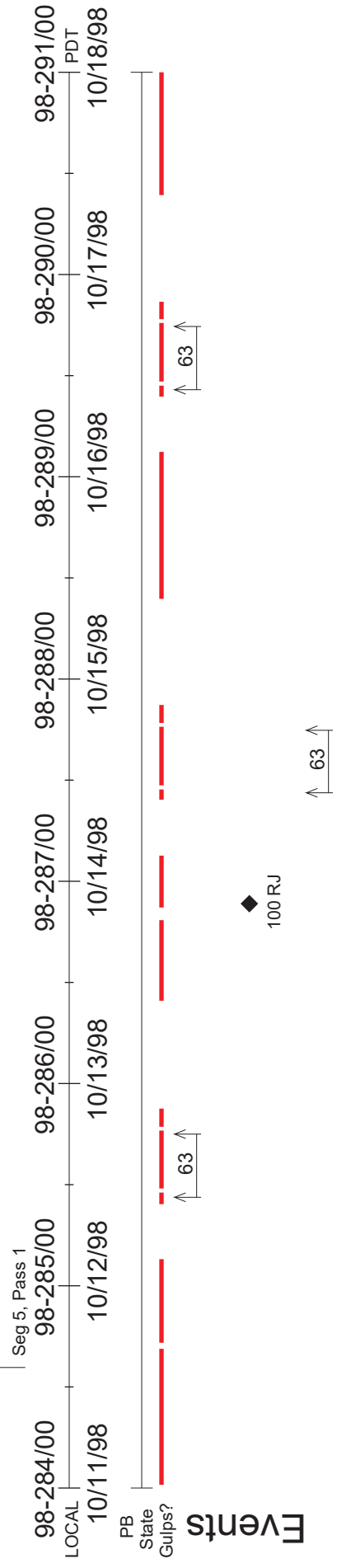
Playback / Date Returned



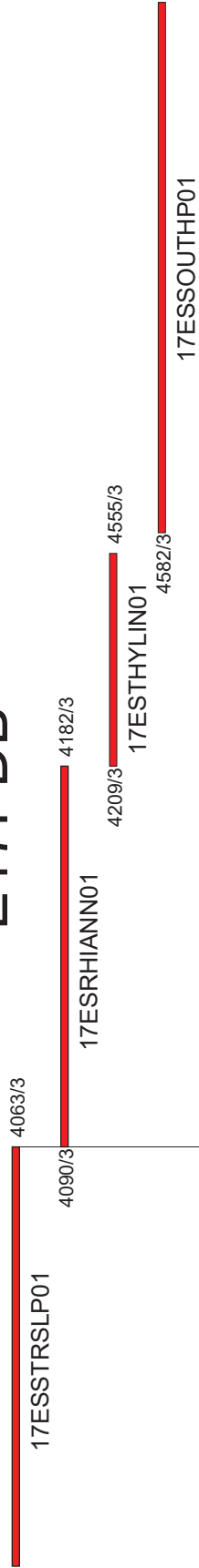
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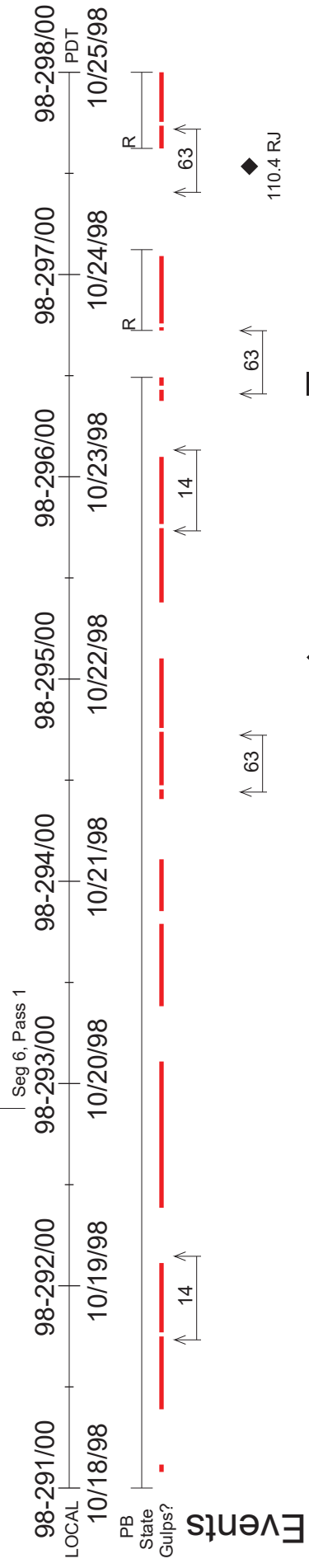
Playback / Date Returned



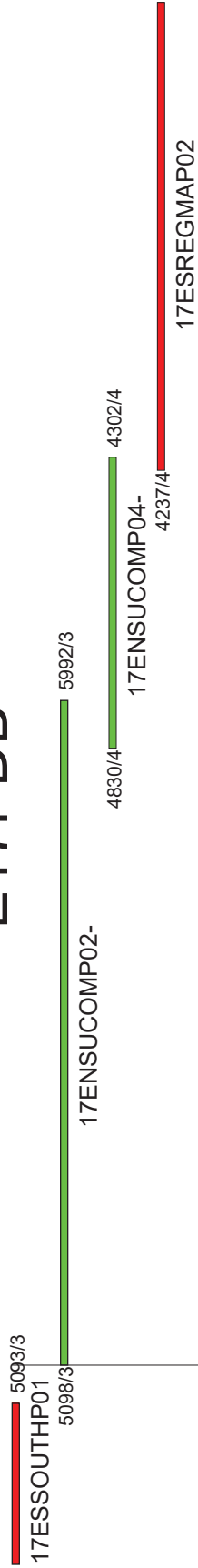
# E17PDB



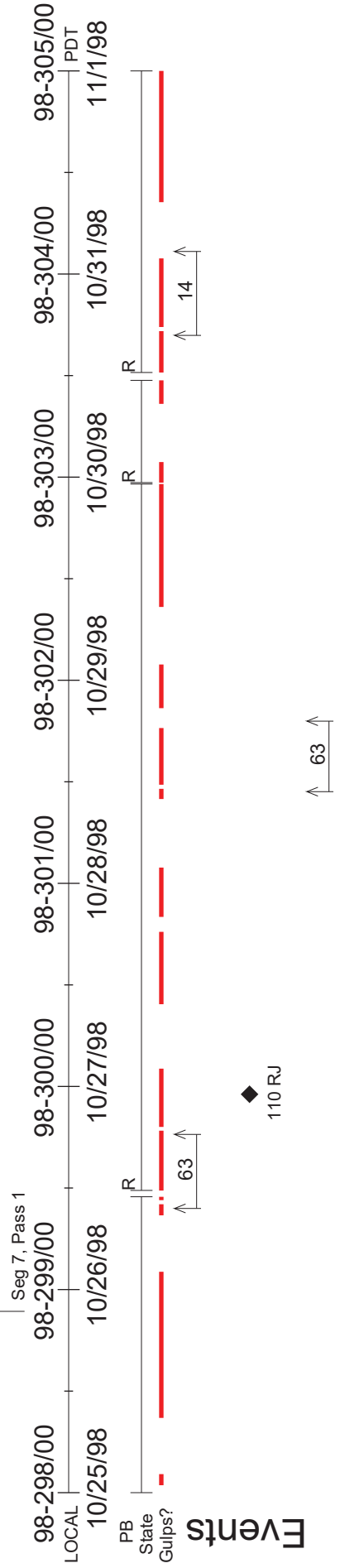
Playback / Date Returned



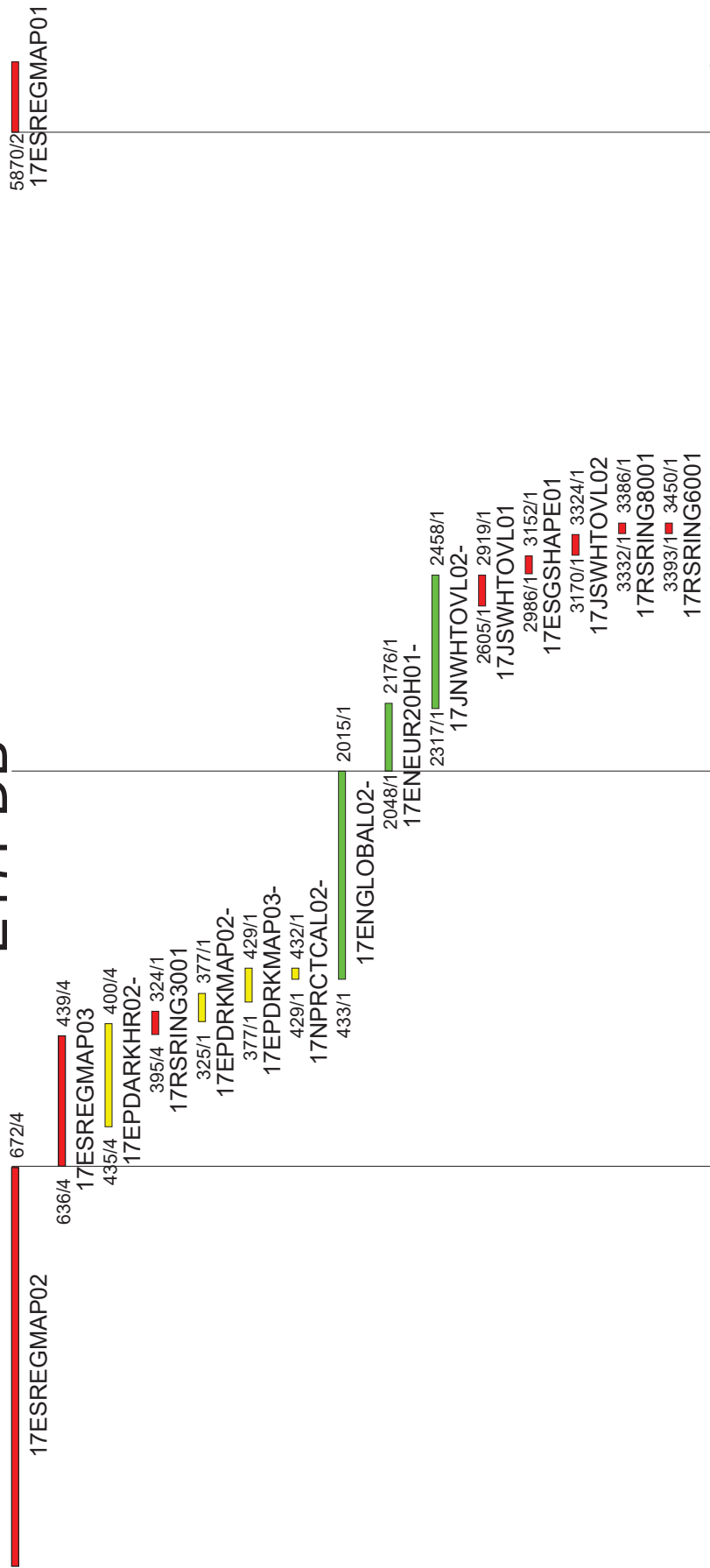
# E17PDB



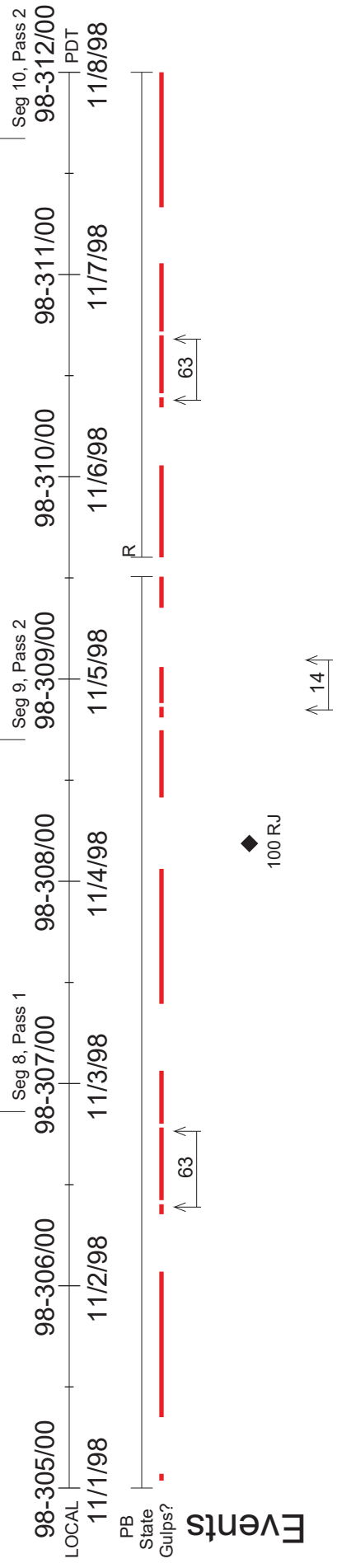
Playback / Date Returned



# E17PDB

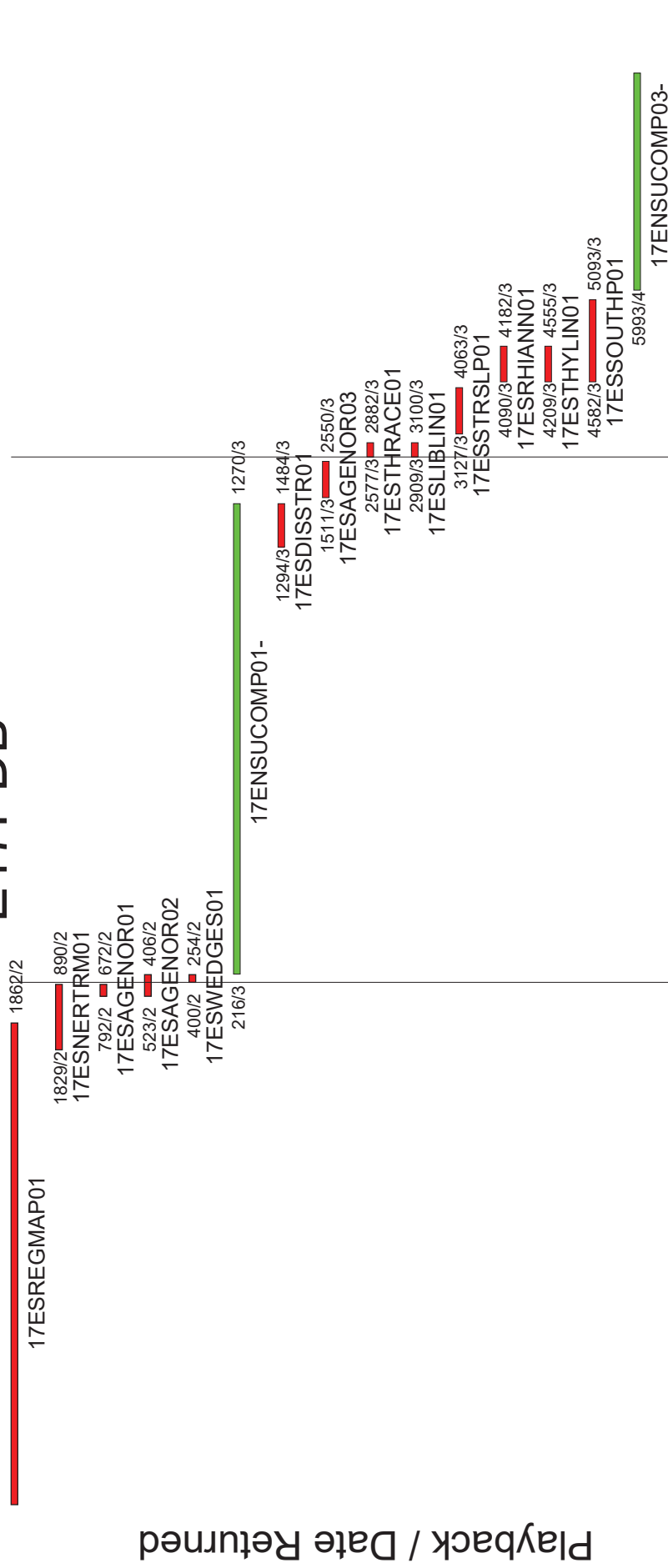


Playback / Date Returned



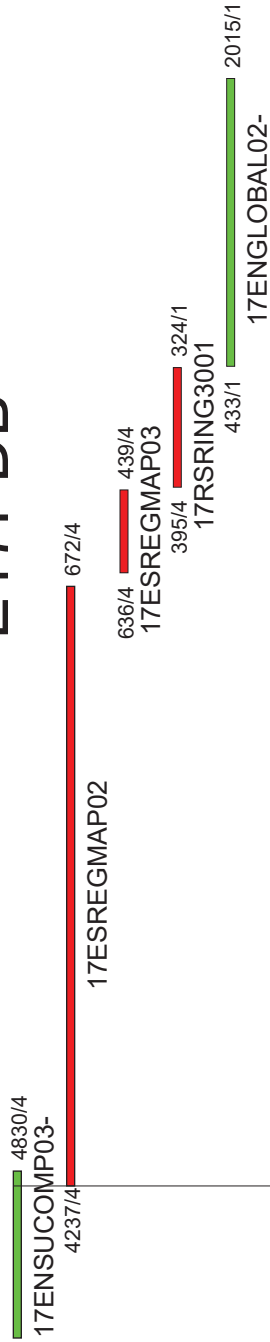
Events

# E17PDB

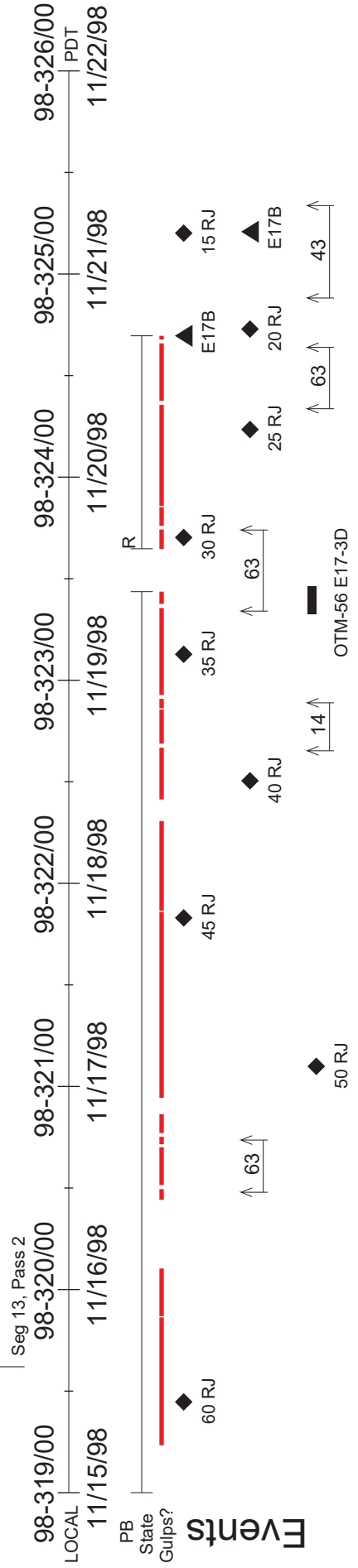


Playback / Date Returned

# E17PDB

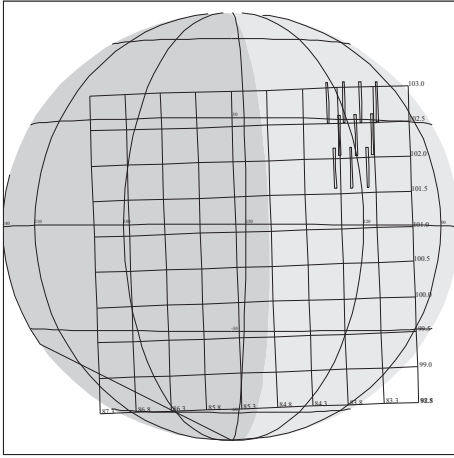


Playback / Date Returned

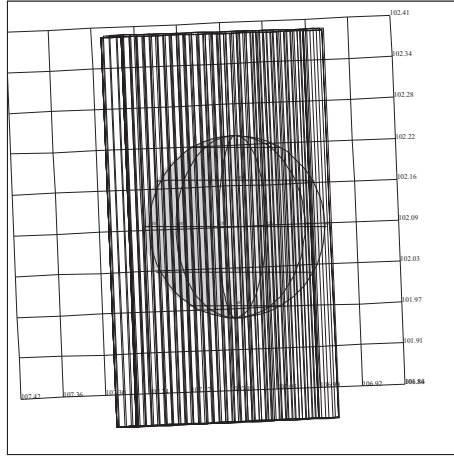




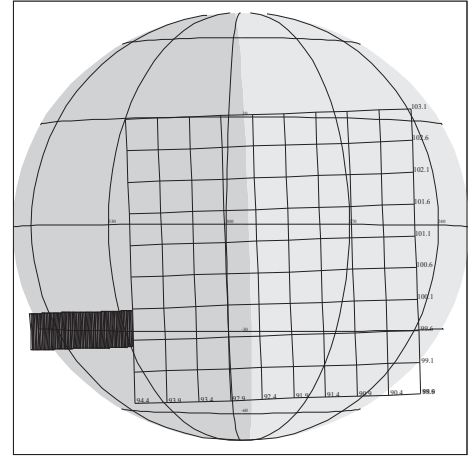
# E17 NIMS A



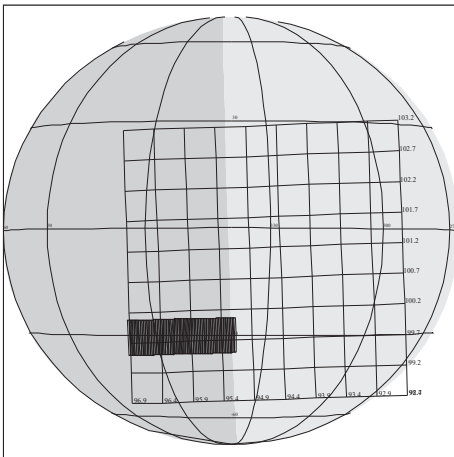
**17JNJUPRTS01**  
**98-268/06:28:02**



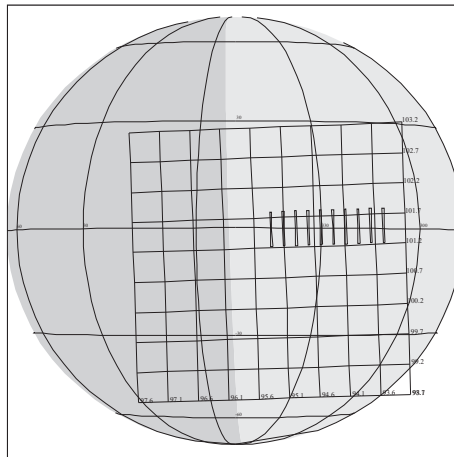
**17ENEUR20H01**  
**98-268/06:48:15**



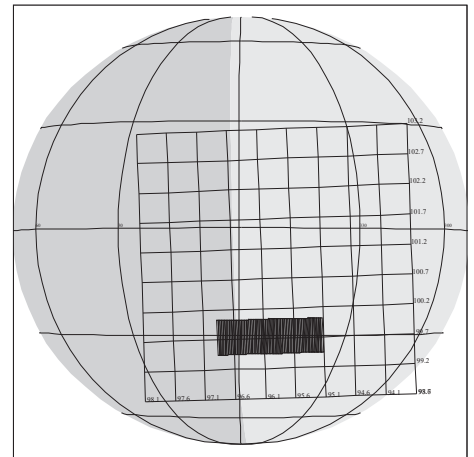
**17JNWHTOVL01**  
**98-268/10:37:46**



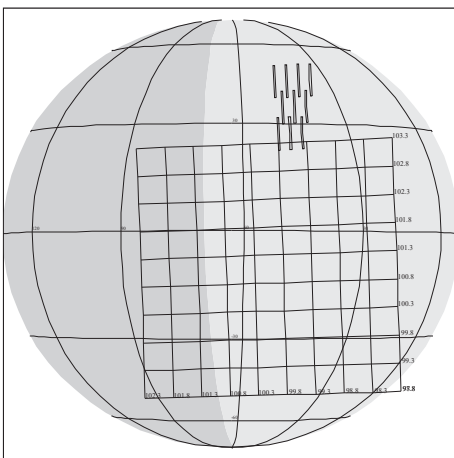
**17JNWHTOVL02**  
**98-268/11:51:35**



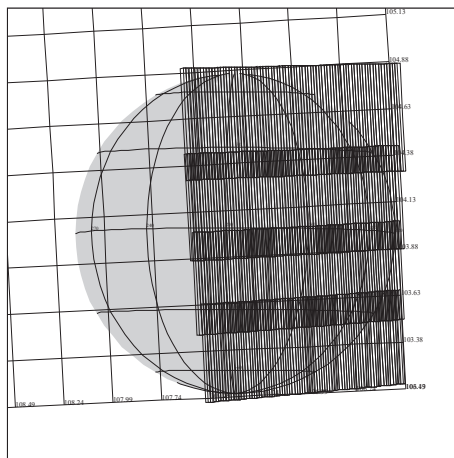
**17JNJUPRTS02**  
**98-268/12:11:48**



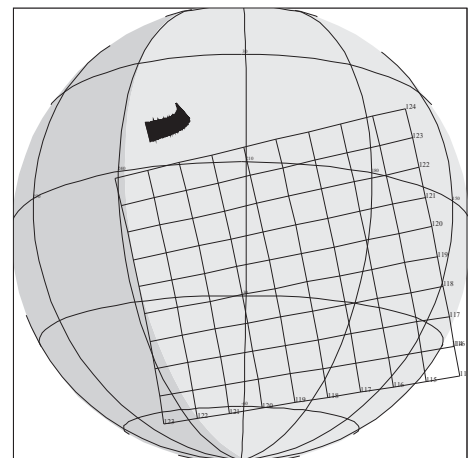
**17JNWHTOVL03**  
**98-268/12:27:59**



**17JNJUPRTS03**  
**98-268/14:20:13**

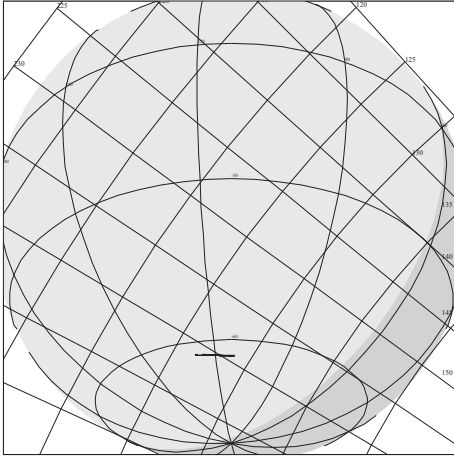


**17ENGLOBAL01**  
**98-268/22:46:47**

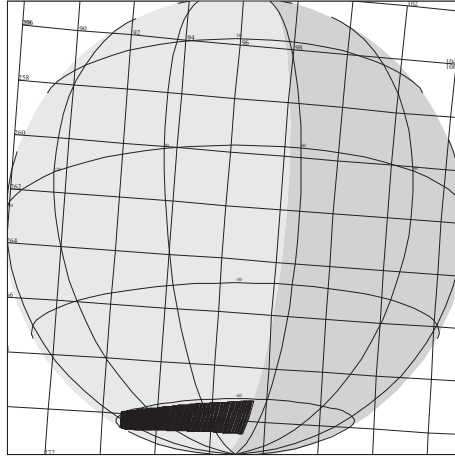


**17ENSUCOMP01**  
**98-269/03:11:42**

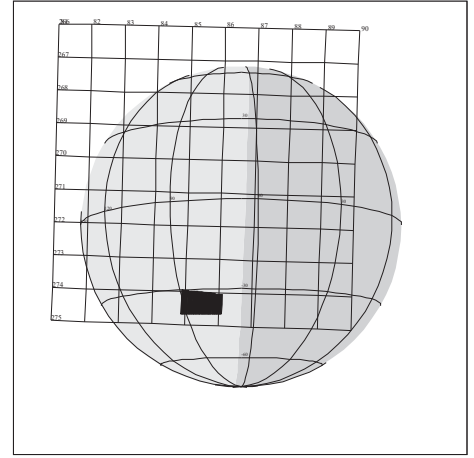
# E17 NIMS B



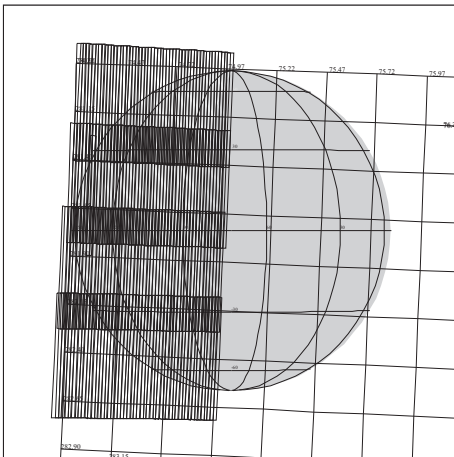
**17ENSUCOMP02**  
**98-269/03:54:10**



**17ENSUCOMP03**  
**98-269/04:14:23**



**17ENSUCOMP04**  
**98-269/04:39:40**



**17ENGLOBAL02**  
**98-269/09:04:34**

## Chapter 3 - Orbit Geometries

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### Introduction to Chapter 3

This chapter contains diagrams of various aspects of geometry for the E17 Orbit.

The figure on page 3 is a North Trajectory Pole View of the E17 Orbit from apoapsis to apoapsis.

The figure on page 4 is a North Trajectory Pole View of the E17 Orbit from +/- 5 days of Europa closest approach.

The figure on page 5 is a North Trajectory Pole View of the E17 Orbit from +/- 2 days of Europa closest approach.

The figure on page 6 is a North Trajectory Pole View of the E17 Orbit from +/- 1 day of Europa closest approach.

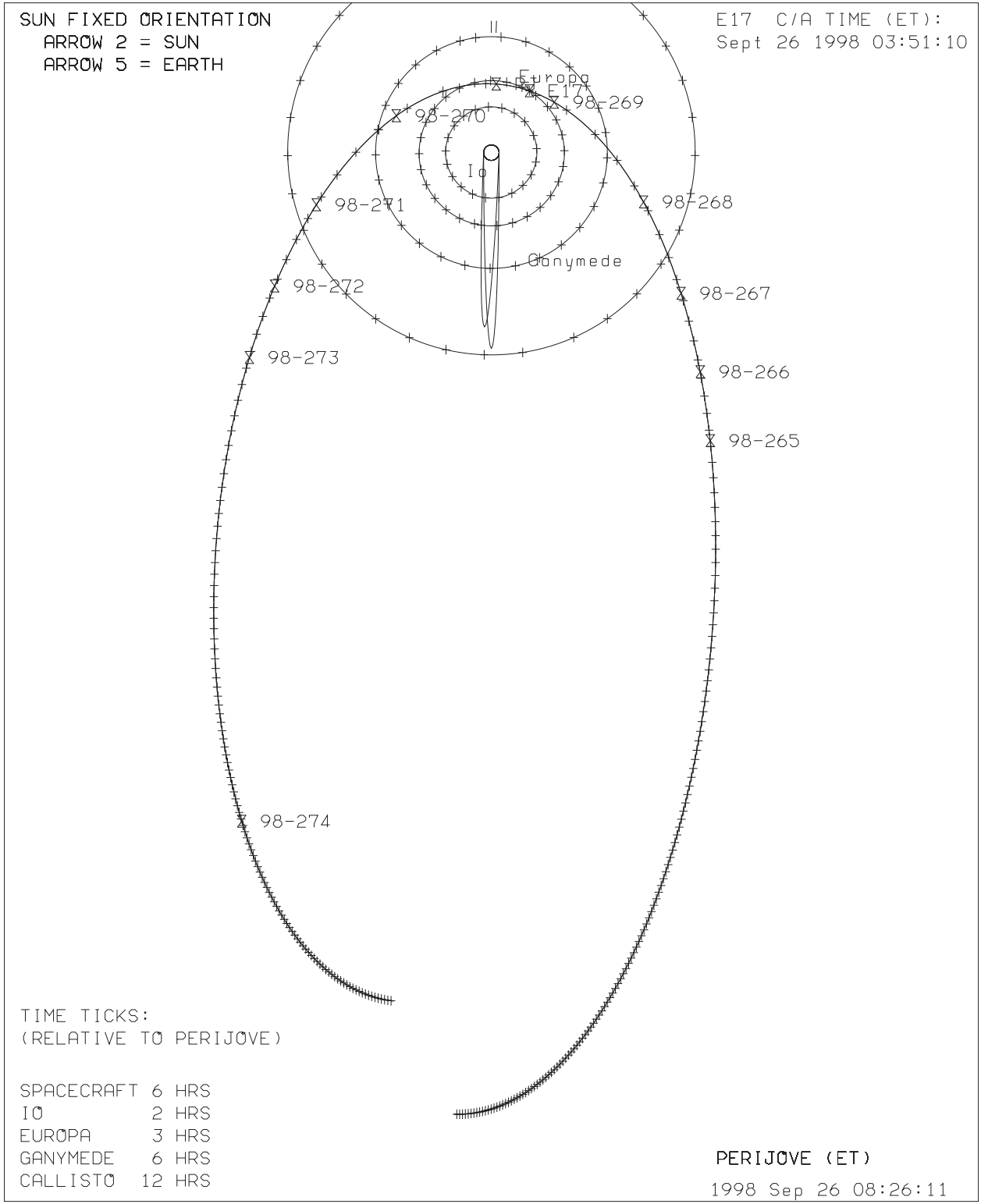
The figure on page 7 is a North Trajectory Pole View of the E17 Orbit from +/- 6 hours of Europa closest approach.

The figure on page 8 is a North Trajectory Pole View of the E17 Orbit from +/- 1 hour of Europa closest approach.

The figure on page 9 shows the spacecraft's groundtrack on Europa at Europa closest approach.

The figure on page 10 shows the spacecraft's groundtrack on Jupiter at Jupiter closest approach.

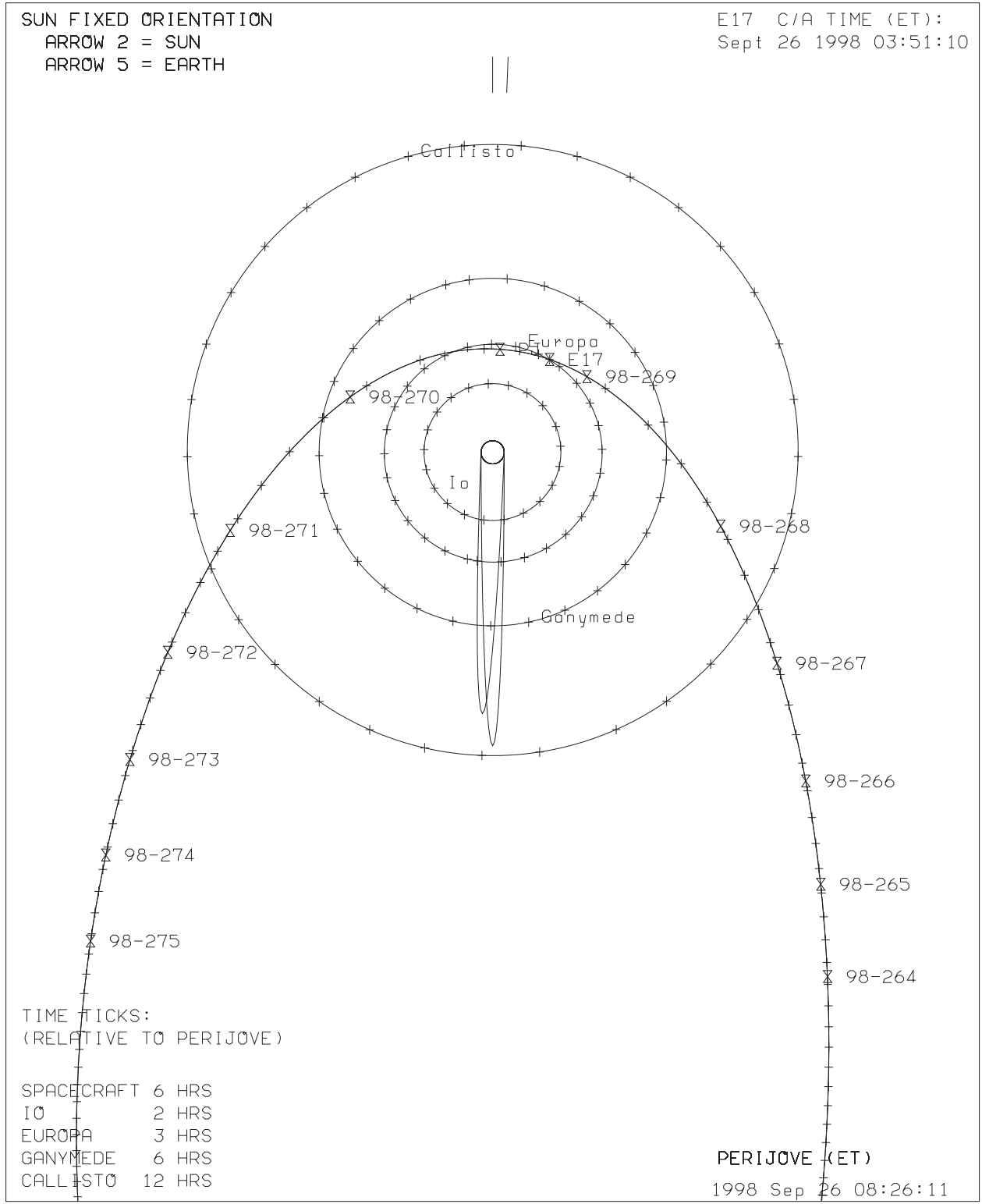
# JUPITER 17: N. TRAJ. POLE VIEW (APO TO APO)



GEM-970401

NAV Apr 24, 1997

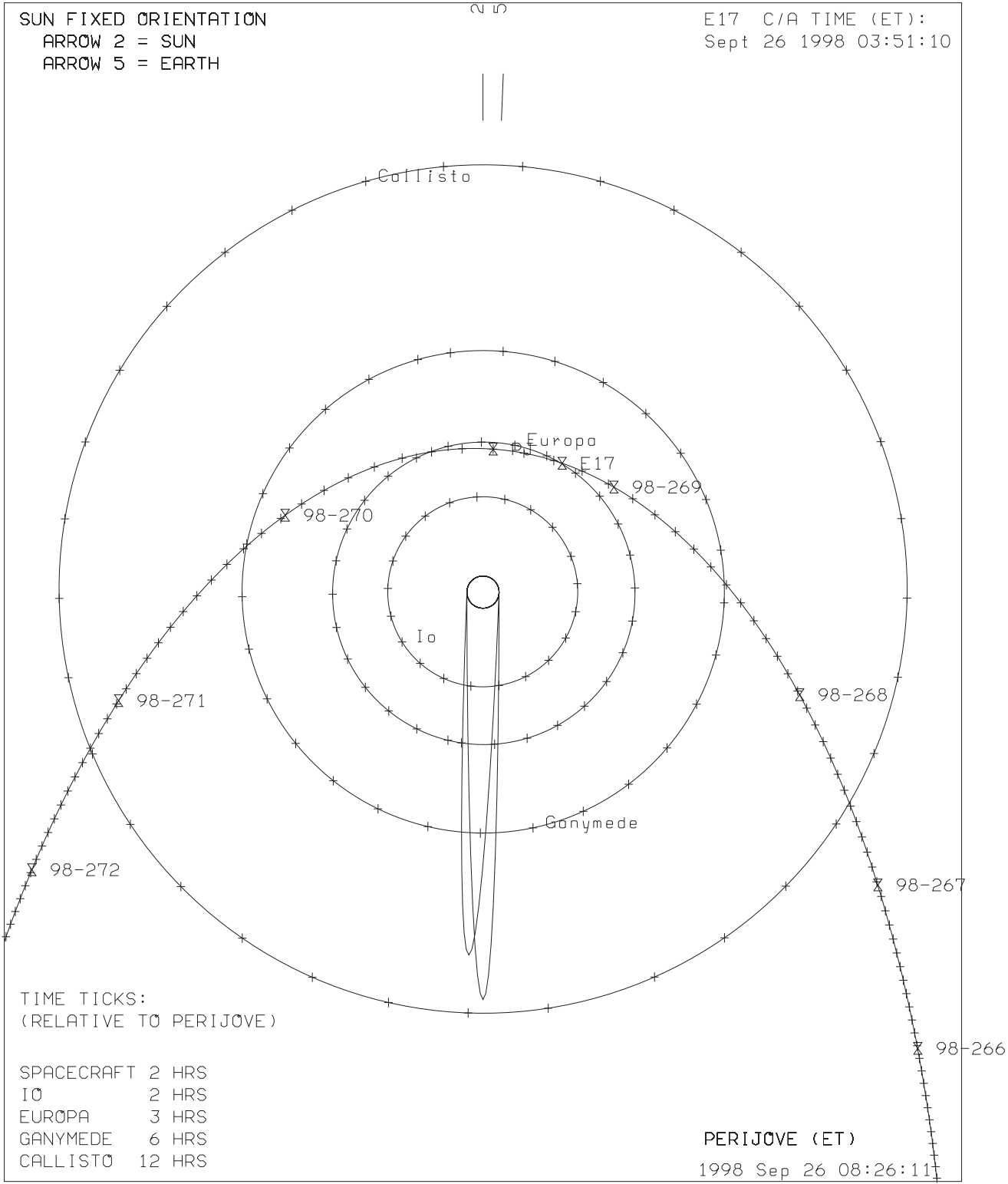
# JUPITER 17: N. TRAJ. POLE VIEW (+/- 5 DAYS)



GEM-970401

NAV Apr 24, 1997

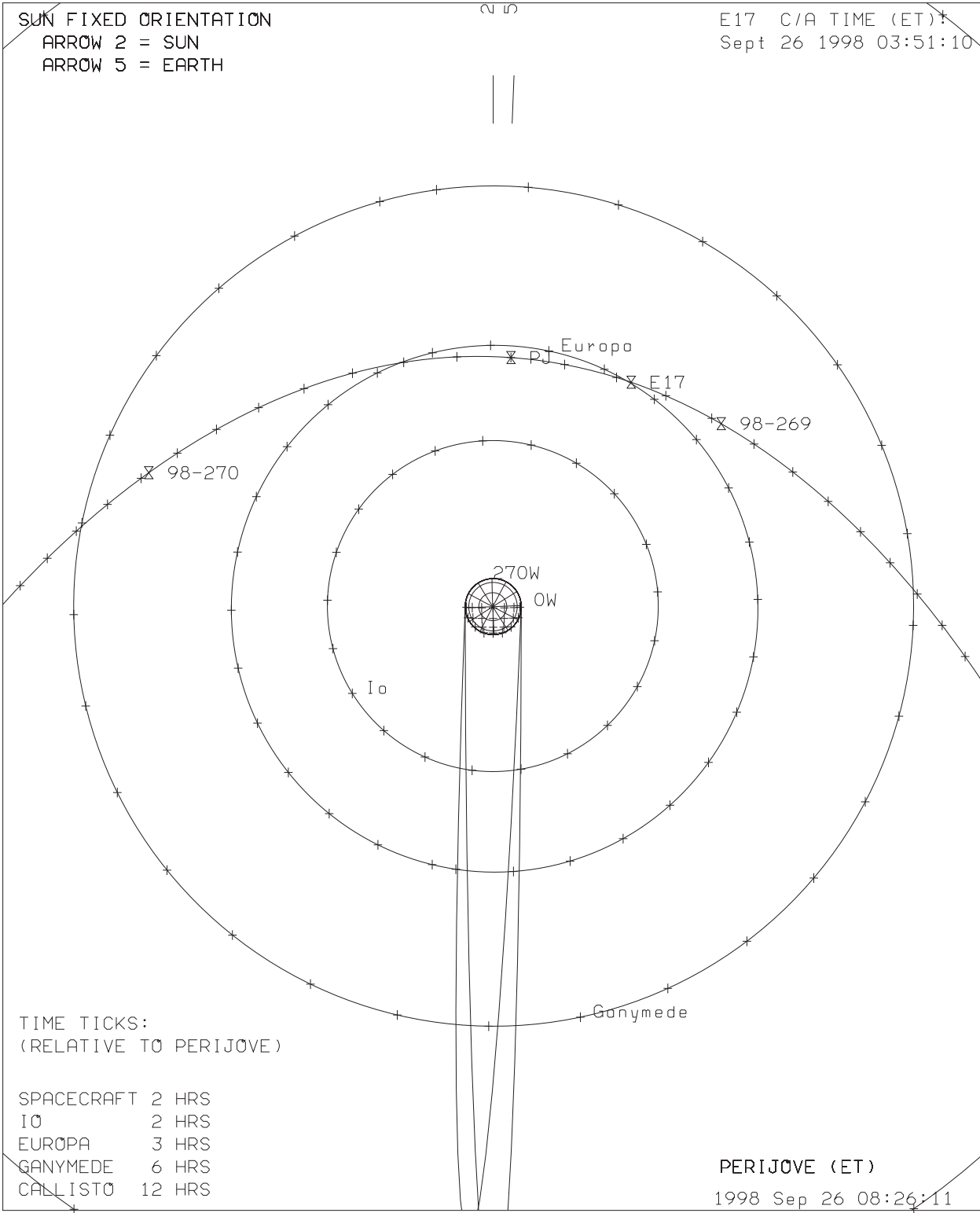
# JUPITER 17: N. TRAJ. POLE VIEW (+/- 2 DAYS)



GEM-970401

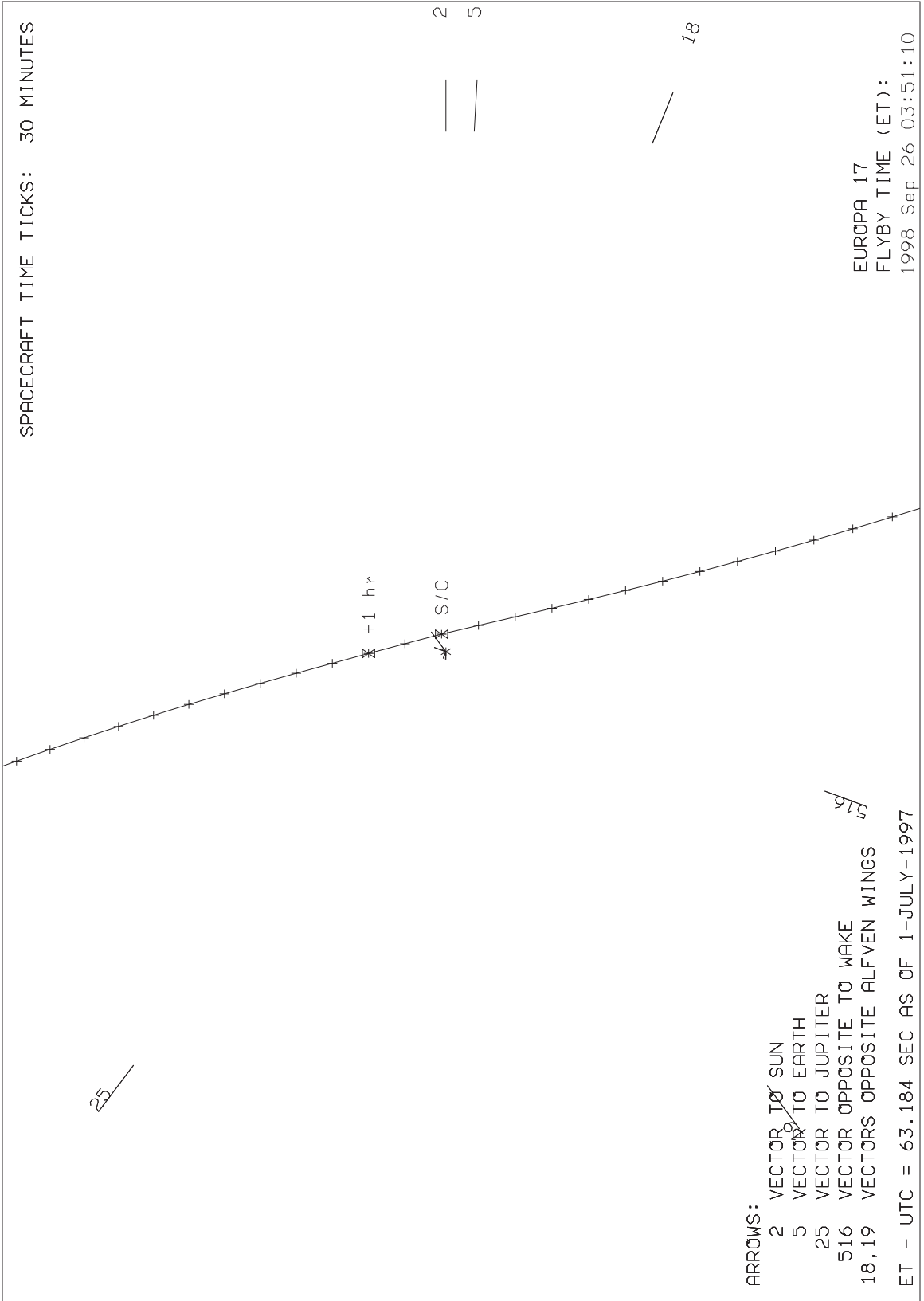
NAV Apr 24, 1997

# JUPITER 17: N. TRAJ. POLE VIEW (+/- 1 DAY)

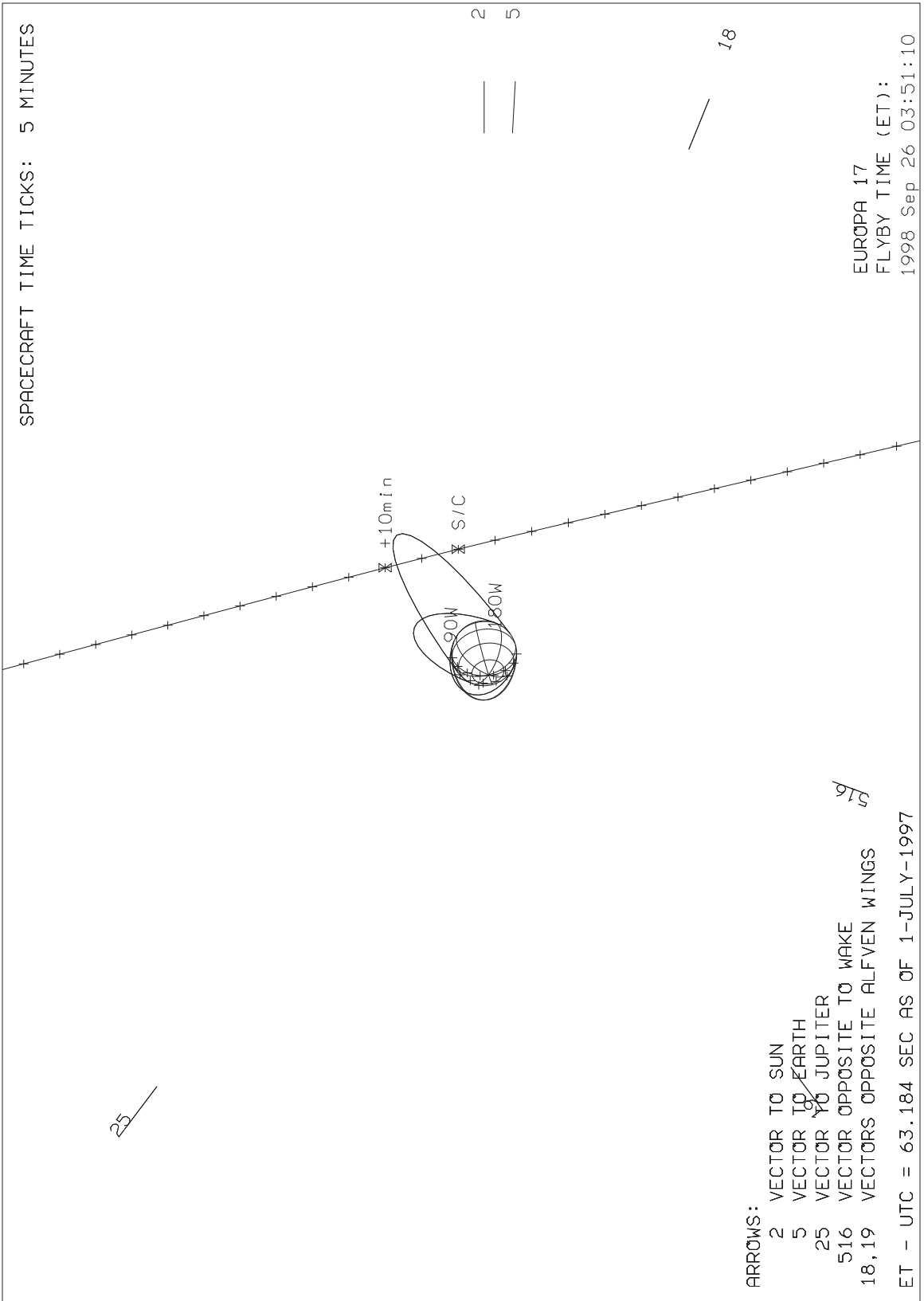




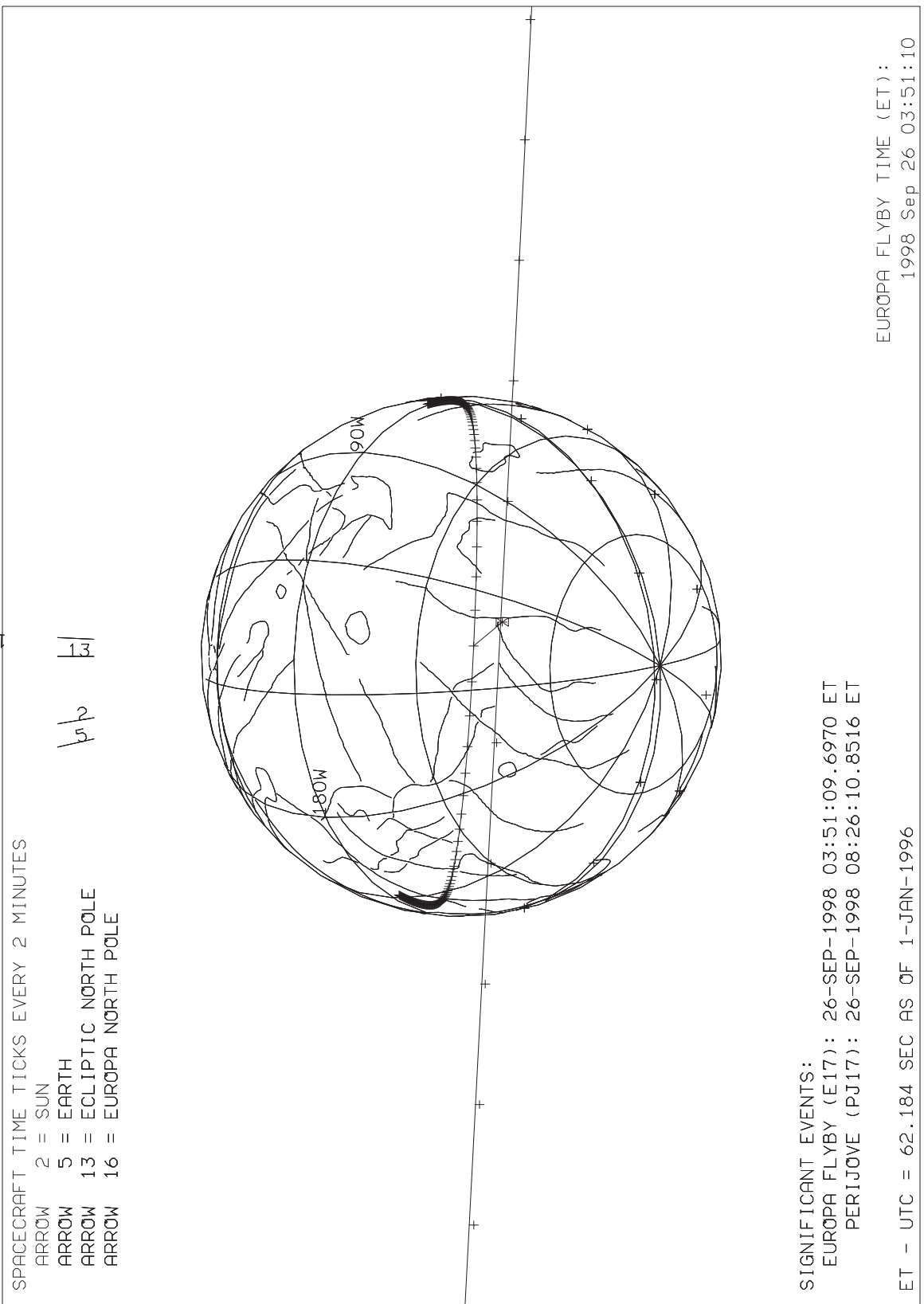
EUROPA 17: N. TRAJ POLE VIEW (+/- 6 HRS)



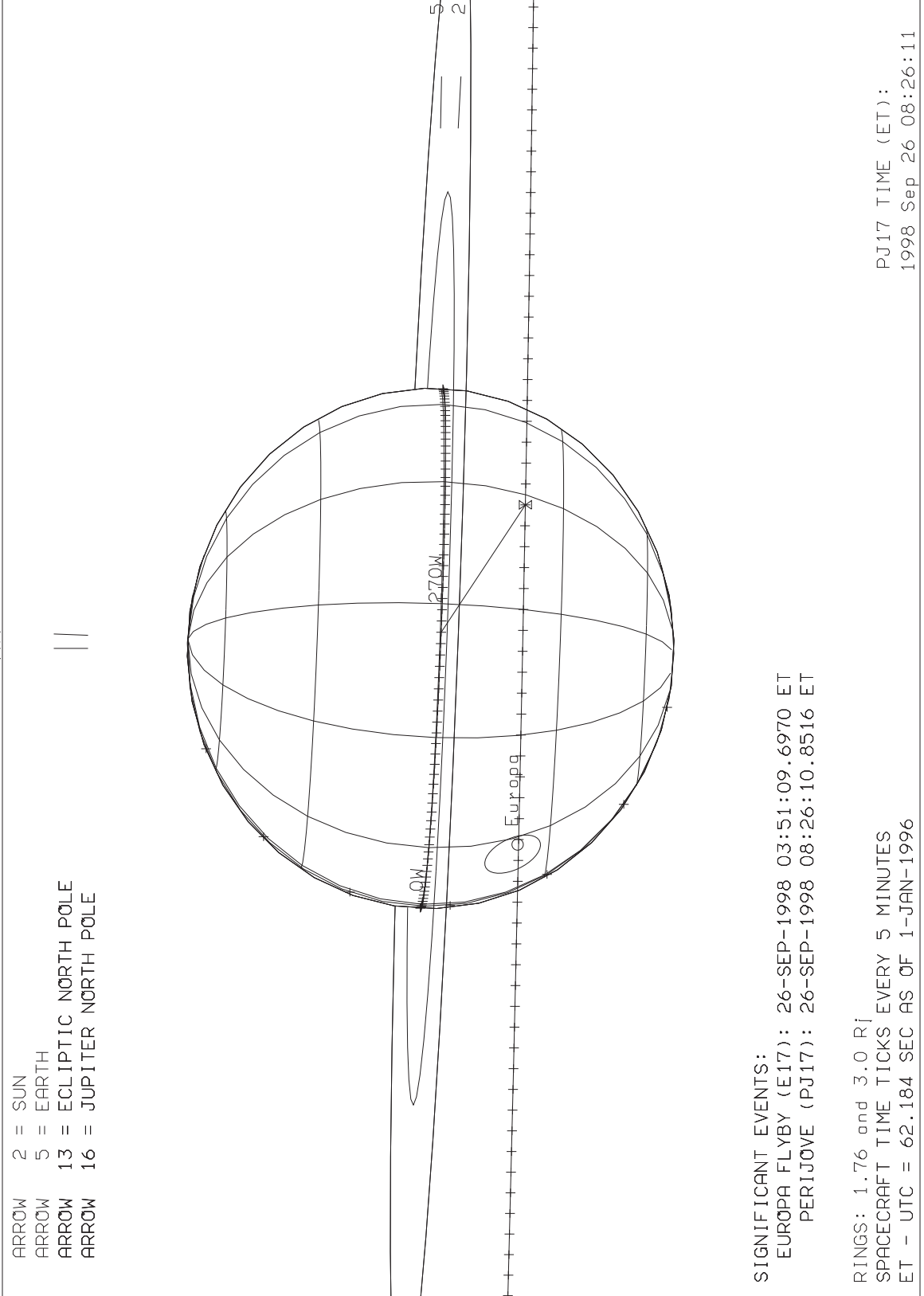
# EUROPA 17: N. TRAJ POLE VIEW (+/- 1 HR)



# EUROPA 17: GROUNDTRACK AT CLOSEST APPROACH



# JUPITER 17: GROUNDTRACK AT CLOSEST APPROACH



## Chapter 4 - NIMS Observation Summaries

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| 4.4 | NIMS OBSTAB (Returned) .....           | 92-97 |

## Introduction to Chapter 4

This chapter summarizes the NIMS E17 observations in terms of a comprehensive sequence summary, Individual Obstab Summaries and a NIMS Obstab (Observation Table).

The NIMS Sequence Summary is a time-ordered listing of all spacecraft activity pertinent to NIMS operations for the E17 Sequence. The information in this summary is derived from the E17 SEFs (Spacecraft Event File) and PBTs (Playback Tables) with inputs from the NIMS Science Coordinators regarding the start time and duration of the NIMS observations. There are twelve columns of information in this table:

- 1) Line - Line Count.
- 2) YR - Year.
- 3) DOY - Day of Year.
- 4) Time - SCET Time (UTC).
- 5) PSID - Parameter Set ID of the SEF line.
- 6) Command - Command name from the SEF.
- 7) Parameters - Parameters from the above Command Line.
- 8) Description - Description of the above Command for NIMS.
- 9) GCM - NIMS Gain, Chopper mode, Instrument Mode.  
Gain = 1,2,3 or 4.  
Chopper Mode = R (Reference) or 6 (63Hz).  
Instrement Mode = 0-15
- 10) GO - NIMS Grating Offset.
- 11) GS - NIMS Grating Start Position.
- 12) RIM,MF,I - SCLK of the Command Line (RIM:MF:RTI)

An additional line is inserted into this table at the start and stop times of each NIMS Observation (Opel) to bracket the commands which affect each NIMS Observation. The NIMS Playback Select and DeSelect times are also inserted into this table to correlate the playback requests with the observations.

The Individual Obstab Summaries are expansions of the NIMS Obstab to one page per Obstab entry for ease in reading the NIMS Obstab.

The NIMS Obstab (Observation Table) is a time-ordered listing of the NIMS obsrvation parameters for use by downlink data processing of the NIMS E17 data. It is also derived from the E17 SEFs and PBTs. Each Obstab entry is 512 bytes long but is presented here as 4 lines of 128 characters per entry.

| Sequence: |    | E17A-AR |              | Created: 10/26/98 |          | Begin: 98-268/04:00:00 |  | Finish: 98-271/02:00:00 |    |    |                |      |
|-----------|----|---------|--------------|-------------------|----------|------------------------|--|-------------------------|----|----|----------------|------|
| Line      | YR | DOY     | SCET - GMT   | PSID              | Command  | Parameters             | Description                                | GCM                     | GO | GS | RIM            | MF I |
| 1         | 98 | 268     | 04:00:00.000 | 20A3EW            | 37A      | Initial Condition      | NIMS Power ON                              | 400                     | 4  | 0  | 4,665,287:13:9 |      |
| 2         | 98 | 268     | 04:00:00.000 | 20A3FA            | 37F1PR   | Initial Condition      | Radiator Flash Heater OFF (primary relay)  | 400                     | 4  | 0  | 4,665,287:13:9 |      |
| 3         | 98 | 268     | 04:00:00.000 | 20A3FD            | 40HRPR   | Initial Condition      | RCT Heater OFF (primary relay)             | 400                     | 4  | 0  | 4,665,287:13:9 |      |
| 4         | 98 | 268     | 04:00:00.000 | 20A3FE            | 40T1P    | Initial Condition      | PCT Heater 1 ON (primary relay)            | 400                     | 4  | 0  | 4,665,287:13:9 |      |
| 5         | 98 | 268     | 04:00:00.000 | 20A3FF            | 40T2     | Initial Condition      | PCT Heater 2 ON                            | 400                     | 4  | 0  | 4,665,287:13:9 |      |
| 6         | 98 | 268     | 04:00:00.000 | 20A3EX            | 37HR     | Initial Condition      | Replacement Heaters OFF                    | 400                     | 4  | 0  | 4,665,287:13:9 |      |
| 7         | 98 | 268     | 04:00:00.000 | 20A3EY            | 37C1PR   | Initial Condition      | Optics Heater 1 OFF (primary relay)        | 400                     | 4  | 0  | 4,665,287:13:9 |      |
| 8         | 98 | 268     | 04:00:00.000 | 20A3FB            | 37F2PR   | Initial Condition      | Shield Flash Heater OFF (primary relay)    | 400                     | 4  | 0  | 4,665,287:13:9 |      |
| 9         | 98 | 268     | 04:00:00.000 | 20A3EZ            | 37C2PR   | Initial Condition      | Optics Heater 2 OFF (primary relay)        | 400                     | 4  | 0  | 4,665,287:13:9 |      |
| 10        | 98 | 268     | 04:00:00.066 |                   | DMS:     | : READY                | RDY, TRACK 1, FWD, TIC 202.12 +/-          | 400                     | 4  | 0  | 4,665,287:14:0 |      |
| 11        | 98 | 268     | 04:00:15.400 | 488AA6A           | 6TMSED   | NORM, GL6              | Sci, Eng, and D/L Chan                     | 400                     | 4  | 0  | 4,665,287:37:0 |      |
| 12        | 98 | 268     | 04:01:00.066 | 200A6A            | 6HICON   |                        |  | 400                     | 4  | 0  | 4,665,288:13:0 |      |
| 13        | 98 | 268     | 04:01:00.733 | 41AA99A           | POWER    | PWR MODE change        | Change to Data Taking Mode                 | 400                     | 4  | 0  | 4,665,288:14:0 |      |
| 14        | 98 | 268     | 04:01:04.733 | 41AA3A            | 40T1PR   |                        | 1 PCT Heater 1 OFF (primary relay)         | 400                     | 4  | 0  | 4,665,288:20:0 |      |
| 15        | 98 | 268     | 04:01:14.733 | 41AA3B            | 40T1PR   |                        | 2 PCT Heater 1 OFF (primary relay)         | 400                     | 4  | 0  | 4,665,288:35:0 |      |
| 16        | 98 | 268     | 04:01:24.733 | 41AA3C            | 40T2R    |                        | 1 PCT Heater 2 OFF                         | 400                     | 4  | 0  | 4,665,288:50:0 |      |
| 17        | 98 | 268     | 04:01:34.733 | 41AA3D            | 40T2R    |                        | 2 PCT Heater 2 OFF                         | 400                     | 4  | 0  | 4,665,288:65:0 |      |
| 18        | 98 | 268     | 04:01:50.733 | 432JA6B           | 6RTDS2   | NIMDSL, AACNCG, RT     | NIMS R/T DESELECT                          | 400                     | 4  | 0  | 4,665,288:89:0 |      |
| 19        | 98 | 268     | 04:01:51.400 | 432JA431A6A       | 6RCDLSL  | DDSNCG, PLSDSL, EP     | Record Deselect (DDS o                     | 400                     | 4  | 0  | 4,665,288:90:0 |      |
| 20        | 98 | 268     | 04:01:52.066 | 432JA6C           | 6RTSL1   |                        | R/T Select of DDS and                      | 400                     | 4  | 0  | 4,665,289:00:0 |      |
| 21        | 98 | 268     | 04:01:52.066 | 432JA6D           | 6RTSL2   | NIMNCG, AACSEL, RT     | AACS SELECT                                | 400                     | 4  | 0  | 4,665,289:00:0 |      |
| 22        | 98 | 268     | 04:15:00.733 | 282NC432A431A6A   | 6RCDLSL  | DDSNCG, PLSDSL, EP     | Record Deselect (DDS o                     | 400                     | 4  | 0  | 4,665,302:00:0 |      |
| 23        | 98 | 268     | 04:15:01.400 | 282NC432A6A       | 6RTSL1   |                        | R/T Select of DDS and                      | 400                     | 4  | 0  | 4,665,302:01:0 |      |
| 24        | 98 | 268     | 04:27:18.066 | 444UA443A4B       | 7MODE    | INT                    | AACS INERTIAL MODE                         | 400                     | 4  | 0  | 4,665,314:14:0 |      |
| 25        | 98 | 268     | 04:29:10.066 | 465KA6A           | 6DMST    |                        | 2050 DMS Slew to TIC                       | 400                     | 4  | 0  | 4,665,316:00:0 |      |
| 26        | 98 | 268     | 04:29:10.066 |                   | DMS:     | : *E4-DELAY            | RDY, TRACK 1, FWD, TIC 202.12 +/-          | 400                     | 4  | 0  | 4,665,316:00:0 |      |
| 27        | 98 | 268     | 04:29:10.066 |                   | DMS:     | : *SLEW-TIC            | P7, TRACK 1, FWD, TIC 202.12 +/-           | 400                     | 4  | 0  | 4,665,316:00:0 |      |
| 28        | 98 | 268     | 04:29:10.066 |                   | DMS:     | : *TURNARND            | P7, TRACK 1, FWD, TIC 202.12 +/-           | 400                     | 4  | 0  | 4,665,316:00:0 |      |
| 29        | 98 | 268     | 04:29:16.733 |                   | DMS:     | : *RUNUP               | P7, TRACK 1, FWD, TIC 202.12 +/-           | 400                     | 4  | 0  | 4,665,316:10:0 |      |
| 30        | 98 | 268     | 04:29:18.133 |                   | DMS:     | : *AT SPD              | P7, TRACK 1, FWD, TIC * 202.24 +/-         | 400                     | 4  | 0  | 4,665,316:12:1 |      |
| 31        | 98 | 268     | 04:45:20.066 | 165AA4A           | 7SCAN    | NORM, 248.952999,      | Check S/P Position                         | 400                     | 4  | 0  | 4,665,331:90:0 |      |
| 32        | 98 | 268     | 04:55:26.066 | 165AA4B           | 7VECT    |                        | Inert vect update UTC                      | 400                     | 4  | 0  | 4,665,341:89:0 |      |
| 33        | 98 | 268     | 06:13:16.066 | 176DA6A           | 6TMREC   | NRC                    | NO RECORD Record Mode Change               | 400                     | 4  | 0  | 4,665,418:87:0 |      |
| 34        | 98 | 268     | 06:17:55.335 | 17NNJUPRTS01-     |          | -----START-----        |  | 260                     | 4  | 0  | :              | :    |
| 35        | 98 | 268     | 06:26:45.400 | 20DA5A            | 37PL     |                        | Program Load (halts microprocessor & unwri | 260                     | 4  | 0  | 4,665,432:27:0 |      |
| 36        | 98 | 268     | 06:26:46.733 | 20DA5B            | 37MRL    |                        | Memory Realocate (software operates from R | 260                     | 4  | 0  | 4,665,432:29:0 |      |
| 37        | 98 | 268     | 06:26:48.066 | 20DA6A            | 6MCPY    | NIMS                   | NIMS,1000,LLM1A,7300,77F7                  | 260                     | 4  | 0  | 4,665,432:31:0 |      |
| 38        | 98 | 268     | 06:26:58.066 | 20DA6B            | 6MCPY    | NIMS                   | NIMS,1598,LLM1A,77F8,781D                  | 260                     | 4  | 0  | 4,665,432:46:0 |      |
| 39        | 98 | 268     | 06:27:08.066 | 20DA5C            | 37IRT    |                        | Instrument Reset (goes into POR state)     | 260                     | 4  | 0  | 4,665,432:61:0 |      |
| 40        | 98 | 268     | 06:27:28.066 | 20DA5D            | 37MN     |                        | Memory Normal (software operates from ROM) | 260                     | 4  | 0  | 4,665,433:00:0 |      |
| 41        | 98 | 268     | 06:27:43.400 | 20DA4A            | 37IST    | 1,2,0,OFF,0,0,0        | Chopper ON, Sync, Chopper (Ref)            | 2R0                     | 4  | 0  | 4,665,433:23:0 |      |
| 42        | 98 | 268     | 06:28:02.002 | 17NNJUPRTS01-     |          | -----STOP-----         |  | 2R0                     | 4  | 0  | :              | :    |
| 43        | 98 | 268     | 06:28:02.002 | 17JNJUPRTS01*     |          | -----START-----        |  | 2R0                     | 4  | 0  | :              | :    |
| 44        | 98 | 268     | 06:29:24.733 | 125DA4A           | 37IST    | 0,2,0,OFF,0,1,0        | Gain State 2                               | 2R0                     | 4  | 0  | 4,665,434:84:0 |      |
| 45        | 98 | 268     | 06:29:24.733 | 125DA             | NIMSINIT | GS                     | ##### GROUP START INIT                     | 2R0                     | 4  | 0  | 4,665,434:84:0 |      |
| 46        | 98 | 268     | 06:29:28.733 | 165DA4A           | 7SCAN    | NORM, 251.320999,      | Check S/P Position                         | 2R0                     | 4  | 0  | 4,665,434:90:0 |      |
| 47        | 98 | 268     | 06:30:25.400 | 125DA4B           | 37MB     | 1B,1B,0,0,0,0          | Selects mirror (spatial) edit table        | 2R0                     | 4  | 0  | 4,665,435:84:0 |      |
| 48        | 98 | 268     | 06:30:25.400 | 125DA11A          | NIMSINIT | GE                     | ##### GROUP END INIT                       | 2R0                     | 4  | 0  | 4,665,435:84:0 |      |
| 49        | 98 | 268     | 06:32:26.733 | 127DA             | NIMSTAB  | GS                     | %%/%/% GROUP START TAB                     | 2R0                     | 4  | 0  | 4,665,437:84:0 |      |
| 50        | 98 | 268     | 06:32:26.733 | 127DA4A           | 37IOP    | 3,0                    | Long Map, Grating Start Position =00       | 2R3                     | 4  | 0  | 4,665,437:85:0 |      |
| 51        | 98 | 268     | 06:32:27.400 | 127DA4B           | 37ETB    | 04,C,4,35,FF,FF        | Loads wavelength edit table                | 2R3                     | 4  | 0  | 4,665,437:85:0 |      |
| 52        | 98 | 268     | 06:32:35.400 | 432DA6A           | 6RTSL2   | NIMSEL, AACNCG, RT     | NIMS R/T SELECT                            | 2R3                     | 4  | 0  | 4,665,438:06:0 |      |
| 53        | 98 | 268     | 06:32:35.400 | 127DA11A          | NIMSTAB  | GE                     | %%/%/% GROUP END TAB                       | 2R3                     | 4  | 0  | 4,665,438:06:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID            | Command  | Parameters       | Description                                | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|-----------------|----------|------------------|--|-----|----|----|----------------|------|
| 54   | 98 | 268 | 06:33:22.733 | 117DA           | CSMOS    | GS               | **** GROUP START CSMOS                     | 2R3 | 4  | 0  | 4,665,438:77:0 |      |
| 55   | 98 | 268 | 06:33:30.733 | 165DA4B         | 7VECT    |                  | Inert vect update UTC                      | 2R3 | 4  | 0  | 4,665,438:89:0 |      |
| 56   | 98 | 268 | 06:33:32.066 | 117DA105A106A4A | 7STRP    | -0.011501,0.0,0, | Slew =-0.06                                | 2R3 | 4  | 0  | 4,665,439:00:0 |      |
| 57   | 98 | 268 | 06:36:46.066 | 117DA105A106A4B | 7STRP    | 0.013001,-0.008, | Slew =12.01                                | 2R3 | 4  | 0  | 4,665,442:18:0 |      |
| 58   | 98 | 268 | 06:36:54.066 | 117DA105A106A4C | 7STRP    | -0.011501,0.0,0, | Slew =-0.06                                | 2R3 | 4  | 0  | 4,665,442:30:0 |      |
| 59   | 98 | 268 | 06:40:08.066 | 117DA105A106A4D | 7STRP    | 0.013001,-0.008, | Slew =12.01                                | 2R3 | 4  | 0  | 4,665,445:48:0 |      |
| 60   | 98 | 268 | 06:40:16.066 | 117DA105A106A4E | 7STRP    | -0.011501,0.0,0, | Slew =-0.06                                | 2R3 | 4  | 0  | 4,665,445:60:0 |      |
| 61   | 98 | 268 | 06:40:32.200 |                 | DMS:     | : *RUNDOWN       | P7, TRACK 1, FWD, TIC *2047.94 +/-         | 2R3 | 4  | 0  | 4,665,445:84:2 |      |
| 62   | 98 | 268 | 06:40:33.400 |                 | DMS:     | : *READY         | RDY, TRACK 1, FWD, TIC *2048.00 +/-        | 2R3 | 4  | 0  | 4,665,445:86:0 |      |
| 63   | 98 | 268 | 06:42:11.335 | 17JNJUPRTS01*   |          | ----STOP-----    |  | 2R3 | 4  | 0  | :              |      |
| 64   | 98 | 268 | 06:42:40.733 | 432DZ6A         | 6RTDS2   | NIMDSL,AACNCG,RT | NIMS R/T DESELECT                          | 2R3 | 4  | 0  | 4,665,448:04:0 |      |
| 65   | 98 | 268 | 06:43:30.066 | 117DA11A        | CSMOS    | GE               | **** GROUP END CSMOS                       | 2R3 | 4  | 0  | 4,665,448:78:0 |      |
| 66   | 98 | 268 | 06:44:12.847 | 17NNEUR20H01-   |          | ----START-----   |  | 2R3 | 4  | 0  | :              |      |
| 67   | 98 | 268 | 06:48:15.513 | 17ENEUR20H01-   |          | ----START-----   |  | 2R3 | 4  | 0  | :              |      |
| 68   | 98 | 268 | 06:48:15.513 | 17NNEUR20H01-   |          | ----STOP-----    |  | 2R3 | 4  | 0  | :              |      |
| 69   | 98 | 268 | 06:48:56.733 | 20EA5A          | 37PL     |                  | Program Load (halts microprocessor & unwri | 2R3 | 4  | 0  | 4,665,454:22:0 |      |
| 70   | 98 | 268 | 06:48:58.066 | 20EA5B          | 37MRL    |                  | Memory Realocate (software operates from R | 2R3 | 4  | 0  | 4,665,454:24:0 |      |
| 71   | 98 | 268 | 06:49:00.066 | 20EA6A          | 6MCOPI   | NIMS             | NIMS,1000,LLM1A,7300,77F7                  | 2R3 | 4  | 0  | 4,665,454:27:0 |      |
| 72   | 98 | 268 | 06:49:10.066 | 20EA6B          | 6MCOPI   | NIMS             | NIMS,1598,LLM1A,77F8,781D                  | 2R3 | 4  | 0  | 4,665,454:42:0 |      |
| 73   | 98 | 268 | 06:49:23.400 | 20EA5C          | 37IRT    |                  | Instrument Reset (goes into POR state)     | 260 | 4  | 0  | 4,665,454:62:0 |      |
| 74   | 98 | 268 | 06:49:26.733 | 20EA5D          | 37MNI    |                  | Memory Normal (software operates from ROM) | 260 | 4  | 0  | 4,665,454:67:0 |      |
| 75   | 98 | 268 | 06:49:36.733 | 20EA4A          | 37IST    | 1,2,0,OFF,0,0,0  | Chopper ON, Sync, Chopper (Ref)            | 2R0 | 4  | 0  | 4,665,454:82:0 |      |
| 76   | 98 | 268 | 06:51:39.400 | 125EA           | NIMSINIT | GS               | ##### GROUP START INIT                     | 2R0 | 4  | 0  | 4,665,456:84:0 |      |
| 77   | 98 | 268 | 06:51:39.400 | 125EA4A         | 37IST    | 0,2,0,OFF,0,1,1  | Gain State 4                               | 4R0 | 4  | 0  | 4,665,456:84:0 |      |
| 78   | 98 | 268 | 06:52:40.066 | 125EA4B         | 37MB     | 0,0,0,0,0,0      | Selects mirror (spatial) edit table        | 4R0 | 4  | 0  | 4,665,457:84:0 |      |
| 79   | 98 | 268 | 06:52:40.066 | 125EA11A        | NIMSINIT | GE               | ##### GROUP END INIT                       | 4R0 | 4  | 0  | 4,665,457:84:0 |      |
| 80   | 98 | 268 | 06:52:44.066 | 165EA4A         | 7SCAN    | NORM,276.66,-24. | Check S/P Position                         | 4R0 | 4  | 0  | 4,665,457:90:0 |      |
| 81   | 98 | 268 | 06:54:41.400 | 127EA4A         | 37IOP    | 3,0              | Long Map, Grating Start Position =00       | 4R3 | 4  | 0  | 4,665,459:84:0 |      |
| 82   | 98 | 268 | 06:54:41.400 | 127EA           | NIMSTAB  | GS               | %%-%-% GROUP START TAB                     | 4R3 | 4  | 0  | 4,665,459:84:0 |      |
| 83   | 98 | 268 | 06:54:42.066 | 127EA4B         | 37ETB    | 07,C7,30,05,FF,0 | Loads wavelength edit table                | 4R3 | 4  | 0  | 4,665,459:85:0 |      |
| 84   | 98 | 268 | 06:54:50.066 | 127EA11A        | NIMSTAB  | GE               | %%-%-% GROUP END TAB                       | 4R3 | 4  | 0  | 4,665,460:06:0 |      |
| 85   | 98 | 268 | 06:56:38.066 | 117EA           | CSMOS    | GS               | **** GROUP START CSMOS                     | 4R3 | 4  | 0  | 4,665,461:77:0 |      |
| 86   | 98 | 268 | 06:56:46.066 | 165EA4B         | 7VECT    |                  | Inert vect update UTC                      | 4R3 | 4  | 0  | 4,665,461:89:0 |      |
| 87   | 98 | 268 | 06:56:47.400 | 117EA105A106A4A | 7STRP    | -0.0052,0,0,0,0, | Slew =-0.02                                | 4R3 | 4  | 0  | 4,665,462:00:0 |      |
| 88   | 98 | 268 | 06:57:36.733 | 175EA422A6A     | 6DMSC    | R7,1             | DMS Control Tape runup 7.68kbp             | 4R3 | 4  | 0  | 4,665,462:74:0 |      |
| 89   | 98 | 268 | 06:57:36.733 |                 | DMS:     | : *E4-DELAY      | RDY, TRACK 1, FWD, TIC 2048.00 +/-         | 4R3 | 4  | 0  | 4,665,462:74:0 |      |
| 90   | 98 | 268 | 06:57:43.400 |                 | DMS:     | : *RUNUP         | R7, TRACK 1, FWD, TIC 2048.00 +/-          | 4R3 | 4  | 0  | 4,665,462:84:0 |      |
| 91   | 98 | 268 | 06:57:44.733 | 175EA176A6A     | 6TMREC   | LPU              | 7.68 KBPS NIMS-UVS-PPR RECORD Record Mode  | 4R3 | 4  | 0  | 4,665,462:86:0 |      |
| 92   | 98 | 268 | 06:57:44.800 |                 | DMS:     | : *AT_SPD        | R7, TRACK 1, FWD, TIC 2048.12 +/-          | 4R3 | 4  | 0  | 4,665,462:86:1 |      |
| 93   | 98 | 268 | 06:57:44.800 |                 | DMS:     | : *RECORD        | R7, TRACK 1, FWD, TIC *2048.12 +/-         | 4R3 | 4  | 0  | 4,665,462:86:1 |      |
| 94   | 98 | 268 | 06:57:45.400 | 17ENEUR20H01-   | NIMPBK   | 301EA            | EUROPA DISTANT MAPPING                     | 4R3 | 4  | 0  | :              |      |
| 95   | 98 | 268 | 07:00:45.400 | 125FA4A         | 37IST    | 0,2,0,OFF,0,1,2  | Gain State 3                               | 3R3 | 4  | 0  | 4,665,465:84:0 |      |
| 96   | 98 | 268 | 07:00:45.400 | 125FA           | NIMSINIT | GS               | ##### GROUP START INIT                     | 3R3 | 4  | 0  | 4,665,465:84:0 |      |
| 97   | 98 | 268 | 07:00:45.400 | 125FA11A        | NIMSINIT | GE               | ##### GROUP END INIT                       | 3R3 | 4  | 0  | 4,665,465:84:0 |      |
| 98   | 98 | 268 | 07:01:18.733 | 17ENEUR20H01-   | DESEL    | 300EA            | EUROPA DISTANT MAPPING                     | 3R3 | 4  | 0  | :              |      |
| 99   | 98 | 268 | 07:01:18.733 | 117EA105A106A4B | 7STRP    | 0.0052,0,0,0,0,0 | Slew =12.01                                | 3R3 | 4  | 0  | 4,665,466:43:0 |      |
| 100  | 98 | 268 | 07:01:46.066 | 127FA           | NIMSTAB  | GS               | %%-%-% GROUP START TAB                     | 3R3 | 4  | 0  | 4,665,466:84:0 |      |
| 101  | 98 | 268 | 07:01:46.733 | 127FA4A         | 37ETB    | 07,C7,31,BD,C8,0 | Loads wavelength edit table                | 3R3 | 4  | 0  | 4,665,466:85:0 |      |
| 102  | 98 | 268 | 07:01:54.733 | 127FA11A        | NIMSTAB  | GE               | %%-%-% GROUP END TAB                       | 3R3 | 4  | 0  | 4,665,467:06:0 |      |
| 103  | 98 | 268 | 07:02:14.066 | 17ENEUR20H01-   | NIMPBK   | 301EZ            | EUROPA DISTANT MAPPING                     | 3R3 | 4  | 0  | :              |      |
| 104  | 98 | 268 | 07:02:19.400 | 117EA105A106A4C | 7STRP    | -0.0052,0,0,0,0, | Slew =-0.02                                | 3R3 | 4  | 0  | 4,665,467:43:0 |      |
| 105  | 98 | 268 | 07:02:24.847 | 17ENEUR20H01-   |          | ----STOP-----    |  | 3R3 | 4  | 0  | :              |      |
| 106  | 98 | 268 | 07:06:49.400 | 17ENEUR20H01-   | DESEL    | 300EZ            | EUROPA DISTANT MAPPING                     | 3R3 | 4  | 0  | :              |      |
| 107  | 98 | 268 | 07:06:50.733 | 117EA11A        | CSMOS    | GE               | **** GROUP END CSMOS                       | 3R3 | 4  | 0  | 4,665,471:86:0 |      |
| 108  | 98 | 268 | 07:06:51.400 | 175EA6A         | 6TMREC   | NRC              | NO RECORD Record Mode Change               | 3R3 | 4  | 0  | 4,665,471:87:0 |      |



| Line | YR | DOY | SCET - GMT   | PSID            | Command Parameters       | Description                                | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|-----------------|--------------------------|--|-----|----|----|----------------|------|
| 109  | 98 | 268 | 07:06:51.400 | 175EA422A6B     | 6DMSC RDY,0              | DMS Control Tape stop                      | 3R3 | 4  | 0  | 4,665,471:87:0 |      |
| 110  | 98 | 268 | 07:06:51.400 |                 | DMS: : *RUNDOWN          | R7, TRACK 1, FWD, TIC *2176.23 +/-         | 3R3 | 4  | 0  | 4,665,471:87:0 |      |
| 111  | 98 | 268 | 07:06:52.600 |                 | DMS: : *READY            | RDY, TRACK 1, FWD, TIC *2176.29 +/-        | 3R3 | 4  | 0  | 4,665,471:88:8 |      |
| 112  | 98 | 268 | 07:06:53.400 | 165CA4A         | 7SCAN NORM,276.586998,   | Check S/P Position                         | 3R3 | 4  | 0  | 4,665,471:90:0 |      |
| 113  | 98 | 268 | 07:10:55.400 | 165CA4B         | 7VECT                    | Inert vect update UTC                      | 3R3 | 4  | 0  | 4,665,475:89:0 |      |
| 114  | 98 | 268 | 07:33:35.400 | 488AA6B         | 6TMSED NORM,GL7          | Sci, Eng, and D/L Chan                     | 3R3 | 4  | 0  | 4,665,498:36:0 |      |
| 115  | 98 | 268 | 07:55:22.733 | 165CA4C         | 7VECT                    | Inert vect update UTC                      | 3R3 | 4  | 0  | 4,665,519:86:0 |      |
| 116  | 98 | 268 | 08:15:57.400 | 488AA6C         | 6TMSED FILL,GL7          | Sci, Eng, and D/L Chan                     | 3R3 | 4  | 0  | 4,665,540:27:0 |      |
| 117  | 98 | 268 | 08:18:23.400 | 488AA6D         | 6TMSED FILL,GL8          | Sci, Eng, and D/L Chan                     | 3R3 | 4  | 0  | 4,665,542:64:0 |      |
| 118  | 98 | 268 | 08:20:03.400 | 488AA6E         | 6TMSED NORM,GL8          | Sci, Eng, and D/L Chan                     | 3R3 | 4  | 0  | 4,665,544:32:0 |      |
| 119  | 98 | 268 | 08:25:59.400 | 488AB6A         | 6TMSED FILL,GL8          | Sci, Eng, and D/L Chan                     | 3R3 | 4  | 0  | 4,665,550:20:0 |      |
| 120  | 98 | 268 | 08:39:54.733 | 165CH4A         | 7SCAN NORM,277.734997,   | Check S/P Position                         | 3R3 | 4  | 0  | 4,665,563:90:0 |      |
| 121  | 98 | 268 | 08:40:54.733 | 165CH4B         | 7VECT                    | Inert vect update UTC                      | 3R3 | 4  | 0  | 4,665,564:89:0 |      |
| 122  | 98 | 268 | 08:54:24.066 | 488AB6B         | 6TMSED NORM,GL8          | Sci, Eng, and D/L Chan                     | 3R3 | 4  | 0  | 4,665,578:29:0 |      |
| 123  | 98 | 268 | 09:25:22.066 | 165CH4C         | 7VECT                    | Inert vect update UTC                      | 3R3 | 4  | 0  | 4,665,608:86:0 |      |
| 124  | 98 | 268 | 10:00:00.066 | 488AB6C         | 6TMSED NORM,EL8          | Sci, Eng, and D/L Chan                     | 3R3 | 4  | 0  | 4,665,643:18:0 |      |
| 125  | 98 | 268 | 10:00:00.733 | 282ND432A431A6A | 6RCDL DDSNCG,PLSDSL,EP   | Record Deselect (DDS o                     | 3R3 | 4  | 0  | 4,665,643:19:0 |      |
| 126  | 98 | 268 | 10:00:01.400 | 282ND432A6A     | 6RTSL1                   | R/T Select of DDS and                      | 3R3 | 4  | 0  | 4,665,643:20:0 |      |
| 127  | 98 | 268 | 10:09:54.066 | 165CB4A         | 7SCAN                    | Check S/P Position                         | 3R3 | 4  | 0  | 4,665,652:90:0 |      |
| 128  | 98 | 268 | 10:10:54.066 | 165CB4B         | 7VECT                    | Inert vect update UTC                      | 3R3 | 4  | 0  | 4,665,653:89:0 |      |
| 129  | 98 | 268 | 10:27:40.002 | 17NNWHTOVL01-   | -----START-----          |  | 3R3 | 4  | 0  | :              |      |
| 130  | 98 | 268 | 10:32:27.400 | 20EB5A          | 37PL                     | Program Load (halts microprocessor & unwri | 3R3 | 4  | 0  | 4,665,675:27:0 |      |
| 131  | 98 | 268 | 10:32:28.733 | 20EB5B          | 37MRL                    | Memory Realocate (software operates from R | 3R3 | 4  | 0  | 4,665,675:29:0 |      |
| 132  | 98 | 268 | 10:32:30.066 | 20EB6A          | 6MCOPI NIMS              | NIMS,1000,LLM1A,7300,77F7                  | 3R3 | 4  | 0  | 4,665,675:31:0 |      |
| 133  | 98 | 268 | 10:32:40.066 | 20EB6B          | 6MCOPI NIMS              | NIMS,1598,LLM1A,77F8,781D                  | 3R3 | 4  | 0  | 4,665,675:46:0 |      |
| 134  | 98 | 268 | 10:32:50.066 | 20EB5C          | 37IRT                    | Instrument Reset (goes into POR state)     | 260 | 4  | 0  | 4,665,675:61:0 |      |
| 135  | 98 | 268 | 10:33:10.066 | 20EB5D          | 37MN                     | Memory Normal (software operates from ROM) | 260 | 4  | 0  | 4,665,676:00:0 |      |
| 136  | 98 | 268 | 10:33:25.400 | 20EB4A          | 37IST                    | Chopper ON, Sync, Chopper (Ref)            | 2R0 | 4  | 0  | 4,665,676:23:0 |      |
| 137  | 98 | 268 | 10:35:06.733 | 125EB4A         | 37IST                    | Gain State 4                               | 4R0 | 4  | 0  | 4,665,677:84:0 |      |
| 138  | 98 | 268 | 10:35:06.733 | 125EB           | NIMSINIT GS              | ##### GROUP START INIT                     | 4R0 | 4  | 0  | 4,665,677:84:0 |      |
| 139  | 98 | 268 | 10:36:07.400 | 125EB4B         | 37MB                     | Selects mirror (spatial) edit table        | 4R0 | 4  | 0  | 4,665,678:84:0 |      |
| 140  | 98 | 268 | 10:36:07.400 | 125EB11A        | NIMSINIT GE              | ##### GROUP END INIT                       | 4R0 | 4  | 0  | 4,665,678:84:0 |      |
| 141  | 98 | 268 | 10:37:46.668 | 17JNWHTOVL01-   | -----START-----          |  | 4R0 | 4  | 0  | :              |      |
| 142  | 98 | 268 | 10:37:46.668 | 17NNWHTOVL01-   | -----STOP-----           |  | 4R0 | 4  | 0  | :              |      |
| 143  | 98 | 268 | 10:38:08.733 | 127EB4          | 37IOP                    | Long Map, Grating Start Position =00       | 4R3 | 4  | 0  | 4,665,680:84:0 |      |
| 144  | 98 | 268 | 10:38:08.733 | 127EB           | NIMSTAB GS               | %%%%%% GROUP START TAB                     | 4R3 | 4  | 0  | 4,665,680:84:0 |      |
| 145  | 98 | 268 | 10:38:09.400 | 127EB4B         | 37ETB                    | Loads wavelength edit table                | 4R3 | 4  | 0  | 4,665,680:85:0 |      |
| 146  | 98 | 268 | 10:38:17.400 | 127EB11A        | NIMSTAB GE               | %%%%%% GROUP END TAB                       | 4R3 | 4  | 0  | 4,665,681:06:0 |      |
| 147  | 98 | 268 | 10:39:11.400 | 488AB6D         | 6TMSED NORM,EL7          | Sci, Eng, and D/L Chan                     | 4R3 | 4  | 0  | 4,665,681:87:0 |      |
| 148  | 98 | 268 | 10:39:13.400 | 165EB4A         | 7SCAN NORM,284.114998,   | Check S/P Position                         | 4R3 | 4  | 0  | 4,665,681:90:0 |      |
| 149  | 98 | 268 | 10:42:04.733 |                 | DMS: : *E4-DELAY         | RDY, TRACK 1, FWD, TIC 2176.29 +/-         | 4R3 | 4  | 0  | 4,665,684:74:0 |      |
| 150  | 98 | 268 | 10:42:04.733 | 175EB422A6A     | 6DMSC R7.1               | DMS Control Tape runup 7.68kbp             | 4R3 | 4  | 0  | 4,665,684:74:0 |      |
| 151  | 98 | 268 | 10:42:06.733 | 117EB           | CSMOS GS                 | ***** GROUP START CSMOS                    | 4R3 | 4  | 0  | 4,665,684:77:0 |      |
| 152  | 98 | 268 | 10:42:11.400 |                 | DMS: : *RUNUP            | R7, TRACK 1, FWD, TIC 2176.29 +/-          | 4R3 | 4  | 0  | 4,665,684:84:0 |      |
| 153  | 98 | 268 | 10:42:12.733 | 175EB176A6A     | 6TMREC LPU               | 7.68 KBPS NIMS-UVS-PPR RECORD Record Mode  | 4R3 | 4  | 0  | 4,665,684:86:0 |      |
| 154  | 98 | 268 | 10:42:12.800 |                 | DMS: : *RECORD           | R7, TRACK 1, FWD, TIC *2176.41 +/-         | 4R3 | 4  | 0  | 4,665,684:86:1 |      |
| 155  | 98 | 268 | 10:42:12.800 |                 | DMS: : *AT_SPD           | R7, TRACK 1, FWD, TIC 2176.41 +/-          | 4R3 | 4  | 0  | 4,665,684:86:1 |      |
| 156  | 98 | 268 | 10:42:14.733 | 165EB4B         | 7VECT                    | Inert vect update UTC                      | 4R3 | 4  | 0  | 4,665,684:89:0 |      |
| 157  | 98 | 268 | 10:42:16.066 | 117EB105A106A4A | 75TRP -0.024005,0.0,0,0, | Slew = 0.04                                | 4R3 | 4  | 0  | 4,665,685:00:0 |      |
| 158  | 98 | 268 | 10:42:16.066 | 17JNWHTOVL01-   | NIMPBK 301EB             | JUPITER WHITE OVAL OBS                     | 4R3 | 4  | 0  | :              |      |
| 159  | 98 | 268 | 10:50:55.335 | 17JNWHTOVL01-   | -----STOP-----           |  | 4R3 | 4  | 0  | :              |      |
| 160  | 98 | 268 | 10:52:11.400 | 17JNWHTOVL01-   | 300EB                    | JUPITER WHITE OVAL OBS                     | 4R3 | 4  | 0  | :              |      |
| 161  | 98 | 268 | 10:52:13.400 |                 | DMS: : *RUNDOWN          | R7, TRACK 1, FWD, TIC *2317.17 +/-         | 4R3 | 4  | 0  | 4,665,694:77:0 |      |
| 162  | 98 | 268 | 10:52:13.400 | 175EB6A         | 6TMREC NRC               | NO RECORD Record Mode Change               | 4R3 | 4  | 0  | 4,665,694:77:0 |      |
| 163  | 98 | 268 | 10:52:13.400 | 175EB422A6B     | 6DMSC RDY,0              | DMS Control Tape stop                      | 4R3 | 4  | 0  | 4,665,694:77:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID            | Command Parameters     | Description                                | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|-----------------|------------------------|--|-----|----|----|----------------|------|
| 164  | 98 | 268 | 10:52:14.600 |                 | DMS: : *READY          | RDY, TRACK 1, FWD, TIC *2317.23 +/-        | 4R3 | 4  | 0  | 4,665,694:78:8 |      |
| 165  | 98 | 268 | 10:52:19.400 | 117EB11A        | CSMOS GE               | ***** GROUP END CSMOS                      | 4R3 | 4  | 0  | 4,665,694:86:0 |      |
| 166  | 98 | 268 | 10:52:22.066 | 165CC4A         | 7SCAN NORM,278.321999, | Check S/P Position                         | 4R3 | 4  | 0  | 4,665,694:90:0 |      |
| 167  | 98 | 268 | 10:55:23.400 | 165CC4B         | 7VECT                  | Inert vect update UTC                      | 4R3 | 4  | 0  | 4,665,697:89:0 |      |
| 168  | 98 | 268 | 11:23:42.733 | 165CD4A         | 7SCAN NORM,278.237.-24 | Check S/P Position                         | 4R3 | 4  | 0  | 4,665,725:90:0 |      |
| 169  | 98 | 268 | 11:24:42.733 | 165CD4B         | 7VECT                  | Inert vect update UTC                      | 4R3 | 4  | 0  | 4,665,726:89:0 |      |
| 170  | 98 | 268 | 11:34:39.400 | 48SAB6E         | 6TMSED NORM,EL6        | Sci, Eng, and D/L Chan                     | 4R3 | 4  | 0  | 4,665,736:74:0 |      |
| 171  | 98 | 268 | 11:41:28.668 | 17NNWHTOVL02-   | -----START-----        |  | 4R3 | 4  | 0  | :              |      |
| 172  | 98 | 268 | 11:50:18.733 | 20EC5A          | 37PL                   | Program Load (halts microprocessor & unwri | 4R3 | 4  | 0  | 4,665,752:27:0 |      |
| 173  | 98 | 268 | 11:50:20.066 | 20EC5B          | 37MRL                  | Memory Realocate (software operates from R | 4R3 | 4  | 0  | 4,665,752:29:0 |      |
| 174  | 98 | 268 | 11:50:21.400 | 20EC6A          | NIMS                   | NIMS,1000,LLM1A,7300,77F7                  | 4R3 | 4  | 0  | 4,665,752:31:0 |      |
| 175  | 98 | 268 | 11:50:31.400 | 20EC6B          | 6MCOPI NIMS            | NIMS,1598,LLM1A,77F8,781D                  | 4R3 | 4  | 0  | 4,665,752:46:0 |      |
| 176  | 98 | 268 | 11:50:41.400 | 20EC5C          | 37IRT                  | Instrument Reset (goes into POR state)     | 260 | 4  | 0  | 4,665,752:61:0 |      |
| 177  | 98 | 268 | 11:51:01.400 | 20EC5D          | 37MNI                  | Memory Normal (software operates from ROM) | 260 | 4  | 0  | 4,665,753:00:0 |      |
| 178  | 98 | 268 | 11:51:16.733 | 20EC4A          | 37IST                  | Chopper ON, Sync, Chopper (Ref)            | 2R0 | 4  | 0  | 4,665,753:23:0 |      |
| 179  | 98 | 268 | 11:51:35.335 | 17NNWHTOVL02-   | -----STOP-----         |  | 2R0 | 4  | 0  | :              |      |
| 180  | 98 | 268 | 11:51:35.335 | 17JNWHTOVL02-   | -----START-----        |  | 2R0 | 4  | 0  | :              |      |
| 181  | 98 | 268 | 11:53:02.066 | 165EC4A         | 7SCAN NORM,265.114998, | Check S/P Position                         | 2R0 | 4  | 0  | 4,665,754:90:0 |      |
| 182  | 98 | 268 | 11:53:58.733 | 125EC           | NIMSINIT GS            | ##### GROUP START INIT                     | 2R0 | 4  | 0  | 4,665,755:84:0 |      |
| 183  | 98 | 268 | 11:53:58.733 | 125EC4A         | 37IST 0,0,0,OFF,0,1,1  | Gain State 4                               | 4R0 | 4  | 0  | 4,665,755:84:0 |      |
| 184  | 98 | 268 | 11:54:59.400 | 125EC4B         | 37MB 0,0,0,0,0,0       | ***** mirror (spatial) edit table          | 4R0 | 4  | 0  | 4,665,756:84:0 |      |
| 185  | 98 | 268 | 11:54:59.400 | 125EC11A        | NIMSINIT GE            | ##### GROUP END INIT                       | 4R0 | 4  | 0  | 4,665,756:84:0 |      |
| 186  | 98 | 268 | 11:56:00.066 | 127EC           | NIMSTAB GS             | %%-%-% GROUP START TAB                     | 4R0 | 4  | 0  | 4,665,757:84:0 |      |
| 187  | 98 | 268 | 11:56:00.066 | 127EC4A         | 37IOP 3,0              | Long Map, Grating Start Position =00       | 4R3 | 4  | 0  | 4,665,757:84:0 |      |
| 188  | 98 | 268 | 11:56:00.733 | 127EC4B         | 37ETB                  | Loads wavelength edit table                | 4R3 | 4  | 0  | 4,665,757:85:0 |      |
| 189  | 98 | 268 | 11:56:08.733 | 127EC11A        | NIMSTAB GE             | %%-%-% GROUP END TAB                       | 4R3 | 4  | 0  | 4,665,758:06:0 |      |
| 190  | 98 | 268 | 11:56:54.066 | 175EC422A6A     | 6DMSC R7.1             | DMS Control Tape runup 7.68kbp             | 4R3 | 4  | 0  | 4,665,758:74:0 |      |
| 191  | 98 | 268 | 11:56:54.066 | 117EC           | DMS: : *E4-DELAY       | RDY, TRACK 1, FWD, TIC 2317.23 +/-         | 4R3 | 4  | 0  | 4,665,758:74:0 |      |
| 192  | 98 | 268 | 11:56:56.066 | 117EC           | CSMOS GS               | ***** GROUP START CSMOS                    | 4R3 | 4  | 0  | 4,665,758:77:0 |      |
| 193  | 98 | 268 | 11:57:00.733 | 117EC           | DMS: : *RUNUP          | R7, TRACK 1, FWD, TIC 2317.23 +/-          | 4R3 | 4  | 0  | 4,665,758:84:0 |      |
| 194  | 98 | 268 | 11:57:02.066 | 175EC176A6A     | 6TMREC LPU             | 7.68 KBPS NIMS-JVS-PPR RECORD Record Mode  | 4R3 | 4  | 0  | 4,665,758:86:0 |      |
| 195  | 98 | 268 | 11:57:02.133 |                 | DMS: : *AT SPD         | R7, TRACK 1, FWD, TIC 2317.35 +/-          | 4R3 | 4  | 0  | 4,665,758:86:1 |      |
| 196  | 98 | 268 | 11:57:02.133 |                 | DMS: : *RECORD         | R7, TRACK 1, FWD, TIC *2317.35 +/-         | 4R3 | 4  | 0  | 4,665,758:86:1 |      |
| 197  | 98 | 268 | 11:57:04.066 | 165EC4B         | 7VECT                  | Inert vect update UTC                      | 4R3 | 4  | 0  | 4,665,758:89:0 |      |
| 198  | 98 | 268 | 11:57:05.400 | 17JNWHTOVL02-   | NIMPBK 301EC           | JUPITER WHITE OVAL OBS                     | 4R3 | 4  | 0  | :              |      |
| 199  | 98 | 268 | 11:57:05.400 | 117EC105A106A4A | 7STRP -0.024005,0,0,0, | Slew =-0.04                                | 4R3 | 4  | 0  | 4,665,759:00:0 |      |
| 200  | 98 | 268 | 12:01:42.002 | 17NNJUPRTS02-   | -----START-----        |  | 4R3 | 4  | 0  | :              |      |
| 201  | 98 | 268 | 12:05:44.668 | 17JNWHTOVL02-   | -----STOP-----         |  | 4R3 | 4  | 0  | :              |      |
| 202  | 98 | 268 | 12:07:00.733 | 17JNWHTOVL02-   | DESEL 300EC            | JUPITER WHITE OVAL OBS                     | 4R3 | 4  | 0  | :              |      |
| 203  | 98 | 268 | 12:07:02.733 | 175EC6A         | 6TMREC NRC             | NO RECORD Record Mode Change               | 4R3 | 4  | 0  | 4,665,768:77:0 |      |
| 204  | 98 | 268 | 12:07:02.733 | 175EC422A6B     | 6DMSC RDY,0            | DMS Control Tape stop                      | 4R3 | 4  | 0  | 4,665,768:77:0 |      |
| 205  | 98 | 268 | 12:07:02.733 |                 | DMS: : *RUNDOWN        | R7, TRACK 1, FWD, TIC *2458.12 +/-         | 4R3 | 4  | 0  | 4,665,768:77:0 |      |
| 206  | 98 | 268 | 12:07:03.933 |                 | DMS: : *READY          | RDY, TRACK 1, FWD, TIC *2458.18 +/-        | 4R3 | 4  | 0  | 4,665,768:78:8 |      |
| 207  | 98 | 268 | 12:07:08.733 | 117EC11A        | CSMOS GE               | ***** GROUP END CSMOS                      | 4R3 | 4  | 0  | 4,665,768:86:0 |      |
| 208  | 98 | 268 | 12:10:32.066 | 20DB5A          | 37PL                   | Program Load (halts microprocessor & unwri | 4R3 | 4  | 0  | 4,665,772:27:0 |      |
| 209  | 98 | 268 | 12:10:33.400 | 20DB5B          | 37MRL                  | Memory Realocate (software operates from R | 4R3 | 4  | 0  | 4,665,772:29:0 |      |
| 210  | 98 | 268 | 12:10:34.733 | 20DB6A          | 6MCOPI NIMS            | NIMS,1000,LLM1A,7300,77F7                  | 4R3 | 4  | 0  | 4,665,772:31:0 |      |
| 211  | 98 | 268 | 12:10:44.733 | 20DB6B          | 6MCOPI NIMS            | NIMS,1598,LLM1A,77F8,781D                  | 4R3 | 4  | 0  | 4,665,772:46:0 |      |
| 212  | 98 | 268 | 12:10:54.733 | 20DB5C          | 37IRT                  | Instrument Reset (goes into POR state)     | 260 | 4  | 0  | 4,665,772:61:0 |      |
| 213  | 98 | 268 | 12:11:14.733 | 20DB5D          | 37MNI                  | Memory Normal (software operates from ROM) | 260 | 4  | 0  | 4,665,773:00:0 |      |
| 214  | 98 | 268 | 12:11:30.066 | 20DB4A          | 37IST 1,2,0,OFF,0,0,0  | Chopper ON, Sync, Chopper (Ref)            | 2R0 | 4  | 0  | 4,665,773:23:0 |      |
| 215  | 98 | 268 | 12:11:48.668 | 17NNJUPRTS02-   | -----STOP-----         |  | 2R0 | 4  | 0  | :              |      |
| 216  | 98 | 268 | 12:11:48.668 | 17JNUPRTS02*    | -----START-----        |  | 2R0 | 4  | 0  | :              |      |
| 217  | 98 | 268 | 12:13:11.400 | 125DB           | NIMSINIT GS            | ##### GROUP START INIT                     | 2R0 | 4  | 0  | 4,665,774:84:0 |      |
| 218  | 98 | 268 | 12:13:11.400 | 125DB4A         | 37IST 0,2,0,OFF,0,1,0  | Gain State 2                               | 2R0 | 4  | 0  | 4,665,774:84:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID            | Command         | Parameters         | Description                                | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|-----------------|-----------------|--------------------|--|-----|----|----|----------------|------|
| 219  | 98 | 268 | 12:13:15.400 | 165DB4A         | 7SCAN           | NORM,261.393997,   | Check S/P Position                         | 2R0 | 4  | 0  | 4,665,774:90:0 |      |
| 220  | 98 | 268 | 12:14:12.066 | 125DB4B         | 37MB            | 1B,1B,0,0,0,0      | Selects mirror (spatial) edit table        | 2R0 | 4  | 0  | 4,665,775:84:0 |      |
| 221  | 98 | 268 | 12:14:12.066 | 125DB11A        | NIMSINIT        | GE                 | ##### GROUP END INIT                       | 2R0 | 4  | 0  | 4,665,775:84:0 |      |
| 222  | 98 | 268 | 12:16:13.400 | 127DB4A         | 37IOP           | 3,0                | Long Map, Grating Start Position =00       | 2R3 | 4  | 0  | 4,665,777:84:0 |      |
| 223  | 98 | 268 | 12:16:13.400 | 127DB           | NIMSTAB         | GS                 | %%% GROUP START TAB                        | 2R3 | 4  | 0  | 4,665,777:84:0 |      |
| 224  | 98 | 268 | 12:16:14.066 | 127DB4B         | 37ETB           | 04,C4,35,FF,FF     | Loads wavelength edit table                | 2R3 | 4  | 0  | 4,665,777:85:0 |      |
| 225  | 98 | 268 | 12:16:22.066 | 127DB11A        | NIMSTAB         | GE                 | %%% GROUP END TAB                          | 2R3 | 4  | 0  | 4,665,778:06:0 |      |
| 226  | 98 | 268 | 12:16:22.066 | 432DB6A         | 6RTSL2          | NIMSEL,AACNCG,RT   | NIMS R/T SELECT                            | 2R3 | 4  | 0  | 4,665,778:06:0 |      |
| 227  | 98 | 268 | 12:17:09.400 | 117DB           | CSMOS           | GS                 | ***** GROUP START CSMOS                    | 2R3 | 4  | 0  | 4,665,778:77:0 |      |
| 228  | 98 | 268 | 12:17:17.400 | 165DB4B         | 7VECT           |                    | Inert vect update UTC                      | 2R3 | 4  | 0  | 4,665,778:89:0 |      |
| 229  | 98 | 268 | 12:17:18.733 | 117DB105A106A4A | 7STRP           | 0.036016,0.0,0.0   | Slew =-0.06                                | 2R3 | 4  | 0  | 4,665,779:00:0 |      |
| 230  | 98 | 268 | 12:25:58.002 | 17JNJUPRTS02*   | *****STOP*****  |                    |  | 2R3 | 4  | 0  | :              |      |
| 231  | 98 | 268 | 12:25:58.002 | 17NNWHTOVL03-   | *****START***** |                    |  | 2R3 | 4  | 0  | :              |      |
| 232  | 98 | 268 | 12:26:27.400 | 432DY6A         | 6RTDS2          | NIMDSL,AACNCG,RT   | NIMS R/T DESELECT                          | 2R3 | 4  | 0  | 4,665,788:04:0 |      |
| 233  | 98 | 268 | 12:27:22.066 | 117DB11A        | CSMOS           | GE                 | ***** GROUP END CSMOS                      | 2R3 | 4  | 0  | 4,665,788:86:0 |      |
| 234  | 98 | 268 | 12:27:43.400 | 20ED5A          | 37PL            |                    | Program Load (halts microprocessor & unwri | 2R3 | 4  | 0  | 4,665,789:27:0 |      |
| 235  | 98 | 268 | 12:27:44.733 | 20ED5B          | 37MRL           |                    | Memory Realocate (software operates from R | 2R3 | 4  | 0  | 4,665,789:29:0 |      |
| 236  | 98 | 268 | 12:27:46.066 | 20ED6A          | 6MCOPY          | NIMS               | NIMS,1000,LLM1A,7300,77F7                  | 2R3 | 4  | 0  | 4,665,789:31:0 |      |
| 237  | 98 | 268 | 12:27:56.066 | 20ED6B          | 6MCOPY          | NIMS               | NIMS,1598,LLM1A,77F8,781D                  | 2R3 | 4  | 0  | 4,665,789:46:0 |      |
| 238  | 98 | 268 | 12:27:59.335 | 17JNWHTOVL03-   | *****START***** |                    |  | 2R3 | 4  | 0  | :              |      |
| 239  | 98 | 268 | 12:27:59.335 | 17NNWHTOVL03-   | *****STOP*****  |                    |  | 2R3 | 4  | 0  | :              |      |
| 240  | 98 | 268 | 12:28:06.066 | 20ED5C          | 37IRT           |                    | Instrument Reset (goes into POR state)     | 260 | 4  | 0  | 4,665,789:61:0 |      |
| 241  | 98 | 268 | 12:28:25.400 | 165ED4A         | 7SCAN           | NORM,265.092999,   | Check S/P Position                         | 260 | 4  | 0  | 4,665,789:90:0 |      |
| 242  | 98 | 268 | 12:28:26.066 | 20ED5D          | 37MN            |                    | Memory Normal (software operates from ROM) | 260 | 4  | 0  | 4,665,790:00:0 |      |
| 243  | 98 | 268 | 12:28:41.400 | 20ED4A          | 37IST           | 1,2,0,OFF,0,1,0    | Chopper ON, Sync, Chopper (Ref)Gain State  | 2R0 | 4  | 0  | 4,665,790:23:0 |      |
| 244  | 98 | 268 | 12:31:23.400 | 127ED4A         | 37IOP           | 3,0                | Long Map, Grating Start Position =00       | 2R3 | 4  | 0  | 4,665,792:84:0 |      |
| 245  | 98 | 268 | 12:31:23.400 | 127ED           | NIMSTAB         | GS                 | %%% GROUP START TAB                        | 2R3 | 4  | 0  | 4,665,792:84:0 |      |
| 246  | 98 | 268 | 12:31:24.066 | 127ED4B         | 37ETB           |                    | Loads wavelength edit table                | 2R3 | 4  | 0  | 4,665,792:85:0 |      |
| 247  | 98 | 268 | 12:31:32.066 | 127ED11A        | NIMSTAB         | GE                 | %%% GROUP END TAB                          | 2R3 | 4  | 0  | 4,665,793:06:0 |      |
| 248  | 98 | 268 | 12:32:17.400 | 175ED42A6A      | 6DMSC           | R7,1               | DMS Control Tape runup 7.68kbp             | 2R3 | 4  | 0  | 4,665,793:74:0 |      |
| 249  | 98 | 268 | 12:32:17.400 |                 | DMS:            | :*E4-DELAY         | RDY, TRACK 1, FWD, TIC 2458.18 +/-         | 2R3 | 4  | 0  | 4,665,793:74:0 |      |
| 250  | 98 | 268 | 12:32:19.400 | 117ED           | CSMOS           | GS                 | ***** GROUP START CSMOS                    | 2R3 | 4  | 0  | 4,665,793:77:0 |      |
| 251  | 98 | 268 | 12:32:24.066 |                 | DMS:            | :*RUNUP            | R7, TRACK 1, FWD, TIC 2458.18 +/-          | 2R3 | 4  | 0  | 4,665,793:84:0 |      |
| 252  | 98 | 268 | 12:32:25.400 | 175ED176A6A     | 6TMREC          | LPU                | 7.68 KBPS NIMS-UVS-PPR RECORD Record Mode  | 2R3 | 4  | 0  | 4,665,793:86:0 |      |
| 253  | 98 | 268 | 12:32:25.466 |                 | DMS:            | :*AT SPD           | R7, TRACK 1, FWD, TIC 2458.30 +/-          | 2R3 | 4  | 0  | 4,665,793:86:1 |      |
| 254  | 98 | 268 | 12:32:25.466 |                 | DMS:            | :*RECORD           | R7, TRACK 1, FWD, TIC *2458.30 +/-         | 2R3 | 4  | 0  | 4,665,793:86:1 |      |
| 255  | 98 | 268 | 12:32:27.400 | 165ED4B         | 7VECT           |                    | Inert vect update UTC                      | 2R3 | 4  | 0  | 4,665,793:89:0 |      |
| 256  | 98 | 268 | 12:32:28.733 | 117ED105A106A4A | 7STRP           | -0.024005,0.0,0.0, | Slew =-0.04                                | 2R3 | 4  | 0  | 4,665,794:00:0 |      |
| 257  | 98 | 268 | 12:32:28.733 | 17JNWHTOVL03-   | NIMPBK          | 301ED              | JUPITER WHITE OVAL OBS                     | 2R3 | 4  | 0  | :              |      |
| 258  | 98 | 268 | 12:42:08.668 | 17JNWHTOVL03-   | *****STOP*****  |                    |  | 2R3 | 4  | 0  | :              |      |
| 259  | 98 | 268 | 12:42:24.066 | 17JNWHTOVL03-   | DESEL           | 300ED              | JUPITER WHITE OVAL OBS                     | 2R3 | 4  | 0  | :              |      |
| 260  | 98 | 268 | 12:42:26.066 | 175ED42A6B      | 6DMSC           | RDY,0              | DMS Control Tape stop                      | 2R3 | 4  | 0  | 4,665,803:77:0 |      |
| 261  | 98 | 268 | 12:42:26.066 |                 | DMS:            | :*RUNDOWN          | R7, TRACK 1, FWD, TIC *2599.07 +/-         | 2R3 | 4  | 0  | 4,665,803:77:0 |      |
| 262  | 98 | 268 | 12:42:26.066 | 175ED6A         | 6TMREC          | NRC                | NO RECORD Record Mode Change               | 2R3 | 4  | 0  | 4,665,803:77:0 |      |
| 263  | 98 | 268 | 12:42:27.266 |                 | DMS:            | :*READY            | RDY, TRACK 1, FWD, TIC *2599.13 +/-        | 2R3 | 4  | 0  | 4,665,803:78:8 |      |
| 264  | 98 | 268 | 12:42:32.066 | 117ED11A        | CSMOS           | GE                 | ***** GROUP END CSMOS                      | 2R3 | 4  | 0  | 4,665,803:86:0 |      |
| 265  | 98 | 268 | 12:43:04.733 | 165IA4A         | 7SCAN           | NORM,263.926998,   | Check S/P Position                         | 2R3 | 4  | 0  | 4,665,804:44:0 |      |
| 266  | 98 | 268 | 12:46:42.066 | 118IA           | SMOS            | GS                 |  | 2R3 | 4  | 0  | 4,665,808:06:0 |      |
| 267  | 98 | 268 | 12:46:59.400 |                 | DMS:            | :*E4-DELAY         | RDY, TRACK 1, FWD, TIC 2599.13 +/-         | 2R3 | 4  | 0  | 4,665,808:32:0 |      |
| 268  | 98 | 268 | 12:46:59.400 | 175IA42A6A      | 6DMSC           | R115,1             | DMS Control                                | 2R3 | 4  | 0  | 4,665,808:32:0 |      |
| 269  | 98 | 268 | 12:47:06.066 |                 | DMS:            | :*RUNUP            | R115, TRACK 1, FWD, TIC 2599.13 +/-        | 2R3 | 4  | 0  | 4,665,808:42:0 |      |
| 270  | 98 | 268 | 12:47:06.733 | 165IA4B         | 7VECT           |                    | Inert vect update UTC                      | 2R3 | 4  | 0  | 4,665,808:43:0 |      |
| 271  | 98 | 268 | 12:47:09.400 | 175IA176A6A     | 6TMREC          | HIS                | 115.2 KBPS SSI + NIMS RECORD Record Mode   | 2R3 | 4  | 0  | 4,665,808:47:0 |      |
| 272  | 98 | 268 | 12:47:10.066 |                 | DMS:            | :*RECORD           | R115, TRACK 1, FWD, TIC *2605.43 +/-       | 2R3 | 4  | 0  | 4,665,808:48:0 |      |
| 273  | 98 | 268 | 12:47:10.066 |                 | DMS:            | :*AT SPD           | R115, TRACK 1, FWD, TIC 2605.43 +/-        | 2R3 | 4  | 0  | 4,665,808:48:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID            | Command | Parameters         | Description                                 | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|-----------------|---------|--------------------|---|-----|----|----|----------------|------|
| 274  | 98 | 268 | 12:47:10.733 | 118IA10A111A4A  | 7STRP   | 0.00731,0.0,0.46,0 | Slew = 3.71                                 | 2R3 | 4  | 0  | 4.665,808:49:0 |      |
| 275  | 98 | 268 | 12:47:41.400 | 118IA10A111A4B  | 7STRP   | -0.014621,0.0,0.0, | Slew = 7.31                                 | 2R3 | 4  | 0  | 4.665,809:04:0 |      |
| 276  | 98 | 268 | 12:47:56.733 | 118IA10A111A4C  | 7STRP   | 0.00731,0.0,0.46,0 | Slew = 3.71                                 | 2R3 | 4  | 0  | 4.665,809:27:0 |      |
| 277  | 98 | 268 | 12:48:27.400 | 118IA11A        | SMOS    | GE                 |   | 2R3 | 4  | 0  | 4.665,809:73:0 |      |
| 278  | 98 | 268 | 12:48:38.733 | 165AB4A         | 7SCAN   | NORM,263.939999,   | Check S/P Position                          | 2R3 | 4  | 0  | 4.665,809:90:0 |      |
| 279  | 98 | 268 | 12:48:39.400 |                 | DMS:    | : *RUNDOWN         | R115, TRACK 1, FWD, TIC *2919.49 +/-        | 2R3 | 4  | 0  | 4.665,810:00:0 |      |
| 280  | 98 | 268 | 12:48:39.400 | 175IA422A6B     | 6DMSC   | RDY,0              | DMS Control Tape stop                       | 2R3 | 4  | 0  | 4.665,810:00:0 |      |
| 281  | 98 | 268 | 12:48:40.600 |                 | DMS:    | : *READY           | RDY, TRACK 1, FWD, TIC *2920.49 +/-         | 2R3 | 4  | 0  | 4.665,810:01:8 |      |
| 282  | 98 | 268 | 12:49:30.733 | 117AB           | CSMOS   | GS                 | ***** GROUP START CSMOS                     | 2R3 | 4  | 0  | 4.665,810:77:0 |      |
| 283  | 98 | 268 | 12:49:38.733 | 165AB4B         | 7VECT   |                    | Inert vect update UTC                       | 2R3 | 4  | 0  | 4.665,811:00:0 |      |
| 284  | 98 | 268 | 12:49:40.066 | 117AB105A106A4A | 7STRP   | 0.0,0.0,0.0,0.0,0, | Slew = 0.08                                 | 2R3 | 4  | 0  | 4.665,811:00:0 |      |
| 285  | 98 | 268 | 12:51:36.733 | 117AB105A106A4B | 7STRP   | 0.008,0.0,0.0,0,0, | Slew = 12.01                                | 2R3 | 4  | 0  | 4.665,812:84:0 |      |
| 286  | 98 | 268 | 12:51:42.066 | 117AB105A106A4C | 7STRP   | 0.0,0.0,0.0,0.0,0, | Slew = 0.08                                 | 2R3 | 4  | 0  | 4.665,813:01:0 |      |
| 287  | 98 | 268 | 12:53:38.733 | 117AB105A106A4D | 7STRP   | 0.008,0.0,0.0,0,0, | Slew = 12.01                                | 2R3 | 4  | 0  | 4.665,814:85:0 |      |
| 288  | 98 | 268 | 12:53:44.066 | 117AB105A106A4E | 7STRP   | 0.0,0.0,0.0,0.0,0, | Slew = 0.08                                 | 2R3 | 4  | 0  | 4.665,815:02:0 |      |
| 289  | 98 | 268 | 12:55:40.733 | 117AB11A        | CSMOS   | GE                 | ***** GROUP END CSMOS                       | 2R3 | 4  | 0  | 4.665,816:86:0 |      |
| 290  | 98 | 268 | 12:55:43.400 | 165IB4A         | 7SCAN   | NORM,279.125999,   | Check S/P Position                          | 2R3 | 4  | 0  | 4.665,816:90:0 |      |
| 291  | 98 | 268 | 12:57:18.066 | 175IB422A6A     | 6DMSC   | R806,1             | DMS Control                                 | 2R3 | 4  | 0  | 4.665,818:50:0 |      |
| 292  | 98 | 268 | 12:57:18.066 |                 | DMS:    | : *E4-DELAY        | RDY, TRACK 1, FWD, TIC 2920.49 +/-          | 2R3 | 4  | 0  | 4.665,818:50:0 |      |
| 293  | 98 | 268 | 12:57:24.733 |                 | DMS:    | : *RUNUP           | R806, TRACK 1, FWD, TIC 2920.49 +/-         | 2R3 | 4  | 0  | 4.665,818:60:0 |      |
| 294  | 98 | 268 | 12:57:26.733 | 165IB4B         | 7VECT   |                    | Inert vect update UTC                       | 2R3 | 4  | 0  | 4.665,818:63:0 |      |
| 295  | 98 | 268 | 12:57:29.400 | 175IB176A6A     | 6TMREC  | IM8                | 806.4 KBPS IMAGE RECORD Record Mode Chang   | 2R3 | 4  | 0  | 4.665,818:67:0 |      |
| 296  | 98 | 268 | 12:57:30.000 |                 | DMS:    | : *AT SPD          | R806, TRACK 1, FWD, TIC 2986.49 +/-         | 2R3 | 4  | 0  | 4.665,818:67:9 |      |
| 297  | 98 | 268 | 12:57:30.000 |                 | DMS:    | : *RECORD          | R806, TRACK 1, FWD, TIC *2986.49 +/-        | 2R3 | 4  | 0  | 4.665,818:67:9 |      |
| 298  | 98 | 268 | 12:57:36.733 | 175IB422A6B     | 6DMSC   | RDY,0              | DMS Control Tape stop                       | 2R3 | 4  | 0  | 4.665,818:78:0 |      |
| 299  | 98 | 268 | 12:57:36.733 |                 | DMS:    | : *RUNDOWN         | R806, TRACK 1, FWD, TIC *3152.19 +/-        | 2R3 | 4  | 0  | 4.665,818:78:0 |      |
| 300  | 98 | 268 | 12:57:39.466 |                 | DMS:    | : *READY           | RDY, TRACK 1, FWD, TIC *3163.69 +/-         | 2R3 | 4  | 0  | 4.665,818:82:1 |      |
| 301  | 98 | 268 | 12:57:44.733 | 165CE4A         | 7SCAN   | NORM,279.175999,   | Check S/P Position                          | 2R3 | 4  | 0  | 4.665,818:90:0 |      |
| 302  | 98 | 268 | 13:00:46.066 | 165CE4B         | 7VECT   |                    | Inert vect update UTC                       | 2R3 | 4  | 0  | 4.665,821:89:0 |      |
| 303  | 98 | 268 | 13:57:38.733 | 165IC4A         | 7SCAN   | NORM,264.692997,   | Check S/P Position                          | 2R3 | 4  | 0  | 4.665,878:21:0 |      |
| 304  | 98 | 268 | 13:58:29.400 | 118IC           | SMOS    | GS                 |   | 2R3 | 4  | 0  | 4.665,879:06:0 |      |
| 305  | 98 | 268 | 13:58:31.400 | 175IC422A6A     | 6DMSC   | R115,1             | DMS Control                                 | 2R3 | 4  | 0  | 4.665,879:09:0 |      |
| 306  | 98 | 268 | 13:58:31.400 |                 | DMS:    | : *E4-DELAY        | RDY, TRACK 1, FWD, TIC 3163.69 +/-          | 2R3 | 4  | 0  | 4.665,879:09:0 |      |
| 307  | 98 | 268 | 13:58:38.066 |                 | DMS:    | : *RUNUP           | R115, TRACK 1, FWD, TIC 3163.69 +/-         | 2R3 | 4  | 0  | 4.665,879:19:0 |      |
| 308  | 98 | 268 | 13:58:38.733 | 165IC4B         | 7VECT   |                    | Inert vect update UTC                       | 2R3 | 4  | 0  | 4.665,879:20:0 |      |
| 309  | 98 | 268 | 13:58:41.400 | 175IC176A6A     | 6TMREC  | HIS                | 115.2 KBPS SSI + NIMS RECORD Record Mode    | 2R3 | 4  | 0  | 4.665,879:24:0 |      |
| 310  | 98 | 268 | 13:58:42.066 |                 | DMS:    | : *AT SPD          | R115, TRACK 1, FWD, TIC 3169.99 +/-         | 2R3 | 4  | 0  | 4.665,879:25:0 |      |
| 311  | 98 | 268 | 13:58:42.066 |                 | DMS:    | : *RECORD          | R115, TRACK 1, FWD, TIC *3169.99 +/-        | 2R3 | 4  | 0  | 4.665,879:25:0 |      |
| 312  | 98 | 268 | 13:58:42.733 | 118IC110A111A4A | 7STRP   | 0.00731,0.0,0.46,0 | Slew = 3.71                                 | 2R3 | 4  | 0  | 4.665,879:26:0 |      |
| 313  | 98 | 268 | 13:59:13.400 | 118IC11A        | SMOS    | GE                 |   | 2R3 | 4  | 0  | 4.665,879:72:0 |      |
| 314  | 98 | 268 | 13:59:26.066 |                 | DMS:    | : *RUNDOWN         | R115, TRACK 1, FWD, TIC *3324.68 +/-        | 2R3 | 4  | 0  | 4.665,880:00:0 |      |
| 315  | 98 | 268 | 13:59:26.066 | 175IC422A6B     | 6DMSC   | RDY,0              | DMS Control Tape stop                       | 2R3 | 4  | 0  | 4.665,880:00:0 |      |
| 316  | 98 | 268 | 13:59:27.266 |                 | DMS:    | : *READY           | RDY, TRACK 1, FWD, TIC *3325.68 +/-         | 2R3 | 4  | 0  | 4.665,880:01:8 |      |
| 317  | 98 | 268 | 14:02:27.400 | 165AC4A         | 7SCAN   | NORM,264.845997,   | Check S/P Position                          | 2R3 | 4  | 0  | 4.665,882:90:0 |      |
| 318  | 98 | 268 | 14:03:19.400 | 117AC           | CSMOS   | GS                 | ***** GROUP START CSMOS                     | 2R3 | 4  | 0  | 4.665,883:77:0 |      |
| 319  | 98 | 268 | 14:03:27.400 | 165AC4B         | 7VECT   |                    | Inert vect update UTC                       | 2R3 | 4  | 0  | 4.665,883:89:0 |      |
| 320  | 98 | 268 | 14:03:28.733 | 117AC105A106A4A | 7STRP   | 0.0,0.0,0.0,0.0,0, | Slew = 0.08                                 | 2R3 | 4  | 0  | 4.665,884:00:0 |      |
| 321  | 98 | 268 | 14:05:25.400 | 117AC105A106A4B | 7STRP   | 0.006,0.0,0.0,0,0, | Slew = 12.01                                | 2R3 | 4  | 0  | 4.665,885:84:0 |      |
| 322  | 98 | 268 | 14:05:30.733 | 117AC105A106A4C | 7STRP   | 0.0,0.0,0.0,0.0,0, | Slew = 0.08                                 | 2R3 | 4  | 0  | 4.665,886:01:0 |      |
| 323  | 98 | 268 | 14:07:27.400 | 117AC105A106A4D | 7STRP   | 0.006,0.0,0.0,0,0, | Slew = 12.01                                | 2R3 | 4  | 0  | 4.665,887:85:0 |      |
| 324  | 98 | 268 | 14:07:32.733 | 117AC105A106A4E | 7STRP   | 0.0,0.0,0.0,0.0,0, | Slew = 0.08                                 | 2R3 | 4  | 0  | 4.665,888:02:0 |      |
| 325  | 98 | 268 | 14:09:29.400 | 117AC11A        | CSMOS   | GE                 | ***** GROUP END CSMOS                       | 2R3 | 4  | 0  | 4.665,889:86:0 |      |
| 326  | 98 | 268 | 14:10:06.668 | 17NNJUPRTS03-   |         | -----START-----    |   | 2R3 | 4  | 0  | :              | :    |
| 327  | 98 | 268 | 14:18:56.733 | 20DC5A          | 37PL    |                    | Program Load (halts microprocessor & unwri  | 2R3 | 4  | 0  | 4.665,899:27:0 |      |
| 328  | 98 | 268 | 14:18:58.066 | 20DC5B          | 37MRL   |                    | Memory Reallocate (software operates from R | 2R3 | 4  | 0  | 4.665,899:29:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID            | Command  | Parameters       | Description                                | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|-----------------|----------|------------------|--|-----|----|----|----------------|------|
| 329  | 98 | 268 | 14:18:59.400 | 20DC6A          | 6MCOPY   | NIMS             | NIMS,1000,LLM1A,7300,77F7                  | 2R3 | 4  | 0  | 4,665,899:31:0 |      |
| 330  | 98 | 268 | 14:19:09.400 | 20DC6B          | 6MCOPY   | NIMS             | NIMS,1598,LLM1A,77F8,781D                  | 2R3 | 4  | 0  | 4,665,899:46:0 |      |
| 331  | 98 | 268 | 14:19:19.400 | 20DC5C          | 37IRT    |                  | Instrument Reset (goes into POR state)     | 260 | 4  | 0  | 4,665,899:61:0 |      |
| 332  | 98 | 268 | 14:19:39.400 | 20DC5D          | 37MN     |                  | Memory Normal (software operates from ROM) | 260 | 4  | 0  | 4,665,900:00:0 |      |
| 333  | 98 | 268 | 14:19:54.733 | 20DC4A          | 37IST    | 1,2,0,OFF,0,0,0  | Chopper ON, Sync, Chopper (Ref)            | 2R0 | 4  | 0  | 4,665,900:23:0 |      |
| 334  | 98 | 268 | 14:20:13.335 | 17NNJUPRTS03-   |          | -----STOP-----   |  | 2R0 | 4  | 0  | :              |      |
| 335  | 98 | 268 | 14:20:13.335 | 17JNJUPRTS03*   |          | -----START-----  |  | 2R0 | 4  | 0  | :              |      |
| 336  | 98 | 268 | 14:20:39.400 | 165DC4A         | 7SCAN    | NORM,268.619999, | Check S/P Position                         | 2R0 | 4  | 0  | 4,665,900:90:0 |      |
| 337  | 98 | 268 | 14:21:36.066 | 125DC           | NIMSINIT | GS               | ##### GROUP START INIT                     | 2R0 | 4  | 0  | 4,665,901:84:0 |      |
| 338  | 98 | 268 | 14:21:36.066 | 125DC4A         | 37IST    | 0,2,0,OFF,0,1,0  | Gain State 2                               | 2R0 | 4  | 0  | 4,665,901:84:0 |      |
| 339  | 98 | 268 | 14:22:36.733 | 125DC11A        | NIMSINIT | GE               | ##### GROUP END INIT                       | 2R0 | 4  | 0  | 4,665,902:84:0 |      |
| 340  | 98 | 268 | 14:22:36.733 | 125DC4B         | 37MB     | 1B,1B,0,0,0,0    | ##### mirror (spatial) edit table          | 2R0 | 4  | 0  | 4,665,902:84:0 |      |
| 341  | 98 | 268 | 14:24:33.400 | 117DC           | CSMOS    | GS               | **** GROUP START CSMOS                     | 2R0 | 4  | 0  | 4,665,904:77:0 |      |
| 342  | 98 | 268 | 14:24:38.066 | 127DC           | NIMSTAB  | GS               | %%% GROUP START TAB                        | 2R0 | 4  | 0  | 4,665,904:84:0 |      |
| 343  | 98 | 268 | 14:24:38.066 | 127DC4A         | 37IOP    | 3,0              | Long Map, Grating Start Position =00       | 2R3 | 4  | 0  | 4,665,904:84:0 |      |
| 344  | 98 | 268 | 14:24:38.733 | 127DC4B         | 37ETB    | 04,C4,35,FF,FF   | Loads wavelength edit table                | 2R3 | 4  | 0  | 4,665,904:85:0 |      |
| 345  | 98 | 268 | 14:24:41.400 | 165DC4B         | 7VECT    |                  | Inert vect update UTC                      | 2R3 | 4  | 0  | 4,665,904:89:0 |      |
| 346  | 98 | 268 | 14:24:42.733 | 117DC105A106A4A | 7STRP    | -0.011501,0,0,0, | Slew =,0.06                                | 2R3 | 4  | 0  | 4,665,905:00:0 |      |
| 347  | 98 | 268 | 14:24:46.733 | 432DC6A         | 6RTSL2   | NIMSEL,AACNCG,RT | NIMS R/T SELECT                            | 2R3 | 4  | 0  | 4,665,905:06:0 |      |
| 348  | 98 | 268 | 14:24:46.733 | 127DC11A        | NIMSTAB  | GE               | %% GROUP END TAB                           | 2R3 | 4  | 0  | 4,665,905:06:0 |      |
| 349  | 98 | 268 | 14:27:56.733 | 117DC105A106A4B | 7STRP    | 0.012001,-0.008, | Slew =12.01                                | 2R3 | 4  | 0  | 4,665,908:18:0 |      |
| 350  | 98 | 268 | 14:28:05.400 | 117DC105A106A4C | 7STRP    | -0.011501,0,0,0, | Slew =,0.06                                | 2R3 | 4  | 0  | 4,665,908:31:0 |      |
| 351  | 98 | 268 | 14:31:19.400 | 117DC105A106A4D | 7STRP    | 0.012001,-0.008, | Slew =12.01                                | 2R3 | 4  | 0  | 4,665,911:49:0 |      |
| 352  | 98 | 268 | 14:31:28.066 | 117DC105A106A4E | 7STRP    | -0.011501,0,0,0, | Slew =,0.06                                | 2R3 | 4  | 0  | 4,665,911:62:0 |      |
| 353  | 98 | 268 | 14:34:42.066 | 117DC11A        | CSMOS    | GE               | **** GROUP END CSMOS                       | 2R3 | 4  | 0  | 4,665,914:80:0 |      |
| 354  | 98 | 268 | 14:34:52.066 | 432DC6A         | 6RTDS2   | NIMDSL,AACNCG,RT | NIMS R/T DESELECT                          | 2R3 | 4  | 0  | 4,665,915:04:0 |      |
| 355  | 98 | 268 | 14:35:23.335 | 17JNJUPRTS03*   |          | -----STOP-----   |  | 2R3 | 4  | 0  | :              |      |
| 356  | 98 | 268 | 15:01:06.066 | 165CF4A         | 7SCAN    | NORM,279.169998, | Check S/P Position                         | 2R3 | 4  | 0  | 4,665,940:90:0 |      |
| 357  | 98 | 268 | 15:05:08.066 | 165CF4B         | 7VECT    |                  | Inert vect update UTC                      | 2R3 | 4  | 0  | 4,665,944:89:0 |      |
| 358  | 98 | 268 | 16:16:15.400 | 488AC6A         | 6TMSED   | NORM,EL5         | Sci, Eng, and D/L Chan                     | 2R3 | 4  | 0  | 4,666,015:29:0 |      |
| 359  | 98 | 268 | 17:50:07.400 | 488AC6B         | 6TMSED   | NORM,EL4         | Sci, Eng, and D/L Chan                     | 2R3 | 4  | 0  | 4,666,108:14:0 |      |
| 360  | 98 | 268 | 18:04:16.733 | 165ID4A         | 7SCAN    | NORM,271.887997, | Check S/P Position                         | 2R3 | 4  | 0  | 4,666,122:14:0 |      |
| 361  | 98 | 268 | 18:07:13.400 | 118ID           | SMOS     | GS               |  | 2R3 | 4  | 0  | 4,666,125:06:0 |      |
| 362  | 98 | 268 | 18:07:38.066 | 165ID4B         | 7VECT    |                  | Inert vect update UTC                      | 2R3 | 4  | 0  | 4,666,125:43:0 |      |
| 363  | 98 | 268 | 18:07:46.066 |                 | DMS:     | :*E4-DELAY       | RDY, TRACK 1, FWD, TIC 3325.68 +/-         | 2R3 | 4  | 0  | 4,666,125:55:0 |      |
| 364  | 98 | 268 | 18:07:46.066 | 175ID422A6A     | 6DMSC    | R115.1           | DMS Control                                | 2R3 | 4  | 0  | 4,666,125:55:0 |      |
| 365  | 98 | 268 | 18:07:52.733 |                 | DMS:     | :*RUNUP          | R115, TRACK 1, FWD, TIC 3325.68 +/-        | 2R3 | 4  | 0  | 4,666,125:65:0 |      |
| 366  | 98 | 268 | 18:07:56.066 | 175ID176A6A     | 6TMREC   | HIS              | 115.2 KBPS SSI + NIMS RECORD Record Mode   | 2R3 | 4  | 0  | 4,666,125:70:0 |      |
| 367  | 98 | 268 | 18:07:56.733 | 118ID110A11A4A  | 7STRP    | 0.00772,0,0,182, | Slew =,3.51                                | 2R3 | 4  | 0  | 4,666,125:71:0 |      |
| 368  | 98 | 268 | 18:07:56.733 |                 | DMS:     | :*RECORD         | R115, TRACK 1, FWD, TIC *3331.98 +/-       | 2R3 | 4  | 0  | 4,666,125:71:0 |      |
| 369  | 98 | 268 | 18:07:56.733 |                 | DMS:     | :*AT_SPD         | R115, TRACK 1, FWD, TIC 3331.98 +/-        | 2R3 | 4  | 0  | 4,666,125:71:0 |      |
| 370  | 98 | 268 | 18:08:03.400 | 175ID422A6B     | 6DMSC    | RDY,0            | DMS Control Tape stop                      | 2R3 | 4  | 0  | 4,666,125:81:0 |      |
| 371  | 98 | 268 | 18:08:03.400 |                 | DMS:     | :*RUNDOWN        | R115, TRACK 1, FWD, TIC *3355.42 +/-       | 2R3 | 4  | 0  | 4,666,125:81:0 |      |
| 372  | 98 | 268 | 18:08:04.600 |                 | DMS:     | :*READY          | RDY, TRACK 1, FWD, TIC *3356.42 +/-        | 2R3 | 4  | 0  | 4,666,125:82:8 |      |
| 373  | 98 | 268 | 18:08:46.733 | 175JD422A6A     | 6DMSC    | R115.1           | DMS Control                                | 2R3 | 4  | 0  | 4,666,126:55:0 |      |
| 374  | 98 | 268 | 18:08:46.733 |                 | DMS:     | :*E4-DELAY       | RDY, TRACK 1, FWD, TIC 3356.42 +/-         | 2R3 | 4  | 0  | 4,666,126:55:0 |      |
| 375  | 98 | 268 | 18:08:53.400 |                 | DMS:     | :*RUNUP          | R115, TRACK 1, FWD, TIC 3356.42 +/-        | 2R3 | 4  | 0  | 4,666,126:65:0 |      |
| 376  | 98 | 268 | 18:08:56.733 | 175JD176A6A     | 6TMREC   | HIS              | 115.2 KBPS SSI + NIMS RECORD Record Mode   | 2R3 | 4  | 0  | 4,666,126:70:0 |      |
| 377  | 98 | 268 | 18:08:57.400 |                 | DMS:     | :*AT_SPD         | R115, TRACK 1, FWD, TIC 3362.72 +/-        | 2R3 | 4  | 0  | 4,666,126:71:0 |      |
| 378  | 98 | 268 | 18:08:57.400 |                 | DMS:     | :*RECORD         | R115, TRACK 1, FWD, TIC *3362.72 +/-       | 2R3 | 4  | 0  | 4,666,126:71:0 |      |
| 379  | 98 | 268 | 18:08:57.400 | 118ID11A        | SMOS     | GE               |  | 2R3 | 4  | 0  | 4,666,126:71:0 |      |
| 380  | 98 | 268 | 18:09:04.066 | 175JD422A6B     | 6DMSC    | RDY,0            | DMS Control Tape stop                      | 2R3 | 4  | 0  | 4,666,126:81:0 |      |
| 381  | 98 | 268 | 18:09:04.066 |                 | DMS:     | :*RUNDOWN        | R115, TRACK 1, FWD, TIC *3386.15 +/-       | 2R3 | 4  | 0  | 4,666,126:81:0 |      |
| 382  | 98 | 268 | 18:09:05.266 |                 | DMS:     | :*READY          | RDY, TRACK 1, FWD, TIC *3387.15 +/-        | 2R3 | 4  | 0  | 4,666,126:82:8 |      |
| 383  | 98 | 268 | 18:09:06.733 | 165IE4A         | 7SCAN    | NORM,289.198997, | Check S/P Position                         | 2R3 | 4  | 0  | 4,666,126:85:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID            | Command | Parameters       | Description                               | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|-----------------|---------|------------------|---|-----|----|----|----------------|------|
| 384  | 98 | 268 | 18:11:16.066 | 118IE           | SMOS    | GS               |   | 2R3 | 4  | 0  | 4,666,129:06:0 |      |
| 385  | 98 | 268 | 18:11:40.733 | 165IE4B         | 7VECT   |                  | Inert vect update UTC                     | 2R3 | 4  | 0  | 4,666,129:43:0 |      |
| 386  | 98 | 268 | 18:11:48.733 |                 | DMS:    | :*E4-DELAY       | RDY, TRACK 1, FWD, TIC 3387.15 +/-        | 2R3 | 4  | 0  | 4,666,129:55:0 |      |
| 387  | 98 | 268 | 18:11:48.733 | 175IE422A6A     | 6DMSC   | R115,1           | DMS Control                               | 2R3 | 4  | 0  | 4,666,129:55:0 |      |
| 388  | 98 | 268 | 18:11:55.400 |                 | DMS:    | :*RUNUP          | R115, TRACK 1, FWD, TIC 3387.15 +/-       | 2R3 | 4  | 0  | 4,666,129:65:0 |      |
| 389  | 98 | 268 | 18:11:58.733 | 175IE176A6A     | 6TMREC  | HIS              | 115.2 KBPS SSI + NIMS RECORD Record Mode  | 2R3 | 4  | 0  | 4,666,129:70:0 |      |
| 390  | 98 | 268 | 18:11:59.400 |                 | DMS:    | :*AT SPD         | R115, TRACK 1, FWD, TIC 3393.45 +/-       | 2R3 | 4  | 0  | 4,666,129:71:0 |      |
| 391  | 98 | 268 | 18:11:59.400 |                 | DMS:    | :*RECORD         | R115, TRACK 1, FWD, TIC *3393.45 +/-      | 2R3 | 4  | 0  | 4,666,129:71:0 |      |
| 392  | 98 | 268 | 18:11:59.400 | 118IE110A111A4A | 7STRP   | 0.00731,0.0005,1 | Slew = 3.51                               | 2R3 | 4  | 0  | 4,666,129:71:0 |      |
| 393  | 98 | 268 | 18:12:06.066 | 175IE422A6B     | 6DMSC   | RDY,0            | DMS Control Tape stop                     | 2R3 | 4  | 0  | 4,666,129:81:0 |      |
| 394  | 98 | 268 | 18:12:06.066 |                 | DMS:    | :*RUNDOWN        | R115, TRACK 1, FWD, TIC *3416.89 +/-      | 2R3 | 4  | 0  | 4,666,129:81:0 |      |
| 395  | 98 | 268 | 18:12:07.266 |                 | DMS:    | :*READY          | RDY, TRACK 1, FWD, TIC *3417.89 +/-       | 2R3 | 4  | 0  | 4,666,129:82:8 |      |
| 396  | 98 | 268 | 18:12:49.400 | 175JE422A6A     | 6DMSC   | R115,1           | DMS Control                               | 2R3 | 4  | 0  | 4,666,130:55:0 |      |
| 397  | 98 | 268 | 18:12:49.400 |                 | DMS:    | :*E4-DELAY       | RDY, TRACK 1, FWD, TIC 3417.89 +/-        | 2R3 | 4  | 0  | 4,666,130:55:0 |      |
| 398  | 98 | 268 | 18:12:56.066 |                 | DMS:    | :*RUNUP          | R115, TRACK 1, FWD, TIC 3417.89 +/-       | 2R3 | 4  | 0  | 4,666,130:65:0 |      |
| 399  | 98 | 268 | 18:12:59.400 | 175JE176A6A     | 6TMREC  | HIS              | 115.2 KBPS SSI + NIMS RECORD Record Mode  | 2R3 | 4  | 0  | 4,666,130:70:0 |      |
| 400  | 98 | 268 | 18:13:00.066 | 118IE11A        | SMOS    | GE               |   | 2R3 | 4  | 0  | 4,666,130:71:0 |      |
| 401  | 98 | 268 | 18:13:00.066 |                 | DMS:    | :*AT SPD         | R115, TRACK 1, FWD, TIC 3424.19 +/-       | 2R3 | 4  | 0  | 4,666,130:71:0 |      |
| 402  | 98 | 268 | 18:13:00.066 |                 | DMS:    | :*RECORD         | R115, TRACK 1, FWD, TIC *3424.19 +/-      | 2R3 | 4  | 0  | 4,666,130:71:0 |      |
| 403  | 98 | 268 | 18:13:06.733 |                 | DMS:    | :*RUNDOWN        | R115, TRACK 1, FWD, TIC *3447.63 +/-      | 2R3 | 4  | 0  | 4,666,130:81:0 |      |
| 404  | 98 | 268 | 18:13:06.733 | 175JE422A6B     | 6DMSC   | RDY,0            | DMS Control Tape stop                     | 2R3 | 4  | 0  | 4,666,130:81:0 |      |
| 405  | 98 | 268 | 18:13:07.933 |                 | DMS:    | :*READY          | RDY, TRACK 1, FWD, TIC *3448.63 +/-       | 2R3 | 4  | 0  | 4,666,130:82:8 |      |
| 406  | 98 | 268 | 18:13:12.733 | 165CG4A         | 7SCAN   | NORM,251,196999, | Check S/P Position                        | 2R3 | 4  | 0  | 4,666,130:90:0 |      |
| 407  | 98 | 268 | 18:16:14.066 | 165CG4B         | 7VECT   |                  | Inert vect update UTC                     | 2R3 | 4  | 0  | 4,666,133:89:0 |      |
| 408  | 98 | 268 | 18:37:03.400 | 488AC6C         | 6TMSED  | NORM,EL5         | Sci, Eng, and D/L Chan                    | 2R3 | 4  | 0  | 4,666,154:52:0 |      |
| 409  | 98 | 268 | 18:38:58.066 | 165CG4C         | 7VECT   |                  | Inert vect update UTC                     | 2R3 | 4  | 0  | 4,666,156:42:0 |      |
| 410  | 98 | 268 | 19:01:42.066 | 165CG4D         | 7VECT   |                  | Inert vect update UTC                     | 2R3 | 4  | 0  | 4,666,178:86:0 |      |
| 411  | 98 | 268 | 19:02:31.400 | 488AC6D         | 6TMSED  | FILL,EL5         | Sci, Eng, and D/L Chan                    | 2R3 | 4  | 0  | 4,666,179:69:0 |      |
| 412  | 98 | 268 | 19:24:26.066 | 165CG4E         | 7VECT   |                  | Inert vect update UTC                     | 2R3 | 4  | 0  | 4,666,201:39:0 |      |
| 413  | 98 | 268 | 19:41:37.400 | 488AC6E         | 6TMSED  | NORM,EL5         | Sci, Eng, and D/L Chan                    | 2R3 | 4  | 0  | 4,666,218:39:0 |      |
| 414  | 98 | 268 | 20:16:34.733 | 192GB4A         | 7TCONE  | 17.4,0.0         | Check S/P Position                        | 2R3 | 4  | 0  | 4,666,253:00:0 |      |
| 415  | 98 | 268 | 20:19:36.733 | 176GB6A         | 6TMREC  | BPT              | 7.68 KBPS PPR BURST TO TAPE Record Mode C | 2R3 | 4  | 0  | 4,666,256:00:0 |      |
| 416  | 98 | 268 | 20:21:51.400 | 176GB6B         | 6TMREC  | NRC              | NO RECORD Record Mode Change              | 2R3 | 4  | 0  | 4,666,258:20:0 |      |
| 417  | 98 | 268 | 20:21:53.400 | 50ZZ6XX         | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps            | 2R3 | 4  | 0  | 4,666,258:23:0 |      |
| 418  | 98 | 268 | 20:21:53.400 |                 | DMS:    | :*E4-DELAY       | RDY, TRACK 1, FWD, TIC 3448.63 +/-        | 2R3 | 4  | 0  | 4,666,258:33:0 |      |
| 419  | 98 | 268 | 20:22:00.066 |                 | DMS:    | :*RUNUP          | R7, TRACK 1, FWD, TIC 3448.63 +/-         | 2R3 | 4  | 0  | 4,666,258:35:1 |      |
| 420  | 98 | 268 | 20:22:01.466 |                 | DMS:    | :*AT SPD         | R7, TRACK 1, FWD, TIC *3448.75 +/-        | 2R3 | 4  | 0  | 4,666,258:35:1 |      |
| 421  | 98 | 268 | 20:22:03.400 |                 | DMS:    | :*RECORD         | R7, TRACK 1, FWD, TIC *3449.20 +/-        | 2R3 | 4  | 0  | 4,666,258:38:0 |      |
| 422  | 98 | 268 | 20:22:14.733 |                 | DMS:    | :*RUNDOWN        | R7, TRACK 1, FWD, TIC *3451.86 +/-        | 2R3 | 4  | 0  | 4,666,258:55:0 |      |
| 423  | 98 | 268 | 20:22:14.733 | 50ZZ6RD         | 6DMSC   | RDY,0            | DMS Control Tape stop                     | 2R3 | 4  | 0  | 4,666,258:55:0 |      |
| 424  | 98 | 268 | 20:22:15.933 |                 | DMS:    | :*READY          | RDY, TRACK 1, FWD, TIC *3451.92 +/-       | 2R3 | 4  | 0  | 4,666,258:56:8 |      |
| 425  | 98 | 268 | 20:24:39.400 | 165GB4A         | 7SCAN   | NORM,287,995998, | Check S/P Position                        | 2R3 | 4  | 0  | 4,666,260:90:0 |      |
| 426  | 98 | 268 | 20:27:42.066 | 176GC6A         | 6TMREC  | BPT              | 7.68 KBPS PPR BURST TO TAPE Record Mode C | 2R3 | 4  | 0  | 4,666,264:00:0 |      |
| 427  | 98 | 268 | 20:28:33.400 | 117GB           | CSMOS   | GS               | ***** GROUP START CSMOS                   | 2R3 | 4  | 0  | 4,666,264:77:0 |      |
| 428  | 98 | 268 | 20:28:42.733 | 117GB105A106A4A | 7STRP   | 0.004,-0.050053, | Slew =0.0,7                               | 2R3 | 4  | 0  | 4,666,265:00:0 |      |
| 429  | 98 | 268 | 20:30:10.066 | 117GB105A106A4B | 7STRP   | -0.0023,0.050133 | Slew =12.01                               | 2R3 | 4  | 0  | 4,666,266:40:0 |      |
| 430  | 98 | 268 | 20:30:21.400 | 117GB105A106A4C | 7STRP   | 0.004,-0.050053, | Slew =0.0,7                               | 2R3 | 4  | 0  | 4,666,266:57:0 |      |
| 431  | 98 | 268 | 20:31:48.733 | 117GB105A106A4D | 7STRP   | -0.0023,0.050133 | Slew =12.01                               | 2R3 | 4  | 0  | 4,666,268:06:0 |      |
| 432  | 98 | 268 | 20:32:00.066 | 117GB105A106A4E | 7STRP   | 0.004,-0.050053, | Slew =0.0,7                               | 2R3 | 4  | 0  | 4,666,268:23:0 |      |
| 433  | 98 | 268 | 20:33:27.400 | 117GB105A106A4F | 7STRP   | -0.0023,0.050133 | Slew =12.01                               | 2R3 | 4  | 0  | 4,666,269:63:0 |      |
| 434  | 98 | 268 | 20:33:38.733 | 117GB105A106A4G | 7STRP   | 0.004,-0.050053, | Slew =0.0,7                               | 2R3 | 4  | 0  | 4,666,269:80:0 |      |
| 435  | 98 | 268 | 20:35:06.066 | 117GB105A106A4H | 7STRP   | -0.0023,0.050133 | Slew =12.01                               | 2R3 | 4  | 0  | 4,666,271:29:0 |      |
| 436  | 98 | 268 | 20:35:17.400 | 117GB105A106A4I | 7STRP   | 0.004,-0.050053, | Slew =0.0,7                               | 2R3 | 4  | 0  | 4,666,271:46:0 |      |
| 437  | 98 | 268 | 20:36:44.733 | 117GB105A106A4J | 7STRP   | -0.0023,0.050133 | Slew =12.01                               | 2R3 | 4  | 0  | 4,666,272:86:0 |      |
| 438  | 98 | 268 | 20:36:56.066 | 117GB105A106A4K | 7STRP   | 0.004,-0.050053, | Slew =0.0,7                               | 2R3 | 4  | 0  | 4,666,273:12:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID             | Command | Parameters       | Description                         | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|------------------|---------|------------------|-------------------------------------|-----|----|----|----------------|------|
| 439  | 98 | 268 | 20:38:23.400 | 117GB105A106A4L  | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4,666,274:52:0 |      |
| 440  | 98 | 268 | 20:38:34.733 | 117GB105A106A4M  | 7STRP   | 0.004,-0.050053, | Slew =0.0.7                         | 2R3 | 4  | 0  | 4,666,274:69:0 |      |
| 441  | 98 | 268 | 20:40:02.066 | 117GB105A106A4N  | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4,666,276:18:0 |      |
| 442  | 98 | 268 | 20:40:13.400 | 117GB105A106A4O  | 7STRP   | 0.004,-0.050053, | Slew =0.0.7                         | 2R3 | 4  | 0  | 4,666,276:35:0 |      |
| 443  | 98 | 268 | 20:40:16.733 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps      | 2R3 | 4  | 0  | 4,666,276:40:0 |      |
| 444  | 98 | 268 | 20:40:16.733 |                  | DMS:    | :*E4-DELAY       | RDY, TRACK 1, FWD, TIC 3451.92 +/-  | 2R3 | 4  | 0  | 4,666,276:40:0 |      |
| 445  | 98 | 268 | 20:40:23.400 |                  | DMS:    | :*RUNUP          | R7, TRACK 1, FWD, TIC 3451.92 +/-   | 2R3 | 4  | 0  | 4,666,276:50:0 |      |
| 446  | 98 | 268 | 20:40:24.800 |                  | DMS:    | :*AT SPD         | R7, TRACK 1, FWD, TIC *3452.04 +/-  | 2R3 | 4  | 0  | 4,666,276:52:1 |      |
| 447  | 98 | 268 | 20:40:42.066 |                  | DMS:    | :*RECORD         | R7, TRACK 1, FWD, TIC *3456.09 +/-  | 2R3 | 4  | 0  | 4,666,276:78:0 |      |
| 448  | 98 | 268 | 20:41:04.733 |                  | DMS:    | :*RUNDOWN        | R7, TRACK 1, FWD, TIC *3461.40 +/-  | 2R3 | 4  | 0  | 4,666,277:21:0 |      |
| 449  | 98 | 268 | 20:41:04.733 | 50ZZ6RE          | 6DMSC   | RDY,0            | DMS Control Tape stop               | 2R3 | 4  | 0  | 4,666,277:21:0 |      |
| 450  | 98 | 268 | 20:41:05.933 |                  | DMS:    | :*READY          | RDY, TRACK 1, FWD, TIC *3461.46 +/- | 2R3 | 4  | 0  | 4,666,277:22:8 |      |
| 451  | 98 | 268 | 20:41:40.733 | 117GB105A106A4P  | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4,666,277:75:0 |      |
| 452  | 98 | 268 | 20:41:52.066 | 117GB105A106A4Q  | 7STRP   | 0.004,-0.050053, | Slew =0.0.7                         | 2R3 | 4  | 0  | 4,666,278:01:0 |      |
| 453  | 98 | 268 | 20:43:19.400 | 117GB105A106A4R  | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4,666,279:41:0 |      |
| 454  | 98 | 268 | 20:43:30.733 | 117GB105A106A4S  | 7STRP   | 0.004,-0.050053, | Slew =0.0.7                         | 2R3 | 4  | 0  | 4,666,279:58:0 |      |
| 455  | 98 | 268 | 20:44:58.066 | 117GB105A106A4T  | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4,666,281:07:0 |      |
| 456  | 98 | 268 | 20:45:09.400 | 117GB105A106A4U  | 7STRP   | 0.004,-0.050053, | Slew =0.0.7                         | 2R3 | 4  | 0  | 4,666,281:24:0 |      |
| 457  | 98 | 268 | 20:46:36.733 | 117GB105A106A4V  | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4,666,282:64:0 |      |
| 458  | 98 | 268 | 20:46:48.066 | 117GB105A106A4W  | 7STRP   | 0.004,-0.050053, | Slew =0.0.7                         | 2R3 | 4  | 0  | 4,666,282:81:0 |      |
| 459  | 98 | 268 | 20:48:15.400 | 117GB105A106A4X  | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4,666,284:30:0 |      |
| 460  | 98 | 268 | 20:48:26.733 | 117GB105A106A4Y  | 7STRP   | 0.004,-0.050053, | Slew =0.0.7                         | 2R3 | 4  | 0  | 4,666,284:47:0 |      |
| 461  | 98 | 268 | 20:49:54.066 | 117GB105A106A4Z  | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4,666,285:87:0 |      |
| 462  | 98 | 268 | 20:50:05.400 | 117GB105A106A4AA | 7STRP   | 0.004,-0.050053, | Slew =0.0.7                         | 2R3 | 4  | 0  | 4,666,286:13:0 |      |
| 463  | 98 | 268 | 20:51:32.733 | 117GB105A106A4AB | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4,666,287:53:0 |      |
| 464  | 98 | 268 | 20:51:44.066 | 117GB105A106A4AC | 7STRP   | 0.004,-0.050053, | Slew =0.0.7                         | 2R3 | 4  | 0  | 4,666,287:70:0 |      |
| 465  | 98 | 268 | 20:53:11.400 | 117GB105A106A4AD | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4,666,289:19:0 |      |
| 466  | 98 | 268 | 20:53:18.733 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps      | 2R3 | 4  | 0  | 4,666,289:30:0 |      |
| 467  | 98 | 268 | 20:53:18.733 |                  | DMS:    | :*E4-DELAY       | RDY, TRACK 1, FWD, TIC 3461.46 +/-  | 2R3 | 4  | 0  | 4,666,289:30:0 |      |
| 468  | 98 | 268 | 20:53:22.733 | 117GB105A106A4AE | 7STRP   | 0.004,-0.050053, | Slew =0.0.7                         | 2R3 | 4  | 0  | 4,666,289:36:0 |      |
| 469  | 98 | 268 | 20:53:25.400 |                  | DMS:    | :*RUNUP          | R7, TRACK 1, FWD, TIC 3461.46 +/-   | 2R3 | 4  | 0  | 4,666,289:40:1 |      |
| 470  | 98 | 268 | 20:53:26.800 |                  | DMS:    | :*AT SPD         | R7, TRACK 1, FWD, TIC *3461.58 +/-  | 2R3 | 4  | 0  | 4,666,289:42:1 |      |
| 471  | 98 | 268 | 20:53:44.066 |                  | DMS:    | :*RECORD         | R7, TRACK 1, FWD, TIC *3465.62 +/-  | 2R3 | 4  | 0  | 4,666,289:68:0 |      |
| 472  | 98 | 268 | 20:54:06.733 |                  | DMS:    | :*RUNDOWN        | R7, TRACK 1, FWD, TIC *3470.94 +/-  | 2R3 | 4  | 0  | 4,666,290:11:0 |      |
| 473  | 98 | 268 | 20:54:06.733 | 50ZZ6RD          | 6DMSC   | RDY,0            | DMS Control Tape stop               | 2R3 | 4  | 0  | 4,666,290:11:0 |      |
| 474  | 98 | 268 | 20:54:07.933 |                  | DMS:    | :*READY          | RDY, TRACK 1, FWD, TIC *3471.00 +/- | 2R3 | 4  | 0  | 4,666,290:12:8 |      |
| 475  | 98 | 268 | 20:54:50.066 | 117GB105A106A4AF | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4,666,290:76:0 |      |
| 476  | 98 | 268 | 20:55:01.400 | 117GB105A106A4AG | 7STRP   | 0.004,-0.050053, | Slew =0.0.7                         | 2R3 | 4  | 0  | 4,666,291:02:0 |      |
| 477  | 98 | 268 | 20:56:28.733 | 117GB105A106A4AH | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4,666,292:42:0 |      |
| 478  | 98 | 268 | 20:56:40.066 | 117GB105A106A4AI | 7STRP   | 0.004,-0.050053, | Slew =0.0.7                         | 2R3 | 4  | 0  | 4,666,292:59:0 |      |
| 479  | 98 | 268 | 20:58:07.400 | 117GB105A106A4AJ | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4,666,294:08:0 |      |
| 480  | 98 | 268 | 20:58:18.733 | 117GB105A106A4AK | 7STRP   | 0.004,-0.050053, | Slew =0.0.7                         | 2R3 | 4  | 0  | 4,666,294:25:0 |      |
| 481  | 98 | 268 | 20:59:46.066 | 117GB105A106A4AL | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4,666,295:65:0 |      |
| 482  | 98 | 268 | 20:59:57.400 | 117GB105A106A4AM | 7STRP   | 0.004,-0.050053, | Slew =0.0.7                         | 2R3 | 4  | 0  | 4,666,295:82:0 |      |
| 483  | 98 | 268 | 21:01:24.733 | 117GB105A106A4AN | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4,666,297:31:0 |      |
| 484  | 98 | 268 | 21:01:36.066 | 117GB105A106A4AO | 7STRP   | 0.004,-0.050053, | Slew =0.0.7                         | 2R3 | 4  | 0  | 4,666,297:48:0 |      |
| 485  | 98 | 268 | 21:03:03.400 | 117GB105A106A4AP | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4,666,298:88:0 |      |
| 486  | 98 | 268 | 21:03:14.733 | 117GB105A106A4AQ | 7STRP   | 0.004,-0.050053, | Slew =0.0.7                         | 2R3 | 4  | 0  | 4,666,299:14:0 |      |
| 487  | 98 | 268 | 21:04:42.066 | 117GB105A106A4AR | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4,666,300:54:0 |      |
| 488  | 98 | 268 | 21:04:53.400 | 117GB105A106A4AS | 7STRP   | 0.004,-0.050053, | Slew =0.0.7                         | 2R3 | 4  | 0  | 4,666,300:71:0 |      |
| 489  | 98 | 268 | 21:06:20.733 |                  | DMS:    | :*E4-DELAY       | RDY, TRACK 1, FWD, TIC 3471.00 +/-  | 2R3 | 4  | 0  | 4,666,302:20:0 |      |
| 490  | 98 | 268 | 21:06:20.733 | 117GB105A106A4AT | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4,666,302:20:0 |      |
| 491  | 98 | 268 | 21:06:20.733 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps      | 2R3 | 4  | 0  | 4,666,302:20:0 |      |
| 492  | 98 | 268 | 21:06:27.400 |                  | DMS:    | :*RUNUP          | R7, TRACK 1, FWD, TIC 3471.00 +/-   | 2R3 | 4  | 0  | 4,666,302:30:0 |      |
| 493  | 98 | 268 | 21:06:28.800 |                  | DMS:    | :*AT SPD         | R7, TRACK 1, FWD, TIC *3471.12 +/-  | 2R3 | 4  | 0  | 4,666,302:32:1 |      |

| Line | YR | DOY | SCET - GMT   | PSID             | Command | Parameters       | Description                         | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|------------------|---------|------------------|-------------------------------------|-----|----|----|----------------|------|
| 494  | 98 | 268 | 21:06:32.066 | 117GB105A106A4AU | 7STRP   | 0.004,-0.050053, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666.302:37:0 |      |
| 495  | 98 | 268 | 21:06:46.066 |                  | DMS:    | : *RECORD        | R7, TRACK 1, FWD, TIC *3475.16 +/-  | 2R3 | 4  | 0  | 4.666.302:58:0 |      |
| 496  | 98 | 268 | 21:07:08.733 |                  | DMS:    | : *RUNDOWN       | R7, TRACK 1, FWD, TIC *3480.48 +/-  | 2R3 | 4  | 0  | 4.666.303:01:0 |      |
| 497  | 98 | 268 | 21:07:08.733 | 50ZZ6RE          | 6DMSC   | RDY,0            | DMS Control Tape stop               | 2R3 | 4  | 0  | 4.666.303:01:0 |      |
| 498  | 98 | 268 | 21:07:09.933 |                  | DMS:    | : *READY         | RDY, TRACK 1, FWD, TIC *3480.54 +/- | 2R3 | 4  | 0  | 4.666.303:02:8 |      |
| 499  | 98 | 268 | 21:07:59.400 | 117GB105A106A4AV | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666.303:77:0 |      |
| 500  | 98 | 268 | 21:08:10.733 | 117GB105A106A4AW | 7STRP   | 0.004,-0.050053, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666.304:03:0 |      |
| 501  | 98 | 268 | 21:09:38.066 | 117GB105A106A4AX | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666.305:43:0 |      |
| 502  | 98 | 268 | 21:09:49.400 | 117GB105A106A4AY | 7STRP   | 0.004,-0.050053, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666.305:60:0 |      |
| 503  | 98 | 268 | 21:11:16.733 | 117GB105A106A4AZ | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666.307:09:0 |      |
| 504  | 98 | 268 | 21:11:28.066 | 117GB105A106A4BA | 7STRP   | 0.004,-0.050053, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666.307:26:0 |      |
| 505  | 98 | 268 | 21:12:55.400 | 117GB105A106A4BB | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666.308:66:0 |      |
| 506  | 98 | 268 | 21:13:06.733 | 117GB105A106A4BC | 7STRP   | 0.004,-0.050053, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666.308:83:0 |      |
| 507  | 98 | 268 | 21:14:34.066 | 117GB105A106A4BD | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666.310:32:0 |      |
| 508  | 98 | 268 | 21:14:45.400 | 117GB105A106A4BE | 7STRP   | 0.004,-0.050053, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666.310:49:0 |      |
| 509  | 98 | 268 | 21:16:12.733 | 117GB105A106A4BF | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666.311:89:0 |      |
| 510  | 98 | 268 | 21:16:24.066 | 117GB105A106A4BG | 7STRP   | 0.004,-0.050053, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666.312:15:0 |      |
| 511  | 98 | 268 | 21:17:51.400 | 117GB105A106A4BH | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666.313:55:0 |      |
| 512  | 98 | 268 | 21:18:02.733 | 117GB105A106A4BI | 7STRP   | 0.004,-0.050053, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666.313:72:0 |      |
| 513  | 98 | 268 | 21:19:23.400 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps      | 2R3 | 4  | 0  | 4.666.315:11:0 |      |
| 514  | 98 | 268 | 21:19:23.400 |                  | DMS:    | : *E4-DELAY      | RDY, TRACK 1, FWD, TIC 3480.54 +/-  | 2R3 | 4  | 0  | 4.666.315:11:0 |      |
| 515  | 98 | 268 | 21:19:30.066 | 117GB105A106A4BJ | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666.315:21:0 |      |
| 516  | 98 | 268 | 21:19:30.066 |                  | DMS:    | : *RUNUP         | R7, TRACK 1, FWD, TIC 3480.54 +/-   | 2R3 | 4  | 0  | 4.666.315:21:0 |      |
| 517  | 98 | 268 | 21:19:31.466 |                  | DMS:    | : *AT_SPD        | R7, TRACK 1, FWD, TIC *3480.66 +/-  | 2R3 | 4  | 0  | 4.666.315:23:1 |      |
| 518  | 98 | 268 | 21:19:41.400 | 117GB105A106A4BK | 7STRP   | 0.004,-0.050053, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666.315:38:0 |      |
| 519  | 98 | 268 | 21:19:48.066 |                  | DMS:    | : *RECORD        | R7, TRACK 1, FWD, TIC *3484.55 +/-  | 2R3 | 4  | 0  | 4.666.315:48:0 |      |
| 520  | 98 | 268 | 21:20:10.733 |                  | DMS:    | : *RUNDOWN       | R7, TRACK 1, FWD, TIC *3489.86 +/-  | 2R3 | 4  | 0  | 4.666.315:82:0 |      |
| 521  | 98 | 268 | 21:20:10.733 | 50ZZ6RD          | 6DMSC   | RDY,0            | DMS Control Tape stop               | 2R3 | 4  | 0  | 4.666.315:82:0 |      |
| 522  | 98 | 268 | 21:20:11.933 |                  | DMS:    | : *READY         | RDY, TRACK 1, FWD, TIC *3489.92 +/- | 2R3 | 4  | 0  | 4.666.315:83:8 |      |
| 523  | 98 | 268 | 21:21:08.733 | 117GB105A106A4BL | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666.316:78:0 |      |
| 524  | 98 | 268 | 21:21:20.066 | 117GB105A106A4BM | 7STRP   | 0.004,-0.050053, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666.317:04:0 |      |
| 525  | 98 | 268 | 21:22:47.400 | 117GB105A106A4BN | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666.318:44:0 |      |
| 526  | 98 | 268 | 21:22:58.733 | 117GB105A106A4BO | 7STRP   | 0.004,-0.050053, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666.318:61:0 |      |
| 527  | 98 | 268 | 21:24:26.066 | 117GB105A106A4BP | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666.320:10:0 |      |
| 528  | 98 | 268 | 21:24:37.400 | 117GB105A106A4BQ | 7STRP   | 0.004,-0.050053, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666.320:27:0 |      |
| 529  | 98 | 268 | 21:26:04.733 | 117GB105A106A4BR | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666.321:67:0 |      |
| 530  | 98 | 268 | 21:26:16.066 | 117GB105A106A4BS | 7STRP   | 0.004,-0.050053, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666.321:84:0 |      |
| 531  | 98 | 268 | 21:27:43.400 | 117GB105A106A4BT | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666.323:33:0 |      |
| 532  | 98 | 268 | 21:27:54.733 | 117GB105A106A4BU | 7STRP   | 0.004,-0.050053, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666.323:50:0 |      |
| 533  | 98 | 268 | 21:29:22.066 | 117GB105A106A4BV | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666.324:90:0 |      |
| 534  | 98 | 268 | 21:29:33.400 | 117GB105A106A4BW | 7STRP   | 0.004,-0.050053, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666.325:16:0 |      |
| 535  | 98 | 268 | 21:31:00.733 | 117GB105A106A4BX | 7STRP   | -0.0023,0.050133 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666.326:56:0 |      |
| 536  | 98 | 268 | 21:31:12.066 | 117GB105A106A4BY | 7STRP   | 0.004,-0.050053, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666.326:73:0 |      |
| 537  | 98 | 268 | 21:32:25.400 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps      | 2R3 | 4  | 0  | 4.666.328:01:0 |      |
| 538  | 98 | 268 | 21:32:25.400 |                  | DMS:    | : *E4-DELAY      | RDY, TRACK 1, FWD, TIC 3489.92 +/-  | 2R3 | 4  | 0  | 4.666.328:01:0 |      |
| 539  | 98 | 268 | 21:32:32.066 |                  | DMS:    | : *RUNUP         | R7, TRACK 1, FWD, TIC 3489.92 +/-   | 2R3 | 4  | 0  | 4.666.328:11:0 |      |
| 540  | 98 | 268 | 21:32:33.466 |                  | DMS:    | : *AT_SPD        | R7, TRACK 1, FWD, TIC *3490.04 +/-  | 2R3 | 4  | 0  | 4.666.328:13:1 |      |
| 541  | 98 | 268 | 21:32:39.400 | 117GB11A         | CSMOS   | GE               | ***** GROUP END CSMOS               | 2R3 | 4  | 0  | 4.666.328:22:0 |      |
| 542  | 98 | 268 | 21:32:50.733 |                  | DMS:    | : *RECORD        | R7, TRACK 1, FWD, TIC *3494.09 +/-  | 2R3 | 4  | 0  | 4.666.328:39:0 |      |
| 543  | 98 | 268 | 21:33:13.400 |                  | DMS:    | : *RUNDOWN       | R7, TRACK 1, FWD, TIC *3499.40 +/-  | 2R3 | 4  | 0  | 4.666.328:73:0 |      |
| 544  | 98 | 268 | 21:33:13.400 | 50ZZ6RE          | 6DMSC   | RDY,0            | DMS Control Tape stop               | 2R3 | 4  | 0  | 4.666.328:73:0 |      |
| 545  | 98 | 268 | 21:33:14.600 |                  | DMS:    | : *READY         | RDY, TRACK 1, FWD, TIC *3499.46 +/- | 2R3 | 4  | 0  | 4.666.328:74:8 |      |
| 546  | 98 | 268 | 21:39:25.400 | 176GC6B          | 6TMREC  | NRC              | NO RECORD Record Mode Change        | 2R3 | 4  | 0  | 4.666.334:85:0 |      |
| 547  | 98 | 268 | 21:39:27.400 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps      | 2R3 | 4  | 0  | 4.666.334:88:0 |      |
| 548  | 98 | 268 | 21:39:27.400 |                  | DMS:    | : *E4-DELAY      | RDY, TRACK 1, FWD, TIC 3499.46 +/-  | 2R3 | 4  | 0  | 4.666.334:88:0 |      |



| Line | YR | DOY | SCET - GMT   | PSID             | Command | Parameters       | Description                               | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|------------------|---------|------------------|---|-----|----|----|----------------|------|
| 549  | 98 | 268 | 21:39:34.066 |                  | DMS:    | : *RUNUP         | R7, TRACK 1, FWD, TIC 3499.46 +/-         | 2R3 | 4  | 0  | 4.666.335:07:0 |      |
| 550  | 98 | 268 | 21:39:35.466 |                  | DMS:    | : *AT SPD        | R7, TRACK 1, FWD, TIC *3499.58 +/-        | 2R3 | 4  | 0  | 4.666.335:09:1 |      |
| 551  | 98 | 268 | 21:39:37.400 |                  | DMS:    | : *RECORD        | R7, TRACK 1, FWD, TIC *3500.03 +/-        | 2R3 | 4  | 0  | 4.666.335:12:0 |      |
| 552  | 98 | 268 | 21:39:53.400 | 50ZZ6RD          | 6DMSC   | RDY,0            | DMS Control Tape stop                     | 2R3 | 4  | 0  | 4.666.335:36:0 |      |
| 553  | 98 | 268 | 21:39:53.400 |                  | DMS:    | : *RUNDOWN       | R7, TRACK 1, FWD, TIC *3503.78 +/-        | 2R3 | 4  | 0  | 4.666.335:36:0 |      |
| 554  | 98 | 268 | 21:39:54.600 |                  | DMS:    | : *READY         | RDY, TRACK 1, FWD, TIC *3503.84 +/-       | 2R3 | 4  | 0  | 4.666.335:37:8 |      |
| 555  | 98 | 268 | 21:40:29.400 | 165GC4A          | 7SCAN   | NORM,291.280998, | Check S/P Position                        | 2R3 | 4  | 0  | 4.666.335:90:0 |      |
| 556  | 98 | 268 | 21:43:32.066 | 176GD6A          | 6TMREC  | BPT              | 7.68 KBPS PPR BURST TO TAPE Record Mode C | 2R3 | 4  | 0  | 4.666.339:00:0 |      |
| 557  | 98 | 268 | 21:44:23.400 | 117GC            | CSMOS   | GS               | ***** GROUP START CSMOS                   | 2R3 | 4  | 0  | 4.666.339:77:0 |      |
| 558  | 98 | 268 | 21:44:32.733 | 117GC105A106A4A  | 7STRP   | 0.009,-0.050056, | Slew =0.0.7                               | 2R3 | 4  | 0  | 4.666.340:00:0 |      |
| 559  | 98 | 268 | 21:46:03.400 | 117GC105A106A4B  | 7STRP   | -0.0072,0.050137 | Slew =12.01                               | 2R3 | 4  | 0  | 4.666.341:45:0 |      |
| 560  | 98 | 268 | 21:46:14.733 | 117GC105A106A4C  | 7STRP   | 0.009,-0.050056, | Slew =0.0.7                               | 2R3 | 4  | 0  | 4.666.341:62:0 |      |
| 561  | 98 | 268 | 21:47:45.400 | 117GC105A106A4D  | 7STRP   | -0.0072,0.050137 | Slew =12.01                               | 2R3 | 4  | 0  | 4.666.343:16:0 |      |
| 562  | 98 | 268 | 21:47:56.733 | 117GC105A106A4E  | 7STRP   | 0.009,-0.050056, | Slew =0.0.7                               | 2R3 | 4  | 0  | 4.666.343:33:0 |      |
| 563  | 98 | 268 | 21:49:27.400 | 117GC105A106A4F  | 7STRP   | -0.0072,0.050137 | Slew =12.01                               | 2R3 | 4  | 0  | 4.666.344:78:0 |      |
| 564  | 98 | 268 | 21:49:38.733 | 117GC105A106A4G  | 7STRP   | 0.009,-0.050056, | Slew =0.0.7                               | 2R3 | 4  | 0  | 4.666.345:04:0 |      |
| 565  | 98 | 268 | 21:51:09.400 | 117GC105A106A4H  | 7STRP   | -0.0072,0.050137 | Slew =12.01                               | 2R3 | 4  | 0  | 4.666.346:49:0 |      |
| 566  | 98 | 268 | 21:51:20.733 | 117GC105A106A4I  | 7STRP   | 0.009,-0.050056, | Slew =0.0.7                               | 2R3 | 4  | 0  | 4.666.346:66:0 |      |
| 567  | 98 | 268 | 21:52:51.400 | 117GC105A106A4J  | 7STRP   | -0.0072,0.050137 | Slew =12.01                               | 2R3 | 4  | 0  | 4.666.348:20:0 |      |
| 568  | 98 | 268 | 21:53:02.733 | 117GC105A106A4K  | 7STRP   | 0.009,-0.050056, | Slew =0.0.7                               | 2R3 | 4  | 0  | 4.666.348:37:0 |      |
| 569  | 98 | 268 | 21:54:33.400 | 117GC105A106A4L  | 7STRP   | -0.0072,0.050137 | Slew =12.01                               | 2R3 | 4  | 0  | 4.666.349:82:0 |      |
| 570  | 98 | 268 | 21:54:44.733 | 117GC105A106A4M  | 7STRP   | 0.009,-0.050056, | Slew =0.0.7                               | 2R3 | 4  | 0  | 4.666.350:08:0 |      |
| 571  | 98 | 268 | 21:56:06.733 |                  | DMS:    | : *E4-DELAY      | RDY, TRACK 1, FWD, TIC 3503.84 +/-        | 2R3 | 4  | 0  | 4.666.351:40:0 |      |
| 572  | 98 | 268 | 21:56:06.733 | 50ZZ6XX          | 6DMSC   | RDY,0            | DMS Control Tape runup 7.68kps            | 2R3 | 4  | 0  | 4.666.351:40:0 |      |
| 573  | 98 | 268 | 21:56:13.400 |                  | DMS:    | : *RUNUP         | R7, TRACK 1, FWD, TIC 3503.84 +/-         | 2R3 | 4  | 0  | 4.666.351:50:0 |      |
| 574  | 98 | 268 | 21:56:14.800 |                  | DMS:    | : *AT SPD        | R7, TRACK 1, FWD, TIC *3503.96 +/-        | 2R3 | 4  | 0  | 4.666.351:52:1 |      |
| 575  | 98 | 268 | 21:56:15.400 | 117GC105A106A4N  | 7STRP   | -0.0072,0.050137 | Slew =12.01                               | 2R3 | 4  | 0  | 4.666.351:53:0 |      |
| 576  | 98 | 268 | 21:56:26.733 | 117GC105A106A4O  | 7STRP   | 0.009,-0.050056, | Slew =0.0.7                               | 2R3 | 4  | 0  | 4.666.351:70:0 |      |
| 577  | 98 | 268 | 21:56:32.066 |                  | DMS:    | : *RECORD        | R7, TRACK 1, FWD, TIC *3508.01 +/-        | 2R3 | 4  | 0  | 4.666.351:78:0 |      |
| 578  | 98 | 268 | 21:56:34.733 |                  | DMS:    | : *RUNDOWN       | R7, TRACK 1, FWD, TIC *3513.32 +/-        | 2R3 | 4  | 0  | 4.666.352:21:0 |      |
| 579  | 98 | 268 | 21:56:54.733 | 50ZZ6RE          | 6DMSC   | RDY,0            | DMS Control Tape stop                     | 2R3 | 4  | 0  | 4.666.352:21:0 |      |
| 580  | 98 | 268 | 21:56:55.933 |                  | DMS:    | : *READY         | RDY, TRACK 1, FWD, TIC *3513.38 +/-       | 2R3 | 4  | 0  | 4.666.352:22:8 |      |
| 581  | 98 | 268 | 21:57:57.400 | 117GC105A106A4P  | 7STRP   | -0.0072,0.050137 | Slew =12.01                               | 2R3 | 4  | 0  | 4.666.353:24:0 |      |
| 582  | 98 | 268 | 21:58:08.733 | 117GC105A106A4Q  | 7STRP   | 0.009,-0.050056, | Slew =0.0.7                               | 2R3 | 4  | 0  | 4.666.353:41:0 |      |
| 583  | 98 | 268 | 21:59:39.400 | 117GC105A106A4R  | 7STRP   | -0.0072,0.050137 | Slew =12.01                               | 2R3 | 4  | 0  | 4.666.354:86:0 |      |
| 584  | 98 | 268 | 21:59:50.733 | 117GC105A106A4S  | 7STRP   | 0.009,-0.050056, | Slew =0.0.7                               | 2R3 | 4  | 0  | 4.666.355:12:0 |      |
| 585  | 98 | 268 | 22:01:21.400 | 117GC105A106A4T  | 7STRP   | -0.0072,0.050137 | Slew =12.01                               | 2R3 | 4  | 0  | 4.666.356:57:0 |      |
| 586  | 98 | 268 | 22:01:32.733 | 117GC105A106A4U  | 7STRP   | 0.009,-0.050056, | Slew =0.0.7                               | 2R3 | 4  | 0  | 4.666.356:74:0 |      |
| 587  | 98 | 268 | 22:03:03.400 | 117GC105A106A4V  | 7STRP   | -0.0072,0.050137 | Slew =12.01                               | 2R3 | 4  | 0  | 4.666.358:28:0 |      |
| 588  | 98 | 268 | 22:03:14.733 | 117GC105A106A4W  | 7STRP   | 0.009,-0.050056, | Slew =0.0.7                               | 2R3 | 4  | 0  | 4.666.358:45:0 |      |
| 589  | 98 | 268 | 22:04:45.400 | 117GC105A106A4X  | 7STRP   | -0.0072,0.050137 | Slew =12.01                               | 2R3 | 4  | 0  | 4.666.359:90:0 |      |
| 590  | 98 | 268 | 22:04:56.733 | 117GC105A106A4Y  | 7STRP   | 0.009,-0.050056, | Slew =0.0.7                               | 2R3 | 4  | 0  | 4.666.360:16:0 |      |
| 591  | 98 | 268 | 22:06:27.400 | 117GC105A106A4Z  | 7STRP   | -0.0072,0.050137 | Slew =12.01                               | 2R3 | 4  | 0  | 4.666.361:61:0 |      |
| 592  | 98 | 268 | 22:06:38.733 | 117GC105A106A4AA | 7STRP   | 0.009,-0.050056, | Slew =0.0.7                               | 2R3 | 4  | 0  | 4.666.361:78:0 |      |
| 593  | 98 | 268 | 22:08:09.400 | 117GC105A106A4AB | 7STRP   | -0.0072,0.050137 | Slew =12.01                               | 2R3 | 4  | 0  | 4.666.363:32:0 |      |
| 594  | 98 | 268 | 22:08:20.733 | 117GC105A106A4AC | 7STRP   | 0.009,-0.050056, | Slew =0.0.7                               | 2R3 | 4  | 0  | 4.666.363:49:0 |      |
| 595  | 98 | 268 | 22:09:08.733 |                  | DMS:    | : *E4-DELAY      | RDY, TRACK 1, FWD, TIC 3513.38 +/-        | 2R3 | 4  | 0  | 4.666.364:30:0 |      |
| 596  | 98 | 268 | 22:09:08.733 | 50ZZ6XX          | 6DMSC   | RDY,0            | DMS Control Tape runup 7.68kps            | 2R3 | 4  | 0  | 4.666.364:30:0 |      |
| 597  | 98 | 268 | 22:09:15.400 |                  | DMS:    | : *RUNUP         | R7, TRACK 1, FWD, TIC 3513.38 +/-         | 2R3 | 4  | 0  | 4.666.364:40:0 |      |
| 598  | 98 | 268 | 22:09:16.800 |                  | DMS:    | : *AT SPD        | R7, TRACK 1, FWD, TIC *3513.50 +/-        | 2R3 | 4  | 0  | 4.666.364:42:1 |      |
| 599  | 98 | 268 | 22:09:34.066 |                  | DMS:    | : *RECORD        | R7, TRACK 1, FWD, TIC *3517.55 +/-        | 2R3 | 4  | 0  | 4.666.364:68:0 |      |
| 600  | 98 | 268 | 22:09:51.400 | 117GC105A106A4AD | 7STRP   | -0.0072,0.050137 | Slew =12.01                               | 2R3 | 4  | 0  | 4.666.365:03:0 |      |
| 601  | 98 | 268 | 22:09:56.733 |                  | DMS:    | : *RUNDOWN       | R7, TRACK 1, FWD, TIC *3522.86 +/-        | 2R3 | 4  | 0  | 4.666.365:11:0 |      |
| 602  | 98 | 268 | 22:09:56.733 | 50ZZ6RD          | 6DMSC   | RDY,0            | DMS Control Tape stop                     | 2R3 | 4  | 0  | 4.666.365:11:0 |      |
| 603  | 98 | 268 | 22:09:57.933 |                  | DMS:    | : *READY         | RDY, TRACK 1, FWD, TIC *3522.92 +/-       | 2R3 | 4  | 0  | 4.666.365:12:8 |      |

| Line | YR | DOY | SCET - GMT   | PSID             | Command | Parameters       | Description                         | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|------------------|---------|------------------|-------------------------------------|-----|----|----|----------------|------|
| 604  | 98 | 268 | 22:10:02.733 | 117GC105A106A4AE | 7STRP   | 0.009,-0.050056, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666,365:20:0 |      |
| 605  | 98 | 268 | 22:11:33.400 | 117GC105A106A4AF | 7STRP   | -0.0072,0.050137 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666,366:65:0 |      |
| 606  | 98 | 268 | 22:11:44.733 | 117GC105A106A4AG | 7STRP   | 0.009,-0.050056, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666,366:82:0 |      |
| 607  | 98 | 268 | 22:13:15.400 | 117GC105A106A4AH | 7STRP   | -0.0072,0.050137 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666,368:36:0 |      |
| 608  | 98 | 268 | 22:13:26.733 | 117GC105A106A4AJ | 7STRP   | 0.009,-0.050056, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666,368:53:0 |      |
| 609  | 98 | 268 | 22:14:57.400 | 117GC105A106A4AK | 7STRP   | -0.0072,0.050137 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666,370:07:0 |      |
| 610  | 98 | 268 | 22:15:08.733 | 117GC105A106A4AL | 7STRP   | 0.009,-0.050056, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666,370:24:0 |      |
| 611  | 98 | 268 | 22:16:39.400 | 117GC105A106A4AM | 7STRP   | -0.0072,0.050137 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666,371:69:0 |      |
| 612  | 98 | 268 | 22:16:50.733 | 117GC105A106A4AN | 7STRP   | 0.009,-0.050056, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666,371:86:0 |      |
| 613  | 98 | 268 | 22:18:21.400 | 117GC105A106A4AO | 7STRP   | -0.0072,0.050137 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666,373:40:0 |      |
| 614  | 98 | 268 | 22:18:32.733 | 117GC105A106A4AP | 7STRP   | 0.009,-0.050056, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666,373:57:0 |      |
| 615  | 98 | 268 | 22:20:03.400 | 117GC105A106A4AQ | 7STRP   | -0.0072,0.050137 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666,375:11:0 |      |
| 616  | 98 | 268 | 22:20:14.733 | 117GC105A106A4AR | 7STRP   | 0.009,-0.050056, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666,375:28:0 |      |
| 617  | 98 | 268 | 22:21:45.400 | 117GC105A106A4AS | 7STRP   | -0.0072,0.050137 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666,376:73:0 |      |
| 618  | 98 | 268 | 22:21:56.733 | 117GC105A106A4AT | 7STRP   | 0.009,-0.050056, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666,376:90:0 |      |
| 619  | 98 | 268 | 22:22:10.733 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps      | 2R3 | 4  | 0  | 4.666,377:20:0 |      |
| 620  | 98 | 268 | 22:22:10.733 |                  | DMS:    | : *E4-DELAY      | RDY, TRACK 1, FWD, TIC 3522.92 +/-  | 2R3 | 4  | 0  | 4.666,377:20:0 |      |
| 621  | 98 | 268 | 22:22:17.400 |                  | DMS:    | : *RUNUP         | R7, TRACK 1, FWD, TIC 3522.92 +/-   | 2R3 | 4  | 0  | 4.666,377:30:0 |      |
| 622  | 98 | 268 | 22:22:18.800 |                  | DMS:    | : *AT_SPD        | R7, TRACK 1, FWD, TIC *3523.04 +/-  | 2R3 | 4  | 0  | 4.666,377:32:1 |      |
| 623  | 98 | 268 | 22:22:36.066 |                  | DMS:    | : *RECORD        | R7, TRACK 1, FWD, TIC *3527.09 +/-  | 2R3 | 4  | 0  | 4.666,377:58:0 |      |
| 624  | 98 | 268 | 22:22:58.733 | 50ZZ6RE          | 6DMSC   | RDY,0            | DMS Control Tape stop               | 2R3 | 4  | 0  | 4.666,378:01:0 |      |
| 625  | 98 | 268 | 22:22:58.733 |                  | DMS:    | : *RUNDOWN       | R7, TRACK 1, FWD, TIC *3532.40 +/-  | 2R3 | 4  | 0  | 4.666,378:01:0 |      |
| 626  | 98 | 268 | 22:22:59.933 |                  | DMS:    | : *READY         | RDY, TRACK 1, FWD, TIC *3532.46 +/- | 2R3 | 4  | 0  | 4.666,378:02:8 |      |
| 627  | 98 | 268 | 22:23:27.400 | 117GC105A106A4AT | 7STRP   | -0.0072,0.050137 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666,378:44:0 |      |
| 628  | 98 | 268 | 22:23:38.733 | 117GC105A106A4AU | 7STRP   | 0.009,-0.050056, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666,378:61:0 |      |
| 629  | 98 | 268 | 22:25:09.400 | 117GC105A106A4AV | 7STRP   | -0.0072,0.050137 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666,380:15:0 |      |
| 630  | 98 | 268 | 22:25:20.733 | 117GC105A106A4AW | 7STRP   | 0.009,-0.050056, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666,380:32:0 |      |
| 631  | 98 | 268 | 22:26:51.400 | 117GC105A106A4AX | 7STRP   | -0.0072,0.050137 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666,381:77:0 |      |
| 632  | 98 | 268 | 22:27:02.733 | 117GC105A106A4AY | 7STRP   | 0.009,-0.050056, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666,382:03:0 |      |
| 633  | 98 | 268 | 22:28:33.400 | 117GC105A106A4AZ | 7STRP   | -0.0072,0.050137 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666,383:48:0 |      |
| 634  | 98 | 268 | 22:28:44.733 | 117GC105A106A4BA | 7STRP   | 0.009,-0.050056, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666,383:65:0 |      |
| 635  | 98 | 268 | 22:30:15.400 | 117GC105A106A4BB | 7STRP   | -0.0072,0.050137 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666,385:19:0 |      |
| 636  | 98 | 268 | 22:30:26.733 | 117GC105A106A4BC | 7STRP   | 0.009,-0.050056, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666,385:36:0 |      |
| 637  | 98 | 268 | 22:31:57.400 | 117GC105A106A4BD | 7STRP   | -0.0072,0.050137 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666,386:81:0 |      |
| 638  | 98 | 268 | 22:32:08.733 | 117GC105A106A4BE | 7STRP   | 0.009,-0.050056, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666,387:07:0 |      |
| 639  | 98 | 268 | 22:33:39.400 | 117GC105A106A4BF | 7STRP   | -0.0072,0.050137 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666,388:52:0 |      |
| 640  | 98 | 268 | 22:33:50.733 | 117GC105A106A4BG | 7STRP   | 0.009,-0.050056, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666,388:69:0 |      |
| 641  | 98 | 268 | 22:35:13.400 |                  | DMS:    | : *E4-DELAY      | RDY, TRACK 1, FWD, TIC 3532.46 +/-  | 2R3 | 4  | 0  | 4.666,390:11:0 |      |
| 642  | 98 | 268 | 22:35:13.400 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps      | 2R3 | 4  | 0  | 4.666,390:11:0 |      |
| 643  | 98 | 268 | 22:35:20.066 |                  | DMS:    | : *RUNUP         | R7, TRACK 1, FWD, TIC 3532.46 +/-   | 2R3 | 4  | 0  | 4.666,390:21:0 |      |
| 644  | 98 | 268 | 22:35:21.400 | 117GC105A106A4BH | 7STRP   | -0.0072,0.050137 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666,390:23:1 |      |
| 645  | 98 | 268 | 22:35:21.466 |                  | DMS:    | : *AT_SPD        | R7, TRACK 1, FWD, TIC *3532.58 +/-  | 2R3 | 4  | 0  | 4.666,390:40:0 |      |
| 646  | 98 | 268 | 22:35:32.733 | 117GC105A106A4BI | 7STRP   | 0.009,-0.050056, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666,390:40:0 |      |
| 647  | 98 | 268 | 22:35:38.066 |                  | DMS:    | : *RECORD        | R7, TRACK 1, FWD, TIC *3536.47 +/-  | 2R3 | 4  | 0  | 4.666,390:48:0 |      |
| 648  | 98 | 268 | 22:36:00.733 | 50ZZ6RD          | 6DMSC   | RDY,0            | DMS Control Tape stop               | 2R3 | 4  | 0  | 4.666,390:82:0 |      |
| 649  | 98 | 268 | 22:36:00.733 |                  | DMS:    | : *RUNDOWN       | R7, TRACK 1, FWD, TIC *3541.78 +/-  | 2R3 | 4  | 0  | 4.666,390:82:0 |      |
| 650  | 98 | 268 | 22:36:01.933 |                  | DMS:    | : *READY         | RDY, TRACK 1, FWD, TIC *3541.84 +/- | 2R3 | 4  | 0  | 4.666,390:83:8 |      |
| 651  | 98 | 268 | 22:36:40.847 | 17NNGLOBAL01-    |         | -----START-----  |                                     | 2R3 | 4  | 0  | :              |      |
| 652  | 98 | 268 | 22:37:03.400 | 117GC105A106A4BJ | 7STRP   | -0.0072,0.050137 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666,391:85:0 |      |
| 653  | 98 | 268 | 22:37:14.733 | 117GC105A106A4BK | 7STRP   | 0.009,-0.050056, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666,392:11:0 |      |
| 654  | 98 | 268 | 22:38:45.400 | 117GC105A106A4BL | 7STRP   | -0.0072,0.050137 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666,393:56:0 |      |
| 655  | 98 | 268 | 22:38:56.733 | 117GC105A106A4BM | 7STRP   | 0.009,-0.050056, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666,393:73:0 |      |
| 656  | 98 | 268 | 22:40:27.400 | 117GC105A106A4BN | 7STRP   | -0.0072,0.050137 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666,395:27:0 |      |
| 657  | 98 | 268 | 22:40:38.733 | 117GC105A106A4BO | 7STRP   | 0.009,-0.050056, | Slew =0.0,7                         | 2R3 | 4  | 0  | 4.666,395:44:0 |      |
| 658  | 98 | 268 | 22:42:09.400 | 117GC105A106A4BP | 7STRP   | -0.0072,0.050137 | Slew =12.01                         | 2R3 | 4  | 0  | 4.666,396:89:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID             | Command  | Parameters         | Description                                | GCM | GO | GS | RIM       | MF I |
|------|----|-----|--------------|------------------|----------|--------------------|--|-----|----|----|-----------|------|
| 659  | 98 | 268 | 22:42:20.733 | 117GC105A106A4BQ | 7STRP    | 0.009,-0.050056,   | Slew =0,0.7                                | 2R3 | 4  | 0  | 4,666,397 | 15:0 |
| 660  | 98 | 268 | 22:43:51.400 | 117GC105A106A4BR | 7STRP    | -0.0072,0.050137   | Slew =12,0.1                               | 2R3 | 4  | 0  | 4,666,398 | 60:0 |
| 661  | 98 | 268 | 22:44:02.733 | 117GC105A106A4BS | 7STRP    | 0.009,-0.050056,   | Slew =0,0.7                                | 2R3 | 4  | 0  | 4,666,398 | 77:0 |
| 662  | 98 | 268 | 22:45:33.400 | 117GC11A         | CSMOS    | GE                 | **** GROUP END CSMOS                       | 2R3 | 4  | 0  | 4,666,400 | 31:0 |
| 663  | 98 | 268 | 22:46:47.513 | 17ENGLOBAL01-    | CSMOS    | GE                 | **** GROUP END CSMOS                       | 2R3 | 4  | 0  | 4,666,400 | 31:0 |
| 664  | 98 | 268 | 22:46:47.513 | 17ENGLOBAL01-    | CSMOS    | GE                 | **** GROUP END CSMOS                       | 2R3 | 4  | 0  | 4,666,400 | 31:0 |
| 665  | 98 | 268 | 22:47:14.066 | 176GGD6B         | 6TMREC   | NRC                | NO RECORD Record Mode Change               | 2R3 | 4  | 0  | 4,666,402 | 00:0 |
| 666  | 98 | 268 | 22:47:16.066 | 50ZZ6XX          | 6DMSC    | R7,0               | DMS Control Tape runup 7.68kps             | 2R3 | 4  | 0  | 4,666,402 | 03:0 |
| 667  | 98 | 268 | 22:47:16.066 |                  | DMS:     | :*E4-DELAY         | RDY, TRACK 1, FWD, TIC 3541.84 +/-         | 2R3 | 4  | 0  | 4,666,402 | 03:0 |
| 668  | 98 | 268 | 22:47:22.733 |                  | DMS:     | :*RUNUP            | R7, TRACK 1, FWD, TIC 3541.84 +/-          | 2R3 | 4  | 0  | 4,666,402 | 13:0 |
| 669  | 98 | 268 | 22:47:24.133 |                  | DMS:     | :*AT_SPD           | R7, TRACK 1, FWD, TIC *3541.96 +/-         | 2R3 | 4  | 0  | 4,666,402 | 15:1 |
| 670  | 98 | 268 | 22:47:26.066 |                  | DMS:     | :*RECORD           | R7, TRACK 1, FWD, TIC *3542.42 +/-         | 2R3 | 4  | 0  | 4,666,402 | 18:0 |
| 671  | 98 | 268 | 22:47:46.733 |                  | DMS:     | :*RUNDOWN          | R7, TRACK 1, FWD, TIC *3547.26 +/-         | 2R3 | 4  | 0  | 4,666,402 | 49:0 |
| 672  | 98 | 268 | 22:47:46.733 | 50ZZ6RE          | 6DMSC    | RDY,0              | DMS Control Tape stop                      | 2R3 | 4  | 0  | 4,666,402 | 49:0 |
| 673  | 98 | 268 | 22:47:47.933 |                  | DMS:     | :*READY            | RDY, TRACK 1, FWD, TIC *3547.32 +/-        | 2R3 | 4  | 0  | 4,666,402 | 50:8 |
| 674  | 98 | 268 | 22:49:30.066 | 20DD5A           | 37PL     |                    | Program Load (halts microprocessor & unwri | 2R3 | 4  | 0  | 4,666,404 | 22:0 |
| 675  | 98 | 268 | 22:49:31.400 | 20DD5B           | 37MRL    |                    | Memory Realocate (software operates from R | 2R3 | 4  | 0  | 4,666,404 | 24:0 |
| 676  | 98 | 268 | 22:49:33.400 | 20DD6A           | 6MCPY    | NIMS               | NIMS,1000,LLM1A,7300,77F7                  | 2R3 | 4  | 0  | 4,666,404 | 27:0 |
| 677  | 98 | 268 | 22:49:43.400 | 20DD6B           | 6MCPY    | NIMS               | NIMS,1598,LLM1A,77F8,781D                  | 2R3 | 4  | 0  | 4,666,404 | 42:0 |
| 678  | 98 | 268 | 22:49:56.733 | 20DD5C           | 37IRT    |                    | Instrument Reset (goes into POR state)     | 260 | 4  | 0  | 4,666,404 | 67:0 |
| 679  | 98 | 268 | 22:50:00.066 | 20DD5D           | 37MN     |                    | Memory Normal (software operates from ROM) | 260 | 4  | 0  | 4,666,404 | 67:0 |
| 680  | 98 | 268 | 22:50:10.066 | 20DD4A           | 37IST    | 1,2,0,OFF,0,0,0    | Chopper ON, Sync, Chopper (Ref)            | 2R0 | 4  | 0  | 4,666,404 | 82:0 |
| 681  | 98 | 268 | 22:51:16.066 | 165DD4A          | 7SCAN    | NORM,276,917999,   | Check SIP Position                         | 2R0 | 4  | 0  | 4,666,405 | 90:0 |
| 682  | 98 | 268 | 22:52:12.733 | 125DD4A          | 37IST    | 0,2,0,OFF,0,1,2    | Gain State 3                               | 3R0 | 4  | 0  | 4,666,406 | 84:0 |
| 683  | 98 | 268 | 22:52:12.733 | 125DD            | NIMSINIT | GS                 | ##### GROUP START INIT                     | 3R0 | 4  | 0  | 4,666,406 | 84:0 |
| 684  | 98 | 268 | 22:53:13.400 | 125DD4B          | 37MB     | 0,0,0,0,0,0,0      | Selects mirror (spatial) edit table        | 3R0 | 4  | 0  | 4,666,407 | 84:0 |
| 685  | 98 | 268 | 22:53:13.400 | 125DD11A         | NIMSINIT | GE                 | ##### GROUP END INIT                       | 3R0 | 4  | 0  | 4,666,407 | 84:0 |
| 686  | 98 | 268 | 22:55:06.066 | 175DD42A6A       | 6DMSC    | R28,1              | DMS Control                                | 3R0 | 4  | 0  | 4,666,409 | 71:0 |
| 687  | 98 | 268 | 22:55:06.066 |                  | DMS:     | :*E4-DELAY         | RDY, TRACK 1, FWD, TIC 3547.32 +/-         | 3R0 | 4  | 0  | 4,666,409 | 71:0 |
| 688  | 98 | 268 | 22:55:10.066 | 117DD            | CSMOS    | GS                 | **** GROUP START CSMOS                     | 3R0 | 4  | 0  | 4,666,409 | 77:0 |
| 689  | 98 | 268 | 22:55:12.733 |                  | DMS:     | :*RUNUP            | R28, TRACK 1, FWD, TIC 3547.32 +/-         | 3R0 | 4  | 0  | 4,666,409 | 81:0 |
| 690  | 98 | 268 | 22:55:14.733 | 127DD4A          | 37IOP    | 3,0                | Long Map, Grating Start Position =00       | 3R3 | 4  | 0  | 4,666,409 | 84:0 |
| 691  | 98 | 268 | 22:55:14.733 | 127DD            | NIMSTAB  | GS                 | %%%% GROUP START TAB                       | 3R3 | 4  | 0  | 4,666,409 | 84:0 |
| 692  | 98 | 268 | 22:55:15.400 | 127DD4B          | 37ETB    | 04,C4,35,FF,FF     | Loads wavelength edit table                | 3R3 | 4  | 0  | 4,666,409 | 85:0 |
| 693  | 98 | 268 | 22:55:16.066 | 175DD176A6A      | 6TMREC   | MPW                | 28.8 KBPS PWS + NIMS RECORD Record Mode C  | 3R3 | 4  | 0  | 4,666,409 | 86:0 |
| 694  | 98 | 268 | 22:55:16.733 |                  | DMS:     | :*RECORD           | R28, TRACK 1, FWD, TIC *3548.82 +/-        | 3R3 | 4  | 0  | 4,666,409 | 87:0 |
| 695  | 98 | 268 | 22:55:16.733 |                  | DMS:     | :*AT_SPD           | R28, TRACK 1, FWD, TIC 3548.82 +/-         | 3R3 | 4  | 0  | 4,666,409 | 87:0 |
| 696  | 98 | 268 | 22:55:18.066 | 165DD4B          | 7VECT    |                    | Inert vect update UTC                      | 3R3 | 4  | 0  | 4,666,409 | 89:0 |
| 697  | 98 | 268 | 22:55:19.400 | 17ENGLOBAL01-    | NIMPBK   | 301DD              | EUROPA GLOBAL MAPPING                      | 3R3 | 4  | 0  | 4,666,410 | 00:0 |
| 698  | 98 | 268 | 22:55:19.400 | 17DD105A106A4A   | 7STRP    | -0.020203,0.0,0,0, | Slew =-0.03                                | 3R3 | 4  | 0  | 4,666,410 | 06:0 |
| 699  | 98 | 268 | 22:55:23.400 | 127DD11A         | NIMSTAB  | GE                 | %%%% GROUP END TAB                         | 3R3 | 4  | 0  | 4,666,410 | 06:0 |
| 700  | 98 | 268 | 23:06:36.066 | 17ENGLOBAL01-    | DESELC   | 300DD              | EUROPA GLOBAL MAPPING                      | 3R3 | 4  | 0  | 4,666,421 | 14:0 |
| 701  | 98 | 268 | 23:06:36.066 | 17DD105A106A4B   | 7STRP    | 0.020003,-0.0073   | Slew =12.01                                | 3R3 | 4  | 0  | 4,666,421 | 14:0 |
| 702  | 98 | 268 | 23:06:42.733 | 17ENGLOBAL01-    | NIMPBK   | 301DP              | EUROPA GLOBAL MAPPING                      | 3R3 | 4  | 0  | 4,666,421 | 24:0 |
| 703  | 98 | 268 | 23:06:42.733 | 17DD105A106A4C   | 7STRP    | -0.020203,0.0,0,0, | Slew =-0.03                                | 3R3 | 4  | 0  | 4,666,421 | 24:0 |
| 704  | 98 | 268 | 23:14:12.666 | 17ENGLOBAL01-    | NIMPBK   | 301DA              | EUROPA GLOBAL MAPPING                      | 3R3 | 4  | 0  | 4,666,421 | 24:0 |
| 705  | 98 | 268 | 23:14:42.000 | 17ENGLOBAL01-    | DESELC   | 300DA              | EUROPA GLOBAL MAPPING                      | 3R3 | 4  | 0  | 4,666,421 | 24:0 |
| 706  | 98 | 268 | 23:16:31.333 | 17ENGLOBAL01-    | NIMPBK   | 301DB              | EUROPA GLOBAL MAPPING                      | 3R3 | 4  | 0  | 4,666,421 | 24:0 |
| 707  | 98 | 268 | 23:16:38.000 | 17ENGLOBAL01-    | DESELC   | 300DB              | EUROPA GLOBAL MAPPING                      | 3R3 | 4  | 0  | 4,666,421 | 24:0 |
| 708  | 98 | 268 | 23:17:59.400 | 17DD105A106A4D   | 7STRP    | 0.020003,-0.0073   | Slew =12.01                                | 3R3 | 4  | 0  | 4,666,432 | 38:0 |
| 709  | 98 | 268 | 23:18:06.066 | 17DD105A106A4E   | 7STRP    | -0.020203,0.0,0,0, | Slew =-0.03                                | 3R3 | 4  | 0  | 4,666,432 | 48:0 |
| 710  | 98 | 268 | 23:22:00.666 | 17ENGLOBAL01-    | NIMPBK   | 301DC              | EUROPA GLOBAL MAPPING                      | 3R3 | 4  | 0  | 4,666,432 | 48:0 |
| 711  | 98 | 268 | 23:23:10.000 | 17ENGLOBAL01-    | DESELC   | 300DC              | EUROPA GLOBAL MAPPING                      | 3R3 | 4  | 0  | 4,666,432 | 48:0 |
| 712  | 98 | 268 | 23:23:36.000 | 17ENGLOBAL01-    | NIMPBK   | 301DR              | EUROPA GLOBAL MAPPING                      | 3R3 | 4  | 0  | 4,666,432 | 48:0 |
| 713  | 98 | 268 | 23:23:51.000 | 17ENGLOBAL01-    | DESELC   | 300DR              | EUROPA GLOBAL MAPPING                      | 3R3 | 4  | 0  | 4,666,432 | 48:0 |

| Line | YR | DOY | SCET - GMT   | PSID             | Command | Parameters        | Description                               | GCM | GO | GS | RIM | MF I           |
|------|----|-----|--------------|------------------|---------|-------------------|---|-----|----|----|-----|----------------|
| 714  | 98 | 268 | 23:29:22.733 | 17ENGLOBAL01-    | DESEL   | 300DP             | EUROPA GLOBAL MAPPING                     | 3R3 | 4  | 0  | :   | :              |
| 715  | 98 | 268 | 23:29:22.733 | 17DD105A106A4F   | 7STRP   | 0.020003,-0.0073  | Slew =12.01                               | 3R3 | 4  | 0  | :   | 4.666,443:62:0 |
| 716  | 98 | 268 | 23:29:29.400 | 17DD105A106A4G   | 7STRP   | -0.020203,0.0,0,0 | Slew =0.03                                | 3R3 | 4  | 0  | :   | 4.666,443:72:0 |
| 717  | 98 | 268 | 23:29:29.400 | 17ENGLOBAL01-    | NIMPBK  | 301DQ             | EUROPA GLOBAL MAPPING                     | 3R3 | 4  | 0  | :   | :              |
| 718  | 98 | 268 | 23:37:20.847 | 17ENGLOBAL01-    | DESEL   | -----STOP-----    |   | 3R3 | 4  | 0  | :   | :              |
| 719  | 98 | 268 | 23:40:14.733 | 17ENGLOBAL01-    | DESEL   | 300DQ             | EUROPA GLOBAL MAPPING                     | 3R3 | 4  | 0  | :   | :              |
| 720  | 98 | 268 | 23:40:16.733 | 175DD422A6B      | 6DMSC   | RDY,0             | DMS Control Tape stop                     | 3R3 | 4  | 0  | :   | 4.666,454:42:0 |
| 721  | 98 | 268 | 23:40:16.733 |                  | DMS:    | :*RUNDOWN         | R28, TRACK 1, FWD, TIC *5921.87 +/-       | 3R3 | 4  | 0  | :   | 4.666,454:42:0 |
| 722  | 98 | 268 | 23:40:17.933 |                  | DMS:    | :*READY           | RDY, TRACK 1, FWD, TIC *5922.17 +/-       | 3R3 | 4  | 0  | :   | 4.666,454:43:8 |
| 723  | 98 | 268 | 23:40:46.066 | 117DD11A         | CSMOS   | GE                | **** GROUP END CSMOS                      | 3R3 | 4  | 0  | :   | 4.666,454:86:0 |
| 724  | 98 | 269 | 00:00:00.066 | 481UA4A          | 7VECT   |                   | Inert vect update UTC                     | 3R3 | 4  | 0  | :   | 4.666,473:88:0 |
| 725  | 98 | 269 | 00:25:18.066 | 165GD4A          | 7SCAN   | NORM,277.085999,  | Check S/P Position                        | 3R3 | 4  | 0  | :   | 4.666,498:90:0 |
| 726  | 98 | 269 | 00:25:18.733 | 176GE6A          | 6TMREC  | BPT               | 7.68 KBPS PPR BURST TO TAPE Record Mode C | 3R3 | 4  | 0  | :   | 4.666,499:00:0 |
| 727  | 98 | 269 | 00:26:10.066 | 117GD            | CSMOS   | GS                | **** GROUP START CSMOS                    | 3R3 | 4  | 0  | :   | 4.666,499:77:0 |
| 728  | 98 | 269 | 00:26:19.400 | 117GD105A106A4A  | 7STRP   | -0.03101,0.0,0.0  | Slew = 0.37                               | 3R3 | 4  | 0  | :   | 4.666,500:00:0 |
| 729  | 98 | 269 | 00:27:47.400 | 117GD105A106A4B  | 7STRP   | 0.00027,-0.00054  | Slew =12.01                               | 3R3 | 4  | 0  | :   | 4.666,501:41:0 |
| 730  | 98 | 269 | 00:27:58.066 | 117GD105A106A4C  | 7STRP   | -0.03101,0.0,0.0  | Slew = 0.37                               | 3R3 | 4  | 0  | :   | 4.666,501:57:0 |
| 731  | 98 | 269 | 00:29:26.066 | 117GD105A106A4D  | 7STRP   | 0.00027,-0.00054  | Slew =12.01                               | 3R3 | 4  | 0  | :   | 4.666,503:07:0 |
| 732  | 98 | 269 | 00:29:36.733 | 117GD105A106A4E  | 7STRP   | -0.03101,0.0,0.0  | Slew = 0.37                               | 3R3 | 4  | 0  | :   | 4.666,503:23:0 |
| 733  | 98 | 269 | 00:31:04.733 | 117GD105A106A4F  | 7STRP   | 0.00027,-0.00054  | Slew =12.01                               | 3R3 | 4  | 0  | :   | 4.666,504:64:0 |
| 734  | 98 | 269 | 00:31:15.400 | 117GD105A106A4G  | 7STRP   | -0.03101,0.0,0.0  | Slew = 0.37                               | 3R3 | 4  | 0  | :   | 4.666,504:80:0 |
| 735  | 98 | 269 | 00:32:43.400 | 117GD105A106A4H  | 7STRP   | 0.00027,-0.00054  | Slew =12.01                               | 3R3 | 4  | 0  | :   | 4.666,506:30:0 |
| 736  | 98 | 269 | 00:32:54.066 | 117GD105A106A4I  | 7STRP   | -0.03101,0.0,0.0  | Slew = 0.37                               | 3R3 | 4  | 0  | :   | 4.666,506:46:0 |
| 737  | 98 | 269 | 00:34:22.066 | 117GD105A106A4J  | 7STRP   | 0.00027,-0.00054  | Slew =12.01                               | 3R3 | 4  | 0  | :   | 4.666,507:87:0 |
| 738  | 98 | 269 | 00:34:32.733 | 117GD105A106A4K  | 7STRP   | -0.03101,0.0,0.0  | Slew = 0.37                               | 3R3 | 4  | 0  | :   | 4.666,508:12:0 |
| 739  | 98 | 269 | 00:36:00.733 | 117GD105A106A4L  | 7STRP   | 0.00027,-0.00054  | Slew =12.01                               | 3R3 | 4  | 0  | :   | 4.666,509:53:0 |
| 740  | 98 | 269 | 00:36:11.400 | 117GD105A106A4M  | 7STRP   | -0.03101,0.0,0.0  | Slew = 0.37                               | 3R3 | 4  | 0  | :   | 4.666,509:69:0 |
| 741  | 98 | 269 | 00:37:39.400 | 117GD105A106A4N  | 7STRP   | 0.00027,-0.00054  | Slew =12.01                               | 3R3 | 4  | 0  | :   | 4.666,511:19:0 |
| 742  | 98 | 269 | 00:37:50.066 | 117GD105A106A4O  | 7STRP   | -0.03101,0.0,0.0  | Slew = 0.37                               | 3R3 | 4  | 0  | :   | 4.666,511:35:0 |
| 743  | 98 | 269 | 00:37:53.400 |                  | DMS:    | :*E4-DELAY        | RDY, TRACK 1, FWD, TIC 5922.17 +/-        | 3R3 | 4  | 0  | :   | 4.666,511:40:0 |
| 744  | 98 | 269 | 00:37:53.400 | 50ZZ6XX          | 6DMSC   | R7,0              | DMS Control Tape runup 7.68kps            | 3R3 | 4  | 0  | :   | 4.666,511:40:0 |
| 745  | 98 | 269 | 00:38:00.066 |                  | DMS:    | :*RUNUP           | R7, TRACK 1, FWD, TIC 5922.17 +/-         | 3R3 | 4  | 0  | :   | 4.666,511:50:0 |
| 746  | 98 | 269 | 00:38:01.466 |                  | DMS:    | :*AT SPD          | R7, TRACK 1, FWD, TIC *5922.29 +/-        | 3R3 | 4  | 0  | :   | 4.666,511:52:1 |
| 747  | 98 | 269 | 00:38:18.733 |                  | DMS:    | :*RECORD          | R7, TRACK 1, FWD, TIC *5926.33 +/-        | 3R3 | 4  | 0  | :   | 4.666,511:78:0 |
| 748  | 98 | 269 | 00:38:41.400 |                  | DMS:    | :*RUNDOWN         | R7, TRACK 1, FWD, TIC *5931.65 +/-        | 3R3 | 4  | 0  | :   | 4.666,512:21:0 |
| 749  | 98 | 269 | 00:38:41.400 | 50ZZ6RD          | 6DMSC   | RDY,0             | DMS Control Tape stop                     | 3R3 | 4  | 0  | :   | 4.666,512:21:0 |
| 750  | 98 | 269 | 00:38:42.600 |                  | DMS:    | :*READY           | RDY, TRACK 1, FWD, TIC *5931.71 +/-       | 3R3 | 4  | 0  | :   | 4.666,512:22:8 |
| 751  | 98 | 269 | 00:39:18.066 | 117GD105A106A4P  | 7STRP   | 0.00027,-0.00054  | Slew =12.01                               | 3R3 | 4  | 0  | :   | 4.666,512:76:0 |
| 752  | 98 | 269 | 00:39:28.733 | 117GD105A106A4Q  | 7STRP   | -0.03101,0.0,0.0  | Slew = 0.37                               | 3R3 | 4  | 0  | :   | 4.666,513:01:0 |
| 753  | 98 | 269 | 00:40:56.733 | 117GD105A106A4R  | 7STRP   | 0.00027,-0.00054  | Slew =12.01                               | 3R3 | 4  | 0  | :   | 4.666,514:42:0 |
| 754  | 98 | 269 | 00:41:07.400 | 117GD105A106A4S  | 7STRP   | -0.03101,0.0,0.0  | Slew = 0.37                               | 3R3 | 4  | 0  | :   | 4.666,514:58:0 |
| 755  | 98 | 269 | 00:42:35.400 | 117GD105A106A4T  | 7STRP   | 0.00027,-0.00054  | Slew =12.01                               | 3R3 | 4  | 0  | :   | 4.666,516:08:0 |
| 756  | 98 | 269 | 00:42:46.066 | 117GD105A106A4U  | 7STRP   | -0.03101,0.0,0.0  | Slew = 0.37                               | 3R3 | 4  | 0  | :   | 4.666,516:24:0 |
| 757  | 98 | 269 | 00:44:14.066 | 117GD105A106A4V  | 7STRP   | 0.00027,-0.00054  | Slew =12.01                               | 3R3 | 4  | 0  | :   | 4.666,517:65:0 |
| 758  | 98 | 269 | 00:44:22.733 | 117GD105A106A4W  | 7STRP   | -0.03101,0.0,0.0  | Slew = 0.37                               | 3R3 | 4  | 0  | :   | 4.666,517:81:0 |
| 759  | 98 | 269 | 00:45:52.733 | 117GD105A106A4X  | 7STRP   | 0.00027,-0.00054  | Slew =12.01                               | 3R3 | 4  | 0  | :   | 4.666,519:31:0 |
| 760  | 98 | 269 | 00:46:03.400 | 117GD105A106A4Y  | 7STRP   | -0.03101,0.0,0.0  | Slew = 0.37                               | 3R3 | 4  | 0  | :   | 4.666,519:47:0 |
| 761  | 98 | 269 | 00:47:31.400 | 117GD105A106A4Z  | 7STRP   | 0.00027,-0.00054  | Slew =12.01                               | 3R3 | 4  | 0  | :   | 4.666,520:88:0 |
| 762  | 98 | 269 | 00:47:42.066 | 117GD105A106A4AA | 7STRP   | -0.03101,0.0,0.0  | Slew = 0.37                               | 3R3 | 4  | 0  | :   | 4.666,521:13:0 |
| 763  | 98 | 269 | 00:49:10.066 | 117GD105A106A4AB | 7STRP   | 0.00027,-0.00054  | Slew =12.01                               | 3R3 | 4  | 0  | :   | 4.666,522:54:0 |
| 764  | 98 | 269 | 00:49:20.733 | 117GD105A106A4AC | 7STRP   | -0.03101,0.0,0.0  | Slew = 0.37                               | 3R3 | 4  | 0  | :   | 4.666,522:70:0 |
| 765  | 98 | 269 | 00:50:48.733 | 117GD105A106A4AD | 7STRP   | 0.00027,-0.00054  | Slew =12.01                               | 3R3 | 4  | 0  | :   | 4.666,524:20:0 |
| 766  | 98 | 269 | 00:50:55.400 | 50ZZ6XX          | 6DMSC   | R7,0              | DMS Control Tape runup 7.68kps            | 3R3 | 4  | 0  | :   | 4.666,524:30:0 |
| 767  | 98 | 269 | 00:50:55.400 |                  | DMS:    | :*E4-DELAY        | RDY, TRACK 1, FWD, TIC 5931.71 +/-        | 3R3 | 4  | 0  | :   | 4.666,524:30:0 |
| 768  | 98 | 269 | 00:50:59.400 | 117GD105A106A4AE | 7STRP   | -0.03101,0.0,0.0  | Slew = 0.37                               | 3R3 | 4  | 0  | :   | 4.666,524:36:0 |

| Line | YR | DOY | SCET - GMT   | PSID             | Command | Parameters       | Description                               | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|------------------|---------|------------------|---|-----|----|----|----------------|------|
| 769  | 98 | 269 | 00:51:02.066 |                  | DMS:    | :*RUNUP          | R7, TRACK 1, FWD, TIC 5931.71 +/-         | 3R3 | 4  | 0  | 4,666,524:40:1 |      |
| 770  | 98 | 269 | 00:51:03.466 |                  | DMS:    | :*AT SPD         | R7, TRACK 1, FWD, TIC *5931.83 +/-        | 3R3 | 4  | 0  | 4,666,524:42:1 |      |
| 771  | 98 | 269 | 00:51:20.733 |                  | DMS:    | :*RECORD         | R7, TRACK 1, FWD, TIC *5935.87 +/-        | 3R3 | 4  | 0  | 4,666,524:68:0 |      |
| 772  | 98 | 269 | 00:51:43.400 | 50ZZ6RE          | 6DMSC   | RDY,0            | DMS Control Tape stop                     | 3R3 | 4  | 0  | 4,666,525:11:0 |      |
| 773  | 98 | 269 | 00:51:43.400 |                  | DMS:    | :*RUNDOWN        | R7, TRACK 1, FWD, TIC *5941.19 +/-        | 3R3 | 4  | 0  | 4,666,525:11:0 |      |
| 774  | 98 | 269 | 00:51:44.600 |                  | DMS:    | :*READY          | R7, TRACK 1, FWD, TIC *5941.25 +/- 1      | 3R3 | 4  | 0  | 4,666,525:12:8 |      |
| 775  | 98 | 269 | 00:52:27.400 | 117GD105A106A4AF | 7STRP   | 0.00027,-0.00054 | Slew =12.01                               | 3R3 | 4  | 0  | 4,666,525:77:0 |      |
| 776  | 98 | 269 | 00:52:38.066 | 117GD105A106A4AG | 7STRP   | -0.03101,0.0,0.0 | Slew = 0.37                               | 3R3 | 4  | 0  | 4,666,526:02:0 |      |
| 777  | 98 | 269 | 00:54:06.066 | 117GD105A106A4AH | 7STRP   | 0.00027,-0.00054 | Slew =12.01                               | 3R3 | 4  | 0  | 4,666,527:43:0 |      |
| 778  | 98 | 269 | 00:54:16.733 | 117GD105A106A4AJ | 7STRP   | -0.03101,0.0,0.0 | Slew = 0.37                               | 3R3 | 4  | 0  | 4,666,527:59:0 |      |
| 779  | 98 | 269 | 00:55:44.733 | 117GD105A106A4AK | 7STRP   | 0.00027,-0.00054 | Slew =12.01                               | 3R3 | 4  | 0  | 4,666,529:09:0 |      |
| 780  | 98 | 269 | 00:55:55.400 | 117GD105A106A4AL | 7STRP   | -0.03101,0.0,0.0 | Slew = 0.37                               | 3R3 | 4  | 0  | 4,666,529:25:0 |      |
| 781  | 98 | 269 | 00:57:23.400 | 117GD105A106A4AM | 7STRP   | 0.00027,-0.00054 | Slew =12.01                               | 3R3 | 4  | 0  | 4,666,530:66:0 |      |
| 782  | 98 | 269 | 00:57:34.066 | 117GD105A106A4AN | 7STRP   | -0.03101,0.0,0.0 | Slew = 0.37                               | 3R3 | 4  | 0  | 4,666,530:82:0 |      |
| 783  | 98 | 269 | 00:59:02.066 | 117GD105A106A4AO | 7STRP   | 0.00027,-0.00054 | Slew =12.01                               | 3R3 | 4  | 0  | 4,666,532:32:0 |      |
| 784  | 98 | 269 | 00:59:12.733 | 117GD105A106A4AP | 7STRP   | -0.03101,0.0,0.0 | Slew = 0.37                               | 3R3 | 4  | 0  | 4,666,532:48:0 |      |
| 785  | 98 | 269 | 01:00:40.733 | 117GD105A106A4AQ | 7STRP   | 0.00027,-0.00054 | Slew =12.01                               | 3R3 | 4  | 0  | 4,666,533:89:0 |      |
| 786  | 98 | 269 | 01:00:51.400 | 117GD105A106A4AR | 7STRP   | -0.03101,0.0,0.0 | Slew = 0.37                               | 3R3 | 4  | 0  | 4,666,534:14:0 |      |
| 787  | 98 | 269 | 01:02:19.400 | 117GD105A106A4AS | 7STRP   | 0.00027,-0.00054 | Slew =12.01                               | 3R3 | 4  | 0  | 4,666,535:55:0 |      |
| 788  | 98 | 269 | 01:02:30.066 | 117GD105A106A4AT | 7STRP   | -0.03101,0.0,0.0 | Slew = 0.37                               | 3R3 | 4  | 0  | 4,666,535:71:0 |      |
| 789  | 98 | 269 | 01:03:57.400 |                  | DMS:    | :*E4-DELAY       | R7, TRACK 1, FWD, TIC 5941.25 +/- 1       | 3R3 | 4  | 0  | 4,666,537:20:0 |      |
| 790  | 98 | 269 | 01:03:57.400 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps            | 3R3 | 4  | 0  | 4,666,537:20:0 |      |
| 791  | 98 | 269 | 01:03:58.066 | 117GD105A106A4AU | 7STRP   | 0.00027,-0.00054 | Slew =12.01                               | 3R3 | 4  | 0  | 4,666,537:21:0 |      |
| 792  | 98 | 269 | 01:04:04.066 |                  | DMS:    | :*RUNUP          | R7, TRACK 1, FWD, TIC 5941.25 +/- 1       | 3R3 | 4  | 0  | 4,666,537:30:0 |      |
| 793  | 98 | 269 | 01:04:05.466 |                  | DMS:    | :*AT SPD         | R7, TRACK 1, FWD, TIC *5941.37 +/- 1      | 3R3 | 4  | 0  | 4,666,537:32:1 |      |
| 794  | 98 | 269 | 01:04:08.733 | 117GD105A106A4AV | 7STRP   | -0.03101,0.0,0.0 | Slew = 0.37                               | 3R3 | 4  | 0  | 4,666,537:37:0 |      |
| 795  | 98 | 269 | 01:04:22.733 |                  | DMS:    | :*RECORD         | R7, TRACK 1, FWD, TIC *5945.41 +/- 1      | 3R3 | 4  | 0  | 4,666,537:58:0 |      |
| 796  | 98 | 269 | 01:04:45.400 | 50ZZ6RD          | 6DMSC   | RDY,0            | DMS Control Tape stop                     | 3R3 | 4  | 0  | 4,666,538:01:0 |      |
| 797  | 98 | 269 | 01:04:45.400 |                  | DMS:    | :*RUNDOWN        | R7, TRACK 1, FWD, TIC *5950.72 +/- 1      | 3R3 | 4  | 0  | 4,666,538:01:0 |      |
| 798  | 98 | 269 | 01:04:46.600 |                  | DMS:    | :*READY          | R7, TRACK 1, FWD, TIC *5950.78 +/- 1      | 3R3 | 4  | 0  | 4,666,538:02:8 |      |
| 799  | 98 | 269 | 01:05:36.733 | 117GD105A106A4AW | 7STRP   | 0.00027,-0.00054 | Slew =12.01                               | 3R3 | 4  | 0  | 4,666,538:78:0 |      |
| 800  | 98 | 269 | 01:05:47.400 | 117GD105A106A4AX | 7STRP   | -0.03101,0.0,0.0 | Slew = 0.37                               | 3R3 | 4  | 0  | 4,666,539:03:0 |      |
| 801  | 98 | 269 | 01:07:15.400 | 117GD105A106A4AY | 7STRP   | 0.00027,-0.00054 | Slew =12.01                               | 3R3 | 4  | 0  | 4,666,540:44:0 |      |
| 802  | 98 | 269 | 01:07:26.066 | 117GD105A106A4AZ | 7STRP   | -0.03101,0.0,0.0 | Slew = 0.37                               | 3R3 | 4  | 0  | 4,666,540:60:0 |      |
| 803  | 98 | 269 | 01:08:54.066 | 117GD105A106A4BA | 7STRP   | 0.00027,-0.00054 | Slew =12.01                               | 3R3 | 4  | 0  | 4,666,542:10:0 |      |
| 804  | 98 | 269 | 01:09:04.733 | 117GD105A106A4BB | 7STRP   | -0.03101,0.0,0.0 | Slew = 0.37                               | 3R3 | 4  | 0  | 4,666,542:26:0 |      |
| 805  | 98 | 269 | 01:10:32.733 | 117GD105A106A4BC | 7STRP   | 0.00027,-0.00054 | Slew =12.01                               | 3R3 | 4  | 0  | 4,666,543:67:0 |      |
| 806  | 98 | 269 | 01:10:43.400 | 117GD105A106A4BD | 7STRP   | -0.03101,0.0,0.0 | Slew = 0.37                               | 3R3 | 4  | 0  | 4,666,543:83:0 |      |
| 807  | 98 | 269 | 01:12:11.400 | 117GD105A106A4BE | 7STRP   | 0.00027,-0.00054 | Slew =12.01                               | 3R3 | 4  | 0  | 4,666,545:33:0 |      |
| 808  | 98 | 269 | 01:12:22.066 | 117GD105A106A4BF | 7STRP   | -0.03101,0.0,0.0 | Slew = 0.37                               | 3R3 | 4  | 0  | 4,666,545:49:0 |      |
| 809  | 98 | 269 | 01:13:50.066 | 117GD11A         | CSMOS   | GE               | **** GROUP END CSMOS                      | 3R3 | 4  | 0  | 4,666,546:90:0 |      |
| 810  | 98 | 269 | 01:14:51.400 | 176GE6B          | 6TMREC  | NRC              | NO RECORD Record Mode Change              | 3R3 | 4  | 0  | 4,666,548:00:0 |      |
| 811  | 98 | 269 | 01:14:53.400 |                  | DMS:    | :*E4-DELAY       | R7, TRACK 1, FWD, TIC 5950.78 +/- 1       | 3R3 | 4  | 0  | 4,666,548:03:0 |      |
| 812  | 98 | 269 | 01:14:53.400 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps            | 3R3 | 4  | 0  | 4,666,548:03:0 |      |
| 813  | 98 | 269 | 01:15:00.066 |                  | DMS:    | :*RUNUP          | R7, TRACK 1, FWD, TIC 5950.78 +/- 1       | 3R3 | 4  | 0  | 4,666,548:13:0 |      |
| 814  | 98 | 269 | 01:15:01.466 |                  | DMS:    | :*AT SPD         | R7, TRACK 1, FWD, TIC *5950.90 +/- 1      | 3R3 | 4  | 0  | 4,666,548:15:1 |      |
| 815  | 98 | 269 | 01:15:03.400 |                  | DMS:    | :*RECORD         | R7, TRACK 1, FWD, TIC *5951.36 +/- 1      | 3R3 | 4  | 0  | 4,666,548:18:0 |      |
| 816  | 98 | 269 | 01:15:22.733 | 50ZZ6RE          | 6DMSC   | RDY,0            | R7, TRACK 1, FWD, TIC *5955.89 +/- 1      | 3R3 | 4  | 0  | 4,666,548:47:0 |      |
| 817  | 98 | 269 | 01:15:22.733 |                  | DMS:    | :*RUNDOWN        | DMS Control Tape stop                     | 3R3 | 4  | 0  | 4,666,548:47:0 |      |
| 818  | 98 | 269 | 01:15:23.933 |                  | DMS:    | :*READY          | R7, TRACK 1, FWD, TIC *5955.95 +/- 1      | 3R3 | 4  | 0  | 4,666,548:48:8 |      |
| 819  | 98 | 269 | 01:15:51.400 | 165GI4A          | 7SCAN   | NORM,277.314999, | Check S/P Position                        | 3R3 | 4  | 0  | 4,666,548:90:0 |      |
| 820  | 98 | 269 | 01:15:52.066 | 176GM6A          | 6TMREC  | BPT              | 7.68 KBPS PPR BURST TO TAPE Record Mode C | 3R3 | 4  | 0  | 4,666,549:00:0 |      |
| 821  | 98 | 269 | 01:16:43.400 | 117GI            | CSMOS   | GS               | **** GROUP START CSMOS                    | 3R3 | 4  | 0  | 4,666,549:77:0 |      |
| 822  | 98 | 269 | 01:16:52.733 | 117GI105A106A4A  | 7STRP   | 0.024005,0.0,0.0 | Slew = 0.61                               | 3R3 | 4  | 0  | 4,666,550:00:0 |      |
| 823  | 98 | 269 | 01:17:36.066 | 117GI105A106A4B  | 7STRP   | 0.0004,-0.0006,0 | Slew =12.01                               | 3R3 | 4  | 0  | 4,666,550:65:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID            | Command | Parameters       | Description                           | GCM | GO | GS | RIM       | MF I  |
|------|----|-----|--------------|-----------------|---------|------------------|---------------------------------------|-----|----|----|-----------|-------|
| 824  | 98 | 269 | 01:17:46.066 | 117G105A106A4C  | 7STRP   | 0.024005,0.0,0.0 | Slew = 0.61                           | 3R3 | 4  | 0  | 4,666,550 | 80:0  |
| 825  | 98 | 269 | 01:18:29.400 | 117G105A106A4D  | 7STRP   | 0.0004,-0.0006,0 | Slew = 12.01                          | 3R3 | 4  | 0  | 4,666,551 | :54:0 |
| 826  | 98 | 269 | 01:18:39.400 | 117G105A106A4E  | 7STRP   | 0.024005,0.0,0.0 | Slew = 0.61                           | 3R3 | 4  | 0  | 4,666,551 | :69:0 |
| 827  | 98 | 269 | 01:19:22.733 | 117G105A106A4F  | 7STRP   | 0.0004,-0.0006,0 | Slew = 12.01                          | 3R3 | 4  | 0  | 4,666,552 | :43:0 |
| 828  | 98 | 269 | 01:19:32.733 | 117G105A106A4G  | 7STRP   | 0.024005,0.0,0.0 | Slew = 0.61                           | 3R3 | 4  | 0  | 4,666,552 | :58:0 |
| 829  | 98 | 269 | 01:20:16.066 | 117G105A106A4H  | 7STRP   | 0.0004,-0.0006,0 | Slew = 12.01                          | 3R3 | 4  | 0  | 4,666,553 | :32:0 |
| 830  | 98 | 269 | 01:20:26.066 | 117G105A106A4I  | 7STRP   | 0.024005,0.0,0.0 | Slew = 0.61                           | 3R3 | 4  | 0  | 4,666,553 | :47:0 |
| 831  | 98 | 269 | 01:21:09.400 | 117G105A106A4J  | 7STRP   | 0.0004,-0.0006,0 | Slew = 12.01                          | 3R3 | 4  | 0  | 4,666,554 | :21:0 |
| 832  | 98 | 269 | 01:21:19.400 | 117G105A106A4K  | 7STRP   | 0.024005,0.0,0.0 | Slew = 0.61                           | 3R3 | 4  | 0  | 4,666,554 | :36:0 |
| 833  | 98 | 269 | 01:22:02.733 | 117G105A106A4L  | 7STRP   | 0.0004,-0.0006,0 | Slew = 12.01                          | 3R3 | 4  | 0  | 4,666,555 | :10:0 |
| 834  | 98 | 269 | 01:22:12.733 | 117G105A106A4M  | 7STRP   | 0.024005,0.0,0.0 | Slew = 0.61                           | 3R3 | 4  | 0  | 4,666,555 | :25:0 |
| 835  | 98 | 269 | 01:22:56.066 | 117G105A106A4N  | 7STRP   | 0.0035,-0.039022 | Slew = 12.01                          | 3R3 | 4  | 0  | 4,666,555 | :90:0 |
| 836  | 98 | 269 | 01:23:09.400 | 117G105A106B4B  | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.61                           | 3R3 | 4  | 0  | 4,666,556 | :19:0 |
| 837  | 98 | 269 | 01:23:50.733 | 117G105A106C4A  | 7STRP   | 0.0001,-0.0005,0 | Slew = 12.01                          | 3R3 | 4  | 0  | 4,666,556 | :81:0 |
| 838  | 98 | 269 | 01:24:01.400 | 117G105A106C4B  | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.61                           | 3R3 | 4  | 0  | 4,666,557 | :06:0 |
| 839  | 98 | 269 | 01:24:42.733 | 117G105A106C4C  | 7STRP   | 0.0001,-0.0005,0 | Slew = 12.01                          | 3R3 | 4  | 0  | 4,666,557 | :68:0 |
| 840  | 98 | 269 | 01:24:53.400 | 117G105A106C4D  | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.61                           | 3R3 | 4  | 0  | 4,666,557 | :84:0 |
| 841  | 98 | 269 | 01:25:34.733 | 117G105A106C4E  | 7STRP   | 0.0001,-0.0005,0 | Slew = 12.01                          | 3R3 | 4  | 0  | 4,666,558 | :55:0 |
| 842  | 98 | 269 | 01:25:45.400 | 117G105A106C4F  | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.61                           | 3R3 | 4  | 0  | 4,666,558 | :71:0 |
| 843  | 98 | 269 | 01:26:26.733 | 117G105A106C4G  | 7STRP   | 0.0001,-0.0005,0 | Slew = 12.01                          | 3R3 | 4  | 0  | 4,666,559 | :42:0 |
| 844  | 98 | 269 | 01:26:37.400 | 117G105A106C4H  | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.61                           | 3R3 | 4  | 0  | 4,666,559 | :58:0 |
| 845  | 98 | 269 | 01:27:18.733 | 117G105A106C4I  | 7STRP   | 0.0001,-0.0005,0 | Slew = 12.01                          | 3R3 | 4  | 0  | 4,666,560 | :29:0 |
| 846  | 98 | 269 | 01:27:29.400 | 117G105A106C4J  | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.61                           | 3R3 | 4  | 0  | 4,666,560 | :45:0 |
| 847  | 98 | 269 | 01:28:10.733 | 117G105A106C4K  | 7STRP   | 0.0001,-0.0005,0 | Slew = 12.01                          | 3R3 | 4  | 0  | 4,666,561 | :16:0 |
| 848  | 98 | 269 | 01:28:21.400 | 117G105A106C4L  | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.61                           | 3R3 | 4  | 0  | 4,666,561 | :32:0 |
| 849  | 98 | 269 | 01:28:26.733 |                 | DMS:    | : *E4-DELAY      | RDY, TRACK 1, FWD, TIC 5955.95 +/- 1  | 3R3 | 4  | 0  | 4,666,561 | :40:0 |
| 850  | 98 | 269 | 01:28:26.733 | 50ZZ6XX         | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps        | 3R3 | 4  | 0  | 4,666,561 | :40:0 |
| 851  | 98 | 269 | 01:28:33.400 |                 | DMS:    | : *RUNUP         | R7, TRACK 1, FWD, TIC 5955.95 +/- 1   | 3R3 | 4  | 0  | 4,666,561 | :50:0 |
| 852  | 98 | 269 | 01:28:34.800 |                 | DMS:    | : *AT_SPD        | R7, TRACK 1, FWD, TIC *5956.07 +/- 1  | 3R3 | 4  | 0  | 4,666,561 | :52:1 |
| 853  | 98 | 269 | 01:28:52.066 |                 | DMS:    | : *RECORD        | R7, TRACK 1, FWD, TIC *5960.12 +/- 1  | 3R3 | 4  | 0  | 4,666,561 | :78:0 |
| 854  | 98 | 269 | 01:29:02.733 | 117G105A106C4M  | 7STRP   | 0.0001,-0.0005,0 | Slew = 12.01                          | 3R3 | 4  | 0  | 4,666,562 | :03:0 |
| 855  | 98 | 269 | 01:29:13.400 | 117G105A106C4N  | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.61                           | 3R3 | 4  | 0  | 4,666,562 | :19:0 |
| 856  | 98 | 269 | 01:29:14.733 |                 | DMS:    | : *RUNDOWN       | R7, TRACK 1, FWD, TIC *5965.43 +/- 1  | 3R3 | 4  | 0  | 4,666,562 | :21:0 |
| 857  | 98 | 269 | 01:29:14.733 | 50ZZ6RD         | 6DMSC   | RDY,0            | DMS Control Tape stop                 | 3R3 | 4  | 0  | 4,666,562 | :21:0 |
| 858  | 98 | 269 | 01:29:15.933 |                 | DMS:    | : *READY         | RDY, TRACK 1, FWD, TIC *5965.49 +/- 1 | 3R3 | 4  | 0  | 4,666,562 | :22:8 |
| 859  | 98 | 269 | 01:29:54.733 | 117G105A106C4O  | 7STRP   | 0.0001,-0.0005,0 | Slew = 12.01                          | 3R3 | 4  | 0  | 4,666,563 | :06:0 |
| 860  | 98 | 269 | 01:30:05.400 | 117G105A106C4P  | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.61                           | 3R3 | 4  | 0  | 4,666,563 | :06:0 |
| 861  | 98 | 269 | 01:30:46.733 | 117G105A106C4Q  | 7STRP   | 0.0001,-0.0005,0 | Slew = 12.01                          | 3R3 | 4  | 0  | 4,666,563 | :68:0 |
| 862  | 98 | 269 | 01:30:57.400 | 117G105A106C4R  | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.61                           | 3R3 | 4  | 0  | 4,666,563 | :84:0 |
| 863  | 98 | 269 | 01:31:38.733 | 117G105A106C4S  | 7STRP   | 0.0001,-0.0005,0 | Slew = 12.01                          | 3R3 | 4  | 0  | 4,666,564 | :55:0 |
| 864  | 98 | 269 | 01:31:49.400 | 117G105A106C4T  | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.61                           | 3R3 | 4  | 0  | 4,666,564 | :71:0 |
| 865  | 98 | 269 | 01:32:30.733 | 117G105A106C4U  | 7STRP   | 0.0001,-0.0005,0 | Slew = 12.01                          | 3R3 | 4  | 0  | 4,666,565 | :42:0 |
| 866  | 98 | 269 | 01:32:41.400 | 117G105A106C4V  | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.61                           | 3R3 | 4  | 0  | 4,666,565 | :58:0 |
| 867  | 98 | 269 | 01:33:22.733 | 117G105A106C4W  | 7STRP   | 0.0001,-0.0005,0 | Slew = 12.01                          | 3R3 | 4  | 0  | 4,666,566 | :29:0 |
| 868  | 98 | 269 | 01:33:33.400 | 117G105A106C4X  | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.61                           | 3R3 | 4  | 0  | 4,666,566 | :45:0 |
| 869  | 98 | 269 | 01:34:14.733 | 117G105A106C4Y  | 7STRP   | 0.0001,-0.0005,0 | Slew = 12.01                          | 3R3 | 4  | 0  | 4,666,567 | :16:0 |
| 870  | 98 | 269 | 01:34:25.400 | 117G105A106C4Z  | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.61                           | 3R3 | 4  | 0  | 4,666,567 | :32:0 |
| 871  | 98 | 269 | 01:35:06.733 | 117G105A106C4AA | 7STRP   | 0.0001,-0.0005,0 | Slew = 12.01                          | 3R3 | 4  | 0  | 4,666,568 | :03:0 |
| 872  | 98 | 269 | 01:35:17.400 | 117G105A106C4AB | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.61                           | 3R3 | 4  | 0  | 4,666,568 | :19:0 |
| 873  | 98 | 269 | 01:35:58.733 | 117G105A106C4AC | 7STRP   | 0.0001,-0.0005,0 | Slew = 12.01                          | 3R3 | 4  | 0  | 4,666,568 | :81:0 |
| 874  | 98 | 269 | 01:36:09.400 | 117G105A106C4AD | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.61                           | 3R3 | 4  | 0  | 4,666,569 | :06:0 |
| 875  | 98 | 269 | 01:36:50.733 | 117G105A106C4AE | 7STRP   | 0.0001,-0.0005,0 | Slew = 12.01                          | 3R3 | 4  | 0  | 4,666,569 | :68:0 |
| 876  | 98 | 269 | 01:37:01.400 | 117G105A106C4AF | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.61                           | 3R3 | 4  | 0  | 4,666,569 | :84:0 |
| 877  | 98 | 269 | 01:37:19.400 | 488AD6A         | 6TMSGD  | NORM,EL4         | Sci. Eng. and D/L Chan                | 3R3 | 4  | 0  | 4,666,570 | :20:0 |
| 878  | 98 | 269 | 01:37:42.733 | 117G111A        | CSMOS   | GE               | ***** GROUP END CSMOS                 | 3R3 | 4  | 0  | 4,666,570 | :55:0 |

| Line | YR | DOY | SCET - GMT   | PSID             | Command | Parameters       | Description                               | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|------------------|---------|------------------|---|-----|----|----|----------------|------|
| 879  | 98 | 269 | 01:39:07.400 | 176GM6B          | 6TMREC  |                  | NO RECORD Record Mode Change              | 3R3 | 4  | 0  | 4,666,572:00:0 |      |
| 880  | 98 | 269 | 01:39:09.400 |                  | DMS:    | : *E4-DELAY      | RDY, TRACK 1, FWD, TIC 5965.49 +/- 1      | 3R3 | 4  | 0  | 4,666,572:03:0 |      |
| 881  | 98 | 269 | 01:39:09.400 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps            | 3R3 | 4  | 0  | 4,666,572:03:0 |      |
| 882  | 98 | 269 | 01:39:16.066 |                  | DMS:    | : *RUNUP         | R7, TRACK 1, FWD, TIC 5965.49 +/- 1       | 3R3 | 4  | 0  | 4,666,572:13:0 |      |
| 883  | 98 | 269 | 01:39:17.466 |                  | DMS:    | : *AT SPD        | R7, TRACK 1, FWD, TIC *5965.61 +/- 1      | 3R3 | 4  | 0  | 4,666,572:15:1 |      |
| 884  | 98 | 269 | 01:39:19.400 |                  | DMS:    | : *RECORD        | R7, TRACK 1, FWD, TIC *5966.06 +/- 1      | 3R3 | 4  | 0  | 4,666,572:18:0 |      |
| 885  | 98 | 269 | 01:39:38.733 |                  | DMS:    | : *RUNDOWN       | R7, TRACK 1, FWD, TIC *5970.59 +/- 1      | 3R3 | 4  | 0  | 4,666,572:47:0 |      |
| 886  | 98 | 269 | 01:39:38.733 | 50ZZ6RE          | 6DMSC   | RDY,0            | DMS Control Tape stop                     | 3R3 | 4  | 0  | 4,666,572:47:0 |      |
| 887  | 98 | 269 | 01:39:39.933 |                  | DMS:    | : *READY         | RDY, TRACK 1, FWD, TIC *5970.65 +/- 1     | 3R3 | 4  | 0  | 4,666,572:48:8 |      |
| 888  | 98 | 269 | 01:40:08.066 | 465KB6A          | 6DMSC   | RDY,2            | DMS Control Tape stop                     | 3R3 | 4  | 0  | 4,666,573:00:0 |      |
| 889  | 98 | 269 | 01:40:08.066 |                  | DMS:    | : READY          | RDY, TRACK *2, *REV, TIC 5970.65 +/- 1    | 3R3 | 4  | 0  | 4,666,573:00:0 |      |
| 890  | 98 | 269 | 01:42:08.733 | 165GE4A          | 7SCAN   | NORM,278.23,-18. | Check S/P Position                        | 3R3 | 4  | 0  | 4,666,574:90:0 |      |
| 891  | 98 | 269 | 01:42:09.400 | 176GF6A          | 6TMREC  | BPT              | 7.68 KBPS PPR BURST TO TAPE Record Mode C | 3R3 | 4  | 0  | 4,666,575:00:0 |      |
| 892  | 98 | 269 | 01:43:00.733 | 117GE            | CSMOS   | GS               | ***** GROUP START CSMOS                   | 3R3 | 4  | 0  | 4,666,575:77:0 |      |
| 893  | 98 | 269 | 01:43:08.733 | 165GE4B          | 7VECT   |                  | Inert vect update UTC                     | 3R3 | 4  | 0  | 4,666,575:89:0 |      |
| 894  | 98 | 269 | 01:43:10.066 | 117GE105A106A4A  | 7STRP   | 0.026006,0.0,0.0 | Slew = 0.61                               | 3R3 | 4  | 0  | 4,666,576:00:0 |      |
| 895  | 98 | 269 | 01:43:56.066 | 117GE105A106A4B  | 7STRP   | 0.00025,-0.0009, | Slew = 12.01                              | 3R3 | 4  | 0  | 4,666,576:69:0 |      |
| 896  | 98 | 269 | 01:44:05.400 | 117GE105A106A4C  | 7STRP   | 0.026006,0.0,0.0 | Slew = 0.61                               | 3R3 | 4  | 0  | 4,666,576:83:0 |      |
| 897  | 98 | 269 | 01:44:51.400 | 117GE105A106A4D  | 7STRP   | 0.00025,-0.0009, | Slew = 12.01                              | 3R3 | 4  | 0  | 4,666,577:61:0 |      |
| 898  | 98 | 269 | 01:45:00.733 | 117GE105A106A4E  | 7STRP   | 0.026006,0.0,0.0 | Slew = 0.61                               | 3R3 | 4  | 0  | 4,666,577:75:0 |      |
| 899  | 98 | 269 | 01:45:46.733 | 117GE105A106A4F  | 7STRP   | 0.00025,-0.0009, | Slew = 12.01                              | 3R3 | 4  | 0  | 4,666,578:53:0 |      |
| 900  | 98 | 269 | 01:45:56.066 | 117GE105A106A4G  | 7STRP   | 0.026006,0.0,0.0 | Slew = 0.61                               | 3R3 | 4  | 0  | 4,666,578:67:0 |      |
| 901  | 98 | 269 | 01:46:42.066 | 117GE105A106A4H  | 7STRP   | 0.00025,-0.0009, | Slew = 12.01                              | 3R3 | 4  | 0  | 4,666,579:45:0 |      |
| 902  | 98 | 269 | 01:46:51.400 | 117GE105A106A4I  | 7STRP   | 0.026006,0.0,0.0 | Slew = 0.61                               | 3R3 | 4  | 0  | 4,666,579:59:0 |      |
| 903  | 98 | 269 | 01:47:37.400 | 117GE105A106A4J  | 7STRP   | 0.00025,-0.0009, | Slew = 12.01                              | 3R3 | 4  | 0  | 4,666,580:37:0 |      |
| 904  | 98 | 269 | 01:47:46.733 | 117GE105A106A4K  | 7STRP   | 0.026006,0.0,0.0 | Slew = 0.61                               | 3R3 | 4  | 0  | 4,666,580:51:0 |      |
| 905  | 98 | 269 | 01:48:32.733 | 117GE105A106A4L  | 7STRP   | 0.00025,-0.0009, | Slew = 12.01                              | 3R3 | 4  | 0  | 4,666,581:29:0 |      |
| 906  | 98 | 269 | 01:48:42.066 | 117GE105A106A4M  | 7STRP   | 0.026006,0.0,0.0 | Slew = 0.61                               | 3R3 | 4  | 0  | 4,666,581:43:0 |      |
| 907  | 98 | 269 | 01:49:28.066 | 117GE105A106A4N  | 7STRP   | 0.00025,-0.0009, | Slew = 12.01                              | 3R3 | 4  | 0  | 4,666,582:21:0 |      |
| 908  | 98 | 269 | 01:49:37.400 | 117GE105A106A4O  | 7STRP   | 0.026006,0.0,0.0 | Slew = 0.61                               | 3R3 | 4  | 0  | 4,666,582:35:0 |      |
| 909  | 98 | 269 | 01:50:23.400 | 117GE105A106A4P  | 7STRP   | 0.00025,-0.0009, | Slew = 12.01                              | 3R3 | 4  | 0  | 4,666,583:13:0 |      |
| 910  | 98 | 269 | 01:50:32.733 | 117GE105A106A4Q  | 7STRP   | 0.026006,0.0,0.0 | Slew = 0.61                               | 3R3 | 4  | 0  | 4,666,583:27:0 |      |
| 911  | 98 | 269 | 01:51:18.733 | 117GE105A106A4R  | 7STRP   | 0.00025,-0.0009, | Slew = 12.01                              | 3R3 | 4  | 0  | 4,666,584:05:0 |      |
| 912  | 98 | 269 | 01:51:28.066 | 117GE105A106A4S  | 7STRP   | 0.026006,0.0,0.0 | Slew = 0.61                               | 3R3 | 4  | 0  | 4,666,584:19:0 |      |
| 913  | 98 | 269 | 01:52:14.066 | 117GE105A106A4T  | 7STRP   | 0.00025,-0.0009, | Slew = 12.01                              | 3R3 | 4  | 0  | 4,666,584:88:0 |      |
| 914  | 98 | 269 | 01:52:15.400 | 488AD6B          | 6TMSED  | NORM,EL5         | Sci, Eng, and D/L Chan                    | 3R3 | 4  | 0  | 4,666,584:90:0 |      |
| 915  | 98 | 269 | 01:52:23.400 | 117GE105A106A4U  | 7STRP   | 0.026006,0.0,0.0 | Slew = 0.61                               | 3R3 | 4  | 0  | 4,666,585:11:0 |      |
| 916  | 98 | 269 | 01:53:09.400 | 117GE105A106A4V  | 7STRP   | 0.00025,-0.0009, | Slew = 12.01                              | 3R3 | 4  | 0  | 4,666,585:80:0 |      |
| 917  | 98 | 269 | 01:53:18.733 | 117GE105A106A4W  | 7STRP   | 0.026006,0.0,0.0 | Slew = 0.61                               | 3R3 | 4  | 0  | 4,666,586:03:0 |      |
| 918  | 98 | 269 | 01:53:20.733 | 488AD6C          | 6TMSED  | NORM,GL5         | Sci, Eng, and D/L Chan                    | 3R3 | 4  | 0  | 4,666,586:06:0 |      |
| 919  | 98 | 269 | 01:53:21.400 | 282NE432A431A6A  | 6RCDSL  | DDSNCG,PLSDSL,EP | Record Deselect (DDS o                    | 3R3 | 4  | 0  | 4,666,586:07:0 |      |
| 920  | 98 | 269 | 01:53:22.066 | 282NE432A6A      | 6RTSL1  |                  | R/T Select of DDS and                     | 3R3 | 4  | 0  | 4,666,586:08:0 |      |
| 921  | 98 | 269 | 01:54:04.733 | 117GE105A106A4X  | 7STRP   | 0.00025,-0.0009, | Slew = 12.01                              | 3R3 | 4  | 0  | 4,666,586:72:0 |      |
| 922  | 98 | 269 | 01:54:14.066 | 117GE105A106A4Y  | 7STRP   | 0.026006,0.0,0.0 | Slew = 0.61                               | 3R3 | 4  | 0  | 4,666,586:86:0 |      |
| 923  | 98 | 269 | 01:54:44.066 |                  | DMS:    | : *US-RUNUP      | P7, TRACK *1, *FWD, TIC 5970.65 +/- 1     | 3R3 | 4  | 0  | 4,666,587:40:0 |      |
| 924  | 98 | 269 | 01:54:44.066 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps            | 3R3 | 4  | 0  | 4,666,587:42:0 |      |
| 925  | 98 | 269 | 01:54:45.466 |                  | DMS:    | : *US AT SP      | P7, TRACK 1, FWD, TIC *5970.77 +/- 1      | 3R3 | 4  | 0  | 4,666,587:41:0 |      |
| 926  | 98 | 269 | 01:54:50.733 |                  | DMS:    | : *US RD         | P7, TRACK 1, FWD, TIC *5972.01 +/- 1      | 3R3 | 4  | 0  | 4,666,587:50:0 |      |
| 927  | 98 | 269 | 01:54:51.933 |                  | DMS:    | : *RUNUP         | R7, TRACK *2, *REV, TIC *5972.07 +/- 1    | 3R3 | 4  | 0  | 4,666,587:51:8 |      |
| 928  | 98 | 269 | 01:54:53.333 |                  | DMS:    | : *AT SPD        | R7, TRACK 2, REV, TIC *5971.95 +/- 1      | 3R3 | 4  | 0  | 4,666,587:53:9 |      |
| 929  | 98 | 269 | 01:55:00.066 | 117GE105A106A4Z  | 7STRP   | 0.00025,-0.0009, | Slew = 12.01                              | 3R3 | 4  | 0  | 4,666,587:64:0 |      |
| 930  | 98 | 269 | 01:55:09.400 |                  | DMS:    | : *RECORD        | R7, TRACK 2, REV, TIC *5968.18 +/- 1      | 3R3 | 4  | 0  | 4,666,587:78:0 |      |
| 931  | 98 | 269 | 01:55:09.400 | 117GE105A106A4AA | 7STRP   | 0.026006,0.0,0.0 | Slew = 0.61                               | 3R3 | 4  | 0  | 4,666,587:78:0 |      |
| 932  | 98 | 269 | 01:55:32.066 |                  | DMS:    | : *RUNDOWN       | R7, TRACK 2, REV, TIC *5962.87 +/- 1      | 3R3 | 4  | 0  | 4,666,588:21:0 |      |
| 933  | 98 | 269 | 01:55:32.066 | 50ZZ6RD          | 6DMSC   | RDY,0            | DMS Control Tape stop                     | 3R3 | 4  | 0  | 4,666,588:21:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID             | Command | Parameters       | Description                            | GCM | GO | GS | RIM       | MF I  |
|------|----|-----|--------------|------------------|---------|------------------|--|-----|----|----|-----------|-------|
| 934  | 98 | 269 | 01:55:33.266 |                  | DMS:    | : *READY         | RDY, TRACK 2, REV, TIC *5962.81 +/- 1  | 3R3 | 4  | 0  | 4,666,588 | :22:8 |
| 935  | 98 | 269 | 01:55:55.400 | 117GE105A106AA4B | 7STRP   | 0.00025,-0.0009, | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,588 | :56:0 |
| 936  | 98 | 269 | 01:56:04.733 | 117GE105A106AA4C | 7STRP   | 0.026006,0.0,0.0 | Slew =0.61                             | 3R3 | 4  | 0  | 4,666,588 | :70:0 |
| 937  | 98 | 269 | 01:56:50.733 | 117GE105A106AA4D | 7STRP   | 0.00025,-0.0009, | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,589 | :48:0 |
| 938  | 98 | 269 | 01:57:00.066 | 117GE105A106AA4E | 7STRP   | 0.026006,0.0,0.0 | Slew =0.61                             | 3R3 | 4  | 0  | 4,666,589 | :62:0 |
| 939  | 98 | 269 | 01:57:46.066 | 117GE105A106B4A  | 7STRP   | 0.0002,-0.0011,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,590 | :40:0 |
| 940  | 98 | 269 | 01:57:55.400 | 117GE105A106B4B  | 7STRP   | 0.033012,0.0,0.0 | Slew =0.61                             | 3R3 | 4  | 0  | 4,666,590 | :54:0 |
| 941  | 98 | 269 | 01:58:53.400 | 117GE105A106B4C  | 7STRP   | 0.0002,-0.0011,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,591 | :50:0 |
| 942  | 98 | 269 | 01:59:02.733 | 117GE105A106B4D  | 7STRP   | 0.033012,0.0,0.0 | Slew =0.61                             | 3R3 | 4  | 0  | 4,666,591 | :64:0 |
| 943  | 98 | 269 | 02:00:00.733 | 117GE105A106B4E  | 7STRP   | 0.0002,-0.0011,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,592 | :60:0 |
| 944  | 98 | 269 | 02:00:10.066 | 117GE105A106B4F  | 7STRP   | 0.033012,0.0,0.0 | Slew =0.61                             | 3R3 | 4  | 0  | 4,666,592 | :74:0 |
| 945  | 98 | 269 | 02:01:08.066 | 117GE105A106B4G  | 7STRP   | 0.0002,-0.0011,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,593 | :70:0 |
| 946  | 98 | 269 | 02:01:17.400 | 117GE105A106B4H  | 7STRP   | 0.033012,0.0,0.0 | Slew =0.61                             | 3R3 | 4  | 0  | 4,666,593 | :84:0 |
| 947  | 98 | 269 | 02:02:15.400 | 117GE105A106B4I  | 7STRP   | 0.0002,-0.0011,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,594 | :80:0 |
| 948  | 98 | 269 | 02:02:24.733 | 117GE105A106B4J  | 7STRP   | 0.033012,0.0,0.0 | Slew =0.61                             | 3R3 | 4  | 0  | 4,666,595 | :03:0 |
| 949  | 98 | 269 | 02:03:22.733 | 117GE105A106B4K  | 7STRP   | 0.0002,-0.0011,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,595 | :90:0 |
| 950  | 98 | 269 | 02:03:32.066 | 117GE105A106B4L  | 7STRP   | 0.033012,0.0,0.0 | Slew =0.61                             | 3R3 | 4  | 0  | 4,666,596 | :13:0 |
| 951  | 98 | 269 | 02:04:30.066 | 117GE105A106B4M  | 7STRP   | 0.0002,-0.0011,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,597 | :09:0 |
| 952  | 98 | 269 | 02:04:39.400 | 117GE105A106B4N  | 7STRP   | 0.033012,0.0,0.0 | Slew =0.61                             | 3R3 | 4  | 0  | 4,666,597 | :23:0 |
| 953  | 98 | 269 | 02:05:37.400 | 117GE105A106B4O  | 7STRP   | 0.0002,-0.0011,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,598 | :19:0 |
| 954  | 98 | 269 | 02:05:46.733 | 117GE105A106B4P  | 7STRP   | 0.033012,0.0,0.0 | Slew =0.61                             | 3R3 | 4  | 0  | 4,666,598 | :33:0 |
| 955  | 98 | 269 | 02:06:44.733 | 117GE105A106B4Q  | 7STRP   | 0.0002,-0.0011,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,599 | :29:0 |
| 956  | 98 | 269 | 02:06:54.066 | 117GE105A106B4R  | 7STRP   | 0.033012,0.0,0.0 | Slew =0.61                             | 3R3 | 4  | 0  | 4,666,599 | :43:0 |
| 957  | 98 | 269 | 02:07:46.066 |                  | DMS:    | : *US-RUNUP      | P7, TRACK *1, *FWD, TIC 5962.81 +/- 1  | 3R3 | 4  | 0  | 4,666,600 | :30:0 |
| 958  | 98 | 269 | 02:07:47.466 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps         | 3R3 | 4  | 0  | 4,666,600 | :30:0 |
| 959  | 98 | 269 | 02:07:47.466 |                  | DMS:    | : *US_AT_SP      | P7, TRACK 1, FWD, TIC *5962.93 +/- 1   | 3R3 | 4  | 0  | 4,666,600 | :32:1 |
| 960  | 98 | 269 | 02:07:52.066 | 117GE105A106B4S  | 7STRP   | 0.0002,-0.0011,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,600 | :39:0 |
| 961  | 98 | 269 | 02:07:52.733 |                  | DMS:    | : *US_RD         | P7, TRACK 1, FWD, TIC *5964.16 +/- 1   | 3R3 | 4  | 0  | 4,666,600 | :40:0 |
| 962  | 98 | 269 | 02:07:53.933 |                  | DMS:    | : *RUNUP         | R7, TRACK *2, *REV, TIC *5964.22 +/- 1 | 3R3 | 4  | 0  | 4,666,600 | :41:8 |
| 963  | 98 | 269 | 02:07:55.333 |                  | DMS:    | : *AT_SPD        | R7, TRACK 2, REV, TIC *5964.10 +/- 1   | 3R3 | 4  | 0  | 4,666,600 | :43:9 |
| 964  | 98 | 269 | 02:08:01.400 | 117GE105A106B4T  | 7STRP   | 0.033012,0.0,0.0 | Slew =0.61                             | 3R3 | 4  | 0  | 4,666,600 | :53:0 |
| 965  | 98 | 269 | 02:08:11.400 |                  | DMS:    | : *RECORD        | R7, TRACK 2, REV, TIC *5960.34 +/- 1   | 3R3 | 4  | 0  | 4,666,600 | :68:0 |
| 966  | 98 | 269 | 02:08:34.066 |                  | DMS:    | : *RUNDOWN       | R7, TRACK 2, REV, TIC *5955.03 +/- 1   | 3R3 | 4  | 0  | 4,666,601 | :11:0 |
| 967  | 98 | 269 | 02:08:34.066 |                  | 6DMSC   | RDY,0            | DMS Control Tape stop                  | 3R3 | 4  | 0  | 4,666,601 | :11:0 |
| 968  | 98 | 269 | 02:08:35.266 | 50ZZ6RE          | DMS:    | : *READY         | RDY, TRACK 2, REV, TIC *5954.97 +/- 1  | 3R3 | 4  | 0  | 4,666,601 | :12:8 |
| 969  | 98 | 269 | 02:08:59.400 | 117GE105A106B4U  | 7STRP   | 0.0002,-0.0011,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,601 | :49:0 |
| 970  | 98 | 269 | 02:09:08.733 | 117GE105A106B4V  | 7STRP   | 0.033012,0.0,0.0 | Slew =0.61                             | 3R3 | 4  | 0  | 4,666,601 | :63:0 |
| 971  | 98 | 269 | 02:10:06.733 | 117GE105A106B4W  | 7STRP   | 0.0002,-0.0011,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,602 | :59:0 |
| 972  | 98 | 269 | 02:10:16.066 | 117GE105A106B4X  | 7STRP   | 0.033012,0.0,0.0 | Slew =0.61                             | 3R3 | 4  | 0  | 4,666,602 | :73:0 |
| 973  | 98 | 269 | 02:11:14.066 | 117GE105A106B4Y  | 7STRP   | 0.0002,-0.0011,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,603 | :69:0 |
| 974  | 98 | 269 | 02:11:23.400 | 117GE105A106B4Z  | 7STRP   | 0.033012,0.0,0.0 | Slew =0.61                             | 3R3 | 4  | 0  | 4,666,603 | :83:0 |
| 975  | 98 | 269 | 02:12:21.400 | 117GE105A106B4AA | 7STRP   | 0.0002,-0.0011,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,604 | :79:0 |
| 976  | 98 | 269 | 02:12:30.733 | 117GE105A106B4AB | 7STRP   | 0.033012,0.0,0.0 | Slew =0.61                             | 3R3 | 4  | 0  | 4,666,605 | :02:0 |
| 977  | 98 | 269 | 02:13:28.733 | 117GE105A106B4AC | 7STRP   | 0.0002,-0.0011,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,605 | :89:0 |
| 978  | 98 | 269 | 02:13:38.066 | 117GE105A106B4AD | 7STRP   | 0.033012,0.0,0.0 | Slew =0.61                             | 3R3 | 4  | 0  | 4,666,606 | :12:0 |
| 979  | 98 | 269 | 02:14:36.066 | 117GE105A106B4AE | 7STRP   | 0.0002,-0.0011,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,607 | :08:0 |
| 980  | 98 | 269 | 02:14:45.400 | 117GE105A106B4AF | 7STRP   | 0.033012,0.0,0.0 | Slew =0.61                             | 3R3 | 4  | 0  | 4,666,607 | :22:0 |
| 981  | 98 | 269 | 02:15:43.400 | 117GE105A106B4AG | 7STRP   | 0.0002,-0.0011,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,608 | :18:0 |
| 982  | 98 | 269 | 02:15:52.733 | 117GE105A106B4AH | 7STRP   | 0.033012,0.0,0.0 | Slew =0.61                             | 3R3 | 4  | 0  | 4,666,608 | :32:0 |
| 983  | 98 | 269 | 02:16:50.733 | 117GE105A106B4AI | 7STRP   | 0.0002,-0.0011,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,609 | :28:0 |
| 984  | 98 | 269 | 02:17:00.066 | 117GE105A106B4AJ | 7STRP   | 0.033012,0.0,0.0 | Slew =0.61                             | 3R3 | 4  | 0  | 4,666,609 | :42:0 |
| 985  | 98 | 269 | 02:17:58.066 | 117GE105A106B4AK | 7STRP   | 0.0002,-0.0011,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,610 | :38:0 |
| 986  | 98 | 269 | 02:18:07.400 | 117GE105A106B4AL | 7STRP   | 0.033012,0.0,0.0 | Slew =0.61                             | 3R3 | 4  | 0  | 4,666,610 | :52:0 |
| 987  | 98 | 269 | 02:19:05.400 | 117GE105A106B4AM | 7STRP   | 0.0002,-0.0011,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,611 | :48:0 |
| 988  | 98 | 269 | 02:19:14.733 | 117GE105A106B4AN | 7STRP   | 0.033012,0.0,0.0 | Slew =0.61                             | 3R3 | 4  | 0  | 4,666,611 | :62:0 |



| Line | YR | DOY | SCET - GMT   | PSID             | Command | Parameters       | Description                            | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|------------------|---------|------------------|--|-----|----|----|----------------|------|
| 989  | 98 | 269 | 02:20:12.733 | 117GE105A106C4A  | 7STRP   | 0.0002,-0.0014,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,612:58:0 |      |
| 990  | 98 | 269 | 02:20:23.400 | 117GE105A106C4B  | 7STRP   | 0.036817,0.0,0.0 | Slew = 0.61                            | 3R3 | 4  | 0  | 4,666,612:74:0 |      |
| 991  | 98 | 269 | 02:20:48.066 |                  | DMS:    | : *US-RUNUP      | P7, TRACK *1, *FWD, TIC *5954.97 +/- 1 | 3R3 | 4  | 0  | 4,666,613:20:0 |      |
| 992  | 98 | 269 | 02:20:48.066 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps         | 3R3 | 4  | 0  | 4,666,613:20:0 |      |
| 993  | 98 | 269 | 02:20:49.466 |                  | DMS:    | : *US_AT_SP      | P7, TRACK 1, FWD, TIC *5955.09 +/- 1   | 3R3 | 4  | 0  | 4,666,613:22:1 |      |
| 994  | 98 | 269 | 02:20:54.733 |                  | DMS:    | : *US_RD         | P7, TRACK 1, FWD, TIC *5956.32 +/- 1   | 3R3 | 4  | 0  | 4,666,613:30:0 |      |
| 995  | 98 | 269 | 02:20:55.933 |                  | DMS:    | : *RUNUP         | R7, TRACK *2, *REV, TIC *5956.38 +/- 1 | 3R3 | 4  | 0  | 4,666,613:31:8 |      |
| 996  | 98 | 269 | 02:20:57.333 |                  | DMS:    | : *AT_SPD        | R7, TRACK 2, REV, TIC *5956.26 +/- 1   | 3R3 | 4  | 0  | 4,666,613:33:9 |      |
| 997  | 98 | 269 | 02:21:13.400 |                  | DMS:    | : *RECORD        | R7, TRACK 2, REV, TIC *5952.49 +/- 1   | 3R3 | 4  | 0  | 4,666,613:58:0 |      |
| 998  | 98 | 269 | 02:21:28.066 | 117GE105A106C4C  | 7STRP   | 0.0002,-0.0014,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,613:80:0 |      |
| 999  | 98 | 269 | 02:21:36.066 |                  | DMS:    | : *RUNDOWN       | R7, TRACK 2, REV, TIC *5947.18 +/- 1   | 3R3 | 4  | 0  | 4,666,614:01:0 |      |
| 1000 | 98 | 269 | 02:21:36.066 | 50ZZ6RD          | 6DMSC   | RDY,0            | DMS Control Tape stop                  | 3R3 | 4  | 0  | 4,666,614:01:0 |      |
| 1001 | 98 | 269 | 02:21:37.266 |                  | DMS:    | : *READY         | RDY, TRACK 2, REV, TIC *5947.12 +/- 1  | 3R3 | 4  | 0  | 4,666,614:02:8 |      |
| 1002 | 98 | 269 | 02:21:38.733 | 117GE105A106C4D  | 7STRP   | 0.036817,0.0,0.0 | Slew = 0.61                            | 3R3 | 4  | 0  | 4,666,614:05:0 |      |
| 1003 | 98 | 269 | 02:22:43.400 | 117GE105A106C4E  | 7STRP   | 0.0002,-0.0014,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,615:11:0 |      |
| 1004 | 98 | 269 | 02:22:54.066 | 117GE105A106C4F  | 7STRP   | 0.036817,0.0,0.0 | Slew = 0.61                            | 3R3 | 4  | 0  | 4,666,615:27:0 |      |
| 1005 | 98 | 269 | 02:23:58.733 | 117GE105A106C4G  | 7STRP   | 0.0002,-0.0014,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,616:33:0 |      |
| 1006 | 98 | 269 | 02:24:09.400 | 117GE105A106C4H  | 7STRP   | 0.036817,0.0,0.0 | Slew = 0.61                            | 3R3 | 4  | 0  | 4,666,616:49:0 |      |
| 1007 | 98 | 269 | 02:25:14.066 | 117GE105A106C4I  | 7STRP   | 0.0002,-0.0014,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,617:55:0 |      |
| 1008 | 98 | 269 | 02:25:24.733 | 117GE105A106C4J  | 7STRP   | 0.036817,0.0,0.0 | Slew = 0.61                            | 3R3 | 4  | 0  | 4,666,617:71:0 |      |
| 1009 | 98 | 269 | 02:26:29.400 | 117GE105A106C4K  | 7STRP   | 0.0002,-0.0014,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,618:77:0 |      |
| 1010 | 98 | 269 | 02:26:40.066 | 117GE105A106C4L  | 7STRP   | 0.036817,0.0,0.0 | Slew = 0.61                            | 3R3 | 4  | 0  | 4,666,619:02:0 |      |
| 1011 | 98 | 269 | 02:27:44.733 | 117GE105A106C4M  | 7STRP   | 0.0002,-0.0014,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,620:08:0 |      |
| 1012 | 98 | 269 | 02:27:55.400 | 117GE105A106C4N  | 7STRP   | 0.036817,0.0,0.0 | Slew = 0.61                            | 3R3 | 4  | 0  | 4,666,620:24:0 |      |
| 1013 | 98 | 269 | 02:29:00.066 | 117GE105A106C4O  | 7STRP   | 0.0002,-0.0014,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,621:30:0 |      |
| 1014 | 98 | 269 | 02:29:10.733 | 117GE105A106C4P  | 7STRP   | 0.036817,0.0,0.0 | Slew = 0.61                            | 3R3 | 4  | 0  | 4,666,621:46:0 |      |
| 1015 | 98 | 269 | 02:30:15.400 | 117GE105A106C4Q  | 7STRP   | 0.0002,-0.0014,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,622:52:0 |      |
| 1016 | 98 | 269 | 02:30:26.066 | 117GE105A106C4R  | 7STRP   | 0.036817,0.0,0.0 | Slew = 0.61                            | 3R3 | 4  | 0  | 4,666,622:68:0 |      |
| 1017 | 98 | 269 | 02:31:30.733 | 117GE105A106C4S  | 7STRP   | 0.0002,-0.0014,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,623:74:0 |      |
| 1018 | 98 | 269 | 02:31:41.400 | 117GE105A106C4T  | 7STRP   | 0.036817,0.0,0.0 | Slew = 0.61                            | 3R3 | 4  | 0  | 4,666,623:90:0 |      |
| 1019 | 98 | 269 | 02:32:30.733 | 488AD6D          | 6TMSED  | FILL,GL5         | Sci, Eng, and D/L Chan                 | 3R3 | 4  | 0  | 4,666,624:73:0 |      |
| 1020 | 98 | 269 | 02:32:46.066 | 117GE105A106C4U  | 7STRP   | 0.0002,-0.0014,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,625:05:0 |      |
| 1021 | 98 | 269 | 02:32:56.733 | 117GE105A106C4V  | 7STRP   | 0.036817,0.0,0.0 | Slew = 0.61                            | 3R3 | 4  | 0  | 4,666,625:21:0 |      |
| 1022 | 98 | 269 | 02:33:50.733 |                  | DMS:    | : *US-RUNUP      | P7, TRACK *1, *FWD, TIC *5947.12 +/- 1 | 3R3 | 4  | 0  | 4,666,626:11:0 |      |
| 1023 | 98 | 269 | 02:33:52.133 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps         | 3R3 | 4  | 0  | 4,666,626:11:0 |      |
| 1024 | 98 | 269 | 02:33:52.133 |                  | DMS:    | : *US_AT_SP      | P7, TRACK 1, FWD, TIC *5947.24 +/- 1   | 3R3 | 4  | 0  | 4,666,626:13:1 |      |
| 1025 | 98 | 269 | 02:33:57.400 |                  | DMS:    | : *US_RD         | P7, TRACK 1, FWD, TIC *5948.48 +/- 1   | 3R3 | 4  | 0  | 4,666,626:21:0 |      |
| 1026 | 98 | 269 | 02:33:58.600 |                  | DMS:    | : *RUNUP         | R7, TRACK *2, *REV, TIC *5948.54 +/- 1 | 3R3 | 4  | 0  | 4,666,626:22:8 |      |
| 1027 | 98 | 269 | 02:34:00.000 |                  | DMS:    | : *AT_SPD        | R7, TRACK 2, REV, TIC *5948.42 +/- 1   | 3R3 | 4  | 0  | 4,666,626:24:9 |      |
| 1028 | 98 | 269 | 02:34:01.400 | 117GE105A106C4W  | 7STRP   | 0.0002,-0.0014,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,626:27:0 |      |
| 1029 | 98 | 269 | 02:34:12.066 | 117GE105A106C4X  | 7STRP   | 0.036817,0.0,0.0 | Slew = 0.61                            | 3R3 | 4  | 0  | 4,666,626:43:0 |      |
| 1030 | 98 | 269 | 02:34:15.400 |                  | DMS:    | : *RECORD        | R7, TRACK 2, REV, TIC *5944.81 +/- 1   | 3R3 | 4  | 0  | 4,666,626:48:0 |      |
| 1031 | 98 | 269 | 02:34:38.066 |                  | DMS:    | : *RUNDOWN       | R7, TRACK 2, REV, TIC *5939.49 +/- 1   | 3R3 | 4  | 0  | 4,666,626:82:0 |      |
| 1032 | 98 | 269 | 02:34:38.066 | 50ZZ6RE          | 6DMSC   | RDY,0            | DMS Control Tape stop                  | 3R3 | 4  | 0  | 4,666,626:82:0 |      |
| 1033 | 98 | 269 | 02:34:39.266 |                  | DMS:    | : *READY         | RDY, TRACK 2, REV, TIC *5939.43 +/- 1  | 3R3 | 4  | 0  | 4,666,626:83:8 |      |
| 1034 | 98 | 269 | 02:35:16.733 | 117GE105A106C4Y  | 7STRP   | 0.0002,-0.0014,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,627:49:0 |      |
| 1035 | 98 | 269 | 02:35:27.400 | 117GE105A106C4Z  | 7STRP   | 0.036817,0.0,0.0 | Slew = 0.61                            | 3R3 | 4  | 0  | 4,666,627:65:0 |      |
| 1036 | 98 | 269 | 02:36:32.066 | 117GE105A106C4AA | 7STRP   | 0.0002,-0.0014,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,628:71:0 |      |
| 1037 | 98 | 269 | 02:36:42.733 | 117GE105A106C4AB | 7STRP   | 0.036817,0.0,0.0 | Slew = 0.61                            | 3R3 | 4  | 0  | 4,666,628:87:0 |      |
| 1038 | 98 | 269 | 02:37:47.400 | 117GE105A106C4AC | 7STRP   | 0.0002,-0.0014,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,630:02:0 |      |
| 1039 | 98 | 269 | 02:37:58.066 | 117GE105A106C4AD | 7STRP   | 0.036817,0.0,0.0 | Slew = 0.61                            | 3R3 | 4  | 0  | 4,666,630:18:0 |      |
| 1040 | 98 | 269 | 02:39:02.733 | 117GE105A106C4AE | 7STRP   | 0.0002,-0.0014,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,631:24:0 |      |
| 1041 | 98 | 269 | 02:39:13.400 | 117GE105A106C4AF | 7STRP   | 0.036817,0.0,0.0 | Slew = 0.61                            | 3R3 | 4  | 0  | 4,666,631:40:0 |      |
| 1042 | 98 | 269 | 02:40:18.066 | 117GE105A106C4AG | 7STRP   | 0.0002,-0.0014,0 | Slew =12.01                            | 3R3 | 4  | 0  | 4,666,632:46:0 |      |
| 1043 | 98 | 269 | 02:40:28.733 | 117GE105A106C4AH | 7STRP   | 0.036817,0.0,0.0 | Slew = 0.61                            | 3R3 | 4  | 0  | 4,666,632:62:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID             | Command | Parameters       | Description                                | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|------------------|---------|------------------|--|-----|----|----|----------------|------|
| 1044 | 98 | 269 | 02:41:33.400 | 117GE105A106C4AI | 7STRP   | 0.0002,-0.0014,0 | Slew =12.01                                | 3R3 | 4  | 0  | 4,666,633:68:0 |      |
| 1045 | 98 | 269 | 02:41:44.066 | 117GE105A106C4AJ | 7STRP   | 0.036817,0.0,0.0 | Slew = 0.61                                | 3R3 | 4  | 0  | 4,666,633:84:0 |      |
| 1046 | 98 | 269 | 02:42:48.733 | 117GE105A106C4AK | 7STRP   | 0.0002,-0.0014,0 | Slew =12.01                                | 3R3 | 4  | 0  | 4,666,634:90:0 |      |
| 1047 | 98 | 269 | 02:42:59.400 | 117GE105A106C4AL | 7STRP   | 0.036817,0.0,0.0 | Slew = 0.61                                | 3R3 | 4  | 0  | 4,666,635:15:0 |      |
| 1048 | 98 | 269 | 02:44:04.066 | 117GE105A106C4AM | 7STRP   | 0.0002,-0.0014,0 | Slew =12.01                                | 3R3 | 4  | 0  | 4,666,636:21:0 |      |
| 1049 | 98 | 269 | 02:44:14.733 | 117GE105A106C4AN | 7STRP   | 0.036817,0.0,0.0 | Slew = 0.61                                | 3R3 | 4  | 0  | 4,666,636:37:0 |      |
| 1050 | 98 | 269 | 02:45:19.400 | 117GE105A106C4AO | 7STRP   | 0.0002,-0.0014,0 | Slew =12.01                                | 3R3 | 4  | 0  | 4,666,637:43:0 |      |
| 1051 | 98 | 269 | 02:45:30.066 | 117GE105A106C4AP | 7STRP   | 0.036817,0.0,0.0 | Slew = 0.61                                | 3R3 | 4  | 0  | 4,666,637:59:0 |      |
| 1052 | 98 | 269 | 02:46:34.733 | 117GE11A         | CSMOS   | GE               | ***** GROUP END CSMOS                      | 3R3 | 4  | 0  | 4,666,638:65:0 |      |
| 1053 | 98 | 269 | 02:46:35.400 | 176GF6B          | 6TMREC  | NRC              | NO RECORD Record Mode Change               | 3R3 | 4  | 0  | 4,666,638:66:0 |      |
| 1054 | 98 | 269 | 02:46:37.400 |                  | DMS:    | :*US-RUNUP       | P7, TRACK *1, FWD, TIC 5939.43 +/- 1       | 3R3 | 4  | 0  | 4,666,638:69:0 |      |
| 1055 | 98 | 269 | 02:46:37.400 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps             | 3R3 | 4  | 0  | 4,666,638:69:0 |      |
| 1056 | 98 | 269 | 02:46:38.800 |                  | DMS:    | :*US_AT_SP       | P7, TRACK 1, FWD, TIC *5939.55 +/- 1       | 3R3 | 4  | 0  | 4,666,638:71:1 |      |
| 1057 | 98 | 269 | 02:46:44.066 |                  | DMS:    | :*US_RD          | P7, TRACK 1, FWD, TIC *5940.79 +/- 1       | 3R3 | 4  | 0  | 4,666,638:79:0 |      |
| 1058 | 98 | 269 | 02:46:45.266 |                  | DMS:    | :*RUNUP          | R7, TRACK *2, *REV, TIC *5940.85 +/- 1     | 3R3 | 4  | 0  | 4,666,638:80:8 |      |
| 1059 | 98 | 269 | 02:46:46.666 |                  | DMS:    | :*AT_SPD         | R7, TRACK 2, REV, TIC *5940.73 +/- 1       | 3R3 | 4  | 0  | 4,666,638:82:9 |      |
| 1060 | 98 | 269 | 02:46:47.400 |                  | DMS:    | :*RECORD         | R7, TRACK 2, REV, TIC *5940.56 +/- 1       | 3R3 | 4  | 0  | 4,666,638:84:0 |      |
| 1061 | 98 | 269 | 02:47:08.733 |                  | DMS:    | :*RUNDOWN        | R7, TRACK 2, REV, TIC *5935.56 +/- 1       | 3R3 | 4  | 0  | 4,666,639:25:0 |      |
| 1062 | 98 | 269 | 02:47:08.733 | 50ZZ6RD          | 6DMSC   | RDY,0            | DMS Control Tape stop                      | 3R3 | 4  | 0  | 4,666,639:25:0 |      |
| 1063 | 98 | 269 | 02:47:09.933 |                  | DMS:    | :*READY          | RDY, TRACK 2, REV, TIC *5935.50 +/- 1      | 3R3 | 4  | 0  | 4,666,639:26:8 |      |
| 1064 | 98 | 269 | 02:48:47.400 | 165IF4A          | 7SCAN   | NORM,282.693996, | Check S/P Position                         | 3R3 | 4  | 0  | 4,666,640:82:0 |      |
| 1065 | 98 | 269 | 02:48:57.400 | 118IF            | SMOS    | GS               |  | 3R3 | 4  | 0  | 4,666,641:06:0 |      |
| 1066 | 98 | 269 | 02:49:16.733 | 175IF422A6A      | 6DMSC   | R806,0           | DMS Control Tape runup 806.4kb             | 3R3 | 4  | 0  | 4,666,641:35:0 |      |
| 1067 | 98 | 269 | 02:49:16.733 |                  | DMS:    | :*US-RUNUP       | P7, TRACK *1, *FWD, TIC 5935.50 +/- 1      | 3R3 | 4  | 0  | 4,666,641:35:0 |      |
| 1068 | 98 | 269 | 02:49:18.133 |                  | DMS:    | :*US_AT_SP       | P7, TRACK 1, FWD, TIC *5935.62 +/- 1       | 3R3 | 4  | 0  | 4,666,641:37:1 |      |
| 1069 | 98 | 269 | 02:49:23.400 |                  | DMS:    | :*US_RD          | P7, TRACK 1, FWD, TIC *5936.85 +/- 1       | 3R3 | 4  | 0  | 4,666,641:45:0 |      |
| 1070 | 98 | 269 | 02:49:24.600 |                  | DMS:    | :*RUNUP          | R806, TRACK *2, *REV, TIC *5936.91 +/- 1   | 3R3 | 4  | 0  | 4,666,641:46:8 |      |
| 1071 | 98 | 269 | 02:49:26.733 | 165IF4B          | 7VECT   |                  | Inert vect update UTC                      | 3R3 | 4  | 0  | 4,666,641:50:0 |      |
| 1072 | 98 | 269 | 02:49:29.400 | 175IF176A6A      | 6TMREC  | IM8              | 806.4 KBPS IMAGE RECORD Record Mode Change | 3R3 | 4  | 0  | 4,666,641:54:0 |      |
| 1073 | 98 | 269 | 02:49:29.866 |                  | DMS:    | :*RECORD         | R806, TRACK 2, REV, TIC *5870.91 +/- 1     | 3R3 | 4  | 0  | 4,666,641:54:7 |      |
| 1074 | 98 | 269 | 02:49:29.866 |                  | DMS:    | :*AT_SPD         | R806, TRACK 2, REV, TIC 5870.91 +/- 1      | 3R3 | 4  | 0  | 4,666,641:54:7 |      |
| 1075 | 98 | 269 | 02:49:30.066 | 118IF110A111A4A  | 7STRP   | 0.001,-0.00731,2 | Slew = 3.71                                | 3R3 | 4  | 0  | 4,666,641:55:0 |      |
| 1076 | 98 | 269 | 02:49:38.733 | 118IF110A111B4A  | 7STRP   | -0.00731,0.0,0.0 | Slew = -3.51                               | 3R3 | 4  | 0  | 4,666,641:68:0 |      |
| 1077 | 98 | 269 | 02:49:47.400 | 118IF110A111B4B  | 7STRP   | 0.001,-0.00731,2 | Slew = -3.71                               | 3R3 | 4  | 0  | 4,666,641:81:0 |      |
| 1078 | 98 | 269 | 02:50:13.400 | 118IF11A         | SMOS    | GE               |  | 3R3 | 4  | 0  | 4,666,642:29:0 |      |
| 1079 | 98 | 269 | 02:50:14.066 | 116IF4A          | 7STRP   | -0.00731,-0.0057 | Slew = -3.51                               | 3R3 | 4  | 0  | 4,666,642:30:0 |      |
| 1080 | 98 | 269 | 02:50:22.066 | 116JF4A          | 7STRP   | 0.00731,-0.00161 | Slew = 3.51                                | 3R3 | 4  | 0  | 4,666,642:42:0 |      |
| 1081 | 98 | 269 | 02:50:30.733 | 116JD4A          | 7STRP   | -0.0004,-0.00731 | Slew = -3.71                               | 3R3 | 4  | 0  | 4,666,642:55:0 |      |
| 1082 | 98 | 269 | 02:50:39.400 | 116JE4A          | 7STRP   | -0.0012,-0.00731 | Slew = -3.71                               | 3R3 | 4  | 0  | 4,666,642:68:0 |      |
| 1083 | 98 | 269 | 02:50:48.066 | 116J4A           | 7STRP   | -0.0012,-0.00731 | Slew = -3.71                               | 3R3 | 4  | 0  | 4,666,642:81:0 |      |
| 1084 | 98 | 269 | 02:50:56.733 | 116J4A           | 7STRP   | -0.0012,-0.00731 | Slew = -3.71                               | 3R3 | 4  | 0  | 4,666,643:03:0 |      |
| 1085 | 98 | 269 | 02:51:05.400 | 116JK4A          | 7STRP   | -0.0004,-0.00731 | Slew = -3.71                               | 3R3 | 4  | 0  | 4,666,643:16:0 |      |
| 1086 | 98 | 269 | 02:51:14.066 | 116JM4A          | 7STRP   | -0.0004,-0.00731 | Slew = -3.71                               | 3R3 | 4  | 0  | 4,666,643:29:0 |      |
| 1087 | 98 | 269 | 02:51:22.733 | 116JS4A          | 7STRP   | 0.001,-0.00731,0 | Slew = 3.51                                | 3R3 | 4  | 0  | 4,666,643:42:0 |      |
| 1088 | 98 | 269 | 02:51:31.400 | 116JQ4A          | 7STRP   | -0.00731,-0.002, | Slew = 3.51                                | 3R3 | 4  | 0  | 4,666,643:55:0 |      |
| 1089 | 98 | 269 | 02:51:40.066 | 116JR4A          | 7STRP   | -0.00731,0.003,0 | Slew = -3.51                               | 3R3 | 4  | 0  | 4,666,643:68:0 |      |
| 1090 | 98 | 269 | 02:51:48.733 | 116JP4A          | 7STRP   | -0.0065,0.0068,0 | Slew = 3.51                                | 3R3 | 4  | 0  | 4,666,643:81:0 |      |
| 1091 | 98 | 269 | 02:51:57.400 | 116JA4A          | 7STRP   | -0.00731,-0.001, | Slew = -3.51                               | 3R3 | 4  | 0  | 4,666,644:03:0 |      |
| 1092 | 98 | 269 | 02:52:12.733 | 175IF422A6B      | 6DMSC   | RDY,0            | DMS Control Tape stop                      | 3R3 | 4  | 0  | 4,666,644:26:0 |      |
| 1093 | 98 | 269 | 02:52:12.733 |                  | DMS:    | :*RUNDOWN        | R806, TRACK 2, REV, TIC *1862.86 +/- 1     | 3R3 | 4  | 0  | 4,666,644:26:0 |      |
| 1094 | 98 | 269 | 02:52:15.466 |                  | DMS:    | :*READY          | RDY, TRACK 2, REV, TIC *1851.36 +/- 1      | 3R3 | 4  | 0  | 4,666,644:30:1 |      |
| 1095 | 98 | 269 | 02:52:22.733 | 165IG4A          | 7SCAN   | NORM,283.393997, | Check S/P Position                         | 3R3 | 4  | 0  | 4,666,644:41:0 |      |
| 1096 | 98 | 269 | 02:53:00.066 | 118IG            | SMOS    | GS               |  | 3R3 | 4  | 0  | 4,666,645:06:0 |      |
| 1097 | 98 | 269 | 02:53:20.733 | 175IG422A6A      | 6DMSC   | R403,0           | DMS Control Tape runup 403.2kb             | 3R3 | 4  | 0  | 4,666,645:37:0 |      |
| 1098 | 98 | 269 | 02:53:20.733 |                  | DMS:    | :*US-RUNUP       | P7, TRACK *1, *FWD, TIC 1851.36 +/- 1      | 3R3 | 4  | 0  | 4,666,645:37:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID            | Command | Parameters       | Description                               | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|-----------------|---------|------------------|---|-----|----|----|----------------|------|
| 1099 | 98 | 269 | 02:53:22.133 |                 | DMS:    | : *US_AT_SP      | P7, TRACK 1, FWD, TIC *1851.48 +/- 1      | 3R3 | 4  | 0  | 4,666,645:39:1 |      |
| 1100 | 98 | 269 | 02:53:27.400 |                 | DMS:    | : *US_RD         | P7, TRACK 1, FWD, TIC *1852.72 +/- 1      | 3R3 | 4  | 0  | 4,666,645:47:0 |      |
| 1101 | 98 | 269 | 02:53:28.600 |                 | DMS:    | : *RUNUP         | R403, TRACK *2, *REV, TIC *1852.78 +/- 1  | 3R3 | 4  | 0  | 4,666,645:48:8 |      |
| 1102 | 98 | 269 | 02:53:29.400 | 165IG4B         | 7VECT   |                  | Inert vect update UTC                     | 3R3 | 4  | 0  | 4,666,645:50:0 |      |
| 1103 | 98 | 269 | 02:53:32.066 | 175IG176A6A     | 6TMREC  | IM4              | 403.2 KBPS IMAGE RECORD Record Mode Chang | 3R3 | 4  | 0  | 4,666,645:54:0 |      |
| 1104 | 98 | 269 | 02:53:32.466 |                 | DMS:    | : *RECORD        | R403, TRACK 2, REV, TIC *1829.78 +/- 1    | 3R3 | 4  | 0  | 4,666,645:54:6 |      |
| 1105 | 98 | 269 | 02:53:32.466 |                 | DMS:    | : *AT_SPD        | R403, TRACK 2, REV, TIC 1829.78 +/- 1     | 3R3 | 4  | 0  | 4,666,645:54:6 |      |
| 1106 | 98 | 269 | 02:53:32.733 | 118IG110A111A4A | 7STRP   | 0.001,-0.00731,2 | Slew = -3.71                              | 3R3 | 4  | 0  | 4,666,645:55:0 |      |
| 1107 | 98 | 269 | 02:53:50.066 | 118IG11A        | SMOS    | GE               |   | 3R3 | 4  | 0  | 4,666,645:81:0 |      |
| 1108 | 98 | 269 | 02:53:50.733 | 116JZ4A         | 7STRP   | 0.0,-0.00731,0,0 | Slew = -3.71                              | 3R3 | 4  | 0  | 4,666,645:82:0 |      |
| 1109 | 98 | 269 | 02:53:58.733 | 116JG4A         | 7STRP   | -0.0005,-0.00731 | Slew = -3.71                              | 3R3 | 4  | 0  | 4,666,646:03:0 |      |
| 1110 | 98 | 269 | 02:54:07.400 | 116JG4A         | 7STRP   | -0.00125,-0.0073 | Slew = -3.71                              | 3R3 | 4  | 0  | 4,666,646:16:0 |      |
| 1111 | 98 | 269 | 02:54:16.066 | 116JX4A         | 7STRP   | -0.00125,-0.0073 | Slew = -3.71                              | 3R3 | 4  | 0  | 4,666,646:29:0 |      |
| 1112 | 98 | 269 | 02:54:24.733 | 116JY4A         | 7STRP   | -0.0014,-0.00731 | Slew = -3.71                              | 3R3 | 4  | 0  | 4,666,646:42:0 |      |
| 1113 | 98 | 269 | 02:54:33.400 | 116JZ4A         | 7STRP   | -0.0004,-0.00731 | Slew = -3.71                              | 3R3 | 4  | 0  | 4,666,646:55:0 |      |
| 1114 | 98 | 269 | 02:54:48.733 | 175IG422A6B     | 6DMSC   | RDY,0            | DMS Control Tape stop                     | 3R3 | 4  | 0  | 4,666,646:78:0 |      |
| 1115 | 98 | 269 | 02:54:48.733 |                 | DMS:    | : *RUNDOWN       | R403, TRACK 2, REV, TIC * 891.34 +/- 1    | 3R3 | 4  | 0  | 4,666,646:78:0 |      |
| 1116 | 98 | 269 | 02:54:51.466 |                 | DMS:    | : *READY         | RDY, TRACK 2, REV, TIC * 887.34 +/- 1     | 3R3 | 4  | 0  | 4,666,646:82:1 |      |
| 1117 | 98 | 269 | 02:55:05.400 | 165IH4A         | 7SCAN   | NORM,282.723999, | Check S/P Position                        | 3R3 | 4  | 0  | 4,666,647:12:0 |      |
| 1118 | 98 | 269 | 02:55:56.733 | 175IH422A6A     | 6DMSC   | R403,0           | DMS Control Tape runup 403.2kb            | 3R3 | 4  | 0  | 4,666,647:89:0 |      |
| 1119 | 98 | 269 | 02:55:56.733 |                 | DMS:    | : *US-RUNUP      | P7, TRACK *1, *FWD, TIC 887.34 +/- 1      | 3R3 | 4  | 0  | 4,666,647:89:0 |      |
| 1120 | 98 | 269 | 02:55:58.133 |                 | DMS:    | : *US_AT_SP      | P7, TRACK 1, FWD, TIC * 887.46 +/- 1      | 3R3 | 4  | 0  | 4,666,648:00:1 |      |
| 1121 | 98 | 269 | 02:56:03.400 |                 | DMS:    | : *US_RD         | P7, TRACK 1, FWD, TIC * 888.70 +/- 1      | 3R3 | 4  | 0  | 4,666,648:08:0 |      |
| 1122 | 98 | 269 | 02:56:04.600 |                 | DMS:    | : *RUNUP         | R403, TRACK *2, *REV, TIC * 888.76 +/- 1  | 3R3 | 4  | 0  | 4,666,648:09:8 |      |
| 1123 | 98 | 269 | 02:56:05.400 | 165IH4B         | 7VECT   |                  | Inert vect update UTC                     | 3R3 | 4  | 0  | 4,666,648:11:0 |      |
| 1124 | 98 | 269 | 02:56:08.066 | 175IH176A6A     | 6TMREC  | IM4              | 403.2 KBPS IMAGE RECORD Record Mode Chang | 3R3 | 4  | 0  | 4,666,648:15:0 |      |
| 1125 | 98 | 269 | 02:56:08.466 |                 | DMS:    | : *RECORD        | R403, TRACK 2, REV, TIC * 865.76 +/- 1    | 3R3 | 4  | 0  | 4,666,648:15:6 |      |
| 1126 | 98 | 269 | 02:56:08.466 |                 | DMS:    | : *AT_SPD        | R403, TRACK 2, REV, TIC 865.76 +/- 2      | 3R3 | 4  | 0  | 4,666,648:15:6 |      |
| 1127 | 98 | 269 | 02:56:08.733 | 116IH4A         | 7STRP   | -0.0061,-0.00036 | Slew =0,3.1                               | 3R3 | 4  | 0  | 4,666,648:16:0 |      |
| 1128 | 98 | 269 | 02:56:12.066 | 175IH422A6B     | 6DMSC   | RDY,0            | DMS Control Tape stop                     | 3R3 | 4  | 0  | 4,666,648:21:0 |      |
| 1129 | 98 | 269 | 02:56:12.066 |                 | DMS:    | : *RUNDOWN       | R403, TRACK 2, REV, TIC * 821.46 +/- 2    | 3R3 | 4  | 0  | 4,666,648:21:0 |      |
| 1130 | 98 | 269 | 02:56:14.800 |                 | DMS:    | : *READY         | RDY, TRACK 2, REV, TIC * 817.46 +/- 2     | 3R3 | 4  | 0  | 4,666,648:25:1 |      |
| 1131 | 98 | 269 | 02:57:23.400 | 175JW422A6A     | 6DMSC   | R403,0           | DMS Control Tape runup 403.2kb            | 3R3 | 4  | 0  | 4,666,649:37:0 |      |
| 1132 | 98 | 269 | 02:57:23.400 |                 | DMS:    | : *US-RUNUP      | P7, TRACK *1, *FWD, TIC 817.46 +/- 2      | 3R3 | 4  | 0  | 4,666,649:37:0 |      |
| 1133 | 98 | 269 | 02:57:24.800 |                 | DMS:    | : *US_AT_SP      | P7, TRACK 1, FWD, TIC * 817.58 +/- 2      | 3R3 | 4  | 0  | 4,666,649:39:1 |      |
| 1134 | 98 | 269 | 02:57:30.066 |                 | DMS:    | : *US_RD         | P7, TRACK 1, FWD, TIC * 818.81 +/- 2      | 3R3 | 4  | 0  | 4,666,649:47:0 |      |
| 1135 | 98 | 269 | 02:57:31.266 |                 | DMS:    | : *RUNUP         | R403, TRACK *2, *REV, TIC * 818.87 +/- 2  | 3R3 | 4  | 0  | 4,666,649:48:8 |      |
| 1136 | 98 | 269 | 02:57:34.733 | 175JW176A6A     | 6TMREC  | IM4              | 403.2 KBPS IMAGE RECORD Record Mode Chang | 3R3 | 4  | 0  | 4,666,649:54:0 |      |
| 1137 | 98 | 269 | 02:57:35.133 |                 | DMS:    | : *AT_SPD        | R403, TRACK 2, REV, TIC 795.87 +/- 2      | 3R3 | 4  | 0  | 4,666,649:54:6 |      |
| 1138 | 98 | 269 | 02:57:35.133 |                 | DMS:    | : *RECORD        | R403, TRACK 2, REV, TIC * 795.87 +/- 2    | 3R3 | 4  | 0  | 4,666,649:54:6 |      |
| 1139 | 98 | 269 | 02:57:35.400 | 116JH4A         | 7STRP   | -0.0061,0.00025, | Slew =0,3.1                               | 3R3 | 4  | 0  | 4,666,649:55:0 |      |
| 1140 | 98 | 269 | 02:57:38.733 | 175JW422A6B     | 6DMSC   | RDY,0            | DMS Control Tape stop                     | 3R3 | 4  | 0  | 4,666,649:60:0 |      |
| 1141 | 98 | 269 | 02:57:38.733 |                 | DMS:    | : *RUNDOWN       | R403, TRACK 2, REV, TIC * 751.58 +/- 2    | 3R3 | 4  | 0  | 4,666,649:60:0 |      |
| 1142 | 98 | 269 | 02:57:41.466 |                 | DMS:    | : *READY         | RDY, TRACK 2, REV, TIC * 747.58 +/- 2     | 3R3 | 4  | 0  | 4,666,649:64:1 |      |
| 1143 | 98 | 269 | 02:58:50.066 | 175JX422A6A     | 6DMSC   | R403,0           | DMS Control Tape runup 403.2kb            | 3R3 | 4  | 0  | 4,666,650:76:0 |      |
| 1144 | 98 | 269 | 02:58:50.066 |                 | DMS:    | : *US-RUNUP      | P7, TRACK *1, *FWD, TIC 747.58 +/- 2      | 3R3 | 4  | 0  | 4,666,650:76:0 |      |
| 1145 | 98 | 269 | 02:58:51.466 |                 | DMS:    | : *US_AT_SP      | P7, TRACK 1, FWD, TIC * 747.70 +/- 2      | 3R3 | 4  | 0  | 4,666,650:78:1 |      |
| 1146 | 98 | 269 | 02:58:56.733 |                 | DMS:    | : *US_RD         | P7, TRACK 1, FWD, TIC * 748.93 +/- 2      | 3R3 | 4  | 0  | 4,666,650:86:0 |      |
| 1147 | 98 | 269 | 02:58:57.933 |                 | DMS:    | : *RUNUP         | R403, TRACK *2, *REV, TIC * 748.99 +/- 2  | 3R3 | 4  | 0  | 4,666,650:87:8 |      |
| 1148 | 98 | 269 | 02:59:01.400 | 175JX176A6A     | 6TMREC  | IM4              | 403.2 KBPS IMAGE RECORD Record Mode Chang | 3R3 | 4  | 0  | 4,666,651:02:0 |      |
| 1149 | 98 | 269 | 02:59:01.800 |                 | DMS:    | : *AT_SPD        | R403, TRACK 2, REV, TIC 725.99 +/- 2      | 3R3 | 4  | 0  | 4,666,651:02:6 |      |
| 1150 | 98 | 269 | 02:59:01.800 |                 | DMS:    | : *RECORD        | R403, TRACK 2, REV, TIC * 725.99 +/- 2    | 3R3 | 4  | 0  | 4,666,651:02:6 |      |
| 1151 | 98 | 269 | 02:59:02.066 | 116JW4A         | 7STRP   | -0.0061,-0.00141 | Slew =0,3.1                               | 3R3 | 4  | 0  | 4,666,651:03:0 |      |
| 1152 | 98 | 269 | 02:59:05.400 |                 | DMS:    | : *RUNDOWN       | R403, TRACK 2, REV, TIC * 681.69 +/- 2    | 3R3 | 4  | 0  | 4,666,651:08:0 |      |
| 1153 | 98 | 269 | 02:59:05.400 | 175JX422A6B     | 6DMSC   | RDY,0            | DMS Control Tape stop                     | 3R3 | 4  | 0  | 4,666,651:08:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID          | Command Parameters     | Description                                | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|---------------|------------------------|--|-----|----|----|----------------|------|
| 1154 | 98 | 269 | 02:59:08.133 |               | DMS: : *READY          | RDY, TRACK 2, REV, TIC * 677.69 +/- 3      | 3R3 | 4  | 0  | 4,666,651:12:1 |      |
| 1155 | 98 | 269 | 03:00:00.066 | 481UB4A       | 7VECT BB2              | Inert vect update UTC                      | 3R3 | 4  | 0  | 4,666,651:90:0 |      |
| 1156 | 98 | 269 | 03:00:16.733 | 175JY422A6A   | 6DMSC R403.0           | DMS Control Tape runup 403.2kb             | 3R3 | 4  | 0  | 4,666,652:24:0 |      |
| 1157 | 98 | 269 | 03:00:16.733 |               | DMS: : *US-RUNUP       | P7, TRACK *1,*FWD, TIC 677.69 +/- 3        | 3R3 | 4  | 0  | 4,666,652:24:0 |      |
| 1158 | 98 | 269 | 03:00:18.133 |               | DMS: : *US AT SP       | P7, TRACK 1, FWD, TIC * 677.81 +/- 3       | 3R3 | 4  | 0  | 4,666,652:26:1 |      |
| 1159 | 98 | 269 | 03:00:23.400 |               | DMS: : *US_RD          | P7, TRACK 1, FWD, TIC * 679.05 +/- 3       | 3R3 | 4  | 0  | 4,666,652:34:0 |      |
| 1160 | 98 | 269 | 03:00:24.600 |               | DMS: : *RUNUP          | R403, TRACK *2,*REV, TIC * 679.11 +/- 3    | 3R3 | 4  | 0  | 4,666,652:35:8 |      |
| 1161 | 98 | 269 | 03:00:28.066 | 175JY176A6A   | 6TMREC IM4             | 403.2 KBPS IMAGE RECORD Record Mode Chang  | 3R3 | 4  | 0  | 4,666,652:41:0 |      |
| 1162 | 98 | 269 | 03:00:28.466 |               | DMS: : *RECORD         | R403, TRACK 2, REV, TIC * 656.11 +/- 3     | 3R3 | 4  | 0  | 4,666,652:41:6 |      |
| 1163 | 98 | 269 | 03:00:28.466 |               | DMS: : *AT SPD         | R403, TRACK 2, REV, TIC 656.11 +/- 3       | 3R3 | 4  | 0  | 4,666,652:41:6 |      |
| 1164 | 98 | 269 | 03:00:28.733 | 116JN4A       | 7STRP -0.0061,-0.0021, | Slew =0.3,1                                | 3R3 | 4  | 0  | 4,666,652:42:0 |      |
| 1165 | 98 | 269 | 03:00:32.066 | 175JY422A6B   | 6DMSC RDY,0            | DMS Control Tape stop                      | 3R3 | 4  | 0  | 4,666,652:47:0 |      |
| 1166 | 98 | 269 | 03:00:32.066 |               | DMS: : *RUNDOWN        | R403, TRACK 2, REV, TIC * 611.81 +/- 3     | 3R3 | 4  | 0  | 4,666,652:47:0 |      |
| 1167 | 98 | 269 | 03:00:34.800 |               | DMS: : *READY          | RDY, TRACK 2, REV, TIC * 607.81 +/- 3      | 3R3 | 4  | 0  | 4,666,652:51:1 |      |
| 1168 | 98 | 269 | 03:01:35.513 | 17NNSUCOMP01- | -----START-----        |  | 3R3 | 4  | 0  | :              |      |
| 1169 | 98 | 269 | 03:01:43.400 |               | DMS: : *US-RUNUP       | P7, TRACK *1,*FWD, TIC 607.81 +/- 3        | 3R3 | 4  | 0  | 4,666,653:63:0 |      |
| 1170 | 98 | 269 | 03:01:43.400 | 175JZ422A6A   | 6DMSC R403.0           | DMS Control Tape runup 403.2kb             | 3R3 | 4  | 0  | 4,666,653:63:0 |      |
| 1171 | 98 | 269 | 03:01:44.800 |               | DMS: : *US AT SP       | P7, TRACK 1, FWD, TIC * 607.93 +/- 3       | 3R3 | 4  | 0  | 4,666,653:65:1 |      |
| 1172 | 98 | 269 | 03:01:50.066 |               | DMS: : *US_RD          | P7, TRACK 1, FWD, TIC * 609.17 +/- 3       | 3R3 | 4  | 0  | 4,666,653:73:0 |      |
| 1173 | 98 | 269 | 03:01:51.266 |               | DMS: : *RUNUP          | R403, TRACK *2,*REV, TIC * 609.23 +/- 3    | 3R3 | 4  | 0  | 4,666,653:74:8 |      |
| 1174 | 98 | 269 | 03:01:54.733 | 175JZ176A6A   | 6TMREC IM4             | 403.2 KBPS IMAGE RECORD Record Mode Chang  | 3R3 | 4  | 0  | 4,666,653:80:0 |      |
| 1175 | 98 | 269 | 03:01:55.133 |               | DMS: : *AT SPD         | R403, TRACK 2, REV, TIC 586.23 +/- 3       | 3R3 | 4  | 0  | 4,666,653:80:6 |      |
| 1176 | 98 | 269 | 03:01:55.133 |               | DMS: : *RECORD         | R403, TRACK 2, REV, TIC * 586.23 +/- 3     | 3R3 | 4  | 0  | 4,666,653:80:6 |      |
| 1177 | 98 | 269 | 03:01:58.733 |               | DMS: : *RUNDOWN        | R403, TRACK 2, REV, TIC * 541.93 +/- 3     | 3R3 | 4  | 0  | 4,666,653:86:0 |      |
| 1178 | 98 | 269 | 03:01:58.733 | 175JZ422A6B   | 6DMSC RDY,0            | DMS Control Tape stop                      | 3R3 | 4  | 0  | 4,666,653:86:0 |      |
| 1179 | 98 | 269 | 03:02:01.466 |               | DMS: : *READY          | RDY, TRACK 2, REV, TIC * 537.93 +/- 3      | 3R3 | 4  | 0  | 4,666,653:90:1 |      |
| 1180 | 98 | 269 | 03:02:12.066 | 165II4A       | 7SCAN NORM,282.825996, | Check S/P Position                         | 3R3 | 4  | 0  | 4,666,654:15:0 |      |
| 1181 | 98 | 269 | 03:03:10.066 |               | DMS: : *US-RUNUP       | P7, TRACK *1,*FWD, TIC 537.93 +/- 3        | 3R3 | 4  | 0  | 4,666,655:11:0 |      |
| 1182 | 98 | 269 | 03:03:10.066 | 175II422A6A   | 6DMSC R115.0           | DMS Control Tape runup 115.2kb             | 3R3 | 4  | 0  | 4,666,655:11:0 |      |
| 1183 | 98 | 269 | 03:03:11.466 |               | DMS: : *US AT SP       | P7, TRACK 1, FWD, TIC * 538.05 +/- 3       | 3R3 | 4  | 0  | 4,666,655:13:1 |      |
| 1184 | 98 | 269 | 03:03:16.733 |               | DMS: : *US_RD          | P7, TRACK 1, FWD, TIC * 539.28 +/- 3       | 3R3 | 4  | 0  | 4,666,655:21:0 |      |
| 1185 | 98 | 269 | 03:03:17.933 |               | DMS: : *RUNUP          | R115, TRACK *2,*REV, TIC * 539.34 +/- 3    | 3R3 | 4  | 0  | 4,666,655:22:8 |      |
| 1186 | 98 | 269 | 03:03:18.733 | 165II4B       | 7VECT                  | Inert vect update UTC                      | 3R3 | 4  | 0  | 4,666,655:24:0 |      |
| 1187 | 98 | 269 | 03:03:21.400 | 175II176A6A   | 6TMREC HCA             | 115.2 KBPS IMAGE(1-200) RECORD Record Mod  | 3R3 | 4  | 0  | 4,666,655:28:0 |      |
| 1188 | 98 | 269 | 03:03:21.933 |               | DMS: : *RECORD         | R115, TRACK 2, REV, TIC * 533.04 +/- 3     | 3R3 | 4  | 0  | 4,666,655:28:8 |      |
| 1189 | 98 | 269 | 03:03:21.933 |               | DMS: : *AT SPD         | R115, TRACK 2, REV, TIC 533.04 +/- 3       | 3R3 | 4  | 0  | 4,666,655:28:8 |      |
| 1190 | 98 | 269 | 03:03:54.733 | 175II422A6B   | 6DMSC RDY,0            | DMS Control Tape stop                      | 3R3 | 4  | 0  | 4,666,655:78:0 |      |
| 1191 | 98 | 269 | 03:03:54.733 |               | DMS: : *RUNDOWN        | R115, TRACK 2, REV, TIC * 417.73 +/- 3     | 3R3 | 4  | 0  | 4,666,655:78:0 |      |
| 1192 | 98 | 269 | 03:03:55.933 |               | DMS: : *READY          | RDY, TRACK 2, REV, TIC * 416.73 +/- 3      | 3R3 | 4  | 0  | 4,666,655:78:8 |      |
| 1193 | 98 | 269 | 03:04:04.733 | 165IJ4A       | 7SCAN NORM,283.125999, | Check S/P Position                         | 3R3 | 4  | 0  | 4,666,656:02:0 |      |
| 1194 | 98 | 269 | 03:04:07.400 | 20DE5A        | 37PL                   | Program Load (halts microprocessor & unwri | 3R3 | 4  | 0  | 4,666,656:06:0 |      |
| 1195 | 98 | 269 | 03:04:08.733 | 20DE5B        | 37MRL                  | Memory Realocate (software operates from R | 3R3 | 4  | 0  | 4,666,656:10:0 |      |
| 1196 | 98 | 269 | 03:04:10.066 | 20DE6A        | 6MCOPY NIMS            | NIMS,1000,LLM1A,7300,77F7                  | 3R3 | 4  | 0  | 4,666,656:10:0 |      |
| 1197 | 98 | 269 | 03:04:20.066 | 20DE6B        | 6MCOPY NIMS            | NIMS,1598,LLM1A,77F8,781D                  | 3R3 | 4  | 0  | 4,666,656:25:0 |      |
| 1198 | 98 | 269 | 03:04:30.066 | 20DE5C        | 37IRT                  | Instrument Reset (goes into POR state)     | 260 | 4  | 0  | 4,666,656:40:0 |      |
| 1199 | 98 | 269 | 03:04:50.066 | 20DE5D        | 37MN                   | Memory Normal (software operates from ROM) | 260 | 4  | 0  | 4,666,656:70:0 |      |
| 1200 | 98 | 269 | 03:04:58.066 | 20DE4A        | 37IST 1,2,0,OFF,0,0,0  | Chopper ON, Sync, Chopper (Ref)            | 2R0 | 4  | 0  | 4,666,656:82:0 |      |
| 1201 | 98 | 269 | 03:05:02.733 | 175IJ422A6A   | 6DMSC R115.0           | DMS Control Tape runup 115.2kb             | 2R0 | 4  | 0  | 4,666,656:89:0 |      |
| 1202 | 98 | 269 | 03:05:02.733 |               | DMS: : *US-RUNUP       | P7, TRACK *1,*FWD, TIC 416.73 +/- 3        | 2R0 | 4  | 0  | 4,666,656:89:0 |      |
| 1203 | 98 | 269 | 03:05:04.133 |               | DMS: : *US AT SP       | P7, TRACK 1, FWD, TIC * 416.85 +/- 3       | 2R0 | 4  | 0  | 4,666,657:00:1 |      |
| 1204 | 98 | 269 | 03:05:09.400 |               | DMS: : *US_RD          | P7, TRACK 1, FWD, TIC * 418.08 +/- 3       | 2R0 | 4  | 0  | 4,666,657:08:0 |      |
| 1205 | 98 | 269 | 03:05:10.600 |               | DMS: : *RUNUP          | R115, TRACK *2,*REV, TIC * 418.14 +/- 3    | 2R0 | 4  | 0  | 4,666,657:09:8 |      |
| 1206 | 98 | 269 | 03:05:11.400 | 165IJ4B       | 7VECT                  | Inert vect update UTC                      | 2R0 | 4  | 0  | 4,666,657:11:0 |      |
| 1207 | 98 | 269 | 03:05:14.066 | 175IJ176A6A   | 6TMREC HCA             | 115.2 KBPS IMAGE(1-200) RECORD Record Mod  | 2R0 | 4  | 0  | 4,666,657:15:0 |      |
| 1208 | 98 | 269 | 03:05:14.600 |               | DMS: : *AT SPD         | R115, TRACK 2, REV, TIC 411.84 +/- 4       | 2R0 | 4  | 0  | 4,666,657:15:8 |      |

| Line | YR | DOY | SCET - GMT   | PSID            | Command  | Parameters         | Description                               | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|-----------------|----------|--------------------|---|-----|----|----|----------------|------|
| 1209 | 98 | 269 | 03:05:14.600 |                 | DMS:     | :*RECORD           | R115, TRACK 2, REV, TIC * 411.84 +/- 3    | 2R0 | 4  | 0  | 4,666,657:15:8 |      |
| 1210 | 98 | 269 | 03:05:56.066 | 175IJ422A6B     | 6DMSC    | RDY,0              | DMS Control Tape stop                     | 2R0 | 4  | 0  | 4,666,657:78:0 |      |
| 1211 | 98 | 269 | 03:05:56.066 |                 | DMS:     | :*RUNDOWN          | R115, TRACK 2, REV, TIC * 266.06 +/- 4    | 2R0 | 4  | 0  | 4,666,657:78:0 |      |
| 1212 | 98 | 269 | 03:05:57.266 |                 | DMS:     | :*READY            | RDY, TRACK 2, REV, TIC * 265.06 +/- 4     | 2R0 | 4  | 0  | 4,666,657:79:8 |      |
| 1213 | 98 | 269 | 03:06:36.733 | 488AD6E         | 6TMSED   | NORM,GL5           | Gain, Eng. and D/L Chan                   | 2R0 | 4  | 0  | 4,666,658:48:0 |      |
| 1214 | 98 | 269 | 03:07:00.733 | 125DE4A         | 37IST    | 0,2,0,OFF,0,1,1    | Gain State 4                              | 4R0 | 4  | 0  | 4,666,658:84:0 |      |
| 1215 | 98 | 269 | 03:07:00.733 | 125DE           | NIMSINIT | GS                 | ##### GROUP START INIT                    | 4R0 | 4  | 0  | 4,666,658:84:0 |      |
| 1216 | 98 | 269 | 03:07:59.400 | 465KC6A         | 6DTRN    | CMD,6DTRN,465KC6   | DMS TRACK TURNAROUND                      | 4R0 | 4  | 0  | 4,666,659:81:0 |      |
| 1217 | 98 | 269 | 03:07:59.400 |                 | DMS:     | :*US-RUNUP         | P7, TRACK *1, FWD, TIC 265.06 +/- 4       | 4R0 | 4  | 0  | 4,666,659:81:0 |      |
| 1218 | 98 | 269 | 03:07:59.400 |                 | DMS:     | :*DMS-TURN         | P7, TRACK 2, REV, TIC 265.06 +/- 4        | 4R0 | 4  | 0  | 4,666,659:81:0 |      |
| 1219 | 98 | 269 | 03:08:00.800 |                 | DMS:     | :*US_AT_SP         | P7, TRACK 1, FWD, TIC * 265.18 +/- 4      | 4R0 | 4  | 0  | 4,666,659:83:1 |      |
| 1220 | 98 | 269 | 03:08:01.400 | 125DE4B         | 37MB     | 0,0,0,0,0,0        | Selects mirror (spatial) edit table       | 4R0 | 4  | 0  | 4,666,659:84:0 |      |
| 1221 | 98 | 269 | 03:08:01.400 | 125DE11A        | NIMSINIT | GE                 | ##### GROUP END INIT                      | 4R0 | 4  | 0  | 4,666,659:84:0 |      |
| 1222 | 98 | 269 | 03:08:06.066 |                 | DMS:     | :*US_RD            | P7, TRACK 1, FWD, TIC * 266.42 +/- 4      | 4R0 | 4  | 0  | 4,666,660:00:0 |      |
| 1223 | 98 | 269 | 03:08:07.266 |                 | DMS:     | :*RUNUP            | P7, TRACK *2, *REV, TIC * 266.48 +/- 4    | 4R0 | 4  | 0  | 4,666,660:01:8 |      |
| 1224 | 98 | 269 | 03:08:08.666 |                 | DMS:     | :*AT_SPD           | P7, TRACK 2, REV, TIC * 266.36 +/- 4      | 4R0 | 4  | 0  | 4,666,660:03:9 |      |
| 1225 | 98 | 269 | 03:10:02.733 | 127DE4A         | 37IOP    | 3,0                | Long Map, Grating Start Position =00      | 4R3 | 4  | 0  | 4,666,661:84:0 |      |
| 1226 | 98 | 269 | 03:10:02.733 | 127DE           | NIMSTAB  | GS                 | %%%%%% GROUP START TAB                    | 4R3 | 4  | 0  | 4,666,661:84:0 |      |
| 1227 | 98 | 269 | 03:10:03.400 | 127DE4B         | 37ETB    | 04,C4,35,FF,FF     | Loads wavelength edit table               | 4R3 | 4  | 0  | 4,666,661:85:0 |      |
| 1228 | 98 | 269 | 03:10:11.400 | 127DE11A        | NIMSTAB  | GE                 | %%%%%% GROUP END TAB                      | 4R3 | 4  | 0  | 4,666,662:06:0 |      |
| 1229 | 98 | 269 | 03:11:42.180 | 17NNSUCOMP01-   |          |                    | -----STOP-----                            | 4R3 | 4  | 0  | :              |      |
| 1230 | 98 | 269 | 03:11:42.180 | 17ENSUCOMP01-   |          |                    | -----START-----                           | 4R3 | 4  | 0  | :              |      |
| 1231 | 98 | 269 | 03:12:52.266 |                 | DMS:     | :*REVERSE          | P7, TRACK 2, REV, TIC * 199.87 +/- 4      | 4R3 | 4  | 0  | 4,666,664:65:3 |      |
| 1232 | 98 | 269 | 03:12:53.466 |                 | DMS:     | :*RUNUP            | P7, TRACK 3, FWD, TIC 199.81 +/- 4        | 4R3 | 4  | 0  | 4,666,664:67:1 |      |
| 1233 | 98 | 269 | 03:12:53.466 |                 | DMS:     | :*TURNARND         | P7, TRACK *3, *FWD, TIC * 199.81 +/- 4    | 4R3 | 4  | 0  | 4,666,664:67:1 |      |
| 1234 | 98 | 269 | 03:12:54.866 |                 | DMS:     | :*AT_SPD           | P7, TRACK 3, FWD, TIC * 199.93 +/-        | 4R3 | 4  | 0  | 4,666,664:69:2 |      |
| 1235 | 98 | 269 | 03:13:06.866 |                 | DMS:     | :*AUTOSTOP         | P7, TRACK 3, FWD, TIC * 202.06 +/-        | 4R3 | 4  | 0  | 4,666,664:87:2 |      |
| 1236 | 98 | 269 | 03:13:08.066 |                 | DMS:     | :*READY            | RDY, TRACK 3, FWD, TIC * 202.12 +/-       | 4R3 | 4  | 0  | 4,666,664:89:0 |      |
| 1237 | 98 | 269 | 03:17:11.400 | 165DE4A         | 7SCAN    | NORM,291,844997,   | Check S/P Position                        | 4R3 | 4  | 0  | 4,666,668:90:0 |      |
| 1238 | 98 | 269 | 03:19:05.400 |                 | DMS:     | :*E4-DELAY         | RDY, TRACK *1, FWD, TIC 202.12 +/-        | 4R3 | 4  | 0  | 4,666,670:79:0 |      |
| 1239 | 98 | 269 | 03:19:05.400 | 465KD6A         | 6DMSC    | P7,3               | DMS Control Tape P/B 7.68Kbps             | 4R3 | 4  | 0  | 4,666,670:79:0 |      |
| 1240 | 98 | 269 | 03:19:12.066 |                 | DMS:     | :*RUNUP            | P7, TRACK *3, FWD, TIC 202.12 +/-         | 4R3 | 4  | 0  | 4,666,670:89:0 |      |
| 1241 | 98 | 269 | 03:19:13.466 |                 | DMS:     | :*P_SLEW           | P7, TRACK 3, FWD, TIC * 202.24 +/-        | 4R3 | 4  | 0  | 4,666,671:00:1 |      |
| 1242 | 98 | 269 | 03:19:13.466 |                 | DMS:     | :*AT_SPD           | P7, TRACK 3, FWD, TIC 202.24 +/-          | 4R3 | 4  | 0  | 4,666,671:00:1 |      |
| 1243 | 98 | 269 | 03:20:14.066 |                 | DMS:     | :*RUNDOWN          | P7, TRACK 3, FWD, TIC * 216.45 +/-        | 4R3 | 4  | 0  | 4,666,672:00:0 |      |
| 1244 | 98 | 269 | 03:20:14.066 | 465KD6B         | 6DMSC    | RDY,3              | DMS Control Tape stop                     | 4R3 | 4  | 0  | 4,666,672:00:0 |      |
| 1245 | 98 | 269 | 03:20:15.266 |                 | DMS:     | :*READY            | RDY, TRACK 3, FWD, TIC * 216.51 +/-       | 4R3 | 4  | 0  | 4,666,672:01:8 |      |
| 1246 | 98 | 269 | 03:21:01.400 | 175DE422A6A     | 6DMSC    | R28,3              | DMS Control                               | 4R3 | 4  | 0  | 4,666,672:71:0 |      |
| 1247 | 98 | 269 | 03:21:01.400 |                 | DMS:     | :*E4-DELAY         | RDY, TRACK *1, FWD, TIC 216.51 +/-        | 4R3 | 4  | 0  | 4,666,672:71:0 |      |
| 1248 | 98 | 269 | 03:21:05.400 | 117DE           | CSMOS    | GS                 | ##### GROUP START CSMOS                   | 4R3 | 4  | 0  | 4,666,672:77:0 |      |
| 1249 | 98 | 269 | 03:21:08.066 |                 | DMS:     | :*RUNUP            | R28, TRACK *3, FWD, TIC 216.51 +/-        | 4R3 | 4  | 0  | 4,666,672:81:0 |      |
| 1250 | 98 | 269 | 03:21:11.400 | 175DE176A6A     | 6TMREC   | MPW                | 28.8 Kbps PWS + NIMS RECORD Record Mode C | 4R3 | 4  | 0  | 4,666,672:86:0 |      |
| 1251 | 98 | 269 | 03:21:12.066 |                 | DMS:     | :*AT_SPD           | R28, TRACK 3, FWD, TIC 218.01 +/-         | 4R3 | 4  | 0  | 4,666,672:87:0 |      |
| 1252 | 98 | 269 | 03:21:12.066 | 17ENSUCOMP01-   | NIMPBK   | 301DE              | EUROPA SURFACE COMPOSITION                | 4R3 | 4  | 0  | :              |      |
| 1253 | 98 | 269 | 03:21:12.066 |                 | DMS:     | :*RECORD           | R28, TRACK 3, FWD, TIC * 218.01 +/-       | 4R3 | 4  | 0  | 4,666,672:87:0 |      |
| 1254 | 98 | 269 | 03:21:13.400 | 165DE4B         | 7VECT    |                    | Inert vect update UTC                     | 4R3 | 4  | 0  | 4,666,672:89:0 |      |
| 1255 | 98 | 269 | 03:21:14.733 | 117DE105A106A4A | 7STRP    | -0.034313,0,0,0,0, | Slew = 0.03                               | 4R3 | 4  | 0  | 4,666,673:00:0 |      |
| 1256 | 98 | 269 | 03:23:55.333 | 17ENSUCOMP01-   | NIMPBK   | 301DJ              | EUROPA SURFACE COMPOSITION                | 4R3 | 4  | 0  | :              |      |
| 1257 | 98 | 269 | 03:24:47.000 | 17ENSUCOMP01-   | DESELC   | 300DJ              | EUROPA SURFACE COMPOSITION                | 4R3 | 4  | 0  | :              |      |
| 1258 | 98 | 269 | 03:25:32.666 | 17ENSUCOMP01-   | NIMPBK   | 301DK              | EUROPA SURFACE COMPOSITION                | 4R3 | 4  | 0  | :              |      |
| 1259 | 98 | 269 | 03:25:43.333 | 17ENSUCOMP01-   | DESELC   | 300DK              | EUROPA SURFACE COMPOSITION                | 4R3 | 4  | 0  | :              |      |
| 1260 | 98 | 269 | 03:26:16.000 | 17ENSUCOMP01-   | NIMPBK   | 301DL              | EUROPA SURFACE COMPOSITION                | 4R3 | 4  | 0  | :              |      |
| 1261 | 98 | 269 | 03:26:26.666 | 17ENSUCOMP01-   | DESELC   | 300DL              | EUROPA SURFACE COMPOSITION                | 4R3 | 4  | 0  | :              |      |
| 1262 | 98 | 269 | 03:27:51.333 | 17ENSUCOMP01-   | NIMPBK   | 301DM              | EUROPA SURFACE COMPOSITION                | 4R3 | 4  | 0  | :              |      |
| 1263 | 98 | 269 | 03:28:18.666 | 17ENSUCOMP01-   | DESELC   | 300DM              | EUROPA SURFACE COMPOSITION                | 4R3 | 4  | 0  | :              |      |

| Line | YR | DOY | SCET - GMT   | PSID           | Command          | Parameters                          | Description   | GCM | GO | GS | RIM | MF I |
|------|----|-----|--------------|----------------|------------------|-------------------------------------|---|-----|----|----|-----|------|
| 1264 | 98 | 269 | 03:28:43.333 | 17ENSUCOMP01-  | NIMPBK           | 301DN                               | EUROPA SURFACE COMPOSITION                                | 4R3 | 4  | 0  | :   | :    |
| 1265 | 98 | 269 | 03:28:52.666 | 17ENSUCOMP01-  | DESEL            | 300DN                               | EUROPA SURFACE COMPOSITION                                | 4R3 | 4  | 0  | :   | :    |
| 1266 | 98 | 269 | 03:29:18.000 | 17ENSUCOMP01-  | NIMPBK           | 301DO                               | EUROPA SURFACE COMPOSITION                                | 4R3 | 4  | 0  | :   | :    |
| 1267 | 98 | 269 | 03:30:00.666 | 17ENSUCOMP01-  | DESEL            | 300DO                               | EUROPA SURFACE COMPOSITION                                | 4R3 | 4  | 0  | :   | :    |
| 1268 | 98 | 269 | 03:30:44.666 | 17ENSUCOMP01-  | NIMPBK           | 301DS                               | EUROPA SURFACE COMPOSITION                                | 4R3 | 4  | 0  | :   | :    |
| 1269 | 98 | 269 | 03:30:55.333 | 17ENSUCOMP01-  | DESEL            | 300DS                               | EUROPA SURFACE COMPOSITION                                | 4R3 | 4  | 0  | :   | :    |
| 1270 | 98 | 269 | 03:31:45.333 | 17ENSUCOMP01-  | NIMPBK           | 301DT                               | EUROPA SURFACE COMPOSITION                                | 4R3 | 4  | 0  | :   | :    |
| 1271 | 98 | 269 | 03:32:16.666 | 17ENSUCOMP01-  | DESEL            | 300DT                               | EUROPA SURFACE COMPOSITION                                | 4R3 | 4  | 0  | :   | :    |
| 1272 | 98 | 269 | 03:35:56.666 | 17ENSUCOMP01-  | NIMPBK           | 301DU                               | EUROPA SURFACE COMPOSITION                                | 4R3 | 4  | 0  | :   | :    |
| 1273 | 98 | 269 | 03:35:58.180 | 17ENSUCOMP01-  | -----STOP-----   |                                     |   | 4R3 | 4  | 0  | :   | :    |
| 1274 | 98 | 269 | 03:36:46.666 | 17ENSUCOMP01-  | DESEL            | 300DU                               | EUROPA SURFACE COMPOSITION                                | 4R3 | 4  | 0  | :   | :    |
| 1275 | 98 | 269 | 03:37:32.000 | 17ENSUCOMP01-  | NIMPBK           | 300DV                               | EUROPA SURFACE COMPOSITION                                | 4R3 | 4  | 0  | :   | :    |
| 1276 | 98 | 269 | 03:37:38.666 | 17ENSUCOMP01-  | DESEL            | 300DV                               | EUROPA SURFACE COMPOSITION                                | 4R3 | 4  | 0  | :   | :    |
| 1277 | 98 | 269 | 03:40:24.066 | 117DE11A       | CSMOS            | GE                                  | ***** GROUP END CSMOS                                     | 4R3 | 4  | 0  | :   | :    |
| 1278 | 98 | 269 | 03:40:32.733 | 17ENSUCOMP01-  | DESEL            | 300DE                               | EUROPA SURFACE COMPOSITION                                | 4R3 | 4  | 0  | :   | :    |
| 1280 | 98 | 269 | 03:41:12.066 | 165IK4A        | 7SCAN            | NORM,313,274998,<br>DMS: : *RUNDOWN | Check S/P Position<br>R28, TRACK 3, FWD, TIC *1272.69 +/- | 4R3 | 4  | 0  | :   | :    |
| 1281 | 98 | 269 | 03:41:12.066 | 175DE422A6B    | 6DMSC            | RDY,0                               | DMS Control Tape stop                                     | 4R3 | 4  | 0  | :   | :    |
| 1282 | 98 | 269 | 03:41:13.266 |                | DMS: : *READY    |                                     | RDY, TRACK 3, FWD, TIC *1272.99 +/-                       | 4R3 | 4  | 0  | :   | :    |
| 1283 | 98 | 269 | 03:41:32.066 | 118IK          | SMOS             | GS                                  |   | 4R3 | 4  | 0  | :   | :    |
| 1284 | 98 | 269 | 03:41:45.400 |                | DMS: : *E4-DELAY |                                     | RDY, TRACK *1, FWD, TIC 1272.99 +/-                       | 4R3 | 4  | 0  | :   | :    |
| 1285 | 98 | 269 | 03:41:45.400 | 175IK422A6A    | 6DMSC            | R403.3                              | DMS Control   | 4R3 | 4  | 0  | :   | :    |
| 1286 | 98 | 269 | 03:41:52.066 |                | DMS: : *RUNUP    |                                     | R403, TRACK *3, FWD, TIC 1272.99 +/-                      | 4R3 | 4  | 0  | :   | :    |
| 1287 | 98 | 269 | 03:41:52.733 | 165IK4B        | 7VECT            |                                     | Inert vect update UTC                                     | 4R3 | 4  | 0  | :   | :    |
| 1288 | 98 | 269 | 03:41:55.400 | 175IK176A6A    | 6TMREC           | IM4                                 | 403.2 KBPS IMAGE RECORD Record Mode Chang                 | 4R3 | 4  | 0  | :   | :    |
| 1289 | 98 | 269 | 03:41:55.933 |                | DMS: : *RECORD   |                                     | R403, TRACK 3, FWD, TIC *1295.99 +/-                      | 4R3 | 4  | 0  | :   | :    |
| 1290 | 98 | 269 | 03:41:55.933 |                | DMS: : *AT SPD   |                                     | R403, TRACK 3, FWD, TIC 1295.99 +/-                       | 4R3 | 4  | 0  | :   | :    |
| 1291 | 98 | 269 | 03:41:56.066 | 118IK110A11A4A | 7STRP            | 0.0,0.00731,26.0                    | Slew =2,3.1   | 4R3 | 4  | 0  | :   | :    |
| 1292 | 98 | 269 | 03:42:04.733 | 118IK11A       | SMOS             | GE                                  |   | 4R3 | 4  | 0  | :   | :    |
| 1293 | 98 | 269 | 03:42:11.400 | 175IK422A6B    | 6DMSC            | RDY,0                               | DMS Control Tape stop                                     | 4R3 | 4  | 0  | :   | :    |
| 1294 | 98 | 269 | 03:42:11.400 |                | DMS: : *RUNDOWN  |                                     | R403, TRACK 3, FWD, TIC *1486.31 +/-                      | 4R3 | 4  | 0  | :   | :    |
| 1295 | 98 | 269 | 03:42:14.133 |                | DMS: : *READY    |                                     | RDY, TRACK 3, FWD, TIC *1490.31 +/-                       | 4R3 | 4  | 0  | :   | :    |
| 1296 | 98 | 269 | 03:42:14.733 | 165IL4A        | 7SCAN            | NORM,318,237999,<br>R403.3          | Check S/P Position  | 4R3 | 4  | 0  | :   | :    |
| 1297 | 98 | 269 | 03:43:20.733 | 175IL422A6A    | 6DMSC            | R403.3                              | DMS Control   | 4R3 | 4  | 0  | :   | :    |
| 1298 | 98 | 269 | 03:43:20.733 |                | DMS: : *E4-DELAY |                                     | RDY, TRACK *1, FWD, TIC 1490.31 +/-                       | 4R3 | 4  | 0  | :   | :    |
| 1299 | 98 | 269 | 03:43:21.400 | 118IL          | SMOS             | GS                                  |   | 4R3 | 4  | 0  | :   | :    |
| 1300 | 98 | 269 | 03:43:27.400 |                | DMS: : *RUNUP    |                                     | R403, TRACK *3, FWD, TIC 1490.31 +/-                      | 4R3 | 4  | 0  | :   | :    |
| 1301 | 98 | 269 | 03:43:28.066 | 165IL4B        | 7VECT            |                                     | Inert vect update UTC                                     | 4R3 | 4  | 0  | :   | :    |
| 1302 | 98 | 269 | 03:43:30.733 | 175IL176A6A    | 6TMREC           | IM4                                 | 403.2 KBPS IMAGE RECORD Record Mode Chang                 | 4R3 | 4  | 0  | :   | :    |
| 1303 | 98 | 269 | 03:43:31.266 |                | DMS: : *RECORD   |                                     | R403, TRACK 3, FWD, TIC *1513.31 +/-                      | 4R3 | 4  | 0  | :   | :    |
| 1304 | 98 | 269 | 03:43:31.266 |                | DMS: : *AT SPD   |                                     | R403, TRACK 3, FWD, TIC 1513.31 +/-                       | 4R3 | 4  | 0  | :   | :    |
| 1305 | 98 | 269 | 03:43:31.400 | 118IL110A11A4A | 7STRP            | -0.00599,-0.0004                    | Slew = 3.01   | 4R3 | 4  | 0  | :   | :    |
| 1306 | 98 | 269 | 03:43:48.733 | 118IL110A11B4A | 7STRP            | 0.0002,-0.00731,                    | Slew =0,3.6   | 4R3 | 4  | 0  | :   | :    |
| 1307 | 98 | 269 | 03:43:57.400 | 118IL110A11B4B | 7STRP            | -0.00599,-0.0004                    | Slew =,3.01   | 4R3 | 4  | 0  | :   | :    |
| 1308 | 98 | 269 | 03:44:03.513 | 17NSUCOMP02-   | -----START-----  |                                     |   | 4R3 | 4  | 0  | :   | :    |
| 1309 | 98 | 269 | 03:44:06.066 | 118IL11A       | SMOS             | GE                                  |   | 4R3 | 4  | 0  | :   | :    |
| 1310 | 98 | 269 | 03:44:06.733 | 116IX4A        | 7STRP            | -0.006,-0.005,0,                    | Slew =0,3.1   | 4R3 | 4  | 0  | :   | :    |
| 1311 | 98 | 269 | 03:44:14.733 | 116IY4A        | 7STRP            | -0.00599,-0.0034                    | Slew =0,3.1   | 4R3 | 4  | 0  | :   | :    |
| 1312 | 98 | 269 | 03:44:23.400 | 116IL4A        | 7STRP            | -0.07504,-0.0491                    | Slew =13.01   | 4R3 | 4  | 0  | :   | :    |
| 1313 | 98 | 269 | 03:44:29.400 |                | DMS: : *RUNDOWN  |                                     | R403, TRACK 3, FWD, TIC *2228.62 +/-                      | 4R3 | 4  | 0  | :   | :    |
| 1314 | 98 | 269 | 03:44:29.400 | 175IL422A6B    | 6DMSC            | RDY,0                               | DMS Control Tape stop                                     | 4R3 | 4  | 0  | :   | :    |
| 1315 | 98 | 269 | 03:44:32.133 |                | DMS: : *READY    |                                     | RDY, TRACK 3, FWD, TIC *2232.62 +/-                       | 4R3 | 4  | 0  | :   | :    |
| 1316 | 98 | 269 | 03:44:38.733 |                | DMS: : *E4-DELAY |                                     | RDY, TRACK *1, FWD, TIC 2232.62 +/-                       | 4R3 | 4  | 0  | :   | :    |
| 1317 | 98 | 269 | 03:44:38.733 | 175JL422A6A    | 6DMSC            | R403.3                              | DMS Control   | 4R3 | 4  | 0  | :   | :    |
| 1318 | 98 | 269 | 03:44:45.400 |                | DMS: : *RUNUP    |                                     | R403, TRACK *3, FWD, TIC 2232.62 +/-                      | 4R3 | 4  | 0  | :   | :    |

| Line | YR | DOY | SCET - GMT   | PSID           | Command | Parameters       | Description                          | GCM | GO | GS | RIM       | MF I  |
|------|----|-----|--------------|----------------|---------|------------------|--------------------------------------|-----|----|----|-----------|-------|
| 1319 | 98 | 269 | 03:44:48.733 | 175JL176A6A    | 6TMREC  | IM4              | 403.2 KBPS IMAGE RECORD              | 4R3 | 4  | 0  | 4,666,696 | :28:0 |
| 1320 | 98 | 269 | 03:44:49.266 |                | DMS:    | : *RECORD        | R403, TRACK 3, FWD, TIC *2255.62 +/- | 4R3 | 4  | 0  | 4,666,696 | :28:8 |
| 1321 | 98 | 269 | 03:44:49.266 |                | DMS:    | : *AT SPD        | R403, TRACK 3, FWD, TIC 2255.62 +/-  | 4R3 | 4  | 0  | 4,666,696 | :28:8 |
| 1322 | 98 | 269 | 03:44:49.400 | 116JL4A        | 7STRP   | -0.0044,-0.0076, | Slew =0.3,1                          | 4R3 | 4  | 0  | 4,666,696 | :29:0 |
| 1323 | 98 | 269 | 03:44:58.066 | 116JB4A        | 7STRP   | -0.0042,-0.0078, | Slew =0.3,1                          | 4R3 | 4  | 0  | 4,666,696 | :42:0 |
| 1324 | 98 | 269 | 03:45:13.400 |                | DMS:    | : *RUNDOWN       | R403, TRACK 3, FWD, TIC *2552.57 +/- | 4R3 | 4  | 0  | 4,666,696 | :65:0 |
| 1325 | 98 | 269 | 03:45:13.400 | 175JL422A6B    | 6DMSC   | RDY,0            | DMS Control Tape stop                | 4R3 | 4  | 0  | 4,666,696 | :65:0 |
| 1326 | 98 | 269 | 03:45:16.133 |                | DMS:    | : *READY         | RDY, TRACK 3, FWD, TIC *2556.57 +/-  | 4R3 | 4  | 0  | 4,666,696 | :69:1 |
| 1327 | 98 | 269 | 03:45:16.733 | 165IM4A        | 7SCAN   | NORM,315.393997, | Check S/P Position                   | 4R3 | 4  | 0  | 4,666,696 | :70:0 |
| 1328 | 98 | 269 | 03:45:34.733 | 118IM          | SMOS    | GS               |                                      | 4R3 | 4  | 0  | 4,666,697 | :06:0 |
| 1329 | 98 | 269 | 03:46:05.400 |                | DMS:    | : *E4-DELAY      | RDY, TRACK *1, FWD, TIC 2556.57 +/-  | 4R3 | 4  | 0  | 4,666,697 | :52:0 |
| 1330 | 98 | 269 | 03:46:05.400 | 175IM422A6A    | 6DMSC   | R403.3           | DMS Control                          | 4R3 | 4  | 0  | 4,666,697 | :52:0 |
| 1331 | 98 | 269 | 03:46:12.066 |                | DMS:    | : *RUNUP         | R403, TRACK *3, FWD, TIC 2556.57 +/- | 4R3 | 4  | 0  | 4,666,697 | :62:0 |
| 1332 | 98 | 269 | 03:46:12.733 | 165IM4B        | 7VECT   |                  | Inert vect update UTC                | 4R3 | 4  | 0  | 4,666,697 | :63:0 |
| 1333 | 98 | 269 | 03:46:15.400 | 175IM176A6A    | 6TMREC  | IM4              | 403.2 KBPS IMAGE RECORD              | 4R3 | 4  | 0  | 4,666,697 | :67:0 |
| 1334 | 98 | 269 | 03:46:15.933 |                | DMS:    | : *RECORD        | R403, TRACK 3, FWD, TIC *2579.57 +/- | 4R3 | 4  | 0  | 4,666,697 | :67:8 |
| 1335 | 98 | 269 | 03:46:15.933 |                | DMS:    | : *AT SPD        | R403, TRACK 3, FWD, TIC 2579.57 +/-  | 4R3 | 4  | 0  | 4,666,697 | :67:8 |
| 1336 | 98 | 269 | 03:46:16.066 | 118IM10A111A4A | 7STRP   | 0.0,-0.00731,26, | Slew =3.3,1                          | 4R3 | 4  | 0  | 4,666,697 | :68:0 |
| 1337 | 98 | 269 | 03:46:33.400 | 118IM11A       | SMOS    | GE               |                                      | 4R3 | 4  | 0  | 4,666,698 | :03:0 |
| 1338 | 98 | 269 | 03:46:40.066 |                | DMS:    | : *RUNDOWN       | R403, TRACK 3, FWD, TIC *2876.52 +/- | 4R3 | 4  | 0  | 4,666,698 | :13:0 |
| 1339 | 98 | 269 | 03:46:40.066 | 175IM422A6B    | 6DMSC   | RDY,0            | DMS Control Tape stop                | 4R3 | 4  | 0  | 4,666,698 | :13:0 |
| 1340 | 98 | 269 | 03:46:42.800 |                | DMS:    | : *READY         | RDY, TRACK 3, FWD, TIC *2880.52 +/-  | 4R3 | 4  | 0  | 4,666,698 | :17:1 |
| 1341 | 98 | 269 | 03:46:48.066 | 165IN4A        | 7SCAN   | NORM,322.452999, | Check S/P Position                   | 4R3 | 4  | 0  | 4,666,698 | :25:0 |
| 1342 | 98 | 269 | 03:47:36.066 | 118IN          | SMOS    | GS               |                                      | 4R3 | 4  | 0  | 4,666,699 | :06:0 |
| 1343 | 98 | 269 | 03:47:40.733 |                | DMS:    | : *E4-DELAY      | RDY, TRACK *1, FWD, TIC 2880.52 +/-  | 4R3 | 4  | 0  | 4,666,699 | :13:0 |
| 1344 | 98 | 269 | 03:47:40.733 | 175IN422A6A    | 6DMSC   | R403.3           | DMS Control                          | 4R3 | 4  | 0  | 4,666,699 | :13:0 |
| 1345 | 98 | 269 | 03:47:47.400 |                | DMS:    | : *RUNUP         | R403, TRACK *3, FWD, TIC 2880.52 +/- | 4R3 | 4  | 0  | 4,666,699 | :23:0 |
| 1346 | 98 | 269 | 03:47:48.066 | 165IN4B        | 7VECT   |                  | Inert vect update UTC                | 4R3 | 4  | 0  | 4,666,699 | :24:0 |
| 1347 | 98 | 269 | 03:47:50.733 | 175IN176A6A    | 6TMREC  | IM4              | 403.2 KBPS IMAGE RECORD              | 4R3 | 4  | 0  | 4,666,699 | :28:0 |
| 1348 | 98 | 269 | 03:47:51.266 |                | DMS:    | : *AT SPD        | R403, TRACK 3, FWD, TIC 2903.52 +/-  | 4R3 | 4  | 0  | 4,666,699 | :28:8 |
| 1349 | 98 | 269 | 03:47:51.266 |                | DMS:    | : *RECORD        | R403, TRACK 3, FWD, TIC *2903.52 +/- | 4R3 | 4  | 0  | 4,666,699 | :28:8 |
| 1350 | 98 | 269 | 03:47:51.400 | 118IN10A111A4A | 7STRP   | -0.00596,0.0005, | Slew =,2,71                          | 4R3 | 4  | 0  | 4,666,699 | :29:0 |
| 1351 | 98 | 269 | 03:48:00.066 | 118IN11A       | SMOS    | GE               |                                      | 4R3 | 4  | 0  | 4,666,699 | :42:0 |
| 1352 | 98 | 269 | 03:48:06.733 | 175IN422A6B    | 6DMSC   | RDY,0            | DMS Control Tape stop                | 4R3 | 4  | 0  | 4,666,699 | :52:0 |
| 1353 | 98 | 269 | 03:48:06.733 |                | DMS:    | : *RUNDOWN       | R403, TRACK 3, FWD, TIC *3093.84 +/- | 4R3 | 4  | 0  | 4,666,699 | :52:0 |
| 1354 | 98 | 269 | 03:48:09.466 |                | DMS:    | : *READY         | RDY, TRACK 3, FWD, TIC *3097.84 +/-  | 4R3 | 4  | 0  | 4,666,699 | :56:1 |
| 1355 | 98 | 269 | 03:48:15.400 | 165IO4A        | 7SCAN   | NORM,333.078999, | Check S/P Position                   | 4R3 | 4  | 0  | 4,666,699 | :65:0 |
| 1356 | 98 | 269 | 03:49:24.733 |                | DMS:    | : *E4-DELAY      | RDY, TRACK *1, FWD, TIC 3097.84 +/-  | 4R3 | 4  | 0  | 4,666,700 | :78:0 |
| 1357 | 98 | 269 | 03:49:24.733 | 175IO422A6A    | 6DMSC   | R403.3           | DMS Control                          | 4R3 | 4  | 0  | 4,666,700 | :78:0 |
| 1358 | 98 | 269 | 03:49:25.400 | 118IO          | SMOS    | GS               |                                      | 4R3 | 4  | 0  | 4,666,700 | :79:0 |
| 1359 | 98 | 269 | 03:49:31.400 |                | DMS:    | : *RUNUP         | R403, TRACK *3, FWD, TIC 3097.84 +/- | 4R3 | 4  | 0  | 4,666,700 | :88:0 |
| 1360 | 98 | 269 | 03:49:32.066 | 165IO4B        | 7VECT   |                  | Inert vect update UTC                | 4R3 | 4  | 0  | 4,666,700 | :89:0 |
| 1361 | 98 | 269 | 03:49:34.733 | 175IO176A6A    | 6TMREC  | IM4              | 403.2 KBPS IMAGE RECORD              | 4R3 | 4  | 0  | 4,666,701 | :02:0 |
| 1362 | 98 | 269 | 03:49:35.266 |                | DMS:    | : *AT SPD        | R403, TRACK 3, FWD, TIC 3120.84 +/-  | 4R3 | 4  | 0  | 4,666,701 | :02:8 |
| 1363 | 98 | 269 | 03:49:35.266 |                | DMS:    | : *RECORD        | R403, TRACK 3, FWD, TIC *3120.84 +/- | 4R3 | 4  | 0  | 4,666,701 | :02:8 |
| 1364 | 98 | 269 | 03:49:35.400 | 118IO10A111A4A | 7STRP   | -0.00593,0.003,2 | Slew =,2,61                          | 4R3 | 4  | 0  | 4,666,701 | :03:0 |
| 1365 | 98 | 269 | 03:50:18.733 | 118IO11A       | SMOS    | GE               |                                      | 4R3 | 4  | 0  | 4,666,701 | :68:0 |
| 1366 | 98 | 269 | 03:50:19.400 | 116IO4A        | 7STRP   | -0.00593,-0.0010 | Slew =0.2,8                          | 4R3 | 4  | 0  | 4,666,701 | :69:0 |
| 1367 | 98 | 269 | 03:50:27.400 | 116JO4A        | 7STRP   | -0.00593,-0.0010 | Slew =0.2,8                          | 4R3 | 4  | 0  | 4,666,701 | :81:0 |
| 1368 | 98 | 269 | 03:50:36.066 | 116JC4A        | 7STRP   | -0.00593,-0.0008 | Slew =0.2,8                          | 4R3 | 4  | 0  | 4,666,702 | :03:0 |
| 1369 | 98 | 269 | 03:50:51.400 | 175IO422A6B    | 6DMSC   | RDY,0            | DMS Control Tape stop                | 4R3 | 4  | 0  | 4,666,702 | :26:0 |
| 1370 | 98 | 269 | 03:50:51.400 |                | DMS:    | : *RUNDOWN       | R403, TRACK 3, FWD, TIC *4057.63 +/- | 4R3 | 4  | 0  | 4,666,702 | :26:0 |
| 1371 | 98 | 269 | 03:50:54.133 |                | DMS:    | : *READY         | RDY, TRACK 3, FWD, TIC *4061.63 +/-  | 4R3 | 4  | 0  | 4,666,702 | :30:1 |
| 1372 | 98 | 269 | 03:51:01.400 | 165IP4A        | 7SCAN   | NORM,342.731998, | Check S/P Position                   | 4R3 | 4  | 0  | 4,666,702 | :41:0 |
| 1373 | 98 | 269 | 03:52:00.733 |                | DMS:    | : *E4-DELAY      | RDY, TRACK *1, FWD, TIC 4061.63 +/-  | 4R3 | 4  | 0  | 4,666,703 | :39:0 |

| Line | YR | DOY | SCET - GMT   | PSID           | Command  | Parameters       | Description                                | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|----------------|----------|------------------|--|-----|----|----|----------------|------|
| 1374 | 98 | 269 | 03:52:00.733 | 175IP422A6A    | 6DMSC    | R403,3           | DMS Control                                | 4R3 | 4  | 0  | 4,666,703:39:0 |      |
| 1375 | 98 | 269 | 03:52:07.400 |                | DMS:     | : *RUNUP         | R403, TRACK *3, FWD, TIC 4061.63 +/- 2     | 4R3 | 4  | 0  | 4,666,703:49:0 |      |
| 1376 | 98 | 269 | 03:52:08.066 | 165IP4B        | 7VECT    |                  | Inert vect update UTC                      | 4R3 | 4  | 0  | 4,666,703:50:0 |      |
| 1377 | 98 | 269 | 03:52:10.733 | 175IP176A6A    | 6TMREC   | IM4              | 403.2 KBPS IMAGE RECORD Record Mode Chang  | 4R3 | 4  | 0  | 4,666,703:54:0 |      |
| 1378 | 98 | 269 | 03:52:11.266 |                | DMS:     | : *AT SPD        | R403, TRACK 3, FWD, TIC 4084.63 +/- 2      | 4R3 | 4  | 0  | 4,666,703:54:8 |      |
| 1379 | 98 | 269 | 03:52:11.266 |                | DMS:     | : *RECORD        | R403, TRACK 3, FWD, TIC *4084.63 +/- 2     | 4R3 | 4  | 0  | 4,666,703:54:8 |      |
| 1380 | 98 | 269 | 03:52:18.066 |                | DMS:     | : *RUNDOWN       | R403, TRACK 3, FWD, TIC *4168.31 +/- 2     | 4R3 | 4  | 0  | 4,666,703:65:0 |      |
| 1381 | 98 | 269 | 03:52:18.066 | 175IP422A6B    | 6DMSC    | RDY,0            | DMS Control Tape stop                      | 4R3 | 4  | 0  | 4,666,703:65:0 |      |
| 1382 | 98 | 269 | 03:52:20.800 |                | DMS:     | : *READY         | RDY, TRACK 3, FWD, TIC *4172.31 +/- 2      | 4R3 | 4  | 0  | 4,666,703:69:1 |      |
| 1383 | 98 | 269 | 03:52:30.066 | 165IQ4A        | 7SCAN    | NORM,347.742996, | Check S/P Position                         | 4R3 | 4  | 0  | 4,666,703:83:0 |      |
| 1384 | 98 | 269 | 03:52:46.733 | 20DF5A         | 37PL     |                  | Program Load (halts microprocessor & unwri | 4R3 | 4  | 0  | 4,666,704:17:0 |      |
| 1385 | 98 | 269 | 03:52:48.066 | 20DF5B         | 37MRL    |                  | Memory Realocate (software operates from R | 4R3 | 4  | 0  | 4,666,704:19:0 |      |
| 1386 | 98 | 269 | 03:52:56.733 | 20DF6A         | 6MCPY    | NIMS             | NIMS,1000,LLM1A,7300,77F7                  | 4R3 | 4  | 0  | 4,666,704:32:0 |      |
| 1387 | 98 | 269 | 03:53:06.733 | 20DF6B         | 6MCPY    | NIMS             | NIMS,1598,LLM1A,77F8,781D                  | 4R3 | 4  | 0  | 4,666,704:47:0 |      |
| 1388 | 98 | 269 | 03:53:16.733 | 20DF5C         | 37IRT    |                  | Instrument Reset (goes into POR state)     | 260 | 4  | 0  | 4,666,704:62:0 |      |
| 1389 | 98 | 269 | 03:53:18.066 | 20DF5D         | 37MNI    |                  | Memory Normal (software operates from ROM) | 260 | 4  | 0  | 4,666,704:64:0 |      |
| 1390 | 98 | 269 | 03:53:26.733 | 20DF4A         | 37IST    | 1,2,0,OFF,0,0,0  | Chopper ON, Sync, Chopper (Ref)            | 2R0 | 4  | 0  | 4,666,704:77:0 |      |
| 1391 | 98 | 269 | 03:53:36.066 |                | DMS:     | : *E4-DELAY      | RDY, TRACK *1, FWD, TIC 4172.31 +/- 2      | 2R0 | 4  | 0  | 4,666,705:00:0 |      |
| 1392 | 98 | 269 | 03:53:36.066 | 175IQ422A6A    | 6DMSC    | R403,3           | DMS Control                                | 2R0 | 4  | 0  | 4,666,705:00:0 |      |
| 1393 | 98 | 269 | 03:53:36.733 | 118IQ          | SMOS     | GS               |  | 2R0 | 4  | 0  | 4,666,705:01:0 |      |
| 1394 | 98 | 269 | 03:53:42.733 |                | DMS:     | : *RUNUP         | R403, TRACK *3, FWD, TIC 4172.31 +/- 2     | 2R0 | 4  | 0  | 4,666,705:10:0 |      |
| 1395 | 98 | 269 | 03:53:43.400 | 165IQ4B        | 7VECT    |                  | Inert vect update UTC                      | 2R0 | 4  | 0  | 4,666,705:11:0 |      |
| 1396 | 98 | 269 | 03:53:46.066 | 175IQ176A6A    | 6TMREC   | IM4              | 403.2 KBPS IMAGE RECORD Record Mode Chang  | 2R0 | 4  | 0  | 4,666,705:15:0 |      |
| 1397 | 98 | 269 | 03:53:46.600 |                | DMS:     | : *RECORD        | R403, TRACK 3, FWD, TIC *4195.31 +/- 2     | 2R0 | 4  | 0  | 4,666,705:15:8 |      |
| 1398 | 98 | 269 | 03:53:46.600 |                | DMS:     | : *AT SPD        | R403, TRACK 3, FWD, TIC 4195.31 +/- 3      | 2R0 | 4  | 0  | 4,666,705:15:8 |      |
| 1399 | 98 | 269 | 03:53:46.733 | 118IQ110A11A4A | 7STRP    | 0,0,0,00731,26,0 | Slew =2,4,2                                | 2R0 | 4  | 0  | 4,666,705:16:0 |      |
| 1400 | 98 | 269 | 03:53:55.400 | 118IQ110A11A4B | 7STRP    | 0,00604,-0,0008, | Slew =0,3,1                                | 2R0 | 4  | 0  | 4,666,705:29:0 |      |
| 1401 | 98 | 269 | 03:54:04.066 | 118IQ110A11A4C | 7STRP    | 0,0,0,00731,26,0 | Slew =2,4,2                                | 2R0 | 4  | 0  | 4,666,705:42:0 |      |
| 1402 | 98 | 269 | 03:54:10.179 | 17NNSUCOMP02-  |          |                  | -----STOP-----                             | 2R0 | 4  | 0  | : :            |      |
| 1403 | 98 | 269 | 03:54:10.179 | 17ENSUCOMP02-  |          |                  | -----START-----                            | 2R0 | 4  | 0  | : :            |      |
| 1404 | 98 | 269 | 03:54:12.733 | 118IQ11A       | SMOS     | GE               |  | 2R0 | 4  | 0  | 4,666,705:55:0 |      |
| 1405 | 98 | 269 | 03:54:14.733 | 175IQ422A6B    | 6DMSC    | RDY,0            | DMS Control Tape stop                      | 2R0 | 4  | 0  | 4,666,705:58:0 |      |
| 1406 | 98 | 269 | 03:54:14.733 |                | DMS:     | : *RUNDOWN       | R403, TRACK 3, FWD, TIC *4541.48 +/- 3     | 2R0 | 4  | 0  | 4,666,705:58:0 |      |
| 1407 | 98 | 269 | 03:54:17.466 |                | DMS:     | : *READY         | RDY, TRACK 3, FWD, TIC *4545.48 +/- 3      | 2R0 | 4  | 0  | 4,666,705:62:1 |      |
| 1408 | 98 | 269 | 03:54:22.733 | 165IR4A        | 7SCAN    | NORM,355,285999, | Check S/P Position                         | 2R0 | 4  | 0  | 4,666,705:70:0 |      |
| 1409 | 98 | 269 | 03:55:28.733 |                | DMS:     | : *E4-DELAY      | RDY, TRACK *1, FWD, TIC 4545.48 +/- 3      | 2R0 | 4  | 0  | 4,666,706:78:0 |      |
| 1410 | 98 | 269 | 03:55:28.733 | 175IR422A6A    | 6DMSC    | R403,3           | DMS Control                                | 2R0 | 4  | 0  | 4,666,706:78:0 |      |
| 1411 | 98 | 269 | 03:55:29.400 | 118IR          | SMOS     | GS               |  | 2R0 | 4  | 0  | 4,666,706:79:0 |      |
| 1412 | 98 | 269 | 03:55:32.733 | 125DF4A        | 37IST    | 0,2,0,OFF,0,1,1  | Gain State 4                               | 4R0 | 4  | 0  | 4,666,706:84:0 |      |
| 1413 | 98 | 269 | 03:55:32.733 | 125DF          | NIMSINIT | GS               | ##### GROUP START INIT                     | 4R0 | 4  | 0  | 4,666,706:84:0 |      |
| 1414 | 98 | 269 | 03:55:35.400 |                | DMS:     | : *RUNUP         | R403, TRACK *3, FWD, TIC 4545.48 +/- 3     | 4R0 | 4  | 0  | 4,666,706:88:0 |      |
| 1415 | 98 | 269 | 03:55:36.066 | 165IR4B        | 7VECT    |                  | Inert vect update UTC                      | 4R0 | 4  | 0  | 4,666,706:89:0 |      |
| 1416 | 98 | 269 | 03:55:38.733 | 175IR176A6A    | 6TMREC   | IM4              | 403.2 KBPS IMAGE RECORD Record Mode Chang  | 4R0 | 4  | 0  | 4,666,707:02:0 |      |
| 1417 | 98 | 269 | 03:55:39.266 |                | DMS:     | : *RECORD        | R403, TRACK 3, FWD, TIC *4568.48 +/- 3     | 4R0 | 4  | 0  | 4,666,707:02:8 |      |
| 1418 | 98 | 269 | 03:55:39.266 |                | DMS:     | : *AT SPD        | R403, TRACK 3, FWD, TIC 4568.48 +/- 3      | 4R0 | 4  | 0  | 4,666,707:02:8 |      |
| 1419 | 98 | 269 | 03:55:39.400 | 118IR110A11A4A | 7STRP    | 0,0,0,0068,26,0, | Slew =5,3,1                                | 4R0 | 4  | 0  | 4,666,707:03:0 |      |
| 1420 | 98 | 269 | 03:56:14.066 | 118IR11A       | SMOS     | GE               |  | 4R0 | 4  | 0  | 4,666,707:55:0 |      |
| 1421 | 98 | 269 | 03:56:20.733 |                | DMS:     | : *RUNDOWN       | R403, TRACK 3, FWD, TIC *5078.71 +/- 3     | 4R0 | 4  | 0  | 4,666,707:65:0 |      |
| 1422 | 98 | 269 | 03:56:20.733 | 175IR422A6B    | 6DMSC    | RDY,0            | DMS Control Tape stop                      | 4R0 | 4  | 0  | 4,666,707:65:0 |      |
| 1423 | 98 | 269 | 03:56:23.466 |                | DMS:     | : *READY         | RDY, TRACK 3, FWD, TIC *5082.71 +/- 3      | 4R0 | 4  | 0  | 4,666,707:69:1 |      |
| 1424 | 98 | 269 | 03:56:33.400 | 125DF4B        | 37MB     | 0,0,0,0,0,0,0    | Selects mirror (spatial) edit table        | 4R0 | 4  | 0  | 4,666,707:84:0 |      |
| 1425 | 98 | 269 | 03:56:33.400 | 125DF11A       | NIMSINIT | GE               | ##### GROUP END INIT                       | 4R0 | 4  | 0  | 4,666,707:84:0 |      |
| 1426 | 98 | 269 | 03:56:34.733 | 127DF4A        | 37IOP    | 4,0              | Long Spectrometer, Grating Start Position  | 4R4 | 4  | 0  | 4,666,709:84:0 |      |
| 1427 | 98 | 269 | 03:58:34.733 | 127DF          | NIMSTAB  | GS               | %%%%%% GROUP START TAB                     | 4R4 | 4  | 0  | 4,666,709:84:0 |      |
| 1428 | 98 | 269 | 03:58:35.400 | 127DF4B        | 37ETB    | 04,C4,35,FF,FF   | Loads wavelength edit table                | 4R4 | 4  | 0  | 4,666,709:85:0 |      |



| Line | YR | DOY | SCET - GMT   | PSID            | Command | Parameters         | Description                                | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|-----------------|---------|--------------------|--|-----|----|----|----------------|------|
| 1429 | 98 | 269 | 03:58:38.733 | 165DF4A         | 7SCAN   | NORM,17.467,41.5   | Check S/P Position                         | 4R4 | 4  | 0  | 4,666,709:90:0 |      |
| 1430 | 98 | 269 | 03:58:43.400 | 127DF11A        | NIMSTAB | GE                 | %%%%GROUP END TAB                          | 4R4 | 4  | 0  | 4,666,710:06:0 |      |
| 1431 | 98 | 269 | 03:59:26.733 | 175DF422A6A     | 6DMSC   | R28.3              | DMS Control                                | 4R4 | 4  | 0  | 4,666,710:71:0 |      |
| 1432 | 98 | 269 | 03:59:26.733 |                 | DMS:    | :*E4-DELAY         | RDY, TRACK *1, FWD, TIC 5082.71 +/- 3      | 4R4 | 4  | 0  | 4,666,710:71:0 |      |
| 1433 | 98 | 269 | 03:59:30.733 | 117DF           | CSMOS   | GS                 | *****GROUP START CSMOS                     | 4R4 | 4  | 0  | 4,666,710:77:0 |      |
| 1434 | 98 | 269 | 03:59:33.400 |                 | DMS:    | :*RUNUP            | R28, TRACK *3, FWD, TIC 5082.71 +/- 3      | 4R4 | 4  | 0  | 4,666,710:81:0 |      |
| 1435 | 98 | 269 | 03:59:36.733 | 175DF176A6A     | 6TMREC  | MPW                | 28.8 KBPS PWS + NIMS RECORD Record Mode C  | 4R4 | 4  | 0  | 4,666,710:86:0 |      |
| 1436 | 98 | 269 | 03:59:37.400 | 17ENSUCOMP02-   | NIMPBK  | 301DF              | EUROPA SURFACE COMPOSITION                 | 4R4 | 4  | 0  | 4,666,710:87:0 |      |
| 1437 | 98 | 269 | 03:59:37.400 |                 | DMS:    | :*RECORD           | R28, TRACK 3, FWD, TIC *5084.21 +/- 3      | 4R4 | 4  | 0  | 4,666,710:87:0 |      |
| 1438 | 98 | 269 | 03:59:37.400 |                 | DMS:    | :*AT_SPD           | R28, TRACK 3, FWD, TIC 5084.21 +/- 3       | 4R4 | 4  | 0  | 4,666,710:89:0 |      |
| 1439 | 98 | 269 | 03:59:38.733 | 165DF4B         | 7VECT   |                    | Inert vect update UTC                      | 4R4 | 4  | 0  | 4,666,711:00:0 |      |
| 1440 | 98 | 269 | 03:59:40.066 | 117DF105A106A4A | 7STRP   | 0.03071,0.0,0.0,0, | Slew = 0.03                                | 4R4 | 4  | 0  | 4,666,711:00:0 |      |
| 1441 | 98 | 269 | 04:02:12.733 | 17ENSUCOMP02-   | NIMPBK  | 301EE              | EUROPA SURFACE COMPOSITION                 | 4R4 | 4  | 0  | 4,666,711:00:0 |      |
| 1442 | 98 | 269 | 04:02:12.733 | 17ENSUCOMP02-   | NIMPBK  | 301EP              | EUROPA SURFACE COMPOSITION                 | 4R4 | 4  | 0  | 4,666,711:00:0 |      |
| 1443 | 98 | 269 | 04:02:24.733 | 17ENSUCOMP02-   | DESELC  | 300EP              | EUROPA SURFACE COMPOSITION                 | 4R4 | 4  | 0  | 4,666,711:00:0 |      |
| 1444 | 98 | 269 | 04:02:24.733 | 17ENSUCOMP02-   | DESELC  | 300EE              | EUROPA SURFACE COMPOSITION                 | 4R4 | 4  | 0  | 4,666,711:00:0 |      |
| 1445 | 98 | 269 | 04:02:50.066 | 17ENSUCOMP02-   | NIMPBK  | 301ET              | EUROPA SURFACE COMPOSITION                 | 4R4 | 4  | 0  | 4,666,711:00:0 |      |
| 1446 | 98 | 269 | 04:02:50.066 | 17ENSUCOMP02-   | NIMPBK  | 301ER              | EUROPA SURFACE COMPOSITION                 | 4R4 | 4  | 0  | 4,666,711:00:0 |      |
| 1447 | 98 | 269 | 04:02:58.066 | 17ENSUCOMP02-   | DESELC  | 300ET              | EUROPA SURFACE COMPOSITION                 | 4R4 | 4  | 0  | 4,666,711:00:0 |      |
| 1448 | 98 | 269 | 04:02:58.066 | 17ENSUCOMP02-   | DESELC  | 300ER              | EUROPA SURFACE COMPOSITION                 | 4R4 | 4  | 0  | 4,666,711:00:0 |      |
| 1449 | 98 | 269 | 04:04:16.846 | 17NSUCOMP03-    |         | -----START-----    |  | 4R4 | 4  | 0  | 4,666,711:00:0 |      |
| 1450 | 98 | 269 | 04:09:44.733 | 17ENSUCOMP02-   | NIMPBK  | 301EU              | EUROPA SURFACE COMPOSITION                 | 4R4 | 4  | 0  | 4,666,711:00:0 |      |
| 1451 | 98 | 269 | 04:09:44.733 | 17ENSUCOMP02-   | NIMPBK  | 301EQ              | EUROPA SURFACE COMPOSITION                 | 4R4 | 4  | 0  | 4,666,711:00:0 |      |
| 1452 | 98 | 269 | 04:10:20.066 | 17ENSUCOMP02-   | DESELC  | 300EU              | EUROPA SURFACE COMPOSITION                 | 4R4 | 4  | 0  | 4,666,711:00:0 |      |
| 1453 | 98 | 269 | 04:10:20.066 | 17ENSUCOMP02-   | DESELC  | 300EQ              | EUROPA SURFACE COMPOSITION                 | 4R4 | 4  | 0  | 4,666,711:00:0 |      |
| 1454 | 98 | 269 | 04:11:21.513 | 17ENSUCOMP02-   |         | -----STOP-----     |  | 4R4 | 4  | 0  | 4,666,711:00:0 |      |
| 1455 | 98 | 269 | 04:12:46.733 | 17ENSUCOMP02-   | NIMPBK  | 301EV              | EUROPA SURFACE COMPOSITION                 | 4R4 | 4  | 0  | 4,666,711:00:0 |      |
| 1456 | 98 | 269 | 04:12:46.733 | 17ENSUCOMP02-   | NIMPBK  | 301ES              | EUROPA SURFACE COMPOSITION                 | 4R4 | 4  | 0  | 4,666,711:00:0 |      |
| 1457 | 98 | 269 | 04:12:56.066 | 17ENSUCOMP02-   | DESELC  | 300ES              | EUROPA SURFACE COMPOSITION                 | 4R4 | 4  | 0  | 4,666,711:00:0 |      |
| 1458 | 98 | 269 | 04:12:56.066 | 17ENSUCOMP02-   | DESELC  | 300EV              | EUROPA SURFACE COMPOSITION                 | 4R4 | 4  | 0  | 4,666,711:00:0 |      |
| 1459 | 98 | 269 | 04:14:23.513 | 17ENSUCOMP03-   |         | -----START-----    |  | 4R4 | 4  | 0  | 4,666,711:00:0 |      |
| 1460 | 98 | 269 | 04:14:23.513 | 17NSUCOMP03-    |         | -----STOP-----     |  | 4R4 | 4  | 0  | 4,666,711:00:0 |      |
| 1461 | 98 | 269 | 04:16:34.066 | 17ENSUCOMP02-   | DESELC  | 300DF              | EUROPA SURFACE COMPOSITION                 | 4R4 | 4  | 0  | 4,666,711:00:0 |      |
| 1462 | 98 | 269 | 04:16:34.733 |                 | DMS:    | :*RUNDOWN          | R28, TRACK 3, FWD, TIC *5978.35 +/- 3      | 4R4 | 4  | 0  | 4,666,727:66:0 |      |
| 1463 | 98 | 269 | 04:16:34.733 | 175DF422A6B     | 6DMSC   | RDY,0              | DMS Control Tape stop                      | 4R4 | 4  | 0  | 4,666,727:66:0 |      |
| 1464 | 98 | 269 | 04:16:35.933 |                 | DMS:    | :*READY            | RDY, TRACK 3, FWD, TIC *5978.65 +/- 3      | 4R4 | 4  | 0  | 4,666,727:85:0 |      |
| 1465 | 98 | 269 | 04:16:47.400 | 117DF11A        | CSMOS   | GE                 | *****GROUP END CSMOS                       | 4R4 | 4  | 0  | 4,666,727:85:0 |      |
| 1466 | 98 | 269 | 04:17:02.066 | 20DG5A          | 37PL    |                    | Program Load (halts microprocessor & unwri | 4R4 | 4  | 0  | 4,666,728:16:0 |      |
| 1467 | 98 | 269 | 04:17:03.400 | 20DG5B          | 37MRL   |                    | Memory Realocate (software operates from R | 4R4 | 4  | 0  | 4,666,728:18:0 |      |
| 1468 | 98 | 269 | 04:17:05.400 | 20DG6A          | 6MCOPY  | NIMS               | NIMS,1000,LLM1A,7300,77F7                  | 4R4 | 4  | 0  | 4,666,728:21:0 |      |
| 1469 | 98 | 269 | 04:17:15.400 | 20DG6B          | 6MCOPY  | NIMS               | NIMS,1598,LLM1A,77F8,781D                  | 4R4 | 4  | 0  | 4,666,728:36:0 |      |
| 1470 | 98 | 269 | 04:17:32.066 | 20DG5C          | 37IRT   |                    | Instrument Reset (goes into POR state)     | 260 | 4  | 0  | 4,666,728:61:0 |      |
| 1471 | 98 | 269 | 04:17:38.733 | 20DG5D          | 37MN    |                    | Memory Normal (software operates from ROM) | 260 | 4  | 0  | 4,666,728:71:0 |      |
| 1472 | 98 | 269 | 04:17:44.733 | 20DG4A          | 37IST   | 1,2,0,OFF,0,1,1    | Chopper ON, Sync, Chopper (Ref)Gain State  | 4R0 | 4  | 0  | 4,666,728:80:0 |      |
| 1473 | 98 | 269 | 04:17:52.066 |                 | DMS:    | :*READY            | RDY, TRACK *4, *REV, TIC 5978.65 +/- 3     | 4R0 | 4  | 0  | 4,666,729:00:0 |      |
| 1474 | 98 | 269 | 04:17:52.066 | 465KE6A         | 6DMSC   | RDY,4              | DMS Control Tape stop                      | 4R0 | 4  | 0  | 4,666,729:00:0 |      |
| 1475 | 98 | 269 | 04:18:52.066 | 165DG4A         | 7SCAN   | NORM,72.915,35.1   | Check S/P Position                         | 4R0 | 4  | 0  | 4,666,729:00:0 |      |
| 1476 | 98 | 269 | 04:19:38.733 |                 | DMS:    | :*US-RUNUP         | P7, TRACK *1, *FWD, TIC 5978.65 +/- 3      | 4R0 | 4  | 0  | 4,666,730:69:0 |      |
| 1477 | 98 | 269 | 04:19:38.733 | 175DG422A6A     | 6DMSC   | R28.0              | DMS Control Tape runup 28.8kbp             | 4R0 | 4  | 0  | 4,666,730:69:0 |      |
| 1478 | 98 | 269 | 04:19:40.133 |                 | DMS:    | :*US_AT_SP         | P7, TRACK 1, FWD, TIC *5978.77 +/- 3       | 4R0 | 4  | 0  | 4,666,730:71:1 |      |
| 1479 | 98 | 269 | 04:19:44.066 | 117DG           | CSMOS   | GS                 | *****GROUP START CSMOS                     | 4R0 | 4  | 0  | 4,666,730:77:0 |      |
| 1480 | 98 | 269 | 04:19:45.400 |                 | DMS:    | :*US_RD            | P7, TRACK 1, FWD, TIC *5980.01 +/- 3       | 4R0 | 4  | 0  | 4,666,730:79:0 |      |
| 1481 | 98 | 269 | 04:19:46.600 |                 | DMS:    | :*RUNUP            | R28, TRACK *4, *REV, TIC *5980.07 +/- 3    | 4R0 | 4  | 0  | 4,666,730:80:8 |      |
| 1482 | 98 | 269 | 04:19:48.733 | 127DG           | NIMSTAB | GS                 | %%%%GROUP START TAB                        | 4R0 | 4  | 0  | 4,666,730:84:0 |      |
| 1483 | 98 | 269 | 04:19:48.733 | 127DG4A         | 37IOP   | 3,0                | Long Map, Grating Start Position =00       | 4R3 | 4  | 0  | 4,666,730:84:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID            | Command | Parameters         | Description                                | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|-----------------|---------|--------------------|--|-----|----|----|----------------|------|
| 1484 | 98 | 269 | 04:19:49.400 | 127DG4B         | 37ETB   | 04,C4,35,FF,FF     | Loads wavelength edit table                | 4R3 | 4  | 0  | 4,666,730:85:0 |      |
| 1485 | 98 | 269 | 04:19:50.066 | 175DG176A6A     | 6TMREC  | MPW                | 28.8 KBPS PWS + NIMS RECORD Record Mode C  | 4R3 | 4  | 0  | 4,666,730:86:0 |      |
| 1486 | 98 | 269 | 04:19:50.600 |                 | DMS:    | :*AT_SPD           | R28, TRACK 4, REV, TIC 5978.57 +/- 3       | 4R3 | 4  | 0  | 4,666,730:86:8 |      |
| 1487 | 98 | 269 | 04:19:50.600 |                 | DMS:    | :*RECORD           | R28, TRACK 4, REV, TIC *5978.57 +/- 3      | 4R3 | 4  | 0  | 4,666,730:86:8 |      |
| 1488 | 98 | 269 | 04:19:50.733 | 17ENSUCOMP03-   | NIMPBK  | 301DG              | EUROPA SURFACE COMPOSITION                 | 4R3 | 4  | 0  | :              |      |
| 1489 | 98 | 269 | 04:19:52.066 | 165DG4B         | 7VECT   |                    | Inert vect update UTC                      | 4R3 | 4  | 0  | 4,666,730:89:0 |      |
| 1490 | 98 | 269 | 04:19:53.400 | 117DG105A106A4A | 7STRP   | 0.039821,0.0,0,0   | Slew = 0.03                                | 4R3 | 4  | 0  | 4,666,731:00:0 |      |
| 1491 | 98 | 269 | 04:19:57.400 | 127DG11A        | NIMSTAB | GE                 | %%%%GROUP END TAB                          | 4R3 | 4  | 0  | 4,666,731:06:0 |      |
| 1492 | 98 | 269 | 04:37:38.846 | 17ENSUCOMP03-   |         |                    | -----STOP-----                             | 4R3 | 4  | 0  | :              |      |
| 1493 | 98 | 269 | 04:37:38.846 | 17NSUCOMP04-    |         |                    | -----START-----                            | 4R3 | 4  | 0  | :              |      |
| 1494 | 98 | 269 | 04:39:40.179 | 17NSUCOMP04-    |         |                    | -----STOP-----                             | 4R3 | 4  | 0  | :              |      |
| 1495 | 98 | 269 | 04:39:40.179 | 17NSUCOMP04-    |         |                    | -----STOP-----                             | 4R3 | 4  | 0  | :              |      |
| 1496 | 98 | 269 | 04:41:43.400 | 17ENSUCOMP03-   | DESEL   | 300DG              | EUROPA SURFACE COMPOSITION                 | 4R3 | 4  | 0  | :              |      |
| 1497 | 98 | 269 | 04:41:53.400 |                 | DMS:    | :*RUNDOWN          | R28, TRACK 4, REV, TIC *4815.95 +/- 3      | 4R3 | 4  | 0  | 4,666,752:69:0 |      |
| 1498 | 98 | 269 | 04:41:53.400 | 175DG422A6B     | 6DMSC   | RDY,0              | DMS Control Tape stop                      | 4R3 | 4  | 0  | 4,666,752:69:0 |      |
| 1499 | 98 | 269 | 04:41:54.600 |                 | DMS:    | :*READY            | RDY, TRACK 4, REV, TIC *4815.65 +/- 3      | 4R3 | 4  | 0  | 4,666,752:70:8 |      |
| 1500 | 98 | 269 | 04:42:04.733 | 117DG11A        | CSMOS   | GE                 | ***** GROUP END CSMOS                      | 4R3 | 4  | 0  | 4,666,752:86:0 |      |
| 1501 | 98 | 269 | 04:42:18.733 | 20DH5A          | 37PL    |                    | Program Load (halts microprocessor & unwri | 4R3 | 4  | 0  | 4,666,753:16:0 |      |
| 1502 | 98 | 269 | 04:42:20.066 | 20DH5B          | 37MRL   |                    | Memory Realocate (software operates from R | 4R3 | 4  | 0  | 4,666,753:18:0 |      |
| 1503 | 98 | 269 | 04:42:22.066 | 20DH6A          | 6MCOPI  | NIMS               | NIMS,1000,LLM1A,7300,77F7                  | 4R3 | 4  | 0  | 4,666,753:21:0 |      |
| 1504 | 98 | 269 | 04:42:32.066 | 20DH6B          | 6MCOPI  | NIMS               | NIMS,1598,LLM1A,77F8,781D                  | 4R3 | 4  | 0  | 4,666,753:36:0 |      |
| 1505 | 98 | 269 | 04:42:48.733 | 20DH5C          | 37IRT   |                    | Instrument Reset (goes into POR state)     | 260 | 4  | 0  | 4,666,753:61:0 |      |
| 1506 | 98 | 269 | 04:42:50.066 | 20DH5D          | 37MN    |                    | Memory Normal (software operates from ROM) | 260 | 4  | 0  | 4,666,753:63:0 |      |
| 1507 | 98 | 269 | 04:43:01.400 | 20DH4A          | 37IST   | 1,2,0,OFF,0,1,1    | Chopper ON, Sync, Chopper (Ref)Gain State  | 4R0 | 4  | 0  | 4,666,753:80:0 |      |
| 1508 | 98 | 269 | 04:43:08.066 | 165DH4A         | 7SCAN   | NORM,81.302999,3   | Check S/P Position                         | 4R0 | 4  | 0  | 4,666,753:90:0 |      |
| 1509 | 98 | 269 | 04:43:54.733 |                 | DMS:    | :*US-RUNUP         | P7, TRACK *1, *FWD, TIC 4815.65 +/- 3      | 4R0 | 4  | 0  | 4,666,754:69:0 |      |
| 1510 | 98 | 269 | 04:43:54.733 | 175DH422A6A     | 6DMSC   | R28,0              | DMS Control Tape runup 28.8kbp             | 4R0 | 4  | 0  | 4,666,754:69:0 |      |
| 1511 | 98 | 269 | 04:43:56.133 |                 | DMS:    | :*US_AT_SP         | P7, TRACK 1, FWD, TIC *4815.77 +/- 3       | 4R0 | 4  | 0  | 4,666,754:71:1 |      |
| 1512 | 98 | 269 | 04:44:00.066 | 117DH           | CSMOS   | GS                 | ***** GROUP START CSMOS                    | 4R0 | 4  | 0  | 4,666,754:77:0 |      |
| 1513 | 98 | 269 | 04:44:01.400 |                 | DMS:    | :*US_RD            | P7, TRACK 1, FWD, TIC *4817.00 +/- 3       | 4R0 | 4  | 0  | 4,666,754:79:0 |      |
| 1514 | 98 | 269 | 04:44:02.066 | 20DH4B          | 37IOP   | 3,0                | Long Map, Grating Start Position =00       | 4R3 | 4  | 0  | 4,666,754:80:0 |      |
| 1515 | 98 | 269 | 04:44:02.600 |                 | DMS:    | :*RUNUP            | R28, TRACK *4, *REV, TIC *4817.06 +/- 3    | 4R3 | 4  | 0  | 4,666,754:80:8 |      |
| 1516 | 98 | 269 | 04:44:02.733 | 20DH4C          | 37ETB   | 04,C4,35,FF,FF     | Loads wavelength edit table                | 4R3 | 4  | 0  | 4,666,754:81:0 |      |
| 1517 | 98 | 269 | 04:44:06.066 | 175DH176A6A     | 6TMREC  | MPW                | 28.8 KBPS PWS + NIMS RECORD Record Mode C  | 4R3 | 4  | 0  | 4,666,754:86:0 |      |
| 1518 | 98 | 269 | 04:44:06.600 |                 | DMS:    | :*AT_SPD           | R28, TRACK 4, REV, TIC 4815.56 +/- 3       | 4R3 | 4  | 0  | 4,666,754:86:8 |      |
| 1519 | 98 | 269 | 04:44:06.600 |                 | DMS:    | :*RECORD           | R28, TRACK 4, REV, TIC *4815.56 +/- 3      | 4R3 | 4  | 0  | 4,666,754:86:8 |      |
| 1520 | 98 | 269 | 04:44:06.733 | 17ENSUCOMP04-   | NIMPBK  | 301DH              | EUROPA SURFACE COMPOSITION                 | 4R3 | 4  | 0  | :              |      |
| 1521 | 98 | 269 | 04:44:08.066 | 165DH4B         | 7VECT   |                    | Inert vect update UTC                      | 4R3 | 4  | 0  | 4,666,754:89:0 |      |
| 1522 | 98 | 269 | 04:44:09.400 | 117DH105A106A4A | 7STRP   | -0.018002,0.0,0,0, | Slew = 0.03                                | 4R3 | 4  | 0  | 4,666,755:00:0 |      |
| 1523 | 98 | 269 | 04:50:47.513 | 17ENSUCOMP04-   |         |                    | -----STOP-----                             | 4R3 | 4  | 0  | :              |      |
| 1524 | 98 | 269 | 04:53:56.733 | 17ENSUCOMP04-   | DESEL   | 300DH              | EUROPA SURFACE COMPOSITION                 | 4R3 | 4  | 0  | :              |      |
| 1525 | 98 | 269 | 04:54:06.733 |                 | DMS:    | :*RUNDOWN          | R28, TRACK 4, REV, TIC *4288.10 +/- 3      | 4R3 | 4  | 0  | 4,666,764:77:0 |      |
| 1526 | 98 | 269 | 04:54:06.733 | 175DH422A6B     | 6DMSC   | RDY,0              | DMS Control Tape stop                      | 4R3 | 4  | 0  | 4,666,764:77:0 |      |
| 1527 | 98 | 269 | 04:54:07.933 |                 | DMS:    | :*READY            | RDY, TRACK 4, REV, TIC *4287.80 +/- 3      | 4R3 | 4  | 0  | 4,666,764:78:8 |      |
| 1528 | 98 | 269 | 04:54:12.733 | 117DH11A        | CSMOS   | GE                 | ***** GROUP END CSMOS                      | 4R3 | 4  | 0  | 4,666,764:86:0 |      |
| 1529 | 98 | 269 | 04:55:20.733 | 118IS           | SMOS    | GS                 |  | 4R3 | 4  | 0  | 4,666,766:06:0 |      |
| 1530 | 98 | 269 | 04:55:24.733 | 165IS4A         | 7SCAN   | NORM,84.476,32.4   | Check S/P Position                         | 4R3 | 4  | 0  | 4,666,766:12:0 |      |
| 1531 | 98 | 269 | 04:55:57.400 | 175IS422A6A     | 6DMSC   | R806,0             | DMS Control Tape runup 806.4kb             | 4R3 | 4  | 0  | 4,666,766:61:0 |      |
| 1532 | 98 | 269 | 04:55:57.400 |                 | DMS:    | :*US-RUNUP         | P7, TRACK *1, *FWD, TIC 4287.80 +/- 3      | 4R3 | 4  | 0  | 4,666,766:61:0 |      |
| 1533 | 98 | 269 | 04:55:58.800 |                 | DMS:    | :*US_AT_SP         | P7, TRACK 1, FWD, TIC *4287.92 +/- 3       | 4R3 | 4  | 0  | 4,666,766:63:1 |      |
| 1534 | 98 | 269 | 04:56:04.066 |                 | DMS:    | :*US_RD            | P7, TRACK 1, FWD, TIC *4289.16 +/- 3       | 4R3 | 4  | 0  | 4,666,766:71:0 |      |
| 1535 | 98 | 269 | 04:56:05.266 |                 | DMS:    | :*RUNUP            | R806, TRACK *4, *REV, TIC *4289.22 +/- 3   | 4R3 | 4  | 0  | 4,666,766:72:8 |      |
| 1536 | 98 | 269 | 04:56:07.400 | 165IS4B         | 7VECT   |                    | Inert vect update UTC                      | 4R3 | 4  | 0  | 4,666,766:76:0 |      |
| 1537 | 98 | 269 | 04:56:10.066 | 175IS176A6A     | 6TMREC  | IM8                | 806.4 KBPS IMAGE RECORD Record Mode Chang  | 4R3 | 4  | 0  | 4,666,766:80:0 |      |
| 1538 | 98 | 269 | 04:56:10.533 |                 | DMS:    | :*AT_SPD           | R806, TRACK 4, REV, TIC 4223.22 +/- 4      | 4R3 | 4  | 0  | 4,666,766:80:7 |      |

| Line | YR | DOY | SCET - GMT   | PSID            | Command | Parameters       | Description                               | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|-----------------|---------|------------------|---|-----|----|----|----------------|------|
| 1539 | 98 | 269 | 04:56:10.533 |                 | DMS:    | : *RECORD        | R806, TRACK 4, REV, TIC *4223.22 +/- 3    | 4R3 | 4  | 0  | 4,666,766:81:0 |      |
| 1540 | 98 | 269 | 04:56:10.733 | 118IS110A111A4A | 7STRP   | 0.00731,0.0,26.0 | Slew = 3.71                               | 4R3 | 4  | 0  | 4,666,766:81:0 |      |
| 1541 | 98 | 269 | 04:56:19.400 | 118IS110A111A4B | 7STRP   | -0.00731,0.00731 | Slew = -3.51                              | 4R3 | 4  | 0  | 4,666,767:03:0 |      |
| 1542 | 98 | 269 | 04:56:28.066 | 118IS110A111A4C | 7STRP   | 0.00731,0.0,26.0 | Slew = 3.71                               | 4R3 | 4  | 0  | 4,666,767:16:0 |      |
| 1543 | 98 | 269 | 04:56:36.733 | 118IS110A111A4D | 7STRP   | -0.00731,0.00731 | Slew = -3.51                              | 4R3 | 4  | 0  | 4,666,767:29:0 |      |
| 1544 | 98 | 269 | 04:56:45.400 | 118IS110A111A4E | 7STRP   | 0.00731,0.0,26.0 | Slew = 3.71                               | 4R3 | 4  | 0  | 4,666,767:42:0 |      |
| 1545 | 98 | 269 | 04:56:54.066 | 118IS110A111A4F | 7STRP   | -0.00731,0.00731 | Slew = -3.51                              | 4R3 | 4  | 0  | 4,666,767:55:0 |      |
| 1546 | 98 | 269 | 04:57:02.733 | 118IS110A111A4G | 7STRP   | 0.00731,0.0,26.0 | Slew = 3.71                               | 4R3 | 4  | 0  | 4,666,767:68:0 |      |
| 1547 | 98 | 269 | 04:57:11.400 | 118IS110A111A4H | 7STRP   | -0.00731,0.00731 | Slew = -3.51                              | 4R3 | 4  | 0  | 4,666,767:81:0 |      |
| 1548 | 98 | 269 | 04:57:20.066 | 118IS110A111A4I | 7STRP   | 0.00731,0.0,26.0 | Slew = 3.71                               | 4R3 | 4  | 0  | 4,666,768:03:0 |      |
| 1549 | 98 | 269 | 04:57:28.733 | 118IS110A111A4J | 7STRP   | -0.00731,0.00731 | Slew = -3.51                              | 4R3 | 4  | 0  | 4,666,768:16:0 |      |
| 1550 | 98 | 269 | 04:57:37.400 | 118IS110A111A4K | 7STRP   | 0.00731,0.0,26.0 | Slew = 3.71                               | 4R3 | 4  | 0  | 4,666,768:29:0 |      |
| 1551 | 98 | 269 | 04:57:46.066 | 118IS110A111A4L | 7STRP   | -0.00731,0.00731 | Slew = -3.51                              | 4R3 | 4  | 0  | 4,666,768:42:0 |      |
| 1552 | 98 | 269 | 04:57:54.733 | 118IS110A111A4M | 7STRP   | 0.00731,0.0,26.0 | Slew = 3.71                               | 4R3 | 4  | 0  | 4,666,768:55:0 |      |
| 1553 | 98 | 269 | 04:58:03.400 | 118IS110A111A4N | 7STRP   | -0.00731,0.00731 | Slew = -3.51                              | 4R3 | 4  | 0  | 4,666,768:68:0 |      |
| 1554 | 98 | 269 | 04:58:12.066 | 118IS110A111A4O | 7STRP   | 0.00731,0.0,26.0 | Slew = 3.71                               | 4R3 | 4  | 0  | 4,666,768:81:0 |      |
| 1555 | 98 | 269 | 04:58:20.733 | 118IS110A111A4P | 7STRP   | -0.00731,0.00731 | Slew = -3.51                              | 4R3 | 4  | 0  | 4,666,769:03:0 |      |
| 1556 | 98 | 269 | 04:58:29.400 | 118IS110A111A4Q | 7STRP   | 0.00731,0.0,26.0 | Slew = 3.71                               | 4R3 | 4  | 0  | 4,666,769:16:0 |      |
| 1557 | 98 | 269 | 04:58:35.400 | 175IS422A6B     | 6DMSC   | RDY,0            | DMS Control Tape stop                     | 4R3 | 4  | 0  | 4,666,769:25:0 |      |
| 1558 | 98 | 269 | 04:58:35.400 | 118IS11A        | DMS:    | : *RUNDOWN       | R806, TRACK 4, REV, TIC * 658.14 +/- 4    | 4R3 | 4  | 0  | 4,666,769:25:0 |      |
| 1559 | 98 | 269 | 04:58:38.066 |                 | SMOS    | GE               |   | 4R3 | 4  | 0  | 4,666,769:29:0 |      |
| 1560 | 98 | 269 | 04:58:38.133 |                 | DMS:    | : *READY         | RDY, TRACK 4, REV, TIC * 646.64 +/- 4     | 4R3 | 4  | 0  | 4,666,769:29:0 |      |
| 1561 | 98 | 269 | 04:58:46.066 | 165IT4A         | 7SCAN   | NORM,84.785999,2 | Check S/P Position                        | 4R3 | 4  | 0  | 4,666,769:41:0 |      |
| 1562 | 98 | 269 | 04:59:23.400 | 118IT           | SMOS    | GS               |   | 4R3 | 4  | 0  | 4,666,770:06:0 |      |
| 1563 | 98 | 269 | 04:59:44.066 |                 | DMS:    | : *US-RUNUP      | P7, TRACK *1, *FWD, TIC 646.64 +/- 4      | 4R3 | 4  | 0  | 4,666,770:37:0 |      |
| 1564 | 98 | 269 | 04:59:44.066 | 175IT422A6A     | 6DMSC   | R403,0           | DMS Control Tape runup 403.2kb            | 4R3 | 4  | 0  | 4,666,770:37:0 |      |
| 1565 | 98 | 269 | 04:59:45.466 |                 | DMS:    | : *US AT SP      | P7, TRACK 1, FWD, TIC * 646.76 +/- 4      | 4R3 | 4  | 0  | 4,666,770:39:1 |      |
| 1566 | 98 | 269 | 04:59:50.733 |                 | DMS:    | : *US_RD         | P7, TRACK 1, FWD, TIC * 647.99 +/- 4      | 4R3 | 4  | 0  | 4,666,770:47:0 |      |
| 1567 | 98 | 269 | 04:59:51.933 |                 | DMS:    | : *RUNUP         | R403, TRACK *4, *REV, TIC * 648.05 +/- 4  | 4R3 | 4  | 0  | 4,666,770:48:8 |      |
| 1568 | 98 | 269 | 04:59:52.733 | 165IT4B         | 7VECT   |                  | Inert vect update UTC                     | 4R3 | 4  | 0  | 4,666,770:50:0 |      |
| 1569 | 98 | 269 | 04:59:55.400 | 175IT176A6A     | 6TMREC  | IM4              | 403.2 KBPS IMAGE RECORD Record Mode Chang | 4R3 | 4  | 0  | 4,666,770:54:0 |      |
| 1570 | 98 | 269 | 04:59:55.800 |                 | DMS:    | : *RECORD        | R403, TRACK 4, REV, TIC * 625.05 +/- 4    | 4R3 | 4  | 0  | 4,666,770:54:6 |      |
| 1571 | 98 | 269 | 04:59:55.800 |                 | DMS:    | : *AT SPD        | R403, TRACK 4, REV, TIC 625.05 +/- 4      | 4R3 | 4  | 0  | 4,666,770:54:6 |      |
| 1572 | 98 | 269 | 04:59:56.066 | 118IT110A111A4A | 7STRP   | 0.001,0.00731,26 | Slew = 3.71                               | 4R3 | 4  | 0  | 4,666,770:55:0 |      |
| 1573 | 98 | 269 | 05:00:04.733 | 118IT11A        | SMOS    | GE               |   | 4R3 | 4  | 0  | 4,666,770:68:0 |      |
| 1574 | 98 | 269 | 05:00:11.400 | 175IT422A6B     | 6DMSC   | RDY,0            | DMS Control Tape stop                     | 4R3 | 4  | 0  | 4,666,770:78:0 |      |
| 1575 | 98 | 269 | 05:00:11.400 |                 | DMS:    | : *RUNDOWN       | R403, TRACK 4, REV, TIC * 433.10 +/- 4    | 4R3 | 4  | 0  | 4,666,770:78:0 |      |
| 1576 | 98 | 269 | 05:00:14.133 |                 | DMS:    | : *READY         | RDY, TRACK 4, REV, TIC * 429.10 +/- 4     | 4R3 | 4  | 0  | 4,666,770:82:1 |      |
| 1577 | 98 | 269 | 05:00:19.400 | 165GF4A         | 7SCAN   | NORM,84.24,33.79 | Check S/P Position                        | 4R3 | 4  | 0  | 4,666,770:90:0 |      |
| 1578 | 98 | 269 | 05:00:20.066 | 176GG6A         | 6TMREC  | BPT              | 7.68 KBPS PPR BURST TO TAPE Record Mode C | 4R3 | 4  | 0  | 4,666,771:00:0 |      |
| 1579 | 98 | 269 | 05:01:11.400 | 117GF           | CSMOS   | GS               | ***** GROUP START CSMOS                   | 4R3 | 4  | 0  | 4,666,771:77:0 |      |
| 1580 | 98 | 269 | 05:01:19.400 | 165GF4B         | 7VECT   |                  | Inert vect update UTC                     | 4R3 | 4  | 0  | 4,666,771:89:0 |      |
| 1581 | 98 | 269 | 05:01:20.733 | 117GF105A106A4A | 7STRP   | 0.058065,0.0,0.0 | Slew = 0.63                               | 4R3 | 4  | 0  | 4,666,772:00:0 |      |
| 1582 | 98 | 269 | 05:02:56.066 | 117GF105A106A4B | 7STRP   | -0.058065,0.002, | Slew = 12.01                              | 4R3 | 4  | 0  | 4,666,773:52:0 |      |
| 1583 | 98 | 269 | 05:03:04.066 | 117GF105A106A4C | 7STRP   | 0.058065,0.0,0.0 | Slew = 0.63                               | 4R3 | 4  | 0  | 4,666,773:64:0 |      |
| 1584 | 98 | 269 | 05:04:39.400 | 117GF105A106A4D | 7STRP   | -0.058065,0.002, | Slew = 12.01                              | 4R3 | 4  | 0  | 4,666,775:25:0 |      |
| 1585 | 98 | 269 | 05:04:47.400 | 117GF105A106A4E | 7STRP   | 0.058065,0.0,0.0 | Slew = 0.63                               | 4R3 | 4  | 0  | 4,666,775:37:0 |      |
| 1586 | 98 | 269 | 05:06:22.733 | 117GF105A106A4F | 7STRP   | -0.058065,0.002, | Slew = 12.01                              | 4R3 | 4  | 0  | 4,666,776:89:0 |      |
| 1587 | 98 | 269 | 05:06:30.733 | 117GF105A106A4G | 7STRP   | 0.058065,0.0,0.0 | Slew = 0.63                               | 4R3 | 4  | 0  | 4,666,777:10:0 |      |
| 1588 | 98 | 269 | 05:08:06.066 | 117GF105A106A4H | 7STRP   | -0.058065,0.002, | Slew = 12.01                              | 4R3 | 4  | 0  | 4,666,778:62:0 |      |
| 1589 | 98 | 269 | 05:08:14.066 | 117GF105A106A4I | 7STRP   | 0.058065,0.0,0.0 | Slew = 0.63                               | 4R3 | 4  | 0  | 4,666,778:74:0 |      |
| 1590 | 98 | 269 | 05:09:49.400 | 117GF105A106A4J | 7STRP   | -0.058065,0.002, | Slew = 12.01                              | 4R3 | 4  | 0  | 4,666,780:35:0 |      |
| 1591 | 98 | 269 | 05:09:57.400 | 117GF105A106A4K | 7STRP   | 0.058065,0.0,0.0 | Slew = 0.63                               | 4R3 | 4  | 0  | 4,666,780:47:0 |      |
| 1592 | 98 | 269 | 05:11:32.733 | 117GF105A106A4L | 7STRP   | -0.058065,0.002, | Slew = 12.01                              | 4R3 | 4  | 0  | 4,666,782:08:0 |      |
| 1593 | 98 | 269 | 05:11:40.733 | 117GF105A106A4M | 7STRP   | 0.058065,0.0,0.0 | Slew = 0.63                               | 4R3 | 4  | 0  | 4,666,782:20:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID             | Command | Parameters       | Description                            | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|------------------|---------|------------------|--|-----|----|----|----------------|------|
| 1594 | 98 | 269 | 05:12:54.733 |                  | DMS:    | : *US-RUNUP      | P7, TRACK *1, *FWD, TIC 429.10 +/- 4   | 4R3 | 4  | 0  | 4,666,783:40:0 |      |
| 1595 | 98 | 269 | 05:12:54.733 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps         | 4R3 | 4  | 0  | 4,666,783:40:0 |      |
| 1596 | 98 | 269 | 05:12:56.133 |                  | DMS:    | : *US_AT_SP      | P7, TRACK 1, FWD, TIC * 429.22 +/- 4   | 4R3 | 4  | 0  | 4,666,783:42:1 |      |
| 1597 | 98 | 269 | 05:13:01.400 |                  | DMS:    | : *US_RD         | P7, TRACK 1, FWD, TIC * 430.46 +/- 4   | 4R3 | 4  | 0  | 4,666,783:50:0 |      |
| 1598 | 98 | 269 | 05:13:02.600 |                  | DMS:    | : *RUNUP         | R7, TRACK *4, *REV, TIC * 430.52 +/- 4 | 4R3 | 4  | 0  | 4,666,783:51:8 |      |
| 1599 | 98 | 269 | 05:13:04.000 |                  | DMS:    | : *AT_SPD        | R7, TRACK 4, REV, TIC * 430.40 +/- 4   | 4R3 | 4  | 0  | 4,666,783:53:9 |      |
| 1600 | 98 | 269 | 05:13:16.066 | 117GF105A106A4N  | 7STRP   | -0.058065,0.002, | Slew =12.01                            | 4R3 | 4  | 0  | 4,666,783:72:0 |      |
| 1601 | 98 | 269 | 05:13:20.066 |                  | DMS:    | : *RECORD        | R7, TRACK 4, REV, TIC * 426.63 +/- 4   | 4R3 | 4  | 0  | 4,666,783:78:0 |      |
| 1602 | 98 | 269 | 05:13:24.066 | 117GF105A106A4O  | 7STRP   | 0.058065,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,783:84:0 |      |
| 1603 | 98 | 269 | 05:13:42.733 | 50ZZ6RE          | 6DMSC   | RDY,0            | DMS Control Tape stop                  | 4R3 | 4  | 0  | 4,666,784:21:0 |      |
| 1604 | 98 | 269 | 05:13:42.733 |                  | DMS:    | : *RUNDOWN       | R7, TRACK 4, REV, TIC * 421.32 +/- 4   | 4R3 | 4  | 0  | 4,666,784:21:0 |      |
| 1605 | 98 | 269 | 05:13:43.933 |                  | DMS:    | : *READY         | RDY, TRACK 4, REV, TIC * 421.26 +/- 4  | 4R3 | 4  | 0  | 4,666,784:22:8 |      |
| 1606 | 98 | 269 | 05:14:59.400 | 117GF105A106B4A  | 7STRP   | -0.055356,0.0014 | Slew =12.01                            | 4R3 | 4  | 0  | 4,666,785:45:0 |      |
| 1607 | 98 | 269 | 05:15:07.400 | 117GF105A106B4B  | 7STRP   | 0.054855,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,785:57:0 |      |
| 1608 | 98 | 269 | 05:16:37.400 | 117GF105A106B4C  | 7STRP   | -0.055356,0.0014 | Slew =12.01                            | 4R3 | 4  | 0  | 4,666,787:10:0 |      |
| 1609 | 98 | 269 | 05:16:45.400 | 117GF105A106B4E  | 7STRP   | 0.054855,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,787:22:0 |      |
| 1610 | 98 | 269 | 05:18:15.400 | 117GF105A106B4E  | 7STRP   | -0.055356,0.0014 | Slew =12.01                            | 4R3 | 4  | 0  | 4,666,788:66:0 |      |
| 1611 | 98 | 269 | 05:18:23.400 | 117GF105A106B4F  | 7STRP   | 0.054855,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,788:78:0 |      |
| 1612 | 98 | 269 | 05:19:53.400 | 117GF105A106B4G  | 7STRP   | -0.055356,0.0014 | Slew =12.01                            | 4R3 | 4  | 0  | 4,666,790:31:0 |      |
| 1613 | 98 | 269 | 05:20:01.400 | 117GF105A106B4H  | 7STRP   | 0.054855,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,790:43:0 |      |
| 1614 | 98 | 269 | 05:21:31.400 | 117GF105A106B4I  | 7STRP   | -0.055356,0.0014 | Slew =12.01                            | 4R3 | 4  | 0  | 4,666,791:87:0 |      |
| 1615 | 98 | 269 | 05:21:39.400 | 117GF105A106B4J  | 7STRP   | 0.054855,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,792:08:0 |      |
| 1616 | 98 | 269 | 05:23:09.400 | 117GF105A106B4K  | 7STRP   | -0.055356,0.0014 | Slew =12.01                            | 4R3 | 4  | 0  | 4,666,793:52:0 |      |
| 1617 | 98 | 269 | 05:23:17.400 | 117GF105A106B4L  | 7STRP   | 0.054855,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,793:64:0 |      |
| 1618 | 98 | 269 | 05:24:47.400 | 117GF105A106B4M  | 7STRP   | -0.055356,0.0014 | Slew =12.01                            | 4R3 | 4  | 0  | 4,666,795:17:0 |      |
| 1619 | 98 | 269 | 05:24:55.400 | 117GF105A106B4N  | 7STRP   | 0.054855,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,795:29:0 |      |
| 1620 | 98 | 269 | 05:25:56.666 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps         | 4R3 | 4  | 0  | 4,666,796:30:0 |      |
| 1621 | 98 | 269 | 05:25:56.666 |                  | DMS:    | : *US-RUNUP      | P7, TRACK *1, *FWD, TIC 421.26 +/- 4   | 4R3 | 4  | 0  | 4,666,796:30:0 |      |
| 1622 | 98 | 269 | 05:25:58.066 |                  | DMS:    | : *US_AT_SP      | P7, TRACK 1, FWD, TIC * 421.38 +/- 4   | 4R3 | 4  | 0  | 4,666,796:32:1 |      |
| 1623 | 98 | 269 | 05:26:03.333 |                  | DMS:    | : *US_RD         | P7, TRACK 1, FWD, TIC * 422.61 +/- 4   | 4R3 | 4  | 0  | 4,666,796:40:0 |      |
| 1624 | 98 | 269 | 05:26:04.533 |                  | DMS:    | : *RUNUP         | R7, TRACK *4, *REV, TIC * 422.67 +/- 4 | 4R3 | 4  | 0  | 4,666,796:41:8 |      |
| 1625 | 98 | 269 | 05:26:05.933 |                  | DMS:    | : *AT_SPD        | R7, TRACK 4, REV, TIC * 422.55 +/- 4   | 4R3 | 4  | 0  | 4,666,796:43:9 |      |
| 1626 | 98 | 269 | 05:26:22.000 |                  | DMS:    | : *RECORD        | R7, TRACK 4, REV, TIC * 418.79 +/- 4   | 4R3 | 4  | 0  | 4,666,796:68:0 |      |
| 1627 | 98 | 269 | 05:26:25.333 | 117GF105A106B4O  | 7STRP   | -0.055356,0.0014 | Slew =12.01                            | 4R3 | 4  | 0  | 4,666,796:73:0 |      |
| 1628 | 98 | 269 | 05:26:33.333 | 117GF105A106B4P  | 7STRP   | 0.054855,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,796:85:0 |      |
| 1629 | 98 | 269 | 05:26:44.666 |                  | DMS:    | : *RUNDOWN       | R7, TRACK 4, REV, TIC * 413.47 +/- 4   | 4R3 | 4  | 0  | 4,666,797:11:0 |      |
| 1630 | 98 | 269 | 05:26:44.666 | 50ZZ6RD          | 6DMSC   | RDY,0            | DMS Control Tape stop                  | 4R3 | 4  | 0  | 4,666,797:11:0 |      |
| 1631 | 98 | 269 | 05:26:45.866 |                  | DMS:    | : *READY         | RDY, TRACK 4, REV, TIC * 413.41 +/- 4  | 4R3 | 4  | 0  | 4,666,797:12:8 |      |
| 1632 | 98 | 269 | 05:28:03.333 | 117GF105A106B4Q  | 7STRP   | -0.055356,0.0014 | Slew =12.01                            | 4R3 | 4  | 0  | 4,666,798:38:0 |      |
| 1633 | 98 | 269 | 05:28:11.333 | 117GF105A106B4R  | 7STRP   | 0.054855,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,798:50:0 |      |
| 1634 | 98 | 269 | 05:29:41.333 | 117GF105A106B4S  | 7STRP   | -0.055356,0.0014 | Slew =12.01                            | 4R3 | 4  | 0  | 4,666,800:03:0 |      |
| 1635 | 98 | 269 | 05:29:49.333 | 117GF105A106B4T  | 7STRP   | 0.054855,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,800:15:0 |      |
| 1636 | 98 | 269 | 05:31:19.333 | 117GF105A106B4U  | 7STRP   | -0.055356,0.0014 | Slew =12.01                            | 4R3 | 4  | 0  | 4,666,801:59:0 |      |
| 1637 | 98 | 269 | 05:31:27.333 | 117GF105A106B4V  | 7STRP   | 0.054855,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,801:71:0 |      |
| 1638 | 98 | 269 | 05:31:59.333 | 488AE6A          | 6TMSED  | NORM,GL6         | Sci, Eng, and D/L Chan                 | 4R3 | 4  | 0  | 4,666,802:28:0 |      |
| 1639 | 98 | 269 | 05:32:57.333 | 117GF105A106B4W  | 7STRP   | -0.055356,0.0014 | Slew =12.01                            | 4R3 | 4  | 0  | 4,666,803:24:0 |      |
| 1640 | 98 | 269 | 05:33:05.333 | 117GF105A106B4X  | 7STRP   | 0.054855,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,803:36:0 |      |
| 1641 | 98 | 269 | 05:34:35.333 | 117GF105A106B4Y  | 7STRP   | -0.055356,0.0014 | Slew =12.01                            | 4R3 | 4  | 0  | 4,666,804:80:0 |      |
| 1642 | 98 | 269 | 05:34:43.333 | 117GF105A106B4Z  | 7STRP   | 0.054855,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,805:01:0 |      |
| 1643 | 98 | 269 | 05:36:13.333 | 117GF105A106B4AA | 7STRP   | -0.055356,0.0014 | Slew =12.01                            | 4R3 | 4  | 0  | 4,666,806:45:0 |      |
| 1644 | 98 | 269 | 05:36:21.333 | 117GF105A106B4AB | 7STRP   | 0.054855,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,806:57:0 |      |
| 1645 | 98 | 269 | 05:37:51.333 | 117GF105A106B4AC | 7STRP   | -0.055356,0.0014 | Slew =12.01                            | 4R3 | 4  | 0  | 4,666,808:10:0 |      |
| 1646 | 98 | 269 | 05:37:59.333 | 117GF105A106B4AD | 7STRP   | 0.054855,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,808:22:0 |      |
| 1647 | 98 | 269 | 05:38:58.666 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps         | 4R3 | 4  | 0  | 4,666,809:20:0 |      |
| 1648 | 98 | 269 | 05:38:58.666 |                  | DMS:    | : *US-RUNUP      | P7, TRACK *1, *FWD, TIC 413.41 +/- 4   | 4R3 | 4  | 0  | 4,666,809:20:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID             | Command | Parameters       | Description                            | GCM | GO | GS | RIM       | MF I  |
|------|----|-----|--------------|------------------|---------|------------------|--|-----|----|----|-----------|-------|
| 1649 | 98 | 269 | 05:39:00.066 |                  | DMS:    | : *US_AT_SP      | P7, TRACK 1, FWD, TIC * 413.53 +/- 4   | 4R3 | 4  | 0  | 4,666,809 | :22:1 |
| 1650 | 98 | 269 | 05:39:05.333 |                  | DMS:    | : *US_RD         | P7, TRACK 1, FWD, TIC * 414.77 +/- 4   | 4R3 | 4  | 0  | 4,666,809 | :30:0 |
| 1651 | 98 | 269 | 05:39:06.533 |                  | DMS:    | : *RUNUP         | R7, TRACK *4, *REV, TIC * 414.83 +/- 4 | 4R3 | 4  | 0  | 4,666,809 | :31:8 |
| 1652 | 98 | 269 | 05:39:07.933 |                  | DMS:    | : *AT_SPD        | R7, TRACK 4, REV, TIC * 414.71 +/- 4   | 4R3 | 4  | 0  | 4,666,809 | :33:9 |
| 1653 | 98 | 269 | 05:39:24.000 |                  | DMS:    | : *RECORD        | R7, TRACK 4, REV, TIC * 410.94 +/- 4   | 4R3 | 4  | 0  | 4,666,809 | :58:0 |
| 1654 | 98 | 269 | 05:39:29.333 | 117GF105A106C4A  | 7STRP   | -0.048939,0.0012 | Slew = 12.01                           | 4R3 | 4  | 0  | 4,666,809 | :66:0 |
| 1655 | 98 | 269 | 05:39:36.666 | 117GF105A106C4B  | 7STRP   | 0.048037,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,809 | :77:0 |
| 1656 | 98 | 269 | 05:39:46.666 | 50ZZ6RE          | 6DMSC   | RDY,0            | DMS Control Tape stop                  | 4R3 | 4  | 0  | 4,666,810 | :01:0 |
| 1657 | 98 | 269 | 05:39:46.666 |                  | DMS:    | : *RUNDOWN       | R7, TRACK 4, REV, TIC * 405.63 +/- 4   | 4R3 | 4  | 0  | 4,666,810 | :01:0 |
| 1658 | 98 | 269 | 05:39:47.866 |                  | DMS:    | : *READY         | RDY, TRACK 4, REV, TIC * 405.57 +/- 4  | 4R3 | 4  | 0  | 4,666,810 | :02:8 |
| 1659 | 98 | 269 | 05:40:56.666 | 117GF105A106C4C  | 7STRP   | -0.048939,0.0012 | Slew = 12.01                           | 4R3 | 4  | 0  | 4,666,811 | :15:0 |
| 1660 | 98 | 269 | 05:41:04.000 | 117GF105A106C4D  | 7STRP   | 0.048037,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,811 | :26:0 |
| 1661 | 98 | 269 | 05:42:24.000 | 117GF105A106C4E  | 7STRP   | -0.048939,0.0012 | Slew = 12.01                           | 4R3 | 4  | 0  | 4,666,812 | :55:0 |
| 1662 | 98 | 269 | 05:42:31.333 | 117GF105A106C4F  | 7STRP   | 0.048037,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,812 | :66:0 |
| 1663 | 98 | 269 | 05:43:51.333 | 117GF105A106C4G  | 7STRP   | -0.048939,0.0012 | Slew = 12.01                           | 4R3 | 4  | 0  | 4,666,814 | :04:0 |
| 1664 | 98 | 269 | 05:43:58.666 | 117GF105A106C4H  | 7STRP   | 0.048037,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,814 | :15:0 |
| 1665 | 98 | 269 | 05:45:18.666 | 117GF105A106C4I  | 7STRP   | -0.048939,0.0012 | Slew = 12.01                           | 4R3 | 4  | 0  | 4,666,815 | :44:0 |
| 1666 | 98 | 269 | 05:45:26.000 | 117GF105A106C4J  | 7STRP   | 0.048037,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,815 | :55:0 |
| 1667 | 98 | 269 | 05:46:46.000 | 117GF105A106C4K  | 7STRP   | -0.048939,0.0012 | Slew = 12.01                           | 4R3 | 4  | 0  | 4,666,816 | :84:0 |
| 1668 | 98 | 269 | 05:46:53.333 | 117GF105A106C4L  | 7STRP   | 0.048037,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,817 | :04:0 |
| 1669 | 98 | 269 | 05:48:13.333 | 117GF105A106C4M  | 7STRP   | -0.048939,0.0012 | Slew = 12.01                           | 4R3 | 4  | 0  | 4,666,818 | :33:0 |
| 1670 | 98 | 269 | 05:48:20.666 | 117GF105A106C4N  | 7STRP   | 0.048037,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,818 | :44:0 |
| 1671 | 98 | 269 | 05:49:40.666 | 117GF105A106C4O  | 7STRP   | -0.048939,0.0012 | Slew = 12.01                           | 4R3 | 4  | 0  | 4,666,819 | :73:0 |
| 1672 | 98 | 269 | 05:49:48.000 | 117GF105A106C4P  | 7STRP   | 0.048037,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,819 | :84:0 |
| 1673 | 98 | 269 | 05:51:08.000 | 117GF105A106C4Q  | 7STRP   | -0.048939,0.0012 | Slew = 12.01                           | 4R3 | 4  | 0  | 4,666,821 | :22:0 |
| 1674 | 98 | 269 | 05:51:15.333 | 117GF105A106C4R  | 7STRP   | 0.048037,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,821 | :33:0 |
| 1675 | 98 | 269 | 05:52:01.333 |                  | DMS:    | : *US-RUNUP      | P7, TRACK *1, *FWD, TIC 405.57 +/- 4   | 4R3 | 4  | 0  | 4,666,822 | :11:0 |
| 1676 | 98 | 269 | 05:52:01.333 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps         | 4R3 | 4  | 0  | 4,666,822 | :11:0 |
| 1677 | 98 | 269 | 05:52:02.733 |                  | DMS:    | : *US_AT_SP      | P7, TRACK 1, FWD, TIC * 405.69 +/- 4   | 4R3 | 4  | 0  | 4,666,822 | :13:1 |
| 1678 | 98 | 269 | 05:52:08.000 |                  | DMS:    | : *US_RD         | P7, TRACK 1, FWD, TIC * 406.92 +/- 4   | 4R3 | 4  | 0  | 4,666,822 | :21:0 |
| 1679 | 98 | 269 | 05:52:09.200 |                  | DMS:    | : *RUNUP         | R7, TRACK *4, *REV, TIC * 406.98 +/- 4 | 4R3 | 4  | 0  | 4,666,822 | :22:8 |
| 1680 | 98 | 269 | 05:52:10.600 |                  | DMS:    | : *AT_SPD        | R7, TRACK 4, REV, TIC * 406.86 +/- 4   | 4R3 | 4  | 0  | 4,666,822 | :24:9 |
| 1681 | 98 | 269 | 05:52:26.666 |                  | DMS:    | : *RECORD        | R7, TRACK 4, REV, TIC * 403.10 +/- 4   | 4R3 | 4  | 0  | 4,666,822 | :49:0 |
| 1682 | 98 | 269 | 05:52:35.333 | 117GF105A106C4S  | 7STRP   | -0.048939,0.0012 | Slew = 12.01                           | 4R3 | 4  | 0  | 4,666,822 | :62:0 |
| 1683 | 98 | 269 | 05:52:42.666 | 117GF105A106C4T  | 7STRP   | 0.048037,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,822 | :73:0 |
| 1684 | 98 | 269 | 05:52:49.333 |                  | DMS:    | : *RUNDOWN       | R7, TRACK 4, REV, TIC * 397.79 +/- 4   | 4R3 | 4  | 0  | 4,666,822 | :83:0 |
| 1685 | 98 | 269 | 05:52:49.333 | 50ZZ6RD          | 6DMSC   | RDY,0            | DMS Control Tape stop                  | 4R3 | 4  | 0  | 4,666,822 | :83:0 |
| 1686 | 98 | 269 | 05:52:50.533 |                  | DMS:    | : *READY         | RDY, TRACK 4, REV, TIC * 397.73 +/- 4  | 4R3 | 4  | 0  | 4,666,822 | :84:8 |
| 1687 | 98 | 269 | 05:54:02.666 | 117GF105A106C4U  | 7STRP   | -0.048939,0.0012 | Slew = 12.01                           | 4R3 | 4  | 0  | 4,666,824 | :11:0 |
| 1688 | 98 | 269 | 05:54:10.000 | 117GF105A106C4V  | 7STRP   | 0.048037,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,824 | :22:0 |
| 1689 | 98 | 269 | 05:55:30.000 | 117GF105A106C4W  | 7STRP   | -0.048939,0.0012 | Slew = 12.01                           | 4R3 | 4  | 0  | 4,666,825 | :51:0 |
| 1690 | 98 | 269 | 05:55:37.333 | 117GF105A106C4X  | 7STRP   | 0.048037,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,825 | :62:0 |
| 1691 | 98 | 269 | 05:56:00.666 | 488AE6B          | 6TMSED  | NORM,EL6         | Sci, Eng, and D/L Chan                 | 4R3 | 4  | 0  | 4,666,826 | :06:0 |
| 1692 | 98 | 269 | 05:56:01.333 | 282NF432A431A6A  | 6RCDLSL | DDSNCG,PLSDSL,EP | Record Deselect (DDS o                 | 4R3 | 4  | 0  | 4,666,826 | :07:0 |
| 1693 | 98 | 269 | 05:56:02.000 | 282NF432A6A      | 6RTSL1  |                  | R/T Select of DDS and                  | 4R3 | 4  | 0  | 4,666,826 | :08:0 |
| 1694 | 98 | 269 | 05:56:37.333 | 117GF105A106C4Y  | 7STRP   | -0.048939,0.0012 | Slew = 12.01                           | 4R3 | 4  | 0  | 4,666,827 | :00:0 |
| 1695 | 98 | 269 | 05:57:04.666 | 117GF105A106C4Z  | 7STRP   | 0.048037,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,827 | :11:0 |
| 1696 | 98 | 269 | 05:58:24.666 | 117GF105A106C4AA | 7STRP   | -0.048939,0.0012 | Slew = 12.01                           | 4R3 | 4  | 0  | 4,666,828 | :40:0 |
| 1697 | 98 | 269 | 05:58:32.000 | 117GF105A106C4AB | 7STRP   | 0.048037,0.0,0.0 | Slew = 0.63                            | 4R3 | 4  | 0  | 4,666,828 | :51:0 |
| 1698 | 98 | 269 | 05:59:52.000 | 117GF11A         | CSMOS   | GE               | ***** GROUP END CSMOS                  | 4R3 | 4  | 0  | 4,666,829 | :80:0 |
| 1699 | 98 | 269 | 05:59:54.666 | 165IU4A          | CSMOS   | NORM,316.445999, | Check S/P Position                     | 4R3 | 4  | 0  | 4,666,829 | :84:0 |
| 1700 | 98 | 269 | 06:00:19.333 | 176GG6B          | 6TMREC  | NRC              | NO RECORD Record Mode Change           | 4R3 | 4  | 0  | 4,666,830 | :30:0 |
| 1701 | 98 | 269 | 06:00:21.333 |                  | DMS:    | : *US-RUNUP      | P7, TRACK *1, *FWD, TIC 397.73 +/- 4   | 4R3 | 4  | 0  | 4,666,830 | :33:0 |
| 1702 | 98 | 269 | 06:00:21.333 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps         | 4R3 | 4  | 0  | 4,666,830 | :33:0 |
| 1703 | 98 | 269 | 06:00:22.733 |                  | DMS:    | : *US_AT_SP      | P7, TRACK 1, FWD, TIC * 397.85 +/- 4   | 4R3 | 4  | 0  | 4,666,830 | :35:1 |

| Line | YR | DOY | SCET - GMT   | PSID        | Command | Parameters       | Description                              | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|-------------|---------|------------------|--|-----|----|----|----------------|------|
| 1704 | 98 | 269 | 06:00:28.000 |             | DMS:    | :US_RD           | P7, TRACK 1, FWD, TIC * 399.08 +/- 4     | 4R3 | 4  | 0  | 4,666,830:43:0 |      |
| 1705 | 98 | 269 | 06:00:29.200 |             | DMS:    | :RUNUP           | R7, TRACK 4, *REV, TIC * 399.14 +/- 4    | 4R3 | 4  | 0  | 4,666,830:44:0 |      |
| 1706 | 98 | 269 | 06:00:30.600 |             | DMS:    | :AT_SPD          | R7, TRACK 4, REV, TIC * 399.02 +/- 4     | 4R3 | 4  | 0  | 4,666,830:46:9 |      |
| 1707 | 98 | 269 | 06:00:31.333 |             | DMS:    | :RECORD          | R7, TRACK 4, REV, TIC * 398.85 +/- 4     | 4R3 | 4  | 0  | 4,666,830:48:0 |      |
| 1708 | 98 | 269 | 06:00:48.666 | 50ZZ6RE     | 6DMSC   | RDY,0            | DMS Control Tape stop                    | 4R3 | 4  | 0  | 4,666,830:74:0 |      |
| 1709 | 98 | 269 | 06:00:48.666 |             | DMS:    | :RUNDOWN         | R7, TRACK 4, REV, TIC * 394.79 +/- 4     | 4R3 | 4  | 0  | 4,666,830:74:0 |      |
| 1710 | 98 | 269 | 06:00:49.866 |             | DMS:    | :READY           | RDY, TRACK 4, REV, TIC * 394.73 +/- 4    | 4R3 | 4  | 0  | 4,666,830:75:8 |      |
| 1711 | 98 | 269 | 06:02:37.333 | 165JU4A     | 7SCAN   | NORM,325.936996, | Check S/P Position                       | 4R3 | 4  | 0  | 4,666,832:55:0 |      |
| 1712 | 98 | 269 | 06:03:21.333 | 175IU422A6A | 6DMSC   | R115.0           | DMS Control Tape runup 115.2kb           | 4R3 | 4  | 0  | 4,666,833:30:0 |      |
| 1713 | 98 | 269 | 06:03:21.333 |             | DMS:    | :US-RUNUP        | P7, TRACK *1, *FWD, TIC 394.73 +/- 4     | 4R3 | 4  | 0  | 4,666,833:30:0 |      |
| 1714 | 98 | 269 | 06:03:22.733 |             | DMS:    | :US_AT_SP        | P7, TRACK 1, FWD, TIC * 394.85 +/- 4     | 4R3 | 4  | 0  | 4,666,833:32:1 |      |
| 1715 | 98 | 269 | 06:03:28.000 |             | DMS:    | :US_RD           | P7, TRACK 1, FWD, TIC * 396.08 +/- 4     | 4R3 | 4  | 0  | 4,666,833:40:0 |      |
| 1716 | 98 | 269 | 06:03:29.200 |             | DMS:    | :RUNUP           | R115, TRACK *4, *REV, TIC * 396.14 +/- 4 | 4R3 | 4  | 0  | 4,666,833:41:8 |      |
| 1717 | 98 | 269 | 06:03:30.000 | 165JU4B     | 7VECT   |                  | Inert vect update UTC                    | 4R3 | 4  | 0  | 4,666,833:43:0 |      |
| 1718 | 98 | 269 | 06:03:32.666 | 175IU176A6A | 6TMREC  | HIS              | 115.2 KBPS SSI + NIMS RECORD Record Mode | 4R3 | 4  | 0  | 4,666,833:47:0 |      |
| 1719 | 98 | 269 | 06:03:33.200 |             | DMS:    | :AT_SPD          | R115, TRACK 4, REV, TIC 389.84 +/- 4     | 4R3 | 4  | 0  | 4,666,833:47:8 |      |
| 1720 | 98 | 269 | 06:03:33.200 |             | DMS:    | :RECORD          | R115, TRACK 4, REV, TIC * 389.84 +/- 4   | 4R3 | 4  | 0  | 4,666,833:47:8 |      |
| 1721 | 98 | 269 | 06:03:34.000 | 116IU4A     | 7STRP   | -0.00731,-0.0005 | Slew = -3.41                             | 4R3 | 4  | 0  | 4,666,833:49:0 |      |
| 1722 | 98 | 269 | 06:03:52.000 | 116JT4A     | 7STRP   | 0.006,0.0035,0,0 | Slew = 3.41                              | 4R3 | 4  | 0  | 4,666,833:76:0 |      |
| 1723 | 98 | 269 | 06:04:02.000 | 175IU422A6B | 6DMSC   | RDY,0            | DMS Control Tape stop                    | 4R3 | 4  | 0  | 4,666,834:00:0 |      |
| 1724 | 98 | 269 | 06:04:02.000 |             | DMS:    | :RUNDOWN         | R115, TRACK 4, REV, TIC * 287.59 +/- 4   | 4R3 | 4  | 0  | 4,666,834:00:0 |      |
| 1725 | 98 | 269 | 06:04:03.200 |             | DMS:    | :READY           | RDY, TRACK 4, REV, TIC * 287.59 +/- 4    | 4R3 | 4  | 0  | 4,666,834:01:8 |      |
| 1726 | 98 | 269 | 06:05:07.333 | 175JT422A6A | 6DMSC   | R115.0           | DMS Control Tape runup 115.2kb           | 4R3 | 4  | 0  | 4,666,835:07:0 |      |
| 1727 | 98 | 269 | 06:05:07.333 |             | DMS:    | :US-RUNUP        | P7, TRACK *1, *FWD, TIC 287.59 +/- 4     | 4R3 | 4  | 0  | 4,666,835:07:0 |      |
| 1728 | 98 | 269 | 06:05:08.733 |             | DMS:    | :US_AT_SP        | P7, TRACK 1, FWD, TIC * 287.71 +/- 4     | 4R3 | 4  | 0  | 4,666,835:09:1 |      |
| 1729 | 98 | 269 | 06:05:14.000 |             | DMS:    | :US_RD           | P7, TRACK 1, FWD, TIC * 288.94 +/- 4     | 4R3 | 4  | 0  | 4,666,835:17:0 |      |
| 1730 | 98 | 269 | 06:05:15.200 |             | DMS:    | :RUNUP           | R115, TRACK *4, *REV, TIC * 289.00 +/- 4 | 4R3 | 4  | 0  | 4,666,835:18:8 |      |
| 1731 | 98 | 269 | 06:05:18.666 | 175JT176A6A | 6TMREC  | HIS              | 115.2 KBPS SSI + NIMS RECORD Record Mode | 4R3 | 4  | 0  | 4,666,835:24:0 |      |
| 1732 | 98 | 269 | 06:05:19.200 |             | DMS:    | :RECORD          | R115, TRACK 4, REV, TIC * 282.70 +/- 4   | 4R3 | 4  | 0  | 4,666,835:24:8 |      |
| 1733 | 98 | 269 | 06:05:19.200 |             | DMS:    | :AT_SPD          | R115, TRACK 4, REV, TIC 282.70 +/- 4     | 4R3 | 4  | 0  | 4,666,835:24:8 |      |
| 1734 | 98 | 269 | 06:05:20.000 | 116JU4A     | 7STRP   | -0.096296,-0.011 | Slew = 17.01                             | 4R3 | 4  | 0  | 4,666,835:26:0 |      |
| 1735 | 98 | 269 | 06:05:22.666 |             | DMS:    | :RUNDOWN         | R115, TRACK 4, REV, TIC * 270.52 +/- 4   | 4R3 | 4  | 0  | 4,666,835:30:0 |      |
| 1736 | 98 | 269 | 06:05:22.666 | 175JT422A6B | 6DMSC   | RDY,0            | DMS Control Tape stop                    | 4R3 | 4  | 0  | 4,666,835:30:0 |      |
| 1737 | 98 | 269 | 06:05:23.866 |             | DMS:    | :READY           | RDY, TRACK 4, REV, TIC * 269.52 +/- 4    | 4R3 | 4  | 0  | 4,666,835:31:8 |      |
| 1738 | 98 | 269 | 06:06:28.000 |             | DMS:    | :US-RUNUP        | P7, TRACK *1, *FWD, TIC 269.52 +/- 4     | 4R3 | 4  | 0  | 4,666,836:37:0 |      |
| 1739 | 98 | 269 | 06:06:28.000 |             | DMS:    | :DMS-TURN        | P7, TRACK 4, REV, TIC 269.52 +/- 4       | 4R3 | 4  | 0  | 4,666,836:37:0 |      |
| 1740 | 98 | 269 | 06:06:28.000 | 465KF6A     | 6DTRN   | CMD,6DTRN,465KF6 | DMS TRACK TURNAROUND                     | 4R3 | 4  | 0  | 4,666,836:37:0 |      |
| 1741 | 98 | 269 | 06:06:29.400 |             | DMS:    | :US_AT_SP        | P7, TRACK 1, FWD, TIC * 269.64 +/- 4     | 4R3 | 4  | 0  | 4,666,836:39:1 |      |
| 1742 | 98 | 269 | 06:06:34.666 |             | DMS:    | :US_RD           | P7, TRACK 1, FWD, TIC * 270.87 +/- 4     | 4R3 | 4  | 0  | 4,666,836:47:0 |      |
| 1743 | 98 | 269 | 06:06:35.866 |             | DMS:    | :RUNUP           | P7, TRACK *4, *REV, TIC * 270.93 +/- 4   | 4R3 | 4  | 0  | 4,666,836:48:8 |      |
| 1744 | 98 | 269 | 06:06:37.266 |             | DMS:    | :AT_SPD          | P7, TRACK 4, REV, TIC * 270.81 +/- 4     | 4R3 | 4  | 0  | 4,666,836:50:9 |      |
| 1745 | 98 | 269 | 06:11:39.866 |             | DMS:    | :REVERSE         | P7, TRACK 4, REV, TIC * 199.87 +/- 4     | 4R3 | 4  | 0  | 4,666,841:49:8 |      |
| 1746 | 98 | 269 | 06:11:41.066 |             | DMS:    | :RUNUP           | P7, TRACK 1, FWD, TIC 199.81 +/- 4       | 4R3 | 4  | 0  | 4,666,841:51:6 |      |
| 1747 | 98 | 269 | 06:11:41.066 |             | DMS:    | :TURNARND        | P7, TRACK *1, *FWD, TIC * 199.81 +/- 4   | 4R3 | 4  | 0  | 4,666,841:51:6 |      |
| 1748 | 98 | 269 | 06:11:42.466 |             | DMS:    | :AT_SPD          | P7, TRACK 1, FWD, TIC * 199.93 +/-       | 4R3 | 4  | 0  | 4,666,841:53:7 |      |
| 1749 | 98 | 269 | 06:11:54.466 |             | DMS:    | :AUTOSTOP        | P7, TRACK 1, FWD, TIC * 202.06 +/-       | 4R3 | 4  | 0  | 4,666,841:71:7 |      |
| 1750 | 98 | 269 | 06:11:55.666 |             | DMS:    | :READY           | RDY, TRACK 1, FWD, TIC * 202.12 +/-      | 4R3 | 4  | 0  | 4,666,841:73:5 |      |
| 1751 | 98 | 269 | 06:17:02.666 |             | DMS:    | :E4-DELAY        | RDY, TRACK 1, FWD, TIC 202.12 +/-        | 4R3 | 4  | 0  | 4,666,846:79:0 |      |
| 1752 | 98 | 269 | 06:17:02.666 | 465KG6A     | 6DMSC   | P7,1             | DMS Control Tape P/B 7.68Kbps            | 4R3 | 4  | 0  | 4,666,846:79:0 |      |
| 1753 | 98 | 269 | 06:17:09.333 |             | DMS:    | :RUNUP           | P7, TRACK 1, FWD, TIC 202.12 +/-         | 4R3 | 4  | 0  | 4,666,846:89:0 |      |
| 1754 | 98 | 269 | 06:17:10.733 |             | DMS:    | :P-SLEW          | P7, TRACK 1, FWD, TIC * 202.24 +/-       | 4R3 | 4  | 0  | 4,666,847:00:1 |      |
| 1755 | 98 | 269 | 06:17:10.733 |             | DMS:    | :AT_SPD          | P7, TRACK 1, FWD, TIC 202.24 +/-         | 4R3 | 4  | 0  | 4,666,847:00:1 |      |
| 1756 | 98 | 269 | 06:18:11.333 |             | DMS:    | :RUNDOWN         | P7, TRACK 1, FWD, TIC * 216.45 +/-       | 4R3 | 4  | 0  | 4,666,848:00:0 |      |
| 1757 | 98 | 269 | 06:18:11.333 | 465KG6B     | 6DMSC   | RDY,1            | DMS Control Tape stop                    | 4R3 | 4  | 0  | 4,666,848:00:0 |      |
| 1758 | 98 | 269 | 06:18:12.533 |             | DMS:    | :READY           | RDY, TRACK 1, FWD, TIC * 216.51 +/-      | 4R3 | 4  | 0  | 4,666,848:01:8 |      |

| Line | YR | DOY | SCET - GMT   | PSID            | Command | Parameters        | Description                              | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|-----------------|---------|-------------------|--|-----|----|----|----------------|------|
| 1759 | 98 | 269 | 06:18:48.000 | 175JU422A6A     | 6DMSC   | R115.1            | DMS Control                              | 4R3 | 4  | 0  | 4.666,848:55:0 |      |
| 1760 | 98 | 269 | 06:18:48.000 |                 | DMS:    | : *E4-DELAY       | RDY, TRACK 1, FWD, TIC 216.51 +/-        | 4R3 | 4  | 0  | 4.666,848:55:0 |      |
| 1761 | 98 | 269 | 06:18:54.666 |                 | DMS:    | : *RUNUP          | R115, TRACK 1, FWD, TIC 216.51 +/-       | 4R3 | 4  | 0  | 4.666,848:65:0 |      |
| 1762 | 98 | 269 | 06:18:58.000 | 175JU176A6A     | 6TMREC  | HIS               | 115.2 KBPS SSI + NIMS RECORD Record Mode | 4R3 | 4  | 0  | 4.666,848:70:0 |      |
| 1763 | 98 | 269 | 06:18:58.666 | 116JV4A         | 7STRP   | -0.068105,-0.006  | Slew = 17.01                             | 4R3 | 4  | 0  | 4.666,848:71:0 |      |
| 1764 | 98 | 269 | 06:18:58.666 |                 | DMS:    | : *AT_SPD         | R115, TRACK 1, FWD, TIC 222.81 +/-       | 4R3 | 4  | 0  | 4.666,848:71:0 |      |
| 1765 | 98 | 269 | 06:18:58.666 |                 | DMS:    | : *RECORD         | R115, TRACK 1, FWD, TIC * 222.81 +/-     | 4R3 | 4  | 0  | 4.666,848:71:0 |      |
| 1766 | 98 | 269 | 06:19:12.000 | 175JU422A6B     | 6DMSC   | RDY,0             | DMS Control Tape stop                    | 4R3 | 4  | 0  | 4.666,849:00:0 |      |
| 1767 | 98 | 269 | 06:19:12.000 |                 | DMS:    | : *RUNDOWN        | R115, TRACK 1, FWD, TIC * 269.68 +/-     | 4R3 | 4  | 0  | 4.666,849:00:0 |      |
| 1768 | 98 | 269 | 06:19:13.200 |                 | DMS:    | : *READY          | RDY, TRACK 1, FWD, TIC * 270.68 +/-      | 4R3 | 4  | 0  | 4.666,849:01:8 |      |
| 1769 | 98 | 269 | 06:19:18.000 |                 | DMS:    | : *E4-DELAY       | RDY, TRACK 1, FWD, TIC 270.68 +/-        | 4R3 | 4  | 0  | 4.666,849:09:0 |      |
| 1770 | 98 | 269 | 06:19:18.000 | 175JV422A6A     | 6DMSC   | R115.1            | DMS Control                              | 4R3 | 4  | 0  | 4.666,849:09:0 |      |
| 1771 | 98 | 269 | 06:19:24.666 |                 | DMS:    | : *RUNUP          | R115, TRACK 1, FWD, TIC 270.68 +/-       | 4R3 | 4  | 0  | 4.666,849:19:0 |      |
| 1772 | 98 | 269 | 06:19:28.000 | 175JV176A6A     | 6TMREC  | HIS               | 115.2 KBPS SSI + NIMS RECORD Record Mode | 4R3 | 4  | 0  | 4.666,849:24:0 |      |
| 1773 | 98 | 269 | 06:19:28.666 |                 | DMS:    | : *AT_SPD         | R115, TRACK 1, FWD, TIC 276.98 +/-       | 4R3 | 4  | 0  | 4.666,849:25:0 |      |
| 1774 | 98 | 269 | 06:19:28.666 |                 | DMS:    | : *RECORD         | R115, TRACK 1, FWD, TIC * 276.98 +/-     | 4R3 | 4  | 0  | 4.666,849:25:0 |      |
| 1775 | 98 | 269 | 06:19:42.666 | 175JV422A6B     | 6DMSC   | RDY,0             | DMS Control Tape stop                    | 4R3 | 4  | 0  | 4.666,849:46:0 |      |
| 1776 | 98 | 269 | 06:19:42.666 |                 | DMS:    | : *RUNDOWN        | R115, TRACK 1, FWD, TIC * 326.20 +/-     | 4R3 | 4  | 0  | 4.666,849:46:0 |      |
| 1777 | 98 | 269 | 06:19:43.866 |                 | DMS:    | : *READY          | RDY, TRACK 1, FWD, TIC * 327.20 +/-      | 4R3 | 4  | 0  | 4.666,849:47:8 |      |
| 1778 | 98 | 269 | 06:20:16.666 | 444UD443A4A     | 7MODE   | CRUM              | AACS CRUISE MODE                         | 4R3 | 4  | 0  | 4.666,850:06:0 |      |
| 1779 | 98 | 269 | 06:23:14.000 | 165GG4A         | 7SCAN   | NORM,90.702,25.1  | Check S/PJ Position                      | 4R3 | 4  | 0  | 4.666,852:90:0 |      |
| 1780 | 98 | 269 | 06:26:16.666 | 176GH6A         | 6TMREC  | BPT               | 7.68 KBPS PPRBURST TO TAPE Record Mode C | 4R3 | 4  | 0  | 4.666,856:00:0 |      |
| 1781 | 98 | 269 | 06:27:08.000 | 117GG           | CSMOS   | GS                | ***** GROUP START CSMOS                  | 4R3 | 4  | 0  | 4.666,856:77:0 |      |
| 1782 | 98 | 269 | 06:27:17.333 | 117GG105A106A4A | 7STRP   | 0.030009,0.0,0.0  | Slew = 0.45                              | 4R3 | 4  | 0  | 4.666,857:00:0 |      |
| 1783 | 98 | 269 | 06:28:27.333 | 117GG105A106A4B | 7STRP   | -0.030061,-0.0006 | Slew = 12.01                             | 4R3 | 4  | 0  | 4.666,858:14:0 |      |
| 1784 | 98 | 269 | 06:28:34.000 | 117GG105A106A4C | 7STRP   | 0.030009,0.0,0.0  | Slew = 0.45                              | 4R3 | 4  | 0  | 4.666,858:24:0 |      |
| 1785 | 98 | 269 | 06:29:44.000 | 117GG105A106A4D | 7STRP   | -0.03061,-0.0006  | Slew = 12.01                             | 4R3 | 4  | 0  | 4.666,859:38:0 |      |
| 1786 | 98 | 269 | 06:29:50.666 | 117GG105A106A4E | 7STRP   | 0.030009,0.0,0.0  | Slew = 0.45                              | 4R3 | 4  | 0  | 4.666,859:48:0 |      |
| 1787 | 98 | 269 | 06:31:00.666 | 117GG105A106A4F | 7STRP   | -0.03061,-0.0006  | Slew = 12.01                             | 4R3 | 4  | 0  | 4.666,860:62:0 |      |
| 1788 | 98 | 269 | 06:31:07.333 | 117GG105A106A4G | 7STRP   | 0.030009,0.0,0.0  | Slew = 0.45                              | 4R3 | 4  | 0  | 4.666,860:72:0 |      |
| 1789 | 98 | 269 | 06:32:17.333 | 117GG105A106A4H | 7STRP   | -0.03061,-0.0006  | Slew = 12.01                             | 4R3 | 4  | 0  | 4.666,861:86:0 |      |
| 1790 | 98 | 269 | 06:32:07.333 | 117GG105A106A4I | 7STRP   | 0.030009,0.0,0.0  | Slew = 0.45                              | 4R3 | 4  | 0  | 4.666,862:05:0 |      |
| 1791 | 98 | 269 | 06:33:34.000 | 117GG105A106A4J | 7STRP   | -0.03061,-0.0006  | Slew = 12.01                             | 4R3 | 4  | 0  | 4.666,863:19:0 |      |
| 1792 | 98 | 269 | 06:33:40.666 | 117GG105A106A4K | 7STRP   | 0.030009,0.0,0.0  | Slew = 0.45                              | 4R3 | 4  | 0  | 4.666,863:29:0 |      |
| 1793 | 98 | 269 | 06:34:50.666 | 117GG105A106A4L | 7STRP   | -0.03061,-0.0006  | Slew = 12.01                             | 4R3 | 4  | 0  | 4.666,864:43:0 |      |
| 1794 | 98 | 269 | 06:34:57.333 | 117GG105A106A4M | 7STRP   | 0.030009,0.0,0.0  | Slew = 0.45                              | 4R3 | 4  | 0  | 4.666,864:53:0 |      |
| 1795 | 98 | 269 | 06:36:07.333 | 117GG105A106A4N | 7STRP   | -0.03061,-0.0006  | Slew = 12.01                             | 4R3 | 4  | 0  | 4.666,865:67:0 |      |
| 1796 | 98 | 269 | 06:36:14.000 | 117GG105A106A4O | 7STRP   | 0.030009,0.0,0.0  | Slew = 0.45                              | 4R3 | 4  | 0  | 4.666,865:77:0 |      |
| 1797 | 98 | 269 | 06:37:24.000 | 117GG105A106A4P | 7STRP   | -0.03061,-0.0006  | Slew = 12.01                             | 4R3 | 4  | 0  | 4.666,867:00:0 |      |
| 1798 | 98 | 269 | 06:37:30.666 | 117GG105A106A4Q | 7STRP   | 0.030009,0.0,0.0  | Slew = 0.45                              | 4R3 | 4  | 0  | 4.666,867:10:0 |      |
| 1799 | 98 | 269 | 06:38:40.666 | 117GG105A106A4R | 7STRP   | -0.03061,-0.0006  | Slew = 12.01                             | 4R3 | 4  | 0  | 4.666,868:24:0 |      |
| 1800 | 98 | 269 | 06:38:47.333 | 117GG105A106A4S | 7STRP   | 0.030009,0.0,0.0  | Slew = 0.45                              | 4R3 | 4  | 0  | 4.666,868:34:0 |      |
| 1801 | 98 | 269 | 06:38:51.333 | 50ZZ6XX         | 6DMSC   | R7,0              | DMS Control Tape runup 7.68kps           | 4R3 | 4  | 0  | 4.666,868:40:0 |      |
| 1802 | 98 | 269 | 06:38:51.333 |                 | DMS:    | : *E4-DELAY       | RDY, TRACK 1, FWD, TIC 327.20 +/-        | 4R3 | 4  | 0  | 4.666,868:40:0 |      |
| 1803 | 98 | 269 | 06:38:58.000 |                 | DMS:    | : *RUNUP          | R7, TRACK 1, FWD, TIC 327.20 +/-         | 4R3 | 4  | 0  | 4.666,868:50:0 |      |
| 1804 | 98 | 269 | 06:38:59.400 |                 | DMS:    | : *AT_SPD         | R7, TRACK 1, FWD, TIC * 327.32 +/-       | 4R3 | 4  | 0  | 4.666,868:52:1 |      |
| 1805 | 98 | 269 | 06:39:16.666 |                 | DMS:    | : *RECORD         | R7, TRACK 1, FWD, TIC * 331.37 +/-       | 4R3 | 4  | 0  | 4.666,868:78:0 |      |
| 1806 | 98 | 269 | 06:39:39.333 |                 | DMS:    | : *RUNDOWN        | R7, TRACK 1, FWD, TIC * 336.68 +/-       | 4R3 | 4  | 0  | 4.666,869:21:0 |      |
| 1807 | 98 | 269 | 06:39:39.333 | 50ZZ6RD         | 6DMSC   | RDY,0             | DMS Control Tape stop                    | 4R3 | 4  | 0  | 4.666,869:21:0 |      |
| 1808 | 98 | 269 | 06:39:40.533 |                 | DMS:    | : *READY          | RDY, TRACK 1, FWD, TIC * 336.74 +/-      | 4R3 | 4  | 0  | 4.666,869:22:8 |      |
| 1809 | 98 | 269 | 06:39:57.333 | 117GG105A106A4T | 7STRP   | -0.03061,-0.0006  | Slew = 12.01                             | 4R3 | 4  | 0  | 4.666,869:48:0 |      |
| 1810 | 98 | 269 | 06:40:04.000 | 117GG105A106A4U | 7STRP   | 0.030009,0.0,0.0  | Slew = 0.45                              | 4R3 | 4  | 0  | 4.666,869:58:0 |      |
| 1811 | 98 | 269 | 06:41:14.000 | 117GG105A106A4V | 7STRP   | -0.03061,-0.0006  | Slew = 12.01                             | 4R3 | 4  | 0  | 4.666,870:72:0 |      |
| 1812 | 98 | 269 | 06:41:20.666 | 117GG105A106A4W | 7STRP   | 0.030009,0.0,0.0  | Slew = 0.45                              | 4R3 | 4  | 0  | 4.666,870:82:0 |      |
| 1813 | 98 | 269 | 06:42:30.666 | 117GG105A106A4X | 7STRP   | -0.03061,-0.0006  | Slew = 12.01                             | 4R3 | 4  | 0  | 4.666,872:05:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID             | Command | Parameters       | Description                         | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|------------------|---------|------------------|-------------------------------------|-----|----|----|----------------|------|
| 1814 | 98 | 269 | 06:42:37.333 | 117GG105A106A4Y  | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,872:15:0 |      |
| 1815 | 98 | 269 | 06:43:47.333 | 117GG105A106A4Z  | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,873:29:0 |      |
| 1816 | 98 | 269 | 06:43:54.000 | 117GG105A106A4AA | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,873:39:0 |      |
| 1817 | 98 | 269 | 06:45:04.000 | 117GG105A106A4AB | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,874:53:0 |      |
| 1818 | 98 | 269 | 06:45:10.666 | 117GG105A106A4AC | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,874:63:0 |      |
| 1819 | 98 | 269 | 06:46:20.666 | 117GG105A106A4AD | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,875:77:0 |      |
| 1820 | 98 | 269 | 06:46:27.333 | 117GG105A106A4AE | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,875:87:0 |      |
| 1821 | 98 | 269 | 06:47:37.333 | 117GG105A106A4AF | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,877:10:0 |      |
| 1822 | 98 | 269 | 06:47:44.000 | 117GG105A106A4AG | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,877:20:0 |      |
| 1823 | 98 | 269 | 06:48:54.000 | 117GG105A106A4AH | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,878:34:0 |      |
| 1824 | 98 | 269 | 06:49:00.666 | 117GG105A106A4AI | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,878:44:0 |      |
| 1825 | 98 | 269 | 06:50:10.666 | 117GG105A106A4AJ | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,879:58:0 |      |
| 1826 | 98 | 269 | 06:50:17.333 | 117GG105A106A4AK | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,879:68:0 |      |
| 1827 | 98 | 269 | 06:50:55.333 | 488AE6C          | 6TMSED  | NORM,EL5         | Sci, Eng, and D/L Chan              | 4R3 | 4  | 0  | 4,666,880:34:0 |      |
| 1828 | 98 | 269 | 06:51:27.333 | 117GG105A106A4AL | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,880:82:0 |      |
| 1829 | 98 | 269 | 06:51:34.000 | 117GG105A106A4AM | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,881:01:0 |      |
| 1830 | 98 | 269 | 06:51:53.333 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps      | 4R3 | 4  | 0  | 4,666,881:30:0 |      |
| 1831 | 98 | 269 | 06:51:53.333 |                  | DMS:    | :*E4-DELAY       | RDY, TRACK 1, FWD, TIC 336.74 +/-   | 4R3 | 4  | 0  | 4,666,881:30:0 |      |
| 1832 | 98 | 269 | 06:52:00.000 |                  | DMS:    | :*RUNUP          | R7, TRACK 1, FWD, TIC 336.74 +/-    | 4R3 | 4  | 0  | 4,666,881:40:0 |      |
| 1833 | 98 | 269 | 06:52:01.400 |                  | DMS:    | :*AT SPD         | R7, TRACK 1, FWD, TIC * 336.86 +/-  | 4R3 | 4  | 0  | 4,666,881:42:1 |      |
| 1834 | 98 | 269 | 06:52:18.666 |                  | DMS:    | :*RECORD         | R7, TRACK 1, FWD, TIC * 340.91 +/-  | 4R3 | 4  | 0  | 4,666,881:68:0 |      |
| 1835 | 98 | 269 | 06:52:41.333 | 50ZZ6RE          | 6DMSC   | RDY,0            | DMS Control Tape stop               | 4R3 | 4  | 0  | 4,666,882:11:0 |      |
| 1836 | 98 | 269 | 06:52:41.333 |                  | DMS:    | :*RUNDOWN        | R7, TRACK 1, FWD, TIC * 346.22 +/-  | 4R3 | 4  | 0  | 4,666,882:11:0 |      |
| 1837 | 98 | 269 | 06:52:42.533 |                  | DMS:    | :*READY          | RDY, TRACK 1, FWD, TIC * 346.28 +/- | 4R3 | 4  | 0  | 4,666,882:12:8 |      |
| 1838 | 98 | 269 | 06:52:44.000 | 117GG105A106A4AN | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,882:15:0 |      |
| 1839 | 98 | 269 | 06:52:50.666 | 117GG105A106A4AO | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,882:25:0 |      |
| 1840 | 98 | 269 | 06:54:00.666 | 117GG105A106A4AP | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,883:39:0 |      |
| 1841 | 98 | 269 | 06:54:07.333 | 117GG105A106A4AQ | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,883:49:0 |      |
| 1842 | 98 | 269 | 06:55:17.333 | 117GG105A106A4AR | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,884:63:0 |      |
| 1843 | 98 | 269 | 06:55:24.000 | 117GG105A106A4AS | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,884:73:0 |      |
| 1844 | 98 | 269 | 06:56:34.000 | 117GG105A106A4AT | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,885:87:0 |      |
| 1845 | 98 | 269 | 06:56:40.666 | 117GG105A106A4AU | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,886:06:0 |      |
| 1846 | 98 | 269 | 06:57:50.666 | 117GG105A106A4AV | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,887:20:0 |      |
| 1847 | 98 | 269 | 06:57:57.333 | 117GG105A106A4AW | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,887:30:0 |      |
| 1848 | 98 | 269 | 06:59:07.333 | 117GG105A106A4AX | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,888:44:0 |      |
| 1849 | 98 | 269 | 06:59:14.000 | 117GG105A106A4AY | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,888:54:0 |      |
| 1850 | 98 | 269 | 07:00:24.000 | 117GG105A106A4AZ | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,889:68:0 |      |
| 1851 | 98 | 269 | 07:00:30.666 | 117GG105A106A4BA | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,889:78:0 |      |
| 1852 | 98 | 269 | 07:01:40.666 | 117GG105A106A4BB | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,891:01:0 |      |
| 1853 | 98 | 269 | 07:01:47.333 | 117GG105A106A4BC | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,891:11:0 |      |
| 1854 | 98 | 269 | 07:02:57.333 | 117GG105A106A4BD | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,892:25:0 |      |
| 1855 | 98 | 269 | 07:03:04.000 | 117GG105A106A4BE | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,892:35:0 |      |
| 1856 | 98 | 269 | 07:04:14.000 | 117GG105A106A4BF | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,893:49:0 |      |
| 1857 | 98 | 269 | 07:04:20.666 | 117GG105A106A4BG | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,893:59:0 |      |
| 1858 | 98 | 269 | 07:04:55.333 | 50ZZ6XX          | DMS:    | :*E4-DELAY       | RDY, TRACK 1, FWD, TIC 346.28 +/-   | 4R3 | 4  | 0  | 4,666,894:20:0 |      |
| 1859 | 98 | 269 | 07:04:55.333 |                  | DMS:    | :*RUNUP          | DMS Control Tape runup 7.68kps      | 4R3 | 4  | 0  | 4,666,894:20:0 |      |
| 1860 | 98 | 269 | 07:05:02.000 |                  | DMS:    | :*AT SPD         | R7, TRACK 1, FWD, TIC 346.28 +/-    | 4R3 | 4  | 0  | 4,666,894:30:0 |      |
| 1861 | 98 | 269 | 07:05:03.400 |                  | DMS:    | :*RECORD         | R7, TRACK 1, FWD, TIC * 346.40 +/-  | 4R3 | 4  | 0  | 4,666,894:32:1 |      |
| 1862 | 98 | 269 | 07:05:20.666 |                  | DMS:    | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,894:58:0 |      |
| 1863 | 98 | 269 | 07:05:30.666 | 117GG105A106A4BH | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,894:73:0 |      |
| 1864 | 98 | 269 | 07:05:37.333 | 117GG105A106A4BI | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,894:83:0 |      |
| 1865 | 98 | 269 | 07:05:43.333 | 50ZZ6RD          | 6DMSC   | RDY,0            | DMS Control Tape stop               | 4R3 | 4  | 0  | 4,666,895:01:0 |      |
| 1866 | 98 | 269 | 07:05:43.333 |                  | DMS:    | :*RUNDOWN        | R7, TRACK 1, FWD, TIC * 355.76 +/-  | 4R3 | 4  | 0  | 4,666,895:01:0 |      |
| 1867 | 98 | 269 | 07:05:44.533 |                  | DMS:    | :*READY          | RDY, TRACK 1, FWD, TIC * 355.82 +/- | 4R3 | 4  | 0  | 4,666,895:02:8 |      |
| 1868 | 98 | 269 | 07:06:47.333 | 117GG105A106A4BJ | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,896:06:0 |      |



| Line | YR | DOY | SCET - GMT   | PSID             | Command | Parameters       | Description                         | GCM | GO | GS | RIM       | MF I   |
|------|----|-----|--------------|------------------|---------|------------------|-------------------------------------|-----|----|----|-----------|--------|
| 1869 | 98 | 269 | 07:06:54.000 | 117GG105A106A4BK | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,896 | 16:0   |
| 1870 | 98 | 269 | 07:08:04.000 | 117GG105A106A4BL | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,897 | 30:0   |
| 1871 | 98 | 269 | 07:08:10.666 | 117GG105A106A4BM | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,897 | 40:0   |
| 1872 | 98 | 269 | 07:09:20.666 | 117GG105A106A4BN | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,898 | 54:0   |
| 1873 | 98 | 269 | 07:09:27.333 | 117GG105A106A4BO | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,898 | 64:0   |
| 1874 | 98 | 269 | 07:10:37.333 | 117GG105A106A4BP | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,899 | 78:0   |
| 1875 | 98 | 269 | 07:10:44.000 | 117GG105A106A4BQ | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,899 | 88:0   |
| 1876 | 98 | 269 | 07:11:54.000 | 117GG105A106A4BR | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,901 | 1:11:0 |
| 1877 | 98 | 269 | 07:12:00.666 | 117GG105A106A4BS | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,901 | 21:0   |
| 1878 | 98 | 269 | 07:13:10.666 | 117GG105A106A4BT | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,902 | 35:0   |
| 1879 | 98 | 269 | 07:13:17.333 | 117GG105A106A4BU | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,902 | 45:0   |
| 1880 | 98 | 269 | 07:14:27.333 | 117GG105A106A4BV | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,903 | 59:0   |
| 1881 | 98 | 269 | 07:14:34.000 | 117GG105A106A4BW | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,903 | 69:0   |
| 1882 | 98 | 269 | 07:15:44.000 | 117GG105A106A4BX | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,904 | 83:0   |
| 1883 | 98 | 269 | 07:15:50.666 | 117GG105A106A4BY | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,905 | 02:0   |
| 1884 | 98 | 269 | 07:17:00.666 | 117GG105A106A4BZ | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,906 | 16:0   |
| 1885 | 98 | 269 | 07:17:07.333 | 117GG105A106A4CA | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,906 | 26:0   |
| 1886 | 98 | 269 | 07:17:58.000 |                  | DMS:    | : *E4-DELAY      | RDY, TRACK 1, FWD, TIC 355.82 +/-   | 4R3 | 4  | 0  | 4,666,907 | 11:0   |
| 1887 | 98 | 269 | 07:17:58.000 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps      | 4R3 | 4  | 0  | 4,666,907 | 11:0   |
| 1888 | 98 | 269 | 07:18:04.666 |                  | DMS:    | : *RUNUP         | R7, TRACK 1, FWD, TIC 355.82 +/-    | 4R3 | 4  | 0  | 4,666,907 | 21:0   |
| 1889 | 98 | 269 | 07:18:06.666 |                  | DMS:    | : *AT_SPD        | R7, TRACK 1, FWD, TIC * 355.94 +/-  | 4R3 | 4  | 0  | 4,666,907 | 23:1   |
| 1890 | 98 | 269 | 07:18:17.333 | 117GG105A106A4CB | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,907 | 40:0   |
| 1891 | 98 | 269 | 07:18:22.666 |                  | DMS:    | : *RECORD        | R7, TRACK 1, FWD, TIC * 359.83 +/-  | 4R3 | 4  | 0  | 4,666,907 | 48:0   |
| 1892 | 98 | 269 | 07:18:24.000 | 117GG105A106A4CC | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,907 | 50:0   |
| 1893 | 98 | 269 | 07:18:45.333 |                  | DMS:    | : *RUNDOWN       | R7, TRACK 1, FWD, TIC * 365.14 +/-  | 4R3 | 4  | 0  | 4,666,907 | 82:0   |
| 1894 | 98 | 269 | 07:18:45.333 | 50ZZ6RE          | 6DMSC   | RDY,0            | DMS Control Tape stop               | 4R3 | 4  | 0  | 4,666,907 | 82:0   |
| 1895 | 98 | 269 | 07:18:46.533 |                  | DMS:    | : *READY         | RDY, TRACK 1, FWD, TIC * 365.20 +/- | 4R3 | 4  | 0  | 4,666,907 | 83:8   |
| 1896 | 98 | 269 | 07:19:34.000 | 117GG105A106A4CD | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,908 | 64:0   |
| 1897 | 98 | 269 | 07:19:40.666 | 117GG105A106A4CE | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,908 | 74:0   |
| 1898 | 98 | 269 | 07:20:50.666 | 117GG105A106A4CF | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,909 | 88:0   |
| 1899 | 98 | 269 | 07:20:57.333 | 117GG105A106A4CG | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,910 | 07:0   |
| 1900 | 98 | 269 | 07:22:07.333 | 117GG105A106A4CH | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,911 | 21:0   |
| 1901 | 98 | 269 | 07:22:14.000 | 117GG105A106A4CI | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,911 | 31:0   |
| 1902 | 98 | 269 | 07:23:24.000 | 117GG105A106A4CJ | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,912 | 45:0   |
| 1903 | 98 | 269 | 07:23:30.666 | 117GG105A106A4CK | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,912 | 55:0   |
| 1904 | 98 | 269 | 07:24:40.666 | 117GG105A106A4CL | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,913 | 69:0   |
| 1905 | 98 | 269 | 07:24:47.333 | 117GG105A106A4CM | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,913 | 79:0   |
| 1906 | 98 | 269 | 07:25:57.333 | 117GG105A106A4CN | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,915 | 02:0   |
| 1907 | 98 | 269 | 07:26:04.000 | 117GG105A106A4CO | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,915 | 12:0   |
| 1908 | 98 | 269 | 07:27:14.000 | 117GG105A106A4CP | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,916 | 26:0   |
| 1909 | 98 | 269 | 07:27:20.666 | 117GG105A106A4CQ | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,916 | 36:0   |
| 1910 | 98 | 269 | 07:28:30.666 | 117GG105A106A4CR | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,917 | 50:0   |
| 1911 | 98 | 269 | 07:28:37.333 | 117GG105A106A4CS | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,917 | 60:0   |
| 1912 | 98 | 269 | 07:29:47.333 | 117GG105A106A4CT | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,918 | 74:0   |
| 1913 | 98 | 269 | 07:29:54.000 | 117GG105A106A4CU | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,918 | 84:0   |
| 1914 | 98 | 269 | 07:31:00.000 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps      | 4R3 | 4  | 0  | 4,666,920 | 01:0   |
| 1915 | 98 | 269 | 07:31:00.000 |                  | DMS:    | : *E4-DELAY      | RDY, TRACK 1, FWD, TIC 365.20 +/-   | 4R3 | 4  | 0  | 4,666,920 | 01:0   |
| 1916 | 98 | 269 | 07:31:04.000 | 117GG105A106A4CV | 7STRP   | -0.03061,-0.0006 | Slew = 12.01                        | 4R3 | 4  | 0  | 4,666,920 | 07:0   |
| 1917 | 98 | 269 | 07:31:06.666 |                  | DMS:    | : *RUNUP         | R7, TRACK 1, FWD, TIC 365.20 +/-    | 4R3 | 4  | 0  | 4,666,920 | 11:0   |
| 1918 | 98 | 269 | 07:31:08.666 |                  | DMS:    | : *AT_SPD        | R7, TRACK 1, FWD, TIC * 365.32 +/-  | 4R3 | 4  | 0  | 4,666,920 | 13:1   |
| 1919 | 98 | 269 | 07:31:10.666 | 117GG105A106A4CW | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                         | 4R3 | 4  | 0  | 4,666,920 | 17:0   |
| 1920 | 98 | 269 | 07:31:25.333 |                  | DMS:    | : *RECORD        | R7, TRACK 1, FWD, TIC * 369.37 +/-  | 4R3 | 4  | 0  | 4,666,920 | 39:0   |
| 1921 | 98 | 269 | 07:31:48.000 |                  | DMS:    | : *RUNDOWN       | R7, TRACK 1, FWD, TIC * 374.68 +/-  | 4R3 | 4  | 0  | 4,666,920 | 73:0   |
| 1922 | 98 | 269 | 07:31:48.000 | 50ZZ6RD          | 6DMSC   | RDY,0            | DMS Control Tape stop               | 4R3 | 4  | 0  | 4,666,920 | 73:0   |
| 1923 | 98 | 269 | 07:31:49.200 |                  | DMS:    | : *READY         | RDY, TRACK 1, FWD, TIC * 374.74 +/- | 4R3 | 4  | 0  | 4,666,920 | 74:8   |

| Line | YR | DOY | SCET - GMT   | PSID             | Command | Parameters       | Description                               | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|------------------|---------|------------------|---|-----|----|----|----------------|------|
| 1924 | 98 | 269 | 07:32:20.666 | 117GG105A106A4CX | 7STRP   | -0.03061,-0.0006 | Slew =12.01                               | 4R3 | 4  | 0  | 4.666,921:31:0 |      |
| 1925 | 98 | 269 | 07:32:27.333 | 117GG105A106A4CY | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                               | 4R3 | 4  | 0  | 4.666,921:41:0 |      |
| 1926 | 98 | 269 | 07:33:37.333 | 117GG105A106A4CZ | 7STRP   | -0.03061,-0.0006 | Slew =12.01                               | 4R3 | 4  | 0  | 4.666,922:55:0 |      |
| 1927 | 98 | 269 | 07:33:44.000 | 117GG105A106A4DA | 7STRP   | 0.030009,0.0,0.0 | Slew = 0.45                               | 4R3 | 4  | 0  | 4.666,922:65:0 |      |
| 1928 | 98 | 269 | 07:34:54.000 | 117GG111A        | CSMOS   | GE               | ***** GROUP END CSMOS                     | 4R3 | 4  | 0  | 4.666,923:79:0 |      |
| 1929 | 98 | 269 | 07:41:06.000 | 176GH6B          | 6TMREC  | NRC              | NO RECORD Record Mode Change              | 4R3 | 4  | 0  | 4.666,930:00:0 |      |
| 1930 | 98 | 269 | 07:41:08.000 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps            | 4R3 | 4  | 0  | 4.666,930:03:0 |      |
| 1931 | 98 | 269 | 07:41:08.000 |                  | DMS:    | :*E4-DELAY       | RDY, TRACK 1, FWD, TIC 374.74 +/-         | 4R3 | 4  | 0  | 4.666,930:03:0 |      |
| 1932 | 98 | 269 | 07:41:14.666 |                  | DMS:    | :*RUNUP          | R7, TRACK 1, FWD, TIC 374.74 +/-          | 4R3 | 4  | 0  | 4.666,930:13:0 |      |
| 1933 | 98 | 269 | 07:41:16.066 |                  | DMS:    | :*AT SPD         | R7, TRACK 1, FWD, TIC * 374.86 +/-        | 4R3 | 4  | 0  | 4.666,930:15:1 |      |
| 1934 | 98 | 269 | 07:41:18.000 |                  | DMS:    | :*RECORD         | R7, TRACK 1, FWD, TIC * 375.31 +/-        | 4R3 | 4  | 0  | 4.666,930:18:0 |      |
| 1935 | 98 | 269 | 07:41:36.666 |                  | DMS:    | :*RUNDOWN        | R7, TRACK 1, FWD, TIC * 379.69 +/-        | 4R3 | 4  | 0  | 4.666,930:46:0 |      |
| 1936 | 98 | 269 | 07:41:36.666 | 50ZZ6RE          | 6DMSC   | RDY,0            | DMS Control Tape stop                     | 4R3 | 4  | 0  | 4.666,930:46:0 |      |
| 1937 | 98 | 269 | 07:41:37.866 |                  | DMS:    | :*READY          | RDY, TRACK 1, FWD, TIC * 379.75 +/-       | 4R3 | 4  | 0  | 4.666,930:47:8 |      |
| 1938 | 98 | 269 | 07:42:06.000 | 165GH4A          | 7SCAN   | NORM,92.778999,2 | Check S/P Position                        | 4R3 | 4  | 0  | 4.666,930:90:0 |      |
| 1939 | 98 | 269 | 07:42:06.666 | 176GI6A          | 6TMREC  | BPT              | 7.68 KBPS PPR BURST TO TAPE Record Mode C | 4R3 | 4  | 0  | 4.666,931:00:0 |      |
| 1940 | 98 | 269 | 07:42:58.000 | 117GH            | CSMOS   | GS               | ***** GROUP START CSMOS                   | 4R3 | 4  | 0  | 4.666,931:77:0 |      |
| 1941 | 98 | 269 | 07:43:07.333 | 117GH105A106A4A  | 7STRP   | 0.023004,0.0,0.0 | Slew = -0.37                              | 4R3 | 4  | 0  | 4.666,932:00:0 |      |
| 1942 | 98 | 269 | 07:44:12.666 | 117GH105A106A4B  | 7STRP   | -0.00038,0.00082 | Slew =12.01                               | 4R3 | 4  | 0  | 4.666,933:07:0 |      |
| 1943 | 98 | 269 | 07:44:22.000 | 117GH105A106A4C  | 7STRP   | 0.023004,0.0,0.0 | Slew = -0.37                              | 4R3 | 4  | 0  | 4.666,933:21:0 |      |
| 1944 | 98 | 269 | 07:45:27.333 | 117GH105A106A4D  | 7STRP   | -0.00038,0.00082 | Slew =12.01                               | 4R3 | 4  | 0  | 4.666,934:28:0 |      |
| 1945 | 98 | 269 | 07:45:36.666 | 117GH105A106A4E  | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.37                               | 4R3 | 4  | 0  | 4.666,934:42:0 |      |
| 1946 | 98 | 269 | 07:46:42.000 | 117GH105A106A4F  | 7STRP   | -0.00038,0.00082 | Slew =12.01                               | 4R3 | 4  | 0  | 4.666,935:49:0 |      |
| 1947 | 98 | 269 | 07:46:51.333 | 117GH105A106A4G  | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.37                               | 4R3 | 4  | 0  | 4.666,935:63:0 |      |
| 1948 | 98 | 269 | 07:47:56.666 | 117GH105A106A4H  | 7STRP   | -0.00038,0.00082 | Slew =12.01                               | 4R3 | 4  | 0  | 4.666,936:70:0 |      |
| 1949 | 98 | 269 | 07:48:06.000 | 117GH105A106A4I  | 7STRP   | 0.023004,0.0,0.0 | Slew = -0.37                              | 4R3 | 4  | 0  | 4.666,936:84:0 |      |
| 1950 | 98 | 269 | 07:49:11.333 | 117GH105A106A4J  | 7STRP   | -0.00038,0.00082 | Slew =12.01                               | 4R3 | 4  | 0  | 4.666,938:00:0 |      |
| 1951 | 98 | 269 | 07:49:20.666 | 117GH105A106A4K  | 7STRP   | 0.023004,0.0,0.0 | Slew = -0.37                              | 4R3 | 4  | 0  | 4.666,938:14:0 |      |
| 1952 | 98 | 269 | 07:50:26.000 | 117GH105A106A4L  | 7STRP   | -0.00038,0.00082 | Slew =12.01                               | 4R3 | 4  | 0  | 4.666,939:21:0 |      |
| 1953 | 98 | 269 | 07:50:35.333 | 117GH105A106A4M  | 7STRP   | 0.023004,0.0,0.0 | Slew = -0.37                              | 4R3 | 4  | 0  | 4.666,939:35:0 |      |
| 1954 | 98 | 269 | 07:51:40.666 | 117GH105A106A4N  | 7STRP   | -0.00038,0.00082 | Slew =12.01                               | 4R3 | 4  | 0  | 4.666,940:42:0 |      |
| 1955 | 98 | 269 | 07:51:50.000 | 117GH105A106A4O  | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.37                               | 4R3 | 4  | 0  | 4.666,940:56:0 |      |
| 1956 | 98 | 269 | 07:52:55.333 | 117GH105A106A4P  | 7STRP   | -0.00038,0.00082 | Slew =12.01                               | 4R3 | 4  | 0  | 4.666,941:63:0 |      |
| 1957 | 98 | 269 | 07:53:04.666 | 117GH105A106A4Q  | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.37                               | 4R3 | 4  | 0  | 4.666,941:77:0 |      |
| 1958 | 98 | 269 | 07:54:10.000 | 117GH105A106A4R  | 7STRP   | -0.00038,0.00082 | Slew =12.01                               | 4R3 | 4  | 0  | 4.666,942:84:0 |      |
| 1959 | 98 | 269 | 07:54:19.333 | 117GH105A106A4S  | 7STRP   | 0.023004,0.0,0.0 | Slew = -0.37                              | 4R3 | 4  | 0  | 4.666,943:07:0 |      |
| 1960 | 98 | 269 | 07:54:41.333 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps            | 4R3 | 4  | 0  | 4.666,943:40:0 |      |
| 1961 | 98 | 269 | 07:54:41.333 |                  | DMS:    | :*E4-DELAY       | RDY, TRACK 1, FWD, TIC 379.75 +/-         | 4R3 | 4  | 0  | 4.666,943:40:0 |      |
| 1962 | 98 | 269 | 07:54:48.000 |                  | DMS:    | :*RUNUP          | R7, TRACK 1, FWD, TIC 379.75 +/-          | 4R3 | 4  | 0  | 4.666,943:50:0 |      |
| 1963 | 98 | 269 | 07:54:49.400 |                  | DMS:    | :*AT SPD         | R7, TRACK 1, FWD, TIC * 379.87 +/-        | 4R3 | 4  | 0  | 4.666,943:52:1 |      |
| 1964 | 98 | 269 | 07:55:06.666 |                  | DMS:    | :*RECORD         | R7, TRACK 1, FWD, TIC * 383.92 +/-        | 4R3 | 4  | 0  | 4.666,943:78:0 |      |
| 1965 | 98 | 269 | 07:55:24.666 | 117GH105A106A4T  | 7STRP   | -0.00038,0.00082 | Slew =12.01                               | 4R3 | 4  | 0  | 4.666,944:14:0 |      |
| 1966 | 98 | 269 | 07:55:29.333 |                  | DMS:    | :*RUNDOWN        | R7, TRACK 1, FWD, TIC * 389.23 +/-        | 4R3 | 4  | 0  | 4.666,944:21:0 |      |
| 1967 | 98 | 269 | 07:55:29.333 | 50ZZ6RD          | 6DMSC   | RDY,0            | DMS Control Tape stop                     | 4R3 | 4  | 0  | 4.666,944:21:0 |      |
| 1968 | 98 | 269 | 07:55:30.533 |                  | DMS:    | :*READY          | RDY, TRACK 1, FWD, TIC * 389.29 +/-       | 4R3 | 4  | 0  | 4.666,944:22:8 |      |
| 1969 | 98 | 269 | 07:55:34.000 | 117GH105A106A4U  | 7STRP   | 0.023004,0.0,0.0 | Slew = -0.37                              | 4R3 | 4  | 0  | 4.666,944:28:0 |      |
| 1970 | 98 | 269 | 07:56:39.333 | 117GH105A106A4V  | 7STRP   | -0.00038,0.00082 | Slew =12.01                               | 4R3 | 4  | 0  | 4.666,945:35:0 |      |
| 1971 | 98 | 269 | 07:56:48.666 | 117GH105A106A4W  | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.37                               | 4R3 | 4  | 0  | 4.666,945:49:0 |      |
| 1972 | 98 | 269 | 07:57:54.000 | 117GH105A106A4X  | 7STRP   | -0.00038,0.00082 | Slew =12.01                               | 4R3 | 4  | 0  | 4.666,946:56:0 |      |
| 1973 | 98 | 269 | 07:58:03.333 | 117GH105A106A4Y  | 7STRP   | 0.023004,0.0,0.0 | Slew = -0.37                              | 4R3 | 4  | 0  | 4.666,946:70:0 |      |
| 1974 | 98 | 269 | 07:59:08.666 | 117GH105A106A4Z  | 7STRP   | -0.00038,0.00082 | Slew =12.01                               | 4R3 | 4  | 0  | 4.666,947:77:0 |      |
| 1975 | 98 | 269 | 07:59:18.000 | 117GH105A106A4AA | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.37                               | 4R3 | 4  | 0  | 4.666,948:00:0 |      |
| 1976 | 98 | 269 | 08:00:23.333 | 117GH105A106A4AB | 7STRP   | -0.00038,0.00082 | Slew =12.01                               | 4R3 | 4  | 0  | 4.666,949:07:0 |      |
| 1977 | 98 | 269 | 08:00:32.666 | 117GH105A106A4AC | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.37                               | 4R3 | 4  | 0  | 4.666,949:21:0 |      |
| 1978 | 98 | 269 | 08:01:38.000 | 117GH105A106A4AD | 7STRP   | -0.00038,0.00082 | Slew =12.01                               | 4R3 | 4  | 0  | 4.666,950:28:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID             | Command | Parameters       | Description                         | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|------------------|---------|------------------|-------------------------------------|-----|----|----|----------------|------|
| 1979 | 98 | 269 | 08:01:47.333 | 117GH105A106A4AE | 7STRP   | 0.023004.0.0.0.0 | Slew = 0.37                         | 4R3 | 4  | 0  | 4.666.950.42:0 |      |
| 1980 | 98 | 269 | 08:02:52.666 | 117GH105A106A4AF | 7STRP   | -0.00038.0.00082 | Slew = 12.01                        | 4R3 | 4  | 0  | 4.666.951:49:0 |      |
| 1981 | 98 | 269 | 08:03:02.000 | 117GH105A106A4AG | 7STRP   | 0.023004.0.0.0.0 | Slew = 0.37                         | 4R3 | 4  | 0  | 4.666.951:63:0 |      |
| 1982 | 98 | 269 | 08:04:07.333 | 117GH105A106A4AH | 7STRP   | -0.00038.0.00082 | Slew = 12.01                        | 4R3 | 4  | 0  | 4.666.952:70:0 |      |
| 1983 | 98 | 269 | 08:04:16.666 | 117GH105A106A4AI | 7STRP   | 0.023004.0.0.0.0 | Slew = 0.37                         | 4R3 | 4  | 0  | 4.666.952:84:0 |      |
| 1984 | 98 | 269 | 08:05:22.000 | 117GH105A106A4AJ | 7STRP   | -0.00038.0.00082 | Slew = 12.01                        | 4R3 | 4  | 0  | 4.666.954:00:0 |      |
| 1985 | 98 | 269 | 08:05:31.333 | 117GH105A106A4AK | 7STRP   | 0.023004.0.0.0.0 | Slew = 0.37                         | 4R3 | 4  | 0  | 4.666.954:14:0 |      |
| 1986 | 98 | 269 | 08:06:36.666 | 117GH105A106A4AL | 7STRP   | -0.00038.0.00082 | Slew = 12.01                        | 4R3 | 4  | 0  | 4.666.955:21:0 |      |
| 1987 | 98 | 269 | 08:06:46.000 | 117GH105A106A4AM | 7STRP   | 0.023004.0.0.0.0 | Slew = 0.37                         | 4R3 | 4  | 0  | 4.666.955:35:0 |      |
| 1988 | 98 | 269 | 08:07:43.333 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps      | 4R3 | 4  | 0  | 4.666.956:30:0 |      |
| 1989 | 98 | 269 | 08:07:43.333 |                  | DMS:    | : *E4-DELAY      | RDY, TRACK 1, FWD, TIC 389.29 +/-   | 4R3 | 4  | 0  | 4.666.956:30:0 |      |
| 1990 | 98 | 269 | 08:07:50.000 |                  | DMS:    | : *RUNUP         | R7, TRACK 1, FWD, TIC 389.29 +/-    | 4R3 | 4  | 0  | 4.666.956:40:0 |      |
| 1991 | 98 | 269 | 08:07:51.333 | 117GH105A106A4AN | 7STRP   | -0.00038.0.00082 | Slew = 12.01                        | 4R3 | 4  | 0  | 4.666.956:42:0 |      |
| 1992 | 98 | 269 | 08:07:51.400 |                  | DMS:    | : *AT_SPD        | R7, TRACK 1, FWD, TIC * 389.41 +/-  | 4R3 | 4  | 0  | 4.666.956:42:1 |      |
| 1993 | 98 | 269 | 08:08:00.666 | 117GH105A106A4AO | 7STRP   | 0.023004.0.0.0.0 | Slew = 0.37                         | 4R3 | 4  | 0  | 4.666.956:56:0 |      |
| 1994 | 98 | 269 | 08:08:08.666 |                  | DMS:    | : *RECORD        | R7, TRACK 1, FWD, TIC * 393.45 +/-  | 4R3 | 4  | 0  | 4.666.956:68:0 |      |
| 1995 | 98 | 269 | 08:08:31.333 |                  | DMS:    | : *RUNDOWN       | R7, TRACK 1, FWD, TIC * 398.77 +/-  | 4R3 | 4  | 0  | 4.666.957:11:0 |      |
| 1996 | 98 | 269 | 08:08:31.333 | 50ZZ6RE          | 6DMSC   | RDY,0            | DMS Control Tape stop               | 4R3 | 4  | 0  | 4.666.957:11:0 |      |
| 1997 | 98 | 269 | 08:08:32.533 |                  | DMS:    | : *READY         | RDY, TRACK 1, FWD, TIC * 398.83 +/- | 4R3 | 4  | 0  | 4.666.957:12:8 |      |
| 1998 | 98 | 269 | 08:09:06.000 | 117GH105A106A4AP | 7STRP   | -0.00038.0.00082 | Slew = 12.01                        | 4R3 | 4  | 0  | 4.666.957:63:0 |      |
| 1999 | 98 | 269 | 08:09:15.333 | 117GH105A106A4AQ | 7STRP   | 0.023004.0.0.0.0 | Slew = 0.37                         | 4R3 | 4  | 0  | 4.666.957:77:0 |      |
| 2000 | 98 | 269 | 08:10:20.666 | 117GH105A106A4AR | 7STRP   | -0.00038.0.00082 | Slew = 12.01                        | 4R3 | 4  | 0  | 4.666.958:84:0 |      |
| 2001 | 98 | 269 | 08:10:30.000 | 117GH105A106A4AS | 7STRP   | 0.023004.0.0.0.0 | Slew = 0.37                         | 4R3 | 4  | 0  | 4.666.959:07:0 |      |
| 2002 | 98 | 269 | 08:11:35.333 | 117GH105A106A4AT | 7STRP   | -0.00038.0.00082 | Slew = 12.01                        | 4R3 | 4  | 0  | 4.666.960:14:0 |      |
| 2003 | 98 | 269 | 08:11:44.666 | 117GH105A106A4AU | 7STRP   | 0.023004.0.0.0.0 | Slew = 0.37                         | 4R3 | 4  | 0  | 4.666.960:28:0 |      |
| 2004 | 98 | 269 | 08:12:50.000 | 117GH105A106A4AV | 7STRP   | -0.00038.0.00082 | Slew = 12.01                        | 4R3 | 4  | 0  | 4.666.961:35:0 |      |
| 2005 | 98 | 269 | 08:12:59.333 | 117GH105A106A4AW | 7STRP   | 0.023004.0.0.0.0 | Slew = 0.37                         | 4R3 | 4  | 0  | 4.666.961:49:0 |      |
| 2006 | 98 | 269 | 08:14:04.666 | 117GH105A106A4AX | 7STRP   | -0.00038.0.00082 | Slew = 12.01                        | 4R3 | 4  | 0  | 4.666.962:56:0 |      |
| 2007 | 98 | 269 | 08:14:14.000 | 117GH105A106A4AY | 7STRP   | 0.023004.0.0.0.0 | Slew = 0.37                         | 4R3 | 4  | 0  | 4.666.962:70:0 |      |
| 2008 | 98 | 269 | 08:15:19.333 | 117GH105A106A4AZ | 7STRP   | -0.00038.0.00082 | Slew = 12.01                        | 4R3 | 4  | 0  | 4.666.963:77:0 |      |
| 2009 | 98 | 269 | 08:15:28.666 | 117GH105A106A4BA | 7STRP   | 0.023004.0.0.0.0 | Slew = 0.37                         | 4R3 | 4  | 0  | 4.666.964:00:0 |      |
| 2010 | 98 | 269 | 08:16:34.000 | 117GH105A106A4BB | 7STRP   | -0.00038.0.00082 | Slew = 12.01                        | 4R3 | 4  | 0  | 4.666.965:07:0 |      |
| 2011 | 98 | 269 | 08:16:43.333 | 117GH105A106A4BC | 7STRP   | 0.023004.0.0.0.0 | Slew = 0.37                         | 4R3 | 4  | 0  | 4.666.965:21:0 |      |
| 2012 | 98 | 269 | 08:17:30.666 | 488AE6D          | 6TMSED  | FILL_FL5         | Sci, Eng, and D/L Chan              | 4R3 | 4  | 0  | 4.666.966:01:0 |      |
| 2013 | 98 | 269 | 08:17:48.666 | 117GH105A106A4BD | 7STRP   | -0.00038.0.00082 | Slew = 12.01                        | 4R3 | 4  | 0  | 4.666.966:28:0 |      |
| 2014 | 98 | 269 | 08:17:58.000 | 117GH105A106A4BE | 7STRP   | 0.023004.0.0.0.0 | Slew = 0.37                         | 4R3 | 4  | 0  | 4.666.966:42:0 |      |
| 2015 | 98 | 269 | 08:19:03.333 | 117GH105A106A4BF | 7STRP   | -0.00038.0.00082 | Slew = 12.01                        | 4R3 | 4  | 0  | 4.666.967:49:0 |      |
| 2016 | 98 | 269 | 08:19:12.666 | 117GH105A106A4BG | 7STRP   | 0.023004.0.0.0.0 | Slew = 0.37                         | 4R3 | 4  | 0  | 4.666.967:63:0 |      |
| 2017 | 98 | 269 | 08:20:18.000 | 117GH105A106A4BH | 7STRP   | -0.00038.0.00082 | Slew = 12.01                        | 4R3 | 4  | 0  | 4.666.968:70:0 |      |
| 2018 | 98 | 269 | 08:20:27.333 | 117GH105A106A4BI | 7STRP   | 0.023004.0.0.0.0 | Slew = 0.37                         | 4R3 | 4  | 0  | 4.666.968:84:0 |      |
| 2019 | 98 | 269 | 08:20:45.333 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps      | 4R3 | 4  | 0  | 4.666.969:20:0 |      |
| 2020 | 98 | 269 | 08:20:45.333 |                  | DMS:    | : *E4-DELAY      | RDY, TRACK 1, FWD, TIC 398.83 +/-   | 4R3 | 4  | 0  | 4.666.969:20:0 |      |
| 2021 | 98 | 269 | 08:20:52.000 |                  | DMS:    | : *RUNUP         | R7, TRACK 1, FWD, TIC 398.83 +/-    | 4R3 | 4  | 0  | 4.666.969:30:0 |      |
| 2022 | 98 | 269 | 08:20:53.400 |                  | DMS:    | : *AT_SPD        | R7, TRACK 1, FWD, TIC * 398.95 +/-  | 4R3 | 4  | 0  | 4.666.969:32:1 |      |
| 2023 | 98 | 269 | 08:21:10.666 |                  | DMS:    | : *RECORD        | R7, TRACK 1, FWD, TIC * 402.99 +/-  | 4R3 | 4  | 0  | 4.666.969:58:0 |      |
| 2024 | 98 | 269 | 08:21:32.666 | 117GH105A106A4BJ | 7STRP   | -0.00038.0.00082 | Slew = 12.01                        | 4R3 | 4  | 0  | 4.666.970:00:0 |      |
| 2025 | 98 | 269 | 08:21:33.333 |                  | DMS:    | : *RUNDOWN       | R7, TRACK 1, FWD, TIC * 408.31 +/-  | 4R3 | 4  | 0  | 4.666.970:01:0 |      |
| 2026 | 98 | 269 | 08:21:33.333 | 50ZZ6RD          | 6DMSC   | RDY,0            | DMS Control Tape stop               | 4R3 | 4  | 0  | 4.666.970:01:0 |      |
| 2027 | 98 | 269 | 08:21:34.533 |                  | DMS:    | : *READY         | RDY, TRACK 1, FWD, TIC * 408.37 +/- | 4R3 | 4  | 0  | 4.666.970:02:8 |      |
| 2028 | 98 | 269 | 08:21:42.000 | 117GH105A106A4BK | 7STRP   | 0.023004.0.0.0.0 | Slew = 0.37                         | 4R3 | 4  | 0  | 4.666.970:14:0 |      |
| 2029 | 98 | 269 | 08:22:47.333 | 117GH105A106A4BL | 7STRP   | -0.00038.0.00082 | Slew = 12.01                        | 4R3 | 4  | 0  | 4.666.971:21:0 |      |
| 2030 | 98 | 269 | 08:22:56.666 | 117GH105A106A4BM | 7STRP   | 0.023004.0.0.0.0 | Slew = 0.37                         | 4R3 | 4  | 0  | 4.666.971:35:0 |      |
| 2031 | 98 | 269 | 08:24:02.000 | 117GH105A106A4BN | 7STRP   | -0.00038.0.00082 | Slew = 12.01                        | 4R3 | 4  | 0  | 4.666.972:42:0 |      |
| 2032 | 98 | 269 | 08:24:11.333 | 117GH105A106A4BO | 7STRP   | 0.023004.0.0.0.0 | Slew = 0.37                         | 4R3 | 4  | 0  | 4.666.972:56:0 |      |
| 2033 | 98 | 269 | 08:25:16.666 | 117GH105A106A4BP | 7STRP   | -0.00038.0.00082 | Slew = 12.01                        | 4R3 | 4  | 0  | 4.666.973:63:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID             | Command | Parameters       | Description                         | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|------------------|---------|------------------|-------------------------------------|-----|----|----|----------------|------|
| 2034 | 98 | 269 | 08:25:26.000 | 117GH105A106A4BQ | 7STRP   | 0.023004.0.0.0   | Slew =0.37                          | 4R3 | 4  | 0  | 4.666,973.77:0 |      |
| 2035 | 98 | 269 | 08:26:31.333 | 117GH105A106A4BR | 7STRP   | -0.00038.0.00082 | Slew =12.01                         | 4R3 | 4  | 0  | 4.666,974.84:0 |      |
| 2036 | 98 | 269 | 08:26:40.666 | 117GH105A106A4BS | 7STRP   | 0.023004.0.0.0   | Slew =0.37                          | 4R3 | 4  | 0  | 4.666,975.07:0 |      |
| 2037 | 98 | 269 | 08:27:46.000 | 117GH105A106A4BT | 7STRP   | -0.00038.0.00082 | Slew =12.01                         | 4R3 | 4  | 0  | 4.666,976.14:0 |      |
| 2038 | 98 | 269 | 08:27:55.333 | 117GH105A106A4BU | 7STRP   | 0.023004.0.0.0   | Slew =0.37                          | 4R3 | 4  | 0  | 4.666,976.28:0 |      |
| 2039 | 98 | 269 | 08:29:00.666 | 117GH105A106A4BV | 7STRP   | -0.00038.0.00082 | Slew =12.01                         | 4R3 | 4  | 0  | 4.666,977.35:0 |      |
| 2040 | 98 | 269 | 08:29:10.000 | 117GH105A106A4BW | 7STRP   | 0.023004.0.0.0   | Slew =0.37                          | 4R3 | 4  | 0  | 4.666,977.49:0 |      |
| 2041 | 98 | 269 | 08:30:15.333 | 117GH105A106A4BX | 7STRP   | -0.00038.0.00082 | Slew =12.01                         | 4R3 | 4  | 0  | 4.666,978.56:0 |      |
| 2042 | 98 | 269 | 08:30:24.666 | 117GH105A106A4BY | 7STRP   | 0.023004.0.0.0   | Slew =0.37                          | 4R3 | 4  | 0  | 4.666,978.70:0 |      |
| 2043 | 98 | 269 | 08:31:30.000 | 117GH105A106A4BZ | 7STRP   | -0.00038.0.00082 | Slew =12.01                         | 4R3 | 4  | 0  | 4.666,979.77:0 |      |
| 2044 | 98 | 269 | 08:31:39.333 | 117GH105A106A4CA | 7STRP   | 0.023004.0.0.0   | Slew =0.37                          | 4R3 | 4  | 0  | 4.666,980.00:0 |      |
| 2045 | 98 | 269 | 08:32:44.666 | 117GH105A106A4CB | 7STRP   | -0.00038.0.00082 | Slew =12.01                         | 4R3 | 4  | 0  | 4.666,981.07:0 |      |
| 2046 | 98 | 269 | 08:32:54.000 | 117GH105A106A4CC | 7STRP   | 0.023004.0.0.0   | Slew =0.37                          | 4R3 | 4  | 0  | 4.666,981.21:0 |      |
| 2047 | 98 | 269 | 08:33:48.000 |                  | DMS:    | :*E4-DELAY       | RDY, TRACK 1, FWD, TIC 408.37 +/-   | 4R3 | 4  | 0  | 4.666,982.11:0 |      |
| 2048 | 98 | 269 | 08:33:48.000 | 50ZZ6XX          | 6DMS    | R7,0             | DMS Control Tape runup 7.68kps      | 4R3 | 4  | 0  | 4.666,982.11:0 |      |
| 2049 | 98 | 269 | 08:33:54.666 |                  | DMS:    | :*RUNUP          | R7, TRACK 1, FWD, TIC 408.37 +/-    | 4R3 | 4  | 0  | 4.666,982.21:0 |      |
| 2050 | 98 | 269 | 08:33:56.066 |                  | DMS:    | :*AT SPD         | R7, TRACK 1, FWD, TIC * 408.49 +/-  | 4R3 | 4  | 0  | 4.666,982.23:1 |      |
| 2051 | 98 | 269 | 08:33:59.333 | 117GH105A106A4CD | 7STRP   | -0.00038.0.00082 | Slew =12.01                         | 4R3 | 4  | 0  | 4.666,982.28:0 |      |
| 2052 | 98 | 269 | 08:34:08.666 | 117GH105A106A4CE | 7STRP   | 0.023004.0.0.0   | Slew =0.37                          | 4R3 | 4  | 0  | 4.666,982.42:0 |      |
| 2053 | 98 | 269 | 08:34:12.666 |                  | DMS:    | :*RECORD         | R7, TRACK 1, FWD, TIC * 412.38 +/-  | 4R3 | 4  | 0  | 4.666,982.48:0 |      |
| 2054 | 98 | 269 | 08:34:35.333 |                  | DMS:    | :*RUNDOWN        | R7, TRACK 1, FWD, TIC * 417.69 +/-  | 4R3 | 4  | 0  | 4.666,982.82:0 |      |
| 2055 | 98 | 269 | 08:34:35.333 | 50ZZ6RE          | 6DMS    | RDY,0            | DMS Control Tape stop               | 4R3 | 4  | 0  | 4.666,982.82:0 |      |
| 2056 | 98 | 269 | 08:34:36.533 |                  | DMS:    | :*READY          | RDY, TRACK 1, FWD, TIC * 417.75 +/- | 4R3 | 4  | 0  | 4.666,982.83:8 |      |
| 2057 | 98 | 269 | 08:35:14.000 | 117GH105A106A4CF | 7STRP   | -0.00038.0.00082 | Slew =12.01                         | 4R3 | 4  | 0  | 4.666,983.49:0 |      |
| 2058 | 98 | 269 | 08:35:23.333 | 117GH105A106A4CG | 7STRP   | 0.023004.0.0.0   | Slew =0.37                          | 4R3 | 4  | 0  | 4.666,983.63:0 |      |
| 2059 | 98 | 269 | 08:36:28.666 | 117GH105A106A4CH | 7STRP   | -0.00038.0.00082 | Slew =12.01                         | 4R3 | 4  | 0  | 4.666,984.70:0 |      |
| 2060 | 98 | 269 | 08:36:38.000 | 117GH105A106A4CI | 7STRP   | 0.023004.0.0.0   | Slew =0.37                          | 4R3 | 4  | 0  | 4.666,984.84:0 |      |
| 2061 | 98 | 269 | 08:37:43.333 | 117GH105A106A4CJ | 7STRP   | -0.00038.0.00082 | Slew =12.01                         | 4R3 | 4  | 0  | 4.666,986.00:0 |      |
| 2062 | 98 | 269 | 08:37:52.666 | 117GH105A106A4CK | 7STRP   | 0.023004.0.0.0   | Slew =0.37                          | 4R3 | 4  | 0  | 4.666,986.14:0 |      |
| 2063 | 98 | 269 | 08:38:58.000 | 117GH105A106A4CL | 7STRP   | -0.00038.0.00082 | Slew =12.01                         | 4R3 | 4  | 0  | 4.666,987.21:0 |      |
| 2064 | 98 | 269 | 08:39:07.333 | 117GH105A106A4CM | 7STRP   | 0.023004.0.0.0   | Slew =0.37                          | 4R3 | 4  | 0  | 4.666,987.35:0 |      |
| 2065 | 98 | 269 | 08:40:12.666 | 117GH105A106A4CN | 7STRP   | -0.00038.0.00082 | Slew =12.01                         | 4R3 | 4  | 0  | 4.666,988.42:0 |      |
| 2066 | 98 | 269 | 08:40:22.000 | 117GH105A106A4CO | 7STRP   | 0.023004.0.0.0   | Slew =0.37                          | 4R3 | 4  | 0  | 4.666,988.56:0 |      |
| 2067 | 98 | 269 | 08:41:27.333 | 117GH105A106A4CP | 7STRP   | -0.00038.0.00082 | Slew =12.01                         | 4R3 | 4  | 0  | 4.666,989.63:0 |      |
| 2068 | 98 | 269 | 08:41:36.666 | 117GH105A106A4CQ | 7STRP   | 0.023004.0.0.0   | Slew =0.37                          | 4R3 | 4  | 0  | 4.666,989.77:0 |      |
| 2069 | 98 | 269 | 08:42:42.000 | 117GH105A106A4CR | 7STRP   | -0.00038.0.00082 | Slew =12.01                         | 4R3 | 4  | 0  | 4.666,990.84:0 |      |
| 2070 | 98 | 269 | 08:42:51.333 | 117GH105A106A4CS | 7STRP   | 0.023004.0.0.0   | Slew =0.37                          | 4R3 | 4  | 0  | 4.666,991.07:0 |      |
| 2071 | 98 | 269 | 08:43:56.666 | 117GH105A106A4CT | 7STRP   | -0.00038.0.00082 | Slew =12.01                         | 4R3 | 4  | 0  | 4.666,992.14:0 |      |
| 2072 | 98 | 269 | 08:44:06.000 | 117GH105A106A4CU | 7STRP   | 0.023004.0.0.0   | Slew =0.37                          | 4R3 | 4  | 0  | 4.666,992.28:0 |      |
| 2073 | 98 | 269 | 08:45:11.333 | 117GH105A106A4CV | 7STRP   | -0.00038.0.00082 | Slew =12.01                         | 4R3 | 4  | 0  | 4.666,993.35:0 |      |
| 2074 | 98 | 269 | 08:45:20.666 | 117GH105A106A4CW | 7STRP   | 0.023004.0.0.0   | Slew =0.37                          | 4R3 | 4  | 0  | 4.666,993.49:0 |      |
| 2075 | 98 | 269 | 08:46:26.000 | 117GH105A106A4CX | 7STRP   | -0.00038.0.00082 | Slew =12.01                         | 4R3 | 4  | 0  | 4.666,994.56:0 |      |
| 2076 | 98 | 269 | 08:46:35.333 | 117GH105A106A4CY | 7STRP   | 0.023004.0.0.0   | Slew =0.37                          | 4R3 | 4  | 0  | 4.666,994.70:0 |      |
| 2077 | 98 | 269 | 08:46:50.000 |                  | 6DMS    | R7,0             | DMS Control Tape runup 7.68kps      | 4R3 | 4  | 0  | 4.666,995.01:0 |      |
| 2078 | 98 | 269 | 08:46:50.000 |                  | DMS:    | :*E4-DELAY       | RDY, TRACK 1, FWD, TIC 417.75 +/-   | 4R3 | 4  | 0  | 4.666,995.01:0 |      |
| 2079 | 98 | 269 | 08:46:56.666 |                  | DMS:    | :*RUNUP          | R7, TRACK 1, FWD, TIC 417.75 +/-    | 4R3 | 4  | 0  | 4.666,995.11:0 |      |
| 2080 | 98 | 269 | 08:46:58.066 |                  | DMS:    | :*AT SPD         | R7, TRACK 1, FWD, TIC * 417.87 +/-  | 4R3 | 4  | 0  | 4.666,995.13:1 |      |
| 2081 | 98 | 269 | 08:47:15.333 |                  | DMS:    | :*RECORD         | R7, TRACK 1, FWD, TIC * 421.92 +/-  | 4R3 | 4  | 0  | 4.666,995.39:0 |      |
| 2082 | 98 | 269 | 08:47:38.000 |                  | 6DMS    | RDY,0            | DMS Control Tape stop               | 4R3 | 4  | 0  | 4.666,995.73:0 |      |
| 2083 | 98 | 269 | 08:47:38.000 | 50ZZ6RD          | 6DMS    | :*RUNDOWN        | RDY, TRACK 1, FWD, TIC * 427.23 +/- | 4R3 | 4  | 0  | 4.666,995.73:0 |      |
| 2084 | 98 | 269 | 08:47:39.200 |                  | DMS:    | :*READY          | RDY, TRACK 1, FWD, TIC * 427.29 +/- | 4R3 | 4  | 0  | 4.666,995.74:8 |      |
| 2085 | 98 | 269 | 08:47:40.666 | 117GH105A106A4CZ | 7STRP   | -0.00038.0.00082 | Slew =12.01                         | 4R3 | 4  | 0  | 4.666,995.77:0 |      |
| 2086 | 98 | 269 | 08:47:50.000 | 117GH105A106A4DA | 7STRP   | 0.023004.0.0.0   | Slew =0.37                          | 4R3 | 4  | 0  | 4.666,996.00:0 |      |
| 2087 | 98 | 269 | 08:48:55.333 | 117GH105A106A4DB | 7STRP   | -0.00038.0.00082 | Slew =12.01                         | 4R3 | 4  | 0  | 4.666,997.07:0 |      |
| 2088 | 98 | 269 | 08:49:04.666 | 117GH105A106A4DC | 7STRP   | 0.023004.0.0.0   | Slew =0.37                          | 4R3 | 4  | 0  | 4.666,997.21:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID             | Command | Parameters       | Description                                | GCM | GO | GS | RIM       | MF I |
|------|----|-----|--------------|------------------|---------|------------------|--|-----|----|----|-----------|------|
| 2089 | 98 | 269 | 08:50:10.000 | 117GH105A106A4DD | 7STRP   | -0.00038,0.00082 | Slew =12.01                                | 4R3 | 4  | 0  | 4,666,998 | 28:0 |
| 2090 | 98 | 269 | 08:50:19.333 | 117GH105A106A4DE | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.37                                | 4R3 | 4  | 0  | 4,666,998 | 42:0 |
| 2091 | 98 | 269 | 08:51:24.666 | 117GH105A106A4DF | 7STRP   | -0.00038,0.00082 | Slew =12.01                                | 4R3 | 4  | 0  | 4,666,999 | 49:0 |
| 2092 | 98 | 269 | 08:51:34.000 | 117GH105A106A4DG | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.37                                | 4R3 | 4  | 0  | 4,666,999 | 63:0 |
| 2093 | 98 | 269 | 08:51:36.666 | 488AE6E          | 6TMSED  | NORM,EL5         | Sci, Eng, and D/L Chan                     | 4R3 | 4  | 0  | 4,666,999 | 67:0 |
| 2094 | 98 | 269 | 08:52:39.333 | 117GH105A106A4DH | 7STRP   | -0.00038,0.00082 | Slew =12.01                                | 4R3 | 4  | 0  | 4,667,000 | 70:0 |
| 2095 | 98 | 269 | 08:52:48.666 | 117GH105A106A4DI | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.37                                | 4R3 | 4  | 0  | 4,667,000 | 84:0 |
| 2096 | 98 | 269 | 08:53:54.000 | 117GH105A106A4DJ | 7STRP   | -0.00038,0.00082 | Slew =12.01                                | 4R3 | 4  | 0  | 4,667,002 | 00:0 |
| 2097 | 98 | 269 | 08:54:03.333 | 117GH105A106A4DK | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.37                                | 4R3 | 4  | 0  | 4,667,002 | 14:0 |
| 2098 | 98 | 269 | 08:54:28.179 | 17NNGLOBAL02-    |         | -----START-----  |  | 4R3 | 4  | 0  | :         | :    |
| 2099 | 98 | 269 | 08:55:08.666 | 117GH105A106A4DL | 7STRP   | -0.00038,0.00082 | Slew =12.01                                | 4R3 | 4  | 0  | 4,667,003 | 21:0 |
| 2100 | 98 | 269 | 08:55:18.000 | 117GH105A106A4DM | 7STRP   | 0.023004,0.0,0.0 | Slew = 0.37                                | 4R3 | 4  | 0  | 4,667,003 | 35:0 |
| 2101 | 98 | 269 | 08:56:23.333 | 117GH11A         | CSMOS   | GE               | ***** GROUP END CSMOS                      | 4R3 | 4  | 0  | 4,667,004 | 42:0 |
| 2102 | 98 | 269 | 08:56:56.000 | 176GI6B          | 6TMREC  | NRC              | NO RECORD Record Mode Change               | 4R3 | 4  | 0  | 4,667,005 | 00:0 |
| 2103 | 98 | 269 | 08:56:58.000 |                  | DMS:    | :*E4-DELAY       | RDY, TRACK 1, FWD, TIC 427.29 +/-          | 4R3 | 4  | 0  | 4,667,005 | 03:0 |
| 2104 | 98 | 269 | 08:56:58.000 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps             | 4R3 | 4  | 0  | 4,667,005 | 13:0 |
| 2105 | 98 | 269 | 08:57:04.666 |                  | DMS:    | :*RUNUP          | R7, TRACK 1, FWD, TIC 427.29 +/-           | 4R3 | 4  | 0  | 4,667,005 | 13:0 |
| 2106 | 98 | 269 | 08:57:06.666 |                  | DMS:    | :*AT SPD         | R7, TRACK 1, FWD, TIC * 427.41 +/-         | 4R3 | 4  | 0  | 4,667,005 | 15:1 |
| 2107 | 98 | 269 | 08:57:08.000 |                  | DMS:    | :*RECORD         | R7, TRACK 1, FWD, TIC * 427.86 +/-         | 4R3 | 4  | 0  | 4,667,005 | 18:0 |
| 2108 | 98 | 269 | 08:57:26.666 | 50ZZ6RE          | 6DMSC   | RDY,0            | DMS Control Tape stop                      | 4R3 | 4  | 0  | 4,667,005 | 46:0 |
| 2109 | 98 | 269 | 08:57:26.666 |                  | DMS:    | :*RUNDOWN        | R7, TRACK 1, FWD, TIC * 432.24 +/-         | 4R3 | 4  | 0  | 4,667,005 | 46:0 |
| 2110 | 98 | 269 | 08:57:27.866 |                  | DMS:    | :*READY          | RDY, TRACK 1, FWD, TIC * 432.30 +/-        | 4R3 | 4  | 0  | 4,667,005 | 47:8 |
| 2111 | 98 | 269 | 08:57:56.666 | 192GJ4A          | 7CONE   | 17.4,0.0         | Check S/P Position                         | 4R3 | 4  | 0  | 4,667,006 | 00:0 |
| 2112 | 98 | 269 | 09:00:58.666 | 176GL6A          | 6TMREC  | BPT              | 7.68 KBPS PPR BURST TO TAPE Record Mode C  | 4R3 | 4  | 0  | 4,667,009 | 00:0 |
| 2113 | 98 | 269 | 09:03:13.333 | 176GL6B          | 6TMREC  | NRC              | NO RECORD Record Mode Change               | 4R3 | 4  | 0  | 4,667,011 | 20:0 |
| 2114 | 98 | 269 | 09:03:15.333 |                  | DMS:    | :*E4-DELAY       | RDY, TRACK 1, FWD, TIC 432.30 +/-          | 4R3 | 4  | 0  | 4,667,011 | 23:0 |
| 2115 | 98 | 269 | 09:03:15.333 | 50ZZ6XX          | 6DMSC   | R7,0             | DMS Control Tape runup 7.68kps             | 4R3 | 4  | 0  | 4,667,011 | 23:0 |
| 2116 | 98 | 269 | 09:03:22.000 |                  | DMS:    | :*RUNUP          | R7, TRACK 1, FWD, TIC 432.30 +/-           | 4R3 | 4  | 0  | 4,667,011 | 33:0 |
| 2117 | 98 | 269 | 09:03:23.400 |                  | DMS:    | :*AT SPD         | R7, TRACK 1, FWD, TIC * 432.42 +/-         | 4R3 | 4  | 0  | 4,667,011 | 35:1 |
| 2118 | 98 | 269 | 09:03:25.333 |                  | DMS:    | :*RECORD         | R7, TRACK 1, FWD, TIC * 432.87 +/-         | 4R3 | 4  | 0  | 4,667,011 | 38:0 |
| 2119 | 98 | 269 | 09:03:36.666 | 50ZZ6RD          | 6DMSC   | RDY,0            | DMS Control Tape stop                      | 4R3 | 4  | 0  | 4,667,011 | 55:0 |
| 2120 | 98 | 269 | 09:03:36.666 |                  | DMS:    | :*RUNDOWN        | R7, TRACK 1, FWD, TIC * 435.53 +/-         | 4R3 | 4  | 0  | 4,667,011 | 55:0 |
| 2121 | 98 | 269 | 09:03:37.866 |                  | DMS:    | :*READY          | RDY, TRACK 1, FWD, TIC * 435.59 +/-        | 4R3 | 4  | 0  | 4,667,011 | 56:8 |
| 2122 | 98 | 269 | 09:04:34.846 | 17NNGLOBAL02-    |         | -----START-----  |  | 4R3 | 4  | 0  | :         | :    |
| 2123 | 98 | 269 | 09:04:34.846 | 17NNGLOBAL02-    |         | -----STOP-----   |  | 4R3 | 4  | 0  | :         | :    |
| 2124 | 98 | 269 | 09:07:48.666 | 20DI5A           | 37PL    |                  | Program Load (halts microprocessor & unwri | 4R3 | 4  | 0  | 4,667,015 | 89:0 |
| 2125 | 98 | 269 | 09:07:56.000 | 20DI5B           | 37MRL   |                  | Memory Realocate (software operates from R | 4R3 | 4  | 0  | 4,667,015 | 80:0 |
| 2126 | 98 | 269 | 09:08:02.666 | 165DI4A          | 7SCAN   | NORM,94.183999,2 | Check S/P Position                         | 4R3 | 4  | 0  | 4,667,015 | 90:0 |
| 2127 | 98 | 269 | 09:08:04.000 | 20DI6A           | 6MCPY   | NIMS             | NIMS,1000,LLM1A,7300,77F7                  | 4R3 | 4  | 0  | 4,667,016 | 01:0 |
| 2128 | 98 | 269 | 09:08:14.000 | 20DI6B           | 6MCPY   | NIMS             | NIMS,1598,LLM1A,77F8,781D                  | 4R3 | 4  | 0  | 4,667,016 | 16:0 |
| 2129 | 98 | 269 | 09:08:24.000 | 20DI5C           | 37IRT   |                  | Instrument Reset (goes into POR state)     | 260 | 4  | 0  | 4,667,016 | 31:0 |
| 2130 | 98 | 269 | 09:08:25.333 | 20DI5D           | 37MN    |                  | Memory Normal (software operates from ROM) | 260 | 4  | 0  | 4,667,016 | 33:0 |
| 2131 | 98 | 269 | 09:08:56.666 | 20DI4A           | 37IST   | 1,2,0,OFF,0,1,1  | Chopper ON, Sync, Chopper (RefGain State   | 4R0 | 4  | 0  | 4,667,016 | 80:0 |
| 2132 | 98 | 269 | 09:11:52.666 | 175DI422A6A      | 6DMSC   | R28,1            | DMS Control                                | 4R0 | 4  | 0  | 4,667,019 | 71:0 |
| 2133 | 98 | 269 | 09:11:52.666 |                  | DMS:    | :*E4-DELAY       | RDY, TRACK 1, FWD, TIC 435.59 +/-          | 4R0 | 4  | 0  | 4,667,019 | 71:0 |
| 2134 | 98 | 269 | 09:11:56.666 | 117DI            | CSMOS   | GS               | ***** GROUP START CSMOS                    | 4R0 | 4  | 0  | 4,667,019 | 77:0 |
| 2135 | 98 | 269 | 09:11:59.333 |                  | DMS:    | :*RUNUP          | R28, TRACK 1, FWD, TIC 435.59 +/-          | 4R0 | 4  | 0  | 4,667,019 | 81:0 |
| 2136 | 98 | 269 | 09:12:01.333 | 127DI            | NIMSTAB | GS               | %%-%-% GROUP START TAB                     | 4R0 | 4  | 0  | 4,667,019 | 84:0 |
| 2137 | 98 | 269 | 09:12:01.333 | 127DI4A          | 37IOP   | 3,0              | Long Map, Grating Start Position =00       | 4R3 | 4  | 0  | 4,667,019 | 84:0 |
| 2138 | 98 | 269 | 09:12:02.000 | 127DI4B          | 37ETB   | 04,C4,35,FF,FF   | Loads wavelength edit table                | 4R3 | 4  | 0  | 4,667,019 | 85:0 |
| 2139 | 98 | 269 | 09:12:02.666 | 175DI176A6A      | 6TMREC  | MPW              | 28.8 KBPS PWS + NIMS RECORD Record Mode C  | 4R3 | 4  | 0  | 4,667,019 | 86:0 |
| 2140 | 98 | 269 | 09:12:03.333 |                  | DMS:    | :*RECORD         | R28, TRACK 1, FWD, TIC * 437.09 +/-        | 4R3 | 4  | 0  | 4,667,019 | 87:0 |
| 2141 | 98 | 269 | 09:12:03.333 |                  | DMS:    | :*AT SPD         | R28, TRACK 1, FWD, TIC 437.09 +/-          | 4R3 | 4  | 0  | 4,667,019 | 87:0 |
| 2142 | 98 | 269 | 09:12:04.666 | 165DI4B          | 7VECT   |                  | Inert vect update UTC                      | 4R3 | 4  | 0  | 4,667,019 | 89:0 |
| 2143 | 98 | 269 | 09:12:06.000 | 17NNGLOBAL02-    | NIMPBK  | 301DI            | EUROPA GLOBAL MAPPING                      | 4R3 | 4  | 0  | :         | :    |

| Line | YR | DOY | SCET - GMT   | PSID           | Command  | Parameters         | Description                               | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|----------------|----------|--------------------|---|-----|----|----|----------------|------|
| 2144 | 98 | 269 | 09:12:06.000 | 117D105A106A4A | 7STRP    | -0.012901,0.0,0.0, | Slew =0.03                                | 4R3 | 4  | 0  | 4,667,020:00:0 |      |
| 2145 | 98 | 269 | 09:12:10.000 | 127D111A       | NIMSTAB  | GE                 | %%%%GROUP END TAB                         | 4R3 | 4  | 0  | 4,667,020:06:0 |      |
| 2146 | 98 | 269 | 09:19:06.000 | 125E14A        | 37IST    | 0.2,0,OFF,0.1,2    | Gain State 3                              | 3R3 | 4  | 0  | 4,667,026:84:0 |      |
| 2147 | 98 | 269 | 09:19:06.000 | 125E111A       | NIMSINIT | GE                 | #####GROUP END INIT                       | 3R3 | 4  | 0  | 4,667,026:84:0 |      |
| 2148 | 98 | 269 | 09:19:06.000 | 125E1          | NIMSINIT | GS                 | #####GROUP START INIT                     | 3R3 | 4  | 0  | 4,667,026:84:0 |      |
| 2149 | 98 | 269 | 09:19:17.333 | 117D105A106A4B | 7STRP    | 0.012801,0.007,0   | Slew =12.01                               | 3R3 | 4  | 0  | 4,667,027:10:0 |      |
| 2150 | 98 | 269 | 09:19:17.333 | 17ENGLOBAL02-  | DESEL    | 300DI              | EUROPA GLOBAL MAPPING                     | 3R3 | 4  | 0  | :              |      |
| 2151 | 98 | 269 | 09:19:18.666 | 17ENGLOBAL02-  | NIMPBK   | 301EI              | EUROPA GLOBAL MAPPING                     | 3R3 | 4  | 0  | :              |      |
| 2152 | 98 | 269 | 09:19:24.000 | 117D105A106A4C | 7STRP    | -0.012901,0.0,0.0, | Slew =0.03                                | 3R3 | 4  | 0  | 4,667,027:20:0 |      |
| 2153 | 98 | 269 | 09:26:32.000 | 17ENGLOBAL02-  | NIMPBK   | 301EJ              | EUROPA GLOBAL MAPPING                     | 3R3 | 4  | 0  | :              |      |
| 2154 | 98 | 269 | 09:26:35.333 | 117D105A106A4D | 7STRP    | 0.012801,0.007,0   | Slew =12.01                               | 3R3 | 4  | 0  | 4,667,034:30:0 |      |
| 2155 | 98 | 269 | 09:26:35.333 | 17ENGLOBAL02-  | DESEL    | 300EI              | EUROPA GLOBAL MAPPING                     | 3R3 | 4  | 0  | :              |      |
| 2156 | 98 | 269 | 09:26:42.000 | 117D105A106A4E | 7STRP    | -0.012901,0.0,0.0, | Slew =0.03                                | 3R3 | 4  | 0  | 4,667,034:40:0 |      |
| 2157 | 98 | 269 | 09:33:53.333 | 117D105A106A4F | 7STRP    | 0.012801,0.007,0   | Slew =12.01                               | 3R3 | 4  | 0  | 4,667,041:50:0 |      |
| 2158 | 98 | 269 | 09:34:00.000 | 117D105A106A4G | 7STRP    | -0.012901,0.0,0.0, | Slew =0.03                                | 3R3 | 4  | 0  | 4,667,041:60:0 |      |
| 2159 | 98 | 269 | 09:34:16.000 | 125FI          | NIMSINIT | GS                 | #####GROUP START INIT                     | 3R3 | 4  | 0  | 4,667,041:84:0 |      |
| 2160 | 98 | 269 | 09:34:16.000 | 125FI11A       | NIMSINIT | GE                 | #####GROUP END INIT                       | 3R3 | 4  | 0  | 4,667,041:84:0 |      |
| 2161 | 98 | 269 | 09:34:16.000 | 125FI4A        | 37IST    | 0.2,0,OFF,0.1,1    | Gain State 4                              | 4R3 | 4  | 0  | 4,667,041:84:0 |      |
| 2162 | 98 | 269 | 09:34:54.846 | 17ENGLOBAL02-  | DESEL    | 300EJ              | #####STOP-----                            | 4R3 | 4  | 0  | :              |      |
| 2163 | 98 | 269 | 09:41:11.333 | 117D111A       | CSMOS    | GE                 | *****GROUP END CSMOS                      | 4R3 | 4  | 0  | 4,667,048:70:0 |      |
| 2164 | 98 | 269 | 09:41:11.333 | 17ENGLOBAL02-  | DESEL    | 300EJ              | EUROPA GLOBAL MAPPING                     | 4R3 | 4  | 0  | :              |      |
| 2165 | 98 | 269 | 09:42:03.333 | 175DI422A6B    | DMS:     | : *RUNDOWN         | R28, TRACK 1, FWD, TIC *2019.12 +/-       | 4R3 | 4  | 0  | :              |      |
| 2166 | 98 | 269 | 09:42:03.333 | 175DI422A6B    | 6DMSC    | RDY,0              | DMS Control Tape stop                     | 4R3 | 4  | 0  | 4,667,049:57:0 |      |
| 2167 | 98 | 269 | 09:42:04.533 | 41AB99A        | DMS:     | : *READY           | RDY, TRACK 1, FWD, TIC *2019.42 +/-       | 4R3 | 4  | 0  | 4,667,049:58:8 |      |
| 2168 | 98 | 269 | 09:45:35.333 | 41AB33G        | POWER    | PWR MODE change    | Change to Maneuver/Playback Mode          | 4R3 | 4  | 0  | 4,667,053:11:0 |      |
| 2169 | 98 | 269 | 09:47:29.333 | 41AB33G        | 40T1P    |                    | 1 PCT Heater 1 ON (primary relay)         | 4R3 | 4  | 0  | 4,667,055:00:0 |      |
| 2170 | 98 | 269 | 09:47:39.333 | 41AB33H        | 40T1P    |                    | 2 PCT Heater 1 ON (primary relay)         | 4R3 | 4  | 0  | 4,667,055:15:0 |      |
| 2171 | 98 | 269 | 09:47:49.333 | 41AB31         | 40T2     |                    | 1 PCT Heater 2 ON                         | 4R3 | 4  | 0  | 4,667,055:30:0 |      |
| 2172 | 98 | 269 | 09:47:59.333 | 41AB3J         | 40T2     |                    | 2 PCT Heater 2 ON                         | 4R3 | 4  | 0  | 4,667,055:45:0 |      |
| 2173 | 98 | 269 | 09:51:36.000 | 20UO4A         | 7SAFE    | UNSTOW             | S/P TO 153 deg cone                       | 4R3 | 4  | 0  | 4,667,059:06:0 |      |
| 2174 | 98 | 269 | 09:55:36.000 | 20WA4A         | 7SAFE    | STOP               | S/P NO MOVEMENT                           | 4R3 | 4  | 0  | 4,667,063:02:0 |      |
| 2175 | 98 | 269 | 09:56:26.000 | 20WA4B         | 7SLEW    | DIS,POS,0.0        | Stator movement                           | 4R3 | 4  | 0  | 4,667,063:77:0 |      |
| 2176 | 98 | 269 | 09:56:35.333 | 176SA6A        | 6TMREC   | IPB                | INITIATE PLAYBACK (PB CONTROL) Record Mod | 4R3 | 4  | 0  | 4,667,064:00:0 |      |
| 2177 | 98 | 269 | 10:30:00.000 | 488AF6A        | 6TMSED   | NORM,AL5           | Sci, Eng, and D/L Chan                    | 4R3 | 4  | 0  | 4,667,097:04:0 |      |
| 2178 | 98 | 269 | 10:35:34.846 | 17NNCHOPOF01-  | 7TIOP    | 0.0                | Safe, Grating Start Position =00          | 4R3 | 4  | 0  | :              |      |
| 2179 | 98 | 269 | 10:43:01.333 | 127DN4A        | NIMSTAB  | GS                 | %%%%GROUP START INIT                      | 4R0 | 4  | 0  | 4,667,109:84:0 |      |
| 2180 | 98 | 269 | 10:43:01.333 | 127DN4A        | NIMSTAB  | GS                 | %%%%GROUP START TAB                       | 4R0 | 4  | 0  | 4,667,109:84:0 |      |
| 2181 | 98 | 269 | 10:43:02.000 | 127DN4B        | 37ETB    | 04,C4,02,00,00     | Loads wavelength edit table               | 4R0 | 4  | 0  | 4,667,109:85:0 |      |
| 2182 | 98 | 269 | 10:43:10.000 | 127DN11A       | NIMSTAB  | GE                 | %%%%GROUP END TAB                         | 4R0 | 4  | 0  | 4,667,110:06:0 |      |
| 2183 | 98 | 269 | 10:45:41.513 | 17NNCHOPOF01-  | 7TIOP    | 0.0                | Safe, Grating Start Position =00          | 4R0 | 4  | 0  | :              |      |
| 2184 | 98 | 269 | 10:47:04.000 | 125DN          | NIMSINIT | GS                 | #####GROUP START INIT                     | 4R0 | 4  | 0  | 4,667,113:84:0 |      |
| 2185 | 98 | 269 | 10:47:04.000 | 125DN4A        | 37IST    | 1.0,0,OFF,0.0,0    | Chopper ON, Sync, 63Hz (Ref)              | 460 | 4  | 0  | 4,667,113:84:0 |      |
| 2186 | 98 | 269 | 10:48:04.666 | 125DN4B        | 37IST    | 1.1,0,OFF,0.0,0    | Chopper OFF, N/A, 63Hz (Ref)              | 400 | 4  | 0  | 4,667,114:84:0 |      |
| 2187 | 98 | 269 | 10:49:05.333 | 125DN11A       | NIMSINIT | GE                 | #####GROUP END INIT                       | 400 | 4  | 0  | 4,667,115:84:0 |      |
| 2188 | 98 | 269 | 10:49:05.333 | 125DN4C        | 37MB     | 0.0,0,0,0          | Selects mirror (spatial) edit table       | 400 | 4  | 0  | 4,667,115:84:0 |      |
| 2189 | 98 | 269 | 11:47:27.333 | 488AF6B        | 6TMSED   | NORM,AL6           | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,667,173:59:0 |      |
| 2190 | 98 | 269 | 14:21:30.000 | 176SC6A        | 6TMREC   | PPB                | PAUSE PLAYBACK (PB CONTROL) Record Mode C | 400 | 4  | 0  | 4,667,326:00:0 |      |
| 2191 | 98 | 269 | 14:35:39.333 | 176SD6A        | 6TMREC   | RPB                | RESUME PLAYBACK (PB CONTROL) Record Mode  | 400 | 4  | 0  | 4,667,340:00:0 |      |
| 2192 | 98 | 269 | 14:55:11.333 | 488AF6C        | 6TMSED   | NORM,AL5           | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,667,359:29:0 |      |
| 2193 | 98 | 269 | 15:00:00.000 | 488AF6D        | 6TMSED   | NORM,AL5           | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,667,364:07:0 |      |
| 2194 | 98 | 269 | 15:08:00.666 | 176SH6A        | 6TMREC   | PPB                | PAUSE PLAYBACK (PB CONTROL) Record Mode C | 400 | 4  | 0  | 4,667,372:00:0 |      |
| 2195 | 98 | 269 | 15:39:00.000 | 20SQ4I         | 7MODE    | INT                | AACS INERTIAL MODE                        | 400 | 4  | 0  | 4,667,402:59:0 |      |
| 2196 | 98 | 269 | 15:54:00.000 | 20SQ4K         | 7SLEW    | INIT,POS,17.45     | Stator movement                           | 400 | 4  | 0  | 4,667,417:44:0 |      |
| 2197 | 98 | 269 | 16:06:00.000 | 20SQ4L         | 7SLEW    | DIS,POS,0.0        | Stator movement                           | 400 | 4  | 0  | 4,667,429:32:0 |      |
| 2198 | 98 | 269 | 16:13:00.000 | 20SQ4M         | 7SLEW    | INIT,NEG,17.45     | Stator movement                           | 400 | 4  | 0  | 4,667,436:25:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID    | Command | Parameters        | Description                               | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|---------|---------|-------------------|---|-----|----|----|----------------|------|
| 2199 | 98 | 269 | 16:25:00.000 | 20SQ4N  | 7SLEW   | DIS,POS,0.0       | Stator movement                           | 400 | 4  | 0  | 4,667,448:13:0 |      |
| 2200 | 98 | 269 | 16:37:00.000 | 20SQ4AH | 7MODE   | CRU               | AACS CRUISE MODE                          | 400 | 4  | 0  | 4,667,460:01:0 |      |
| 2201 | 98 | 269 | 16:53:04.000 | 20ST4A  | 7SAFE   | STOP              | S/P NO MOVEMENT                           | 400 | 4  | 0  | 4,667,475:82:0 |      |
| 2202 | 98 | 269 | 16:53:54.000 | 20ST4B  | 7SLEW   | DIS,POS,0.0       | Stator movement                           | 400 | 4  | 0  | 4,667,476:66:0 |      |
| 2203 | 98 | 269 | 16:54:10.666 | 176SJ6A | 6TMREC  | RPB               | RESUME PLAYBACK (PB CONTROL) Record Mode  | 400 | 4  | 0  | 4,667,477:00:0 |      |
| 2204 | 98 | 269 | 17:45:51.333 | 488AG6A | 6TMSED  | NORM,AH4          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,667,528:10:0 |      |
| 2205 | 98 | 269 | 18:05:00.000 | 488AG6B | 6TMSED  | NORM,AL4          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,667,547:04:0 |      |
| 2206 | 98 | 269 | 18:32:47.333 | 488AG6C | 6TMSED  | NORM,AL5          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,667,574:48:0 |      |
| 2207 | 98 | 269 | 18:57:32.666 | 488AG6D | 6TMSED  | FILL,AL5          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,667,599:01:0 |      |
| 2208 | 98 | 269 | 19:41:38.666 | 488AG6E | 6TMSED  | NORM,AL5          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,667,642:57:0 |      |
| 2209 | 98 | 269 | 22:12:31.333 | 488AH6A | 6TMSED  | NORM,AL6          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,667,791:77:0 |      |
| 2210 | 98 | 269 | 23:11:27.333 | 20MC6A  | 6CKSUM  | MAG,4040,46FO     |   | 400 | 4  | 0  | 4,667,850:12:0 |      |
| 2211 | 98 | 269 | 23:12:24.000 | 480MB6  | 6MROH   |                   | 12 read from LLM1A12,2282,0,A2            | 400 | 4  | 0  | 4,667,851:06:0 |      |
| 2212 | 98 | 269 | 23:12:24.000 | 480MB6A | 6MROH   | 12,2282,0,A2      | read from LLM1A12,2282,0,A2               | 400 | 4  | 0  | 4,667,851:06:0 |      |
| 2213 | 98 | 270 | 00:35:27.333 | 488AH6B | 6TMSED  | NORM,AL5          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,667,933:19:0 |      |
| 2214 | 98 | 270 | 01:58:39.333 | 488AH6C | 6TMSED  | NORM,AL6          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,668,015:45:0 |      |
| 2215 | 98 | 270 | 01:59:08.666 | 432JB6B | 6RTDS2  | NIMNCG,AACDLSL,RT | AACS DESELECT                             | 400 | 4  | 0  | 4,668,015:89:0 |      |
| 2216 | 98 | 270 | 02:28:56.666 | 488AH6D | 6TMSED  | FILL,AL6          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,668,045:41:0 |      |
| 2217 | 98 | 270 | 02:55:46.000 | 488AH6E | 6TMSED  | NORM,AL6          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,668,071:89:0 |      |
| 2218 | 98 | 270 | 07:32:30.000 | 488AI6A | 6TMSED  | FILL,AL6          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,668,345:61:0 |      |
| 2219 | 98 | 270 | 07:35:43.333 | 488AI6B | 6TMSED  | FILL,AL5          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,668,348:78:0 |      |
| 2220 | 98 | 270 | 07:40:25.333 | 488AI6C | 6TMSED  | NORM,AL5          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,668,353:46:0 |      |
| 2221 | 98 | 270 | 08:27:24.666 | 431ZL6A | 6RCDSL  | DDSNCG,PLSNCG,EP  | Record Deselect (DDS o                    | 400 | 4  | 0  | 4,668,399:89:0 |      |
| 2222 | 98 | 270 | 08:31:32.666 | 20ZM6A  | 6EUVON  |                   |   | 400 | 4  | 0  | 4,668,404:06:0 |      |
| 2223 | 98 | 270 | 08:32:29.333 | 431ZM6A | 6RCSEL  | DDSNCG,PLSNCG,EP  | Record Select (DDS onl                    | 400 | 4  | 0  | 4,668,405:00:0 |      |
| 2224 | 98 | 270 | 08:33:19.333 | 488AI6D | 6TMSED  | NORM,AL6          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,668,405:75:0 |      |
| 2225 | 98 | 270 | 08:33:57.333 | 488AI6E | 6TMSED  | FILL,AL6          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,668,406:41:0 |      |
| 2226 | 98 | 270 | 08:34:30.666 | 176BA6A | 6TMREC  | PPB               | PAUSE PLAYBACK (PB CONTROL) Record Mode C | 400 | 4  | 0  | 4,668,407:00:0 |      |
| 2227 | 98 | 270 | 08:37:32.000 | 165BA4A | 7SCAN   | NORM,77.735,23.7  | Check S/P Position                        | 400 | 4  | 0  | 4,668,409:90:0 |      |
| 2228 | 98 | 270 | 08:42:44.000 | 20UP4A  | 7SAFE   | STOP              | S/P NO MOVEMENT                           | 400 | 4  | 0  | 4,668,415:12:0 |      |
| 2229 | 98 | 270 | 08:43:34.000 | 20UP4B  | 7SLEW   | DIS,POS,0.0       | Stator movement                           | 400 | 4  | 0  | 4,668,415:87:0 |      |
| 2230 | 98 | 270 | 08:44:37.333 | 176BB6A | 6TMREC  | RPB               | RESUME PLAYBACK (PB CONTROL) Record Mode  | 400 | 4  | 0  | 4,668,417:00:0 |      |
| 2231 | 98 | 270 | 09:00:47.333 | 488AJ6A | 6TMSED  | NORM,AL6          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,668,432:90:0 |      |
| 2232 | 98 | 270 | 17:01:03.266 | 488AK6A | 6TMSED  | NORM,AL5          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,668,907:89:0 |      |
| 2233 | 98 | 270 | 17:50:07.266 | 488AK6B | 6TMSED  | NORM,AL4          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,668,956:46:0 |      |
| 2234 | 98 | 270 | 18:07:11.266 | 488AK6C | 6TMSED  | NORM,AL5          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,668,973:35:0 |      |
| 2235 | 98 | 270 | 18:52:36.600 | 488AK6D | 6TMSED  | FILL,AL5          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,669,018:28:0 |      |
| 2236 | 98 | 270 | 19:31:42.600 | 488AK6E | 6TMSED  | NORM,AL5          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,669,056:89:0 |      |
| 2237 | 98 | 270 | 19:32:31.266 | 488AL6A | 6TMSED  | NORM,AL6          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,669,057:71:0 |      |
| 2238 | 98 | 270 | 23:02:29.933 | 488AL6B | 6TMSED  | FILL,AL6          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,669,265:41:0 |      |
| 2239 | 98 | 270 | 23:05:51.266 | 488AL6C | 6TMSED  | FILL,AL5          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,669,268:70:0 |      |
| 2240 | 98 | 271 | 01:01:19.933 | 431YL6A | 6RCDSL  | DDSNCG,PLSNCG,EP  | Record Deselect (DDS o                    | 400 | 4  | 0  | 4,669,382:89:0 |      |
| 2241 | 98 | 271 | 01:04:29.933 | 20YC6A  | 6HICON  |                   |   | 400 | 4  | 0  | 4,669,386:10:0 |      |
| 2242 | 98 | 271 | 01:05:23.933 | 431YM6A | 6RCSEL  | DDSNCG,PLSNCG,EP  | Record Select (DDS onl                    | 400 | 4  | 0  | 4,669,387:00:0 |      |
| 2243 | 98 | 271 | 01:07:25.266 | 176KA6A | 6TMREC  | PPB               | PAUSE PLAYBACK (PB CONTROL) Record Mode C | 400 | 4  | 0  | 4,669,389:00:0 |      |
| 2244 | 98 | 271 | 01:10:05.933 | 20KA4A  | 7SAFE   | UNSTOW            | S/P TO 153 deg conte                      | 400 | 4  | 0  | 4,669,391:59:0 |      |
| 2245 | 98 | 271 | 01:15:03.933 | 20UQ4A  | 7SAFE   | STOP              | S/P NO MOVEMENT                           | 400 | 4  | 0  | 4,669,396:51:0 |      |
| 2246 | 98 | 271 | 01:15:53.933 | 20UQ4B  | 7SLEW   | DIS,POS,0.0       | Stator movement                           | 400 | 4  | 0  | 4,669,397:35:0 |      |
| 2247 | 98 | 271 | 01:16:31.266 | 176SK6A | 6TMREC  | RPB               | RESUME PLAYBACK (PB CONTROL) Record Mode  | 400 | 4  | 0  | 4,669,398:00:0 |      |
| 2248 | 98 | 271 | 01:30:22.600 | 488AL6D | 6TMSED  | NORM,AL5          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,669,411:64:0 |      |
| 2249 | 98 | 271 | 01:43:43.266 | 488AM6A | 6TMSED  | NORM,AL6          | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,669,424:82:0 |      |
| 2250 | 98 | 271 | 01:54:56.600 | 176SB6A | 6TMREC  | PPB               | PAUSE PLAYBACK (PB CONTROL) Record Mode C | 400 | 4  | 0  | 4,669,436:00:0 |      |
| 2251 | 98 | 271 | 01:59:59.933 |         | DMS:    | : READY           | RDY, TRACK 1, FWD, TIC 2019.42 +/-        | 400 | 4  | 0  | 4,669,441:00:0 |      |
| 2252 | 98 | 271 | 02:00:00.000 | 20A3EX  | 37HR    | Final Condition   | Replacement Heaters OFF                   | 400 | 4  | 0  | 4,669,441:00:1 |      |
| 2253 | 98 | 271 | 02:00:00.000 | 20A3EY  | 37C1PR  | Final Condition   | Optics Heater 1 OFF (primary relay)       | 400 | 4  | 0  | 4,669,441:00:1 |      |

| Line | YR | DOY | SCET - GMT   | PSID   | Command | Parameters      | Description                               | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|--------|---------|-----------------|---|-----|----|----|----------------|------|
| 2254 | 98 | 271 | 02:00:00.000 | 20A3EZ | 37C2PR  | Final Condition | Optics Heater 2 OFF (primary relay)       | 400 | 4  | 0  | 4,669,441:00:1 |      |
| 2255 | 98 | 271 | 02:00:00.000 | 20A3FA | 37F1PR  | Final Condition | Radiator Flash Heater OFF (primary relay) | 400 | 4  | 0  | 4,669,441:00:1 |      |
| 2256 | 98 | 271 | 02:00:00.000 | 20A3FB | 37F2PR  | Final Condition | Shield Flash Heater OFF (primary relay)   | 400 | 4  | 0  | 4,669,441:00:1 |      |
| 2257 | 98 | 271 | 02:00:00.000 | 20A3FD | 40HRPR  | Final Condition | RCT Heater OFF (primary relay)            | 400 | 4  | 0  | 4,669,441:00:1 |      |
| 2258 | 98 | 271 | 02:00:00.000 | 20A3FE | 40T1P   | Final Condition | PCT Heater 1 ON (primary relay)           | 400 | 4  | 0  | 4,669,441:00:1 |      |
| 2259 | 98 | 271 | 02:00:00.000 | 20A3FF | 40T2    | Final Condition | PCT Heater 2 ON                           | 400 | 4  | 0  | 4,669,441:00:1 |      |
| 2260 | 98 | 271 | 02:00:00.000 | 20A3EW | 37A     | Final Condition | NIMS Power ON                             | 400 | 4  | 0  | 4,669,441:00:1 |      |

4  
1  
4



| Sequence: |    | E17B-AR |              | Created: 01/21/99 |                          | Begin: 98-271/02:00:00                    |     | Finish: 98-325/12:00:00 |    |                |      |
|-----------|----|---------|--------------|-------------------|--------------------------|---|-----|-------------------------|----|----------------|------|
| Line      | YR | DOY     | SCET - GMT   | PSID              | Command Parameters       | Description                               | GCM | GO                      | GS | RIM            | MF I |
| 1         | 98 | 271     | 01:59:59.933 |                   | DMS: : READY             | RDY, TRACK 1, FWD, TIC, 2019.42 +/-       | 400 | 4                       | 0  | 4,669,441:00:0 |      |
| 2         | 98 | 271     | 02:00:00.000 | 20A3FA            | 37F1PR Initial Condition | Radiator Flash Heater OFF (primary relay) | 400 | 4                       | 0  | 4,669,441:00:1 |      |
| 3         | 98 | 271     | 02:00:00.000 | 20A3FB            | 37F2PR Initial Condition | Shield Flash Heater OFF (primary relay)   | 400 | 4                       | 0  | 4,669,441:00:1 |      |
| 4         | 98 | 271     | 02:00:00.000 | 20A3FD            | 40HRPR Initial Condition | RCT Heater OFF (primary relay)            | 400 | 4                       | 0  | 4,669,441:00:1 |      |
| 5         | 98 | 271     | 02:00:00.000 | 20A3FE            | 40T1P Initial Condition  | PCT Heater 1 ON (primary relay)           | 400 | 4                       | 0  | 4,669,441:00:1 |      |
| 6         | 98 | 271     | 02:00:00.000 | 20A3FF            | 40T2 Initial Condition   | PCT Heater 2 ON                           | 400 | 4                       | 0  | 4,669,441:00:1 |      |
| 7         | 98 | 271     | 02:00:00.000 | 20A3EZ            | 37C2PR Initial Condition | Optics Heater 2 OFF (primary relay)       | 400 | 4                       | 0  | 4,669,441:00:1 |      |
| 8         | 98 | 271     | 02:00:00.000 | 20A3EY            | 37C1PR Initial Condition | Optics Heater 1 OFF (primary relay)       | 400 | 4                       | 0  | 4,669,441:00:1 |      |
| 9         | 98 | 271     | 02:00:00.000 | 20A3EX            | 37HR Initial Condition   | Replacement Heaters OFF                   | 400 | 4                       | 0  | 4,669,441:00:1 |      |
| 10        | 98 | 271     | 02:00:00.000 | 20A3EW            | 37A Initial Condition    | NIMS Power ON                             | 400 | 4                       | 0  | 4,669,441:00:1 |      |
| 11        | 98 | 271     | 02:00:47.266 | 488AA6A           | 6TMSED NORM,AL6          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,669,441:71:0 |      |
| 12        | 98 | 271     | 02:00:59.266 | 432NA6B           | 6RTDS2 NIMDSL,AACDSL,RT  | NIMS R/T DESELECTAACS DESELECT            | 400 | 4                       | 0  | 4,669,441:89:0 |      |
| 13        | 98 | 271     | 02:05:03.933 | 20WA4A            | 7SAFE STOP               | SIP NO MOVEMENT                           | 400 | 4                       | 0  | 4,669,446:01:0 |      |
| 14        | 98 | 271     | 02:05:53.933 | 20WA4B            | 7SLEW DIS,POS,0.0        | Stator movement                           | 400 | 4                       | 0  | 4,669,446:76:0 |      |
| 15        | 98 | 271     | 02:07:04.600 | 176SA6A           | 6TMREC RPB               | RESUME PLAYBACK (PB CONTROL) Record Mode  | 400 | 4                       | 0  | 4,669,448:00:0 |      |
| 16        | 98 | 271     | 03:53:51.266 | 488AA6B           | 6TMSED NORM,AL7          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,669,553:55:0 |      |
| 17        | 98 | 271     | 07:12:58.600 | 488AA6C           | 6TMSED FILL,AL7          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,669,750:49:0 |      |
| 18        | 98 | 271     | 07:14:23.266 | 488AA6D           | 6TMSED FILL,AL5          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,669,751:85:0 |      |
| 19        | 98 | 271     | 07:20:21.933 | 488AA6E           | 6TMSED NORM,AL5          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,669,757:77:0 |      |
| 20        | 98 | 271     | 07:57:03.266 | 488AB6A           | 6TMSED NORM,AL6          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,669,794:12:0 |      |
| 21        | 98 | 271     | 08:14:02.600 | 488AB6B           | 6TMSED FILL,AL6          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,669,810:85:0 |      |
| 22        | 98 | 271     | 08:40:51.933 | 488AB6C           | 6TMSED NORM,AL6          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,669,837:42:0 |      |
| 23        | 98 | 271     | 17:09:35.266 | 488AC6A           | 6TMSED NORM,AL5          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,670,340:54:0 |      |
| 24        | 98 | 271     | 17:50:07.266 | 488AC6B           | 6TMSED NORM,AL4          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,670,380:62:0 |      |
| 25        | 98 | 271     | 18:07:11.266 | 488AC6C           | 6TMSED NORM,AL5          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,670,397:51:0 |      |
| 26        | 98 | 271     | 18:22:07.266 | 488AC6D           | 6TMSED NORM,AL6          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,670,412:30:0 |      |
| 27        | 98 | 271     | 18:49:04.600 | 488AC6E           | 6TMSED FILL,AL6          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,670,438:90:0 |      |
| 28        | 98 | 271     | 19:15:53.933 | 488AD6A           | 6TMSED NORM,AL6          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,670,465:47:0 |      |
| 29        | 98 | 271     | 21:04:59.866 | 488AD6B           | 6TMSED NORM,AH6          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,670,573:38:0 |      |
| 30        | 98 | 271     | 21:08:37.200 | 176SH6A           | 6TMREC PPB               | PAUSE PLAYBACK (PB CONTROL) Record Mode C | 400 | 4                       | 0  | 4,670,577:00:0 |      |
| 31        | 98 | 271     | 21:38:59.866 | 20SQ4I            | 7MODE INT                | AACS INERTIAL MODE                        | 400 | 4                       | 0  | 4,670,607:04:0 |      |
| 32        | 98 | 271     | 21:53:59.866 | 20SQ4K            | 7SLEW INIT,POS,17.45     | Stator movement                           | 400 | 4                       | 0  | 4,670,621:80:0 |      |
| 33        | 98 | 271     | 22:05:59.866 | 20SQ4L            | 7SLEW DIS,POS,0.0        | Stator movement                           | 400 | 4                       | 0  | 4,670,633:68:0 |      |
| 34        | 98 | 271     | 22:12:59.866 | 20SQ4M            | 7SLEW INIT,NEG,17.45     | Stator movement                           | 400 | 4                       | 0  | 4,670,640:61:0 |      |
| 35        | 98 | 271     | 22:24:59.866 | 20SQ4N            | 7SLEW DIS,POS,0.0        | Stator movement                           | 400 | 4                       | 0  | 4,670,652:49:0 |      |
| 36        | 98 | 271     | 22:36:59.866 | 20SQ4AH           | 7MODE CRU                | AACS CRUISE MODE                          | 400 | 4                       | 0  | 4,670,664:37:0 |      |
| 37        | 98 | 271     | 22:53:03.866 | 20ST4A            | 7SAFE STOP               | S/P NO MOVEMENT                           | 400 | 4                       | 0  | 4,670,680:27:0 |      |
| 38        | 98 | 271     | 22:53:53.866 | 20ST4B            | 7SLEW DIS,POS,0.0        | Stator movement                           | 400 | 4                       | 0  | 4,670,681:11:0 |      |
| 39        | 98 | 271     | 22:54:47.200 | 176SJ6A           | 6TMREC RPB               | RESUME PLAYBACK (PB CONTROL) Record Mode  | 400 | 4                       | 0  | 4,670,682:00:0 |      |
| 40        | 98 | 271     | 23:12:59.866 | 488AD6C           | 6TMSED NORM,AL6          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,670,700:01:0 |      |
| 41        | 98 | 271     | 23:59:59.866 | 481UB4A           | 7VECT                    | Inert vect update UTC                     | 400 | 4                       | 0  | 4,670,746:45:0 |      |
| 42        | 98 | 271     | 01:05:19.200 | 488AD6D           | 6TMSED NORM,AL5          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,670,811:09:0 |      |
| 43        | 98 | 271     | 01:28:47.200 | 488AE6A           | 6TMSED NORM,AL6          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,670,834:28:0 |      |
| 44        | 98 | 271     | 03:17:35.200 | 488AE6B           | 6TMSED NORM,AL7          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,670,941:83:0 |      |
| 45        | 98 | 271     | 07:08:30.533 | 488AE6C           | 6TMSED FILL,AL7          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,671,170:27:0 |      |
| 46        | 98 | 271     | 07:10:07.200 | 488AE6D           | 6TMSED FILL,AL6          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,671,171:81:0 |      |
| 47        | 98 | 271     | 07:14:23.200 | 488AE6E           | 6TMSED NORM,AL6          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,671,176:10:0 |      |
| 48        | 98 | 271     | 08:03:27.200 | 488AF6A           | 6TMSED NORM,AL7          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,671,224:58:0 |      |
| 49        | 98 | 271     | 10:04:45.200 | 488AF6B           | 6TMSED FILL,AL7          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,671,344:55:0 |      |
| 50        | 98 | 271     | 10:07:11.200 | 488AF6C           | 6TMSED FILL,AL8          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,671,347:01:0 |      |
| 51        | 98 | 271     | 10:08:51.200 | 488AF6D           | 6TMSED NORM,AL8          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,671,348:60:0 |      |
| 52        | 98 | 271     | 12:48:05.200 | 488AF6E           | 6TMSED FILL,AL8          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,671,506:13:0 |      |
| 53        | 98 | 271     | 12:49:19.200 | 488AG6A           | 6TMSED FILL,AL4          | Sci. Eng. and D/L Chan                    | 400 | 4                       | 0  | 4,671,507:33:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID    | Command | Parameters       | Description                               | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|---------|---------|------------------|---|-----|----|----|----------------|------|
| 54   | 98 | 272 | 17:42:02.533 | 488AG6B | 6TMSED  | NORM,AL4         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,671,796:79:0 |      |
| 55   | 98 | 272 | 17:52:15.200 | 488AG6C | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,671,806:88:0 |      |
| 56   | 98 | 272 | 18:51:59.200 | 488AH6A | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,671,866:04:0 |      |
| 57   | 98 | 272 | 18:59:08.533 | 488AH6B | 6TMSED  | FILL,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,671,873:11:0 |      |
| 58   | 98 | 272 | 19:25:58.533 | 488AH6C | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,671,899:60:0 |      |
| 59   | 98 | 273 | 00:58:55.200 | 488AI6A | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,672,228:86:0 |      |
| 60   | 98 | 273 | 01:22:23.200 | 488AI6B | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,672,252:14:0 |      |
| 61   | 98 | 273 | 02:19:09.866 | 488AI6C | 6TMSED  | FILL,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,672,308:28:0 |      |
| 62   | 98 | 273 | 02:45:59.200 | 488AI6D | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,672,334:76:0 |      |
| 63   | 98 | 273 | 03:02:39.200 | 488AI6E | 6TMSED  | NORM,AL7         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,672,351:29:0 |      |
| 64   | 98 | 273 | 07:03:42.466 | 488AJ6A | 6TMSED  | FILL,AL7         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,672,589:66:0 |      |
| 65   | 98 | 273 | 07:05:51.133 | 488AJ6B | 6TMSED  | FILL,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,672,591:77:0 |      |
| 66   | 98 | 273 | 07:09:19.133 | 488AJ6C | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,672,595:25:0 |      |
| 67   | 98 | 273 | 07:52:47.133 | 488AJ6D | 6TMSED  | NORM,AL7         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,672,638:24:0 |      |
| 68   | 98 | 273 | 09:45:33.133 | 488AJ6E | 6TMSED  | FILL,AL7         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,672,749:72:0 |      |
| 69   | 98 | 273 | 09:47:59.133 | 488AK6A | 6TMSED  | FILL,AL8         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,672,752:18:0 |      |
| 70   | 98 | 273 | 09:49:39.133 | 488AK6B | 6TMSED  | NORM,AL8         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,672,753:77:0 |      |
| 71   | 98 | 273 | 14:59:27.133 | 488AK6C | 6TMSED  | NORM,AL7         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,673,060:22:0 |      |
| 72   | 98 | 273 | 16:54:39.133 | 488AL6A | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,673,174:16:0 |      |
| 73   | 98 | 273 | 17:45:11.133 | 488AL6B | 6TMSED  | NORM,AL4         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,673,224:74:0 |      |
| 74   | 98 | 273 | 17:48:18.466 | 488AL6C | 6TMSED  | FILL,AL4         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,673,227:22:0 |      |
| 75   | 98 | 273 | 18:02:55.133 | 488AL6D | 6TMSED  | FILL,AL5         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,673,241:63:0 |      |
| 76   | 98 | 274 | 01:00:09.800 | 488AM6A | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,673,654:32:0 |      |
| 77   | 98 | 274 | 01:18:07.133 | 488AM6B | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,673,672:10:0 |      |
| 78   | 98 | 274 | 02:51:59.133 | 488AM6C | 6TMSED  | NORM,AL7         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,673,764:86:0 |      |
| 79   | 98 | 274 | 06:58:11.800 | 488AM6D | 6TMSED  | FILL,AL7         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,674,008:41:0 |      |
| 80   | 98 | 274 | 06:59:27.133 | 488AM6E | 6TMSED  | FILL,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,674,009:63:0 |      |
| 81   | 98 | 274 | 07:04:15.133 | 488AN6A | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,674,014:40:0 |      |
| 82   | 98 | 274 | 07:48:31.133 | 488AN6B | 6TMSED  | NORM,AL7         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,674,058:20:0 |      |
| 83   | 98 | 274 | 08:25:42.466 | 43TMA6A | 6RCSEL  | DDSSEL,PLNSCG,EP | Record Select (DDS on)                    | 400 | 4  | 0  | 4,674,095:00:0 |      |
| 84   | 98 | 274 | 09:30:37.133 | 488AN6C | 6TMSED  | FILL,AL7         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,674,159:18:0 |      |
| 85   | 98 | 274 | 09:33:03.133 | 488AN6D | 6TMSED  | FILL,AL8         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,674,161:55:0 |      |
| 86   | 98 | 274 | 09:34:43.133 | 488AN6E | 6TMSED  | NORM,AL8         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,674,163:23:0 |      |
| 87   | 98 | 274 | 15:05:51.066 | 488AO6A | 6TMSED  | NORM,AL7         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,674,490:68:0 |      |
| 88   | 98 | 274 | 16:50:23.066 | 488AO6B | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,674,594:12:0 |      |
| 89   | 98 | 274 | 17:35:11.066 | 488AO6C | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,674,638:40:0 |      |
| 90   | 98 | 274 | 18:02:55.066 | 488AO6D | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,674,665:79:0 |      |
| 91   | 98 | 274 | 21:17:03.066 | 488AP6A | 6TMSED  | NORM,AL7         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,674,857:79:0 |      |
| 92   | 98 | 274 | 23:39:59.066 | 488AP6B | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,674,999:21:0 |      |
| 93   | 98 | 275 | 00:54:39.066 | 488AP6C | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,675,073:07:0 |      |
| 94   | 98 | 275 | 01:37:19.066 | 488AP6D | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,675,115:25:0 |      |
| 95   | 98 | 275 | 02:14:18.400 | 488AP6E | 6TMSED  | FILL,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,675,151:78:0 |      |
| 96   | 98 | 275 | 02:41:08.400 | 488AQ6A | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,675,178:36:0 |      |
| 97   | 98 | 275 | 06:53:29.733 | 488AQ6B | 6TMSED  | FILL,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,675,427:89:0 |      |
| 98   | 98 | 275 | 06:57:19.066 | 488AQ6C | 6TMSED  | FILL,AL8         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,675,431:69:0 |      |
| 99   | 98 | 275 | 06:58:59.066 | 488AQ6D | 6TMSED  | NORM,AL8         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,675,433:37:0 |      |
| 100  | 98 | 275 | 07:56:24.400 | 488AQ6E | 6TMSED  | FILL,AL8         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,675,490:18:0 |      |
| 101  | 98 | 275 | 08:24:49.066 | 488AR6A | 6TMSED  | NORM,AL8         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,675,518:27:0 |      |
| 102  | 98 | 275 | 10:45:35.066 | 488AR6B | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,675,657:47:0 |      |
| 103  | 98 | 275 | 12:23:00.400 | 488AR6C | 6TMSED  | NORM,AH6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,675,753:79:0 |      |
| 104  | 98 | 275 | 12:27:11.066 | 176SB6A | 6TMREC  | PPB              | PAUSE PLAYBACK (PB CONTROL) Record Mode C | 400 | 4  | 0  | 4,675,758:00:0 |      |
| 105  | 98 | 275 | 16:58:55.066 | 488AS6A | 6TMSED  | NORM,AH5         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,676,026:68:0 |      |
| 106  | 98 | 275 | 17:28:47.066 | 488AS6B | 6TMSED  | NORM,AH4         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,676,056:26:0 |      |
| 107  | 98 | 275 | 17:47:59.066 | 488AS6C | 6TMSED  | NORM,AH5         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,676,075:25:0 |      |
| 108  | 98 | 275 | 18:31:00.400 | 488AS6D | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,676,117:75:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID          | Command         | Parameters | Description                               | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|---------------|-----------------|------------|---|-----|----|----|----------------|------|
| 109  | 98 | 275 | 18:31:11.066 | 176SC6A       | 6TMREC          | RPB        | RESUME PLAYBACK (PB CONTROL) Record Mode  | 400 | 4  | 0  | 4,676,118:00:0 |      |
| 110  | 98 | 275 | 18:33:21.066 | 488AS6E       | 6TMSED          | FILL,AL5   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,676,120:13:0 |      |
| 111  | 98 | 275 | 18:37:03.066 | 488AT6A       | 6TMSED          | FILL,AL6   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,676,123:73:0 |      |
| 112  | 98 | 275 | 19:11:11.066 | 488AT6B       | 6TMSED          | NORM,AL6   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,676,157:51:0 |      |
| 113  | 98 | 276 | 00:50:23.000 | 488AU6A       | 6TMSED          | NORM,AL5   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,676,493:03:0 |      |
| 114  | 98 | 276 | 01:09:35.000 | 488AU6B       | 6TMSED          | NORM,AL6   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,676,512:02:0 |      |
| 115  | 98 | 276 | 02:09:22.333 | 488AU6C       | 6TMSED          | FILL,AL6   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,676,571:14:0 |      |
| 116  | 98 | 276 | 02:36:12.333 | 488AU6D       | 6TMSED          | NORM,AL6   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,676,597:63:0 |      |
| 117  | 98 | 276 | 02:43:27.000 | 488AU6E       | 6TMSED          | NORM,AL7   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,676,604:78:0 |      |
| 118  | 98 | 276 | 04:48:05.000 | 488AV6A       | 6TMSED          | FILL,AL7   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,676,728:11:0 |      |
| 119  | 98 | 276 | 04:49:19.000 | 488AV6B       | 6TMSED          | FILL,AL6   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,676,729:31:0 |      |
| 120  | 98 | 276 | 06:54:07.000 | 488AV6C       | 6TMSED          | NORM,AL6   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,676,852:70:0 |      |
| 121  | 98 | 276 | 07:37:51.000 | 488AV6D       | 6TMSED          | NORM,AL7   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,676,896:02:0 |      |
| 122  | 98 | 276 | 09:19:57.000 | 488AV6E       | 6TMSED          | FILL,AL7   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,676,997:00:0 |      |
| 123  | 98 | 276 | 09:22:23.000 | 488AW6A       | 6TMSED          | FILL,AL8   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,676,999:37:0 |      |
| 124  | 98 | 276 | 09:24:03.000 | 488AW6B       | 6TMSED          | NORM,AL8   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,677,001:05:0 |      |
| 125  | 98 | 276 | 14:59:27.000 | 488AW6C       | 6TMSED          | NORM,AL7   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,677,332:70:0 |      |
| 126  | 98 | 276 | 16:43:59.000 | 488AX6A       | 6TMSED          | NORM,AL6   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,677,436:14:0 |      |
| 127  | 98 | 276 | 17:28:47.000 | 488AX6B       | 6TMSED          | NORM,AL5   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,677,480:42:0 |      |
| 128  | 98 | 276 | 17:35:11.000 | 488AX6C       | 6TMSED          | NORM,AL3   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,677,486:72:0 |      |
| 129  | 98 | 276 | 17:36:01.666 | 488AX6D       | 6TMSED          | FILL,AL3   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,677,487:57:0 |      |
| 130  | 98 | 276 | 17:56:31.000 | 488AX6E       | 6TMSED          | FILL,AL6   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,677,507:81:0 |      |
| 131  | 98 | 277 | 07:31:26.933 | 488AY6A       | 6TMSED          | FILL,AL7   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,678,313:79:0 |      |
| 132  | 98 | 277 | 08:47:50.933 | 488AY6B       | 6TMSED          | NORM,AL7   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,678,389:39:0 |      |
| 133  | 98 | 277 | 09:15:40.933 | 488AY6C       | 6TMSED          | FILL,AL7   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,678,416:87:0 |      |
| 134  | 98 | 277 | 09:18:06.933 | 488AY6D       | 6TMSED          | FILL,AL8   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,678,419:33:0 |      |
| 135  | 98 | 277 | 09:19:46.933 | 488AY6E       | 6TMSED          | NORM,AL8   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,678,421:01:0 |      |
| 136  | 98 | 277 | 14:48:46.933 | 488AZ6A       | 6TMSED          | NORM,AL7   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,678,746:36:0 |      |
| 137  | 98 | 277 | 16:39:42.933 | 488AZ6B       | 6TMSED          | NORM,AL6   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,678,856:10:0 |      |
| 138  | 98 | 277 | 17:24:30.933 | 488AZ6C       | 6TMSED          | NORM,AL5   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,678,900:38:0 |      |
| 139  | 98 | 277 | 17:47:58.933 | 488AZ6D       | 6TMSED          | NORM,AL6   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,678,923:57:0 |      |
| 140  | 98 | 277 | 21:17:02.933 | 488BA6A       | 6TMSED          | NORM,AL7   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,679,130:36:0 |      |
| 141  | 98 | 277 | 23:14:22.933 | 488BA6B       | 6TMSED          | NORM,AL6   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,679,246:40:0 |      |
| 142  | 98 | 278 | 02:45:34.933 | 488BA6C       | 6TMSED          | NORM,AL5   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,679,455:29:0 |      |
| 143  | 98 | 278 | 03:05:46.266 | 488BA6D       | 6TMSED          | FILL,AL5   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,679,475:26:0 |      |
| 144  | 98 | 278 | 03:13:18.933 | 488BA6E       | 6TMSED          | FILL,AL6   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,679,482:68:0 |      |
| 145  | 98 | 278 | 06:48:58.266 | 488BB6A       | 6TMSED          | NORM,AL6   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,679,696:03:0 |      |
| 146  | 98 | 278 | 07:27:10.933 | 488BB6B       | 6TMSED          | NORM,AL7   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,679,733:75:0 |      |
| 147  | 98 | 278 | 09:19:56.933 | 488BB6C       | 6TMSED          | FILL,AL7   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,679,845:32:0 |      |
| 148  | 98 | 278 | 09:22:22.933 | 488BB6D       | 6TMSED          | FILL,AL8   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,679,847:69:0 |      |
| 149  | 98 | 278 | 09:24:02.933 | 488BB6E       | 6TMSED          | NORM,AL8   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,679,849:37:0 |      |
| 150  | 98 | 278 | 14:40:14.866 | 488BC6A       | 6TMSED          | NORM,AL7   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,680,162:12:0 |      |
| 151  | 98 | 278 | 15:00:24.200 | 17NNPCTRLT01- | -----START----- |            |   | 400 | 4  | 0  | 0              |      |
| 152  | 98 | 278 | 15:00:28.200 | 41FB3A        | 40T1PR          |            | 1 PCT Heater 1 OFF (primary relay)        | 400 | 4  | 0  | 4,680,182:12:0 |      |
| 153  | 98 | 278 | 15:00:38.200 | 41FB3B        | 40T1PR          |            | 2 PCT Heater 1 OFF (primary relay)        | 400 | 4  | 0  | 4,680,182:27:0 |      |
| 154  | 98 | 278 | 15:00:48.200 | 41FB3C        | 40T2R           |            | 1 PCT Heater 2 OFF                        | 400 | 4  | 0  | 4,680,182:42:0 |      |
| 155  | 98 | 278 | 15:00:58.200 | 41FB3D        | 40T2R           |            | 2 PCT Heater 2 OFF                        | 400 | 4  | 0  | 4,680,182:57:0 |      |
| 156  | 98 | 278 | 16:35:26.866 | 488BC6B       | 6TMSED          | NORM,AL6   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,680,276:06:0 |      |
| 157  | 98 | 278 | 17:20:14.866 | 488BC6C       | 6TMSED          | NORM,AL4   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,680,320:34:0 |      |
| 158  | 98 | 278 | 17:37:18.866 | 488BC6D       | 6TMSED          | NORM,AL5   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,680,337:23:0 |      |
| 159  | 98 | 278 | 18:26:22.866 | 488BC6E       | 6TMSED          | NORM,AL6   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,680,385:71:0 |      |
| 160  | 98 | 278 | 18:34:33.533 | 488BD6A       | 6TMSED          | FILL,AL6   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,680,393:79:0 |      |
| 161  | 98 | 278 | 19:01:23.533 | 488BD6B       | 6TMSED          | NORM,AL6   | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,680,420:37:0 |      |
| 162  | 98 | 278 | 21:04:20.200 | 176FB6A       | 6TMREC          | PPB        | PAUSE PLAYBACK (PB CONTROL) Record Mode C | 400 | 4  | 0  | 4,680,542:00:0 |      |
| 163  | 98 | 278 | 21:07:28.866 | 444FB443A4A   | 7SAFE           | UNSTOW     | SlIP TO 153 deg cone                      | 400 | 4  | 0  | 4,680,545:10:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID          | Command  | Parameters       | Description                               | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|---------------|----------|------------------|---|-----|----|----|----------------|------|
| 164  | 98 | 278 | 21:11:28.866 | 444FB443A4B   | 7MODE    | SPNL             | AACS ALL-SPIN LOW                         | 400 | 4  | 0  | 4,680,549:06:0 |      |
| 165  | 98 | 278 | 21:20:28.866 | 444FB443A4C   | 7CLK     | 17.45,0.0        | Check S/P Position                        | 400 | 4  | 0  | 4,680,557:88:0 |      |
| 166  | 98 | 278 | 21:23:28.200 | 125FB4A       | 37IST    | 1.0,0,OFF,0,0,0  | Chopper ON, Sync, 63Hz (Ref)              | 460 | 4  | 0  | 4,680,560:84:0 |      |
| 167  | 98 | 278 | 21:23:28.200 | 125FB         | NIMSINIT | GS               | ##### GROUP START INIT                    | 460 | 4  | 0  | 4,680,560:84:0 |      |
| 168  | 98 | 278 | 21:24:28.866 | 125FB4B       | 37IST    | 1.2,0,OFF,0,1,1  | Chopper ON, Sync, Chopper (Ref)Gain State | 4R0 | 4  | 0  | 4,680,561:84:0 |      |
| 169  | 98 | 278 | 21:25:29.533 | 125FB4C       | 37MB     | 1B,1B,0,0,0,0    | Selectors mirror (spatial) edit table     | 4R0 | 4  | 0  | 4,680,562:84:0 |      |
| 170  | 98 | 278 | 21:25:29.533 | 125FB11A      | NIMSINIT | GE               | ##### GROUP END INIT                      | 4R0 | 4  | 0  | 4,680,562:84:0 |      |
| 171  | 98 | 278 | 21:28:31.533 | 127FB         | NIMSTAB  | GS               | %%%GROUP START TAB                        | 4R0 | 4  | 0  | 4,680,565:84:0 |      |
| 172  | 98 | 278 | 21:28:31.533 | 127FB4A       | 37IOP    | 3.0              | Long Map, Grating Start Position =00      | 4R3 | 4  | 0  | 4,680,565:84:0 |      |
| 173  | 98 | 278 | 21:28:32.200 | 127FB4B       | 37ETB    | 0A,CA,19,FF,C0,1 | Loads wavelength edit table               | 4R3 | 4  | 0  | 4,680,565:85:0 |      |
| 174  | 98 | 278 | 21:28:40.200 | 127FB11A      | NIMSTAB  | GE               | %%%GROUP END TAB                          | 4R3 | 4  | 0  | 4,680,566:06:0 |      |
| 175  | 98 | 278 | 21:28:56.200 | 432FB6A       | 6RTSL2   | NIMSEL,AACNG,RT  | NIMS R/T SELECT                           | 4R3 | 4  | 0  | 4,680,566:30:0 |      |
| 176  | 98 | 278 | 21:30:56.200 | 432FC6A       | 6RTDS2   | NIMDSL,AACNG,RT  | NIMS R/T DESELECT                         | 4R3 | 4  | 0  | 4,680,568:28:0 |      |
| 177  | 98 | 278 | 21:31:38.866 | 192FC4A       | 7CONE    | 17.0,54.88       | Check S/P Position                        | 4R3 | 4  | 0  | 4,680,569:00:0 |      |
| 178  | 98 | 278 | 21:31:38.866 | 192FC4B       | 7CLK     | 17.0,244.07      | Check S/P Position                        | 4R3 | 4  | 0  | 4,680,569:01:0 |      |
| 179  | 98 | 278 | 21:35:00.200 | 432FD6A       | 6RTSL2   | NIMSEL,AACNG,RT  | NIMS R/T SELECT                           | 4R3 | 4  | 0  | 4,680,572:30:0 |      |
| 180  | 98 | 278 | 21:45:05.533 | 432FE6A       | 6RTDS2   | NIMDSL,AACNG,RT  | NIMS R/T DESELECT                         | 4R3 | 4  | 0  | 4,680,582:28:0 |      |
| 181  | 98 | 278 | 21:45:42.866 | 127FE4A       | 37IOP    | 0.0              | Safe, Grating Start Position =00          | 4R0 | 4  | 0  | 4,680,582:84:0 |      |
| 182  | 98 | 278 | 21:45:42.866 | 127FE         | NIMSTAB  | GS               | %%%GROUP START TAB                        | 4R0 | 4  | 0  | 4,680,582:84:0 |      |
| 183  | 98 | 278 | 21:45:43.533 | 127FE4B       | 37ETB    | 04,C4,02,00,00   | Loads wavelength edit table               | 4R0 | 4  | 0  | 4,680,582:85:0 |      |
| 184  | 98 | 278 | 21:45:51.533 | 127FE11A      | NIMSTAB  | GE               | %%%GROUP END TAB                          | 4R0 | 4  | 0  | 4,680,583:06:0 |      |
| 185  | 98 | 278 | 21:45:51.533 | 20FE4A        | 7SAFE    | UNSTOW           | S/P TO 153 deg cone                       | 4R0 | 4  | 0  | 4,680,583:06:0 |      |
| 186  | 98 | 278 | 21:47:44.200 | 125FE4A       | 37IST    | 1.0,0,OFF,0,0,0  | Chopper ON, Sync, 63Hz (Ref)              | 460 | 4  | 0  | 4,680,584:84:0 |      |
| 187  | 98 | 278 | 21:47:44.200 | 125FE         | NIMSINIT | GS               | ##### GROUP START INIT                    | 460 | 4  | 0  | 4,680,584:84:0 |      |
| 188  | 98 | 278 | 21:48:44.866 | 125FE4B       | 37IST    | 1.1,0,OFF,0,0,0  | Chopper OFF, N/A, 63Hz (Ref)              | 400 | 4  | 0  | 4,680,585:84:0 |      |
| 189  | 98 | 278 | 21:49:45.533 | 125FE11A      | NIMSINIT | GE               | ##### GROUP END INIT                      | 400 | 4  | 0  | 4,680,586:84:0 |      |
| 190  | 98 | 278 | 21:49:45.533 | 125FE4C       | 37MB     | 0.0,0.0,0.0      | Selectors mirror (spatial) edit table     | 400 | 4  | 0  | 4,680,586:84:0 |      |
| 191  | 98 | 278 | 21:50:57.533 | 444FF443A4A   | 7SAFE    | UNSTOW           | S/P TO 153 deg cone                       | 400 | 4  | 0  | 4,680,588:10:0 |      |
| 192  | 98 | 278 | 21:54:57.533 | 444FF443A4B   | 7MODE    | GRU              | AACS CRUISE MODE                          | 400 | 4  | 0  | 4,680,592:06:0 |      |
| 193  | 98 | 278 | 22:05:04.200 | 41FG99A       | POWER    | PWR MODE change  | Change to Maneuver/Playback Mode          | 400 | 4  | 0  | 4,680,602:06:0 |      |
| 194  | 98 | 278 | 22:06:58.200 | 41FG3G        | 40T1P    |                  | 1 PCT Heater 1 ON (primary relay)         | 400 | 4  | 0  | 4,680,603:86:0 |      |
| 195  | 98 | 278 | 22:07:08.200 | 41FG3H        | 40T1P    |                  | 2 PCT Heater 1 ON (primary relay)         | 400 | 4  | 0  | 4,680,604:10:0 |      |
| 196  | 98 | 278 | 22:07:18.200 | 41FG3I        | 40T2     |                  | 1 PCT Heater 2 ON                         | 400 | 4  | 0  | 4,680,604:25:0 |      |
| 197  | 98 | 278 | 22:07:28.200 | 41FG3J        | 40T2     |                  | 2 PCT Heater 2 ON                         | 400 | 4  | 0  | 4,680,604:40:0 |      |
| 198  | 98 | 278 | 22:09:10.866 | 20FH4A        | 7SAFE    | STOP             | S/P NO MOVEMENT                           | 400 | 4  | 0  | 4,680,606:12:0 |      |
| 199  | 98 | 278 | 22:10:00.866 | 20FH4B        | 7SLEW    | DIS,POS,0.0      | Stator movement                           | 400 | 4  | 0  | 4,680,606:87:0 |      |
| 200  | 98 | 278 | 22:11:04.200 | 176FH6A       | 6TMREC   | RPB              | RESUME PLAYBACK (PB CONTROL) Record Mode  | 400 | 4  | 0  | 4,680,608:00:0 |      |
| 201  | 98 | 278 | 22:46:34.200 | 488BD6C       | 6TMSED   | FILL,AL6         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,680,643:10:0 |      |
| 202  | 98 | 278 | 22:48:46.866 | 488BD6D       | 6TMSED   | FILL,AL5         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,680,645:27:0 |      |
| 203  | 98 | 278 | 22:50:34.200 | 17NNPCTRLT01- |          | -----STOP-----   |   | 400 | 4  | 0  | :              |      |
| 204  | 98 | 279 | 00:39:48.866 | 488BE6A       | 6TMSED   | NORM,AL5         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,680,755:10:0 |      |
| 205  | 98 | 279 | 00:56:46.866 | 488BE6B       | 6TMSED   | NORM,AL6         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,680,771:81:0 |      |
| 206  | 98 | 279 | 02:37:02.866 | 488BE6C       | 6TMSED   | NORM,AL7         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,680,871:05:0 |      |
| 207  | 98 | 279 | 06:38:14.200 | 488BE6D       | 6TMSED   | FILL,AL7         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,681,109:54:0 |      |
| 208  | 98 | 279 | 06:40:14.866 | 488BF6A       | 6TMSED   | FILL,AL6         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,681,111:53:0 |      |
| 209  | 98 | 279 | 06:43:54.200 | 488BF6B       | 6TMSED   | NORM,AL6         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,681,115:18:0 |      |
| 210  | 98 | 279 | 07:27:10.866 | 488BF6C       | 6TMSED   | NORM,AL7         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,681,158:00:0 |      |
| 211  | 98 | 279 | 09:24:12.866 | 488BF6D       | 6TMSED   | FILL,AL7         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,681,273:68:0 |      |
| 212  | 98 | 279 | 09:26:38.866 | 488BF6E       | 6TMSED   | FILL,AL8         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,681,276:14:0 |      |
| 213  | 98 | 279 | 09:28:18.866 | 488BG6A       | 6TMSED   | NORM,AL8         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,681,277:73:0 |      |
| 214  | 98 | 279 | 12:18:14.200 | 488BG6B       | 6TMSED   | FILL,AL8         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,681,445:78:0 |      |
| 215  | 98 | 279 | 12:19:26.866 | 488BG6C       | 6TMSED   | FILL,AL5         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,681,447:05:0 |      |
| 216  | 98 | 279 | 17:19:45.533 | 488BH6A       | 6TMSED   | NORM,AL5         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,681,744:06:0 |      |
| 217  | 98 | 279 | 17:41:34.866 | 488BH6B       | 6TMSED   | NORM,AL6         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,681,765:59:0 |      |
| 218  | 98 | 280 | 00:29:02.800 | 488BI6A       | 6TMSED   | NORM,AL5         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,682,168:58:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID    | Command Parameters   | Description                               | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|---------|----------------------|---|-----|----|----|----------------|------|
| 219  | 98 | 280 | 00:52:30.800 | 488B16B | 6TMSED NORM,AL6      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,682,191:77:0 |      |
| 220  | 98 | 280 | 02:37:02.800 | 488B16C | 6TMSED NORM,AL7      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,682,295:21:0 |      |
| 221  | 98 | 280 | 04:28:09.466 | 488B16D | 6TMSED FILL,AL7      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,682,405:11:0 |      |
| 222  | 98 | 280 | 04:30:06.800 | 488B16E | 6TMSED FILL,AL6      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,682,407:05:0 |      |
| 223  | 98 | 280 | 06:38:50.133 | 488B16A | 6TMSED NORM,AL6      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,682,534:33:0 |      |
| 224  | 98 | 280 | 07:22:54.800 | 488B16B | 6TMSED NORM,AL7      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,682,577:87:0 |      |
| 225  | 98 | 280 | 09:30:36.800 | 488B16C | 6TMSED FILL,AL7      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,682,704:23:0 |      |
| 226  | 98 | 280 | 09:33:02.800 | 488B16D | 6TMSED FILL,AL8      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,682,706:60:0 |      |
| 227  | 98 | 280 | 09:34:42.800 | 488B16E | 6TMSED NORM,AL8      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,682,708:28:0 |      |
| 228  | 98 | 280 | 14:10:22.800 | 488BK6A | 6TMSED NORM,AL7      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,682,980:86:0 |      |
| 229  | 98 | 280 | 15:57:36.800 | 176ST6A | 6TMREC PPB           | PAUSE PLAYBACK (PB CONTROL) Record Mode C | 400 | 4  | 0  | 4,683,087:00:0 |      |
| 230  | 98 | 280 | 16:02:00.133 | 20UQ4B  | 7SLEW DIS,POS,0.0    | Stator movement                           | 400 | 4  | 0  | 4,683,091:31:0 |      |
| 231  | 98 | 280 | 16:03:00.133 | 20UQ4D  | 7MODE SPNL           | AACS ALL-SPIN LOW                         | 400 | 4  | 0  | 4,683,092:30:0 |      |
| 232  | 98 | 280 | 16:05:00.133 | 20UQ4E  | 7SAFE UNSTOW         | S/P TO 153 deg cone                       | 400 | 4  | 0  | 4,683,094:28:0 |      |
| 233  | 98 | 280 | 16:10:30.133 | 20UQ4G  | 7VENT 0.611,1.333,8  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,683,099:68:0 |      |
| 234  | 98 | 280 | 16:10:30.800 | 20UQ4H  | 7VENT 0.611,10.989,8 | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,683,099:69:0 |      |
| 235  | 98 | 280 | 16:10:50.800 | 20UQ4I  | 7VENT 0.611,1.333,6  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,683,100:08:0 |      |
| 236  | 98 | 280 | 16:10:51.466 | 20UQ4J  | 7VENT 0.611,10.989,6 | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,683,100:09:0 |      |
| 237  | 98 | 280 | 16:11:11.466 | 20UQ4K  | 7VENT 0.611,1.333,4  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,683,100:39:0 |      |
| 238  | 98 | 280 | 16:11:12.133 | 20UQ4L  | 7VENT 0.611,0.666,5  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,683,100:40:0 |      |
| 239  | 98 | 280 | 16:11:22.133 | 20UQ4M  | 7VENT 0.611,1.333,4  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,683,100:55:0 |      |
| 240  | 98 | 280 | 16:11:22.800 | 20UQ4N  | 7VENT 0.611,0.666,5  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,683,100:56:0 |      |
| 241  | 98 | 280 | 16:11:32.800 | 20UQ4O  | 7VENT 1.211,1.333,10 | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,683,100:71:0 |      |
| 242  | 98 | 280 | 16:11:33.466 | 20UQ4P  | 7VENT 1.211,0.666,12 | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,683,100:72:0 |      |
| 243  | 98 | 280 | 16:13:20.133 | 20UQ4S  | 7VENT 0.611,1.333,7  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,683,102:50:0 |      |
| 244  | 98 | 280 | 16:13:20.800 | 20UQ4T  | 7VENT 0.611,10.989,7 | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,683,102:51:0 |      |
| 245  | 98 | 280 | 16:13:40.800 | 20UQ4U  | 7VENT 0.611,1.333,1  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,683,102:81:0 |      |
| 246  | 98 | 280 | 16:13:41.466 | 20UQ4V  | 7VENT 0.611,10.989,1 | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,683,102:82:0 |      |
| 247  | 98 | 280 | 16:14:01.466 | 20UQ4AC | 7VENT 0.611,1.333,2  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,683,103:21:0 |      |
| 248  | 98 | 280 | 16:14:02.133 | 20UQ4AD | 7VENT 0.611,0.666,3  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,683,103:22:0 |      |
| 249  | 98 | 280 | 16:14:12.133 | 20UQ4AE | 7VENT 0.611,1.333,2  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,683,103:37:0 |      |
| 250  | 98 | 280 | 16:14:12.800 | 20UQ4AF | 7VENT 0.611,0.666,3  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,683,103:38:0 |      |
| 251  | 98 | 280 | 16:14:22.800 | 20UQ4W  | 7VENT 1.211,1.333,9  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,683,103:53:0 |      |
| 252  | 98 | 280 | 16:14:23.466 | 20UQ4X  | 7VENT 1.211,0.666,11 | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,683,103:54:0 |      |
| 253  | 98 | 280 | 16:15:20.133 | 20UQ4Z  | 7MODE CRU            | AACS CRUISE MODE                          | 400 | 4  | 0  | 4,683,104:48:0 |      |
| 254  | 98 | 280 | 16:18:22.800 | 488BK6B | 6TMSED NORM,AL6      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,683,107:49:0 |      |
| 255  | 98 | 280 | 16:40:04.133 | 20UJ4A  | 7SAFE STOP           | S/P NO MOVEMENT                           | 400 | 4  | 0  | 4,683,128:90:0 |      |
| 256  | 98 | 280 | 16:40:54.133 | 20UJ4B  | 7SLEW DIS,POS,0.0    | Stator movement                           | 400 | 4  | 0  | 4,683,129:74:0 |      |
| 257  | 98 | 280 | 16:42:06.133 | 176SU6A | 6TMREC RPB           | RESUME PLAYBACK (PB CONTROL) Record Mode  | 400 | 4  | 0  | 4,683,131:00:0 |      |
| 258  | 98 | 280 | 17:13:50.800 | 488BK6C | 6TMSED NORM,AL5      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,683,162:36:0 |      |
| 259  | 98 | 280 | 17:18:44.133 | 488BK6D | 6TMSED FILL,AL5      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,683,167:21:0 |      |
| 260  | 98 | 280 | 17:20:14.800 | 488BK6E | 6TMSED FILL,AL4      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,683,168:66:0 |      |
| 261  | 98 | 281 | 00:31:27.466 | 488BL6A | 6TMSED NORM,AL4      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,683,595:18:0 |      |
| 262  | 98 | 281 | 00:41:50.800 | 488BL6B | 6TMSED NORM,AL5      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,683,605:43:0 |      |
| 263  | 98 | 281 | 01:18:06.800 | 488BL6C | 6TMSED NORM,AL6      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,683,641:31:0 |      |
| 264  | 98 | 281 | 01:49:43.466 | 488BL6D | 6TMSED FILL,AL6      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,683,672:55:0 |      |
| 265  | 98 | 281 | 02:16:33.466 | 488BL6E | 6TMSED NORM,AL6      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,683,699:13:0 |      |
| 266  | 98 | 281 | 06:26:55.400 | 488BM6A | 6TMSED FILL,AL6      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,683,946:69:0 |      |
| 267  | 98 | 281 | 06:33:46.066 | 488BM6B | 6TMSED NORM,AL6      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,683,953:48:0 |      |
| 268  | 98 | 281 | 07:22:54.733 | 488BM6C | 6TMSED NORM,AL7      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,684,002:12:0 |      |
| 269  | 98 | 281 | 07:36:08.066 | 488BM6D | 6TMSED FILL,AL7      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,684,015:19:0 |      |
| 270  | 98 | 281 | 08:00:40.733 | 488BM6E | 6TMSED NORM,AL7      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,684,039:44:0 |      |
| 271  | 98 | 281 | 09:45:32.733 | 488BN6A | 6TMSED FILL,AL7      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,684,143:18:0 |      |
| 272  | 98 | 281 | 09:47:58.733 | 488BN6B | 6TMSED FILL,AL8      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,684,145:55:0 |      |
| 273  | 98 | 281 | 09:49:38.733 | 488BN6C | 6TMSED NORM,AL8      | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,684,147:23:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID    | Command | Parameters | Description            | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|---------|---------|------------|------------------------|-----|----|----|----------------|------|
| 274  | 98 | 281 | 13:49:02.733 | 488BN6D | 6TMSED  | NORM,AL7   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,684,384:02:0 |      |
| 275  | 98 | 281 | 16:14:06.733 | 488BO6A | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,684,527:45:0 |      |
| 276  | 98 | 281 | 17:09:34.733 | 488BO6B | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,684,582:32:0 |      |
| 277  | 98 | 281 | 17:12:45.400 | 488BO6C | 6TMSED  | FILL,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,684,585:45:0 |      |
| 278  | 98 | 281 | 17:26:38.733 | 488BO6D | 6TMSED  | FILL,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,684,599:21:0 |      |
| 279  | 98 | 282 | 06:28:41.400 | 488BP6A | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,685,372:62:0 |      |
| 280  | 98 | 282 | 07:22:54.733 | 488BP6B | 6TMSED  | NORM,AL7   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,685,426:28:0 |      |
| 281  | 98 | 282 | 10:09:00.733 | 488BP6C | 6TMSED  | FILL,AL7   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,685,590:53:0 |      |
| 282  | 98 | 282 | 10:11:26.733 | 488BP6D | 6TMSED  | FILL,AL8   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,685,592:90:0 |      |
| 283  | 98 | 282 | 10:13:06.733 | 488BP6E | 6TMSED  | NORM,AL8   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,685,594:58:0 |      |
| 284  | 98 | 282 | 13:08:30.666 | 488BQ6A | 6TMSED  | NORM,AL7   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,685,768:10:0 |      |
| 285  | 98 | 282 | 16:03:26.666 | 488BQ6B | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,685,941:11:0 |      |
| 286  | 98 | 282 | 17:05:18.666 | 488BQ6C | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,686,002:28:0 |      |
| 287  | 98 | 282 | 17:07:18.666 | 488BQ6D | 6TMSED  | FILL,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,686,004:26:0 |      |
| 288  | 98 | 282 | 17:13:50.666 | 488BQ6E | 6TMSED  | FILL,AL3   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,686,010:68:0 |      |
| 289  | 98 | 282 | 17:24:30.666 | 488BR6A | 6TMSED  | FILL,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,686,021:27:0 |      |
| 290  | 98 | 283 | 00:29:31.333 | 488BS6A | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,686,441:58:0 |      |
| 291  | 98 | 283 | 00:41:50.666 | 488BS6B | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,686,453:75:0 |      |
| 292  | 98 | 283 | 02:56:14.666 | 488BS6C | 6TMSED  | NORM,AL7   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,686,586:68:0 |      |
| 293  | 98 | 283 | 06:17:36.000 | 488BS6D | 6TMSED  | FILL,AL7   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,686,785:81:0 |      |
| 294  | 98 | 283 | 06:18:54.666 | 488BS6E | 6TMSED  | FILL,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,686,787:17:0 |      |
| 295  | 98 | 283 | 06:23:37.333 | 488BT6A | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,686,791:77:0 |      |
| 296  | 98 | 283 | 07:22:54.666 | 488BT6B | 6TMSED  | NORM,AL7   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,686,850:44:0 |      |
| 297  | 98 | 283 | 15:54:54.666 | 488BU6A | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,687,356:78:0 |      |
| 298  | 98 | 283 | 16:58:54.666 | 488BU6B | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,687,420:14:0 |      |
| 299  | 98 | 283 | 17:15:58.666 | 488BU6C | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,687,437:03:0 |      |
| 300  | 98 | 283 | 18:13:21.266 | 488BU6D | 6TMSED  | FILL,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,687,493:86:0 |      |
| 301  | 98 | 283 | 18:34:54.600 | 488BU6E | 6TMSED  | FILL,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,687,515:09:0 |      |
| 302  | 98 | 283 | 18:40:46.600 | 488BV6A | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,687,520:82:0 |      |
| 303  | 98 | 284 | 01:09:34.600 | 488BW6A | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,687,905:39:0 |      |
| 304  | 98 | 284 | 02:28:30.600 | 488BW6B | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,687,983:45:0 |      |
| 305  | 98 | 284 | 02:47:42.600 | 488BW6C | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,688,002:44:0 |      |
| 306  | 98 | 284 | 03:06:54.600 | 488BW6D | 6TMSED  | NORM,AL7   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,688,021:43:0 |      |
| 307  | 98 | 284 | 03:31:19.933 | 488BW6E | 6TMSED  | FILL,AL7   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,688,045:57:0 |      |
| 308  | 98 | 284 | 03:55:52.600 | 488BX6A | 6TMSED  | NORM,AL7   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,688,069:82:0 |      |
| 309  | 98 | 284 | 04:12:59.266 | 488BX6B | 6TMSED  | FILL,AL7   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,688,086:75:0 |      |
| 310  | 98 | 284 | 04:15:10.600 | 488BX6C | 6TMSED  | FILL,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,688,088:90:0 |      |
| 311  | 98 | 284 | 06:18:33.266 | 488BX6D | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,688,211:01:0 |      |
| 312  | 98 | 284 | 07:22:54.600 | 488BX6E | 6TMSED  | NORM,AL7   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,688,274:60:0 |      |
| 313  | 98 | 284 | 15:44:14.600 | 488BY6A | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,688,770:44:0 |      |
| 314  | 98 | 284 | 16:54:38.600 | 488BY6B | 6TMSED  | NORM,AL3   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,688,840:10:0 |      |
| 315  | 98 | 284 | 17:15:58.600 | 488BY6C | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,688,861:19:0 |      |
| 316  | 98 | 284 | 17:30:54.600 | 488BY6D | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,688,875:89:0 |      |
| 317  | 98 | 284 | 23:31:11.266 | 488Z6A  | 6TMSED  | FILL,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,689,232:27:0 |      |
| 318  | 98 | 284 | 23:33:34.600 | 488Z6B  | 6TMSED  | FILL,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,689,234:60:0 |      |
| 319  | 98 | 285 | 00:14:22.600 | 488Z6C  | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,689,275:01:0 |      |
| 320  | 98 | 285 | 00:41:50.600 | 488Z6D  | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,689,302:16:0 |      |
| 321  | 98 | 285 | 03:32:30.533 | 488Z6E  | 6TMSED  | NORM,AL7   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,689,470:88:0 |      |
| 322  | 98 | 285 | 06:48:46.533 | 488CA6A | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,689,665:07:0 |      |
| 323  | 98 | 285 | 09:50:06.533 | 488CA6B | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,689,844:38:0 |      |
| 324  | 98 | 285 | 10:09:37.200 | 488CA6C | 6TMSED  | FILL,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,689,863:65:0 |      |
| 325  | 98 | 285 | 10:13:34.533 | 488CA6D | 6TMSED  | FILL,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,689,867:57:0 |      |
| 326  | 98 | 285 | 16:41:06.533 | 488CB6A | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,690,250:82:0 |      |
| 327  | 98 | 285 | 17:07:26.533 | 488CB6B | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,690,276:86:0 |      |
| 328  | 98 | 285 | 18:03:40.533 | 488CB6C | 6TMSED  | FILL,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,690,332:51:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID    | Command | Parameters | Description            | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|---------|---------|------------|------------------------|-----|----|----|----------------|------|
| 329  | 98 | 285 | 18:32:46.533 | 488CB6D | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,690,361:31:0 |      |
| 330  | 98 | 285 | 18:41:18.533 | 488CB6E | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,690,369:71:0 |      |
| 331  | 98 | 286 | 00:03:26.533 | 488CC6A | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,690,688:34:0 |      |
| 332  | 98 | 286 | 00:37:34.533 | 488CC6B | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,690,722:12:0 |      |
| 333  | 98 | 286 | 01:25:05.866 | 488CC6C | 6TMSED  | FILL,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,690,769:12:0 |      |
| 334  | 98 | 286 | 01:51:55.200 | 488CC6D | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,690,795:60:0 |      |
| 335  | 98 | 286 | 04:01:21.200 | 488CC6E | 6TMSED  | FILL,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,690,923:61:0 |      |
| 336  | 98 | 286 | 04:04:30.533 | 488CD6A | 6TMSED  | FILL,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,690,926:72:0 |      |
| 337  | 98 | 286 | 16:49:15.800 | 488CE6A | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,691,683:13:0 |      |
| 338  | 98 | 286 | 17:37:18.466 | 488CE6B | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,691,730:60:0 |      |
| 339  | 98 | 287 | 01:39:26.466 | 488CF6A | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,692,207:45:0 |      |
| 340  | 98 | 287 | 02:23:05.800 | 488CF6B | 6TMSED  | FILL,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,692,250:61:0 |      |
| 341  | 98 | 287 | 02:24:14.466 | 488CF6C | 6TMSED  | FILL,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,692,251:73:0 |      |
| 342  | 98 | 287 | 02:32:46.466 | 488CF6D | 6TMSED  | FILL,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,692,260:22:0 |      |
| 343  | 98 | 287 | 03:53:19.133 | 488CF6E | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,692,339:82:0 |      |
| 344  | 98 | 287 | 09:33:02.466 | 488CG6A | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,692,675:81:0 |      |
| 345  | 98 | 287 | 10:02:37.800 | 488CG6B | 6TMSED  | FILL,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,692,705:14:0 |      |
| 346  | 98 | 287 | 10:02:54.466 | 488CG6C | 6TMSED  | FILL,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,692,705:39:0 |      |
| 347  | 98 | 287 | 16:40:57.133 | 488CH6A | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,693,099:09:0 |      |
| 348  | 98 | 287 | 17:07:26.466 | 488CH6B | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,693,125:27:0 |      |
| 349  | 98 | 287 | 17:53:50.400 | 488CH6C | 6TMSED  | FILL,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,693,171:17:0 |      |
| 350  | 98 | 287 | 18:22:56.400 | 488CH6D | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,693,199:88:0 |      |
| 351  | 98 | 287 | 19:06:54.400 | 488CH6E | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,693,243:41:0 |      |
| 352  | 98 | 287 | 23:54:54.400 | 488CJ6A | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,693,528:26:0 |      |
| 353  | 98 | 288 | 00:37:34.400 | 488CJ6B | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,693,570:44:0 |      |
| 354  | 98 | 288 | 01:20:14.400 | 488CJ6C | 6TMSED  | FILL,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,693,612:62:0 |      |
| 355  | 98 | 288 | 01:47:04.400 | 488CJ6D | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,693,639:20:0 |      |
| 356  | 98 | 288 | 03:55:21.066 | 488CI6E | 6TMSED  | FILL,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,693,766:08:0 |      |
| 357  | 98 | 288 | 03:58:06.400 | 488CJ6A | 6TMSED  | FILL,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,693,768:74:0 |      |
| 358  | 98 | 288 | 16:30:52.400 | 488CK6A | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,694,513:28:0 |      |
| 359  | 98 | 288 | 16:46:06.400 | 488CK6B | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,694,528:34:0 |      |
| 360  | 98 | 288 | 17:41:34.400 | 488CK6C | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,694,583:21:0 |      |
| 361  | 98 | 288 | 23:59:10.400 | 488CL6A | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,694,956:62:0 |      |
| 362  | 98 | 289 | 00:37:34.400 | 488CL6B | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,694,994:60:0 |      |
| 363  | 98 | 289 | 09:13:50.333 | 488CM6A | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,695,505:23:0 |      |
| 364  | 98 | 289 | 09:54:22.333 | 488CM6B | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,695,545:31:0 |      |
| 365  | 98 | 289 | 09:57:10.333 | 488CM6C | 6TMSED  | FILL,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,695,548:10:0 |      |
| 366  | 98 | 289 | 16:30:47.666 | 488CN6A | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,695,937:37:0 |      |
| 367  | 98 | 289 | 17:01:02.333 | 488CN6B | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,695,967:29:0 |      |
| 368  | 98 | 289 | 17:48:59.666 | 488CN6C | 6TMSED  | FILL,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,696,014:68:0 |      |
| 369  | 98 | 289 | 18:18:05.666 | 488CN6D | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,696,043:48:0 |      |
| 370  | 98 | 289 | 20:25:50.333 | 488CN6E | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,696,169:79:0 |      |
| 371  | 98 | 289 | 22:18:54.333 | 488CO6A | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,696,281:63:0 |      |
| 372  | 98 | 290 | 00:41:50.333 | 488CO6B | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,696,423:05:0 |      |
| 373  | 98 | 290 | 01:15:24.333 | 488CO6C | 6TMSED  | FILL,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,696,456:23:0 |      |
| 374  | 98 | 290 | 01:42:14.333 | 488CO6D | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,696,482:72:0 |      |
| 375  | 98 | 290 | 03:46:00.333 | 488CO6E | 6TMSED  | FILL,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,696,605:18:0 |      |
| 376  | 98 | 290 | 03:49:34.333 | 488CP6A | 6TMSED  | FILL,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,696,608:66:0 |      |
| 377  | 98 | 290 | 16:25:43.600 | 488CQ6A | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,697,356:52:0 |      |
| 378  | 98 | 290 | 16:41:50.266 | 488CQ6B | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,697,372:46:0 |      |
| 379  | 98 | 290 | 17:52:14.266 | 488CQ6C | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,697,442:12:0 |      |
| 380  | 98 | 290 | 23:37:50.266 | 488CR6A | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,697,783:85:0 |      |
| 381  | 98 | 290 | 23:59:10.266 | 488CR6B | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,697,805:03:0 |      |
| 382  | 98 | 291 | 00:41:50.266 | 488CR6C | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,697,847:21:0 |      |
| 383  | 98 | 291 | 08:54:38.266 | 488CS6A | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,698,334:56:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID    | Command | Parameters | Description            | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|---------|---------|------------|------------------------|-----|----|----|----------------|------|
| 384  | 98 | 291 | 09:43:42.266 | 488CS6B | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,698,383:13:0 |      |
| 385  | 98 | 291 | 09:47:00.266 | 488CS6C | 6TMSED  | FILL,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,698,386:37:0 |      |
| 386  | 98 | 291 | 16:20:38.200 | 488CT6A | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,698,775:65:0 |      |
| 387  | 98 | 291 | 16:41:50.200 | 488CT6B | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,698,796:62:0 |      |
| 388  | 98 | 291 | 18:00:46.200 | 488CT6C | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,698,874:68:0 |      |
| 389  | 98 | 291 | 23:37:50.200 | 488CU6A | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,699,208:10:0 |      |
| 390  | 98 | 292 | 00:11:58.200 | 488CU6B | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,699,241:79:0 |      |
| 391  | 98 | 292 | 00:59:10.200 | 488CU6C | 6TMSED  | FILL,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,699,288:50:0 |      |
| 392  | 98 | 292 | 01:28:16.866 | 488CU6D | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,699,317:31:0 |      |
| 393  | 98 | 292 | 02:30:38.200 | 488CU6E | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,699,379:01:0 |      |
| 394  | 98 | 292 | 06:53:02.200 | 488CV6A | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,699,638:48:0 |      |
| 395  | 98 | 292 | 09:18:06.200 | 488CV6B | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,699,782:00:0 |      |
| 396  | 98 | 292 | 09:41:55.533 | 488CV6C | 6TMSED  | FILL,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,699,805:51:0 |      |
| 397  | 98 | 292 | 16:15:33.533 | 488CW6A | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,700,194:79:0 |      |
| 398  | 98 | 292 | 16:35:26.200 | 488CW6B | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,700,214:48:0 |      |
| 399  | 98 | 292 | 18:07:10.200 | 488CW6C | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,700,305:23:0 |      |
| 400  | 98 | 292 | 23:48:30.200 | 488CX6A | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,700,642:76:0 |      |
| 401  | 98 | 293 | 00:46:06.133 | 488CX6B | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,700,699:73:0 |      |
| 402  | 98 | 293 | 08:29:02.133 | 488CY6A | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,701,157:59:0 |      |
| 403  | 98 | 293 | 09:28:46.133 | 488CY6B | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,701,216:66:0 |      |
| 404  | 98 | 293 | 09:36:50.133 | 488CY6C | 6TMSED  | FILL,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,701,224:64:0 |      |
| 405  | 98 | 293 | 16:10:28.133 | 488CZ6A | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,701,614:01:0 |      |
| 406  | 98 | 293 | 16:35:26.133 | 488CZ6B | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,701,638:64:0 |      |
| 407  | 98 | 293 | 18:15:42.133 | 488CZ6C | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,701,737:79:0 |      |
| 408  | 98 | 293 | 23:52:46.133 | 488DA6A | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,702,071:21:0 |      |
| 409  | 98 | 294 | 01:37:18.133 | 488DA6B | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,702,174:56:0 |      |
| 410  | 98 | 294 | 01:56:47.466 | 488DA6C | 6TMSED  | FILL,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,702,193:81:0 |      |
| 411  | 98 | 294 | 02:07:10.133 | 488DA6D | 6TMSED  | FILL,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,702,204:14:0 |      |
| 412  | 98 | 294 | 03:27:45.466 | 488DA6E | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,702,283:78:0 |      |
| 413  | 98 | 294 | 08:18:22.066 | 488DB6A | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,702,571:25:0 |      |
| 414  | 98 | 294 | 09:22:22.066 | 488DB6B | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,702,634:52:0 |      |
| 415  | 98 | 294 | 09:36:32.733 | 488DB6C | 6TMSED  | FILL,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,702,648:54:0 |      |
| 416  | 98 | 294 | 09:43:42.066 | 488DB6D | 6TMSED  | FILL,AL3   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,702,655:61:0 |      |
| 417  | 98 | 294 | 09:54:22.066 | 488DB6E | 6TMSED  | FILL,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,702,666:20:0 |      |
| 418  | 98 | 294 | 16:45:23.400 | 488DC6A | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,703,072:66:0 |      |
| 419  | 98 | 294 | 17:05:18.066 | 488DC6B | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,703,092:38:0 |      |
| 420  | 98 | 294 | 17:54:24.733 | 488DC6C | 6TMSED  | FILL,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,703,140:90:0 |      |
| 421  | 98 | 294 | 18:23:30.733 | 488DC6D | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,703,169:70:0 |      |
| 422  | 98 | 294 | 23:22:54.066 | 488DD6A | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,703,465:79:0 |      |
| 423  | 98 | 294 | 23:46:22.066 | 488DD6B | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,703,489:07:0 |      |
| 424  | 98 | 295 | 00:44:25.400 | 488DD6C | 6TMSED  | FILL,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,703,546:45:0 |      |
| 425  | 98 | 295 | 01:05:18.066 | 488DD6D | 6TMSED  | FILL,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,703,567:13:0 |      |
| 426  | 98 | 295 | 01:11:33.400 | 488DD6E | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,703,573:30:0 |      |
| 427  | 98 | 295 | 08:07:42.066 | 488DE6A | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,703,984:82:0 |      |
| 428  | 98 | 295 | 09:18:06.066 | 488DE6B | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,704,054:48:0 |      |
| 429  | 98 | 295 | 09:26:40.066 | 488DE6C | 6TMSED  | FILL,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,704,063:00:0 |      |
| 430  | 98 | 295 | 16:05:17.333 | 488DF6A | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,704,457:22:0 |      |
| 431  | 98 | 295 | 16:31:10.000 | 488DF6B | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,704,482:76:0 |      |
| 432  | 98 | 295 | 18:30:38.000 | 488DF6C | 6TMSED  | NORM,AL6   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,704,600:90:0 |      |
| 433  | 98 | 295 | 23:22:54.000 | 488DG6A | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,704,890:04:0 |      |
| 434  | 98 | 295 | 23:37:50.000 | 488DG6B | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,704,904:74:0 |      |
| 435  | 98 | 296 | 00:05:34.000 | 488DG6C | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,704,932:22:0 |      |
| 436  | 98 | 296 | 00:54:31.333 | 488DG6D | 6TMSED  | FILL,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,704,980:60:0 |      |
| 437  | 98 | 296 | 01:23:37.333 | 488DG6E | 6TMSED  | NORM,AL5   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,705,009:40:0 |      |
| 438  | 98 | 296 | 08:48:14.000 | 488DH6A | 6TMSED  | NORM,AL4   | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,705,449:15:0 |      |



| Line | YR | DOY | SCET - GMT   | PSID        | Command Parameters     | Description                               | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|-------------|------------------------|---|-----|----|----|----------------|------|
| 439  | 98 | 296 | 09:21:35.333 | 488DH6B     | 6TMSED FILL,AL4        | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,705,482:14:0 |      |
| 440  | 98 | 296 | 16:00:12.666 | 488DI6A     | 6TMSED NORM,AL4        | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,705,876:36:0 |      |
| 441  | 98 | 296 | 17:05:18.000 | 488DI6B     | 6TMSED NORM,AL5        | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,705,940:70:0 |      |
| 442  | 98 | 296 | 17:19:34.666 | 488DI6C     | 6TMSED FILL,AL5        | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,705,954:81:0 |      |
| 443  | 98 | 296 | 17:48:40.666 | 488DI6D     | 6TMSED NORM,AL5        | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,705,983:61:0 |      |
| 444  | 98 | 296 | 18:43:00.333 | 488DI6E     | 6TMSED NORM,AH5        | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,706,037:36:0 |      |
| 445  | 98 | 296 | 18:47:39.333 | 176SD6A     | 6TMREC PPB             | PAUSE PLAYBACK (PB CONTROL) Record Mode C | 400 | 4  | 0  | 4,706,042:00:0 |      |
| 446  | 98 | 296 | 18:59:00.000 | 20BA4C      | 7STAT 17.45,264.0564,3 | Stator inertial point                     | 400 | 4  | 0  | 4,706,053:20:0 |      |
| 447  | 98 | 296 | 19:20:00.000 | 474BA416A4B | 7MODE INT              | AACS INERTIAL MODE                        | 400 | 4  | 0  | 4,706,073:90:0 |      |
| 448  | 98 | 296 | 19:22:00.000 | 474BA416A4D | 7SAFE UNSTOW           | SIP TO 153 deg cone                       | 400 | 4  | 0  | 4,706,075:88:0 |      |
| 449  | 98 | 296 | 19:22:20.000 | 20BA4D      | 7STAT 17.45,264.0564,3 | Stator inertial point                     | 400 | 4  | 0  | 4,706,076:27:0 |      |
| 450  | 98 | 296 | 19:26:14.000 | 474BA416A4E | 7BURN 264.056396,32.6  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,706,080:14:0 |      |
| 451  | 98 | 296 | 19:32:43.333 | 20BA4F      | 7SLEW DIS,POS,0.0      | Stator movement                           | 400 | 4  | 0  | 4,706,086:52:0 |      |
| 452  | 98 | 296 | 19:38:35.333 | 20BA4G      | 7MODE CRU              | AACS CRUISE MODE                          | 400 | 4  | 0  | 4,706,092:34:0 |      |
| 453  | 98 | 296 | 20:02:51.333 | 20BA4J      | 7STAT 17.45,264.0564,3 | Stator inertial point                     | 400 | 4  | 0  | 4,706,116:34:0 |      |
| 454  | 98 | 296 | 20:05:51.333 | 20BA4M      | 7MODE INT              | AACS INERTIAL MODE                        | 400 | 4  | 0  | 4,706,119:31:0 |      |
| 455  | 98 | 296 | 20:07:51.333 | 474BA416A4G | 7BURN 264.056396,32.65 | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,706,121:29:0 |      |
| 456  | 98 | 296 | 20:31:50.000 | 20BA4O      | 7SLEW DIS,POS,0.0      | Stator movement                           | 400 | 4  | 0  | 4,706,145:03:0 |      |
| 457  | 98 | 296 | 20:36:42.000 | 20BA4P      | 7MODE CRU              | AACS CRUISE MODE                          | 400 | 4  | 0  | 4,706,149:77:0 |      |
| 458  | 98 | 296 | 21:44:14.000 | 20BB4A      | 7SAFE STOP             | SIP NO MOVEMENT                           | 400 | 4  | 0  | 4,706,216:58:0 |      |
| 459  | 98 | 296 | 21:45:04.000 | 20BB4B      | 7SLEW DIS,POS,0.0      | Stator movement                           | 400 | 4  | 0  | 4,706,217:42:0 |      |
| 460  | 98 | 296 | 21:46:37.333 | 176BA6A     | 6TMREC RPB             | RESUME PLAYBACK (PB CONTROL) Record Mode  | 400 | 4  | 0  | 4,706,219:00:0 |      |
| 461  | 98 | 296 | 23:22:53.933 | 488DJ6A     | 6TMSED NORM,AH4        | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,706,314:20:0 |      |
| 462  | 98 | 296 | 23:44:13.933 | 488DJ6B     | 6TMSED NORM,AH5        | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,706,335:29:0 |      |
| 463  | 98 | 297 | 00:20:59.933 | 488DJ6C     | 6TMSED NORM,AL5        | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,706,371:62:0 |      |
| 464  | 98 | 297 | 00:21:19.266 | 176SE6A     | 6TMREC RPB             | RESUME PLAYBACK (PB CONTROL) Record Mode  | 400 | 4  | 0  | 4,706,372:00:0 |      |
| 465  | 98 | 297 | 00:44:36.600 | 488DJ6D     | 6TMSED FILL,AL5        | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,706,395:03:0 |      |
| 466  | 98 | 297 | 01:05:17.933 | 488DJ6E     | 6TMSED FILL,AL6        | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,706,415:45:0 |      |
| 467  | 98 | 297 | 01:11:41.266 | 488DK6A     | 6TMSED NORM,AL6        | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,706,421:74:0 |      |
| 468  | 98 | 297 | 07:52:45.933 | 488DL6A     | 6TMSED NORM,AL5        | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,706,818:44:0 |      |
| 469  | 98 | 297 | 09:07:25.933 | 488DL6B     | 6TMSED NORM,AL4        | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,706,892:30:0 |      |
| 470  | 98 | 297 | 09:11:29.266 | 488DL6C     | 6TMSED FILL,AL4        | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,706,896:31:0 |      |
| 471  | 98 | 297 | 09:56:38.600 | 176SN6A     | 6TMREC PPB             | PAUSE PLAYBACK (PB CONTROL) Record Mode C | 400 | 4  | 0  | 4,706,941:00:0 |      |
| 472  | 98 | 297 | 10:02:42.600 | 465SA6A     | DMS: : *SLEW-TIC       | P7, TRACK 1, FWD, TIC 2019.42 +/-         | 400 | 4  | 0  | 4,706,947:00:0 |      |
| 473  | 98 | 297 | 10:02:42.600 | 465SA6A     | 6DMST                  | 5000 DMS Slew to TIC                      | 400 | 4  | 0  | 4,706,947:00:0 |      |
| 474  | 98 | 297 | 10:02:42.600 |             | DMS: : *E4-DELAY       | RDY, TRACK 1, FWD, TIC 2019.42 +/-        | 400 | 4  | 0  | 4,706,947:00:0 |      |
| 475  | 98 | 297 | 10:02:49.266 |             | DMS: : *RUNUP          | P7, TRACK 1, FWD, TIC 2019.42 +/-         | 400 | 4  | 0  | 4,706,947:00:0 |      |
| 476  | 98 | 297 | 10:02:50.666 |             | DMS: : *AT SPD         | P7, TRACK 1, FWD, TIC *2019.54 +/-        | 400 | 4  | 0  | 4,706,947:12:1 |      |
| 477  | 98 | 297 | 13:34:37.400 |             | DMS: : *RUNDOWN        | P7, TRACK 1, FWD, TIC *4997.94 +/-        | 400 | 4  | 0  | 4,707,156:53:2 |      |
| 478  | 98 | 297 | 13:34:38.600 |             | DMS: : *READY          | RDY, TRACK 1, FWD, TIC *4998.00 +/-       | 400 | 4  | 0  | 4,707,156:55:0 |      |
| 479  | 98 | 297 | 15:55:07.266 | 488DM6A     | 6TMSED NORM,AL4        | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,707,295:49:0 |      |
| 480  | 98 | 297 | 15:56:23.933 | 465SB6A     | 6DMSC P100.4           | DMS Control Tape P/B 100.8kpbs            | 400 | 4  | 0  | 4,707,296:73:0 |      |
| 481  | 98 | 297 | 15:56:23.933 |             | DMS: : *US-RUNUP       | P7, TRACK 1, FWD, TIC 4998.00 +/-         | 400 | 4  | 0  | 4,707,296:73:0 |      |
| 482  | 98 | 297 | 15:56:25.333 |             | DMS: : *US AT SP       | P7, TRACK 1, FWD, TIC *4998.12 +/-        | 400 | 4  | 0  | 4,707,296:75:1 |      |
| 483  | 98 | 297 | 15:56:30.600 |             | DMS: : *US RD          | P7, TRACK 1, FWD, TIC *4999.35 +/-        | 400 | 4  | 0  | 4,707,296:83:0 |      |
| 484  | 98 | 297 | 15:56:31.800 |             | DMS: : *RUNUP          | P100, TRACK *4, REV, TIC *4999.41 +/-     | 400 | 4  | 0  | 4,707,296:84:8 |      |
| 485  | 98 | 297 | 15:56:35.666 |             | DMS: : *AT SPD         | P100, TRACK 4, REV, TIC 4993.91 +/-       | 400 | 4  | 0  | 4,707,296:90:6 |      |
| 486  | 98 | 297 | 15:56:35.666 |             | DMS: : *P SLEW         | P100, TRACK 4, REV, TIC *4993.91 +/-      | 400 | 4  | 0  | 4,707,296:90:6 |      |
| 487  | 98 | 297 | 16:22:15.933 | 465SB6B     | 6DMSC RDY,4            | DMS Control Tape stop                     | 400 | 4  | 0  | 4,707,322:35:0 |      |
| 488  | 98 | 297 | 16:22:15.933 |             | DMS: : *RUNDOWN        | P100, TRACK 4, REV, TIC * 255.79 +/-      | 400 | 4  | 0  | 4,707,322:35:0 |      |
| 489  | 98 | 297 | 16:22:17.133 |             | DMS: : *READY          | RDY, TRACK 4, REV, TIC * 254.99 +/-       | 400 | 4  | 0  | 4,707,322:36:8 |      |
| 490  | 98 | 297 | 17:01:01.933 | 488DM6B     | 6TMSED NORM,AL5        | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,707,360:66:0 |      |
| 491  | 98 | 297 | 17:14:40.600 | 488DM6C     | 6TMSED FILL,AL5        | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,707,374:20:0 |      |
| 492  | 98 | 297 | 17:43:46.600 | 488DM6D     | 6TMSED NORM,AL5        | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,707,403:00:0 |      |
| 493  | 98 | 297 | 18:20:03.933 | 465SC6A     | 6DTRN CMD,6DTRN,465SC6 | DMS TRACK TURNAROUND                      | 400 | 4  | 0  | 4,707,438:81:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID    | Command Parameters | Description                            | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|---------|--------------------|--|-----|----|----|----------------|------|
| 494  | 98 | 297 | 18:20:03.933 |         | DMS: : *US-RUNUP   | P7, TRACK *1, *FWD, TIC 254.99 +/-     | 400 | 4  | 0  | 4,707,438:81:0 |      |
| 495  | 98 | 297 | 18:20:03.933 |         | DMS: : *DMS-TURN   | P7, TRACK 4, REV, TIC 254.99 +/-       | 400 | 4  | 0  | 4,707,438:81:0 |      |
| 496  | 98 | 297 | 18:20:05.333 |         | DMS: : *US AT_SP   | P7, TRACK 1, FWD, TIC *255.11 +/-      | 400 | 4  | 0  | 4,707,438:83:1 |      |
| 497  | 98 | 297 | 18:20:10.600 |         | DMS: : *US_RD      | P7, TRACK 1, FWD, TIC *256.34 +/-      | 400 | 4  | 0  | 4,707,439:00:0 |      |
| 498  | 98 | 297 | 18:20:11.800 |         | DMS: : *RUNUP      | P7, TRACK *4, *REV, TIC *256.40 +/-    | 400 | 4  | 0  | 4,707,439:01:8 |      |
| 499  | 98 | 297 | 18:20:13.200 |         | DMS: : *AT_SPD     | P7, TRACK 4, REV, TIC *256.28 +/-      | 400 | 4  | 0  | 4,707,439:03:9 |      |
| 500  | 98 | 297 | 18:24:09.933 | 488DM6E | 6TMSD NORM,AH5     | Sci, Eng, and D/L Chan                 | 400 | 4  | 0  | 4,707,442:86:0 |      |
| 501  | 98 | 297 | 18:24:13.866 |         | DMS: : *REVERSE    | P7, TRACK 4, REV, TIC *199.87 +/-      | 400 | 4  | 0  | 4,707,443:00:9 |      |
| 502  | 98 | 297 | 18:24:15.066 |         | DMS: : *RUNUP      | P7, TRACK 1, FWD, TIC 199.81 +/-       | 400 | 4  | 0  | 4,707,443:02:7 |      |
| 503  | 98 | 297 | 18:24:15.066 |         | DMS: : *TURNARND   | P7, TRACK *1, *FWD, TIC *199.81 +/-    | 400 | 4  | 0  | 4,707,443:02:7 |      |
| 504  | 98 | 297 | 18:24:16.466 |         | DMS: : *AT_SPD     | P7, TRACK 1, FWD, TIC *199.93 +/-      | 400 | 4  | 0  | 4,707,443:04:8 |      |
| 505  | 98 | 297 | 18:24:28.486 |         | DMS: : *AUTOSTOP   | P7, TRACK 1, FWD, TIC *202.06 +/-      | 400 | 4  | 0  | 4,707,443:22:8 |      |
| 506  | 98 | 297 | 18:24:29.666 |         | DMS: : *READY      | RDY, TRACK 1, FWD, TIC *202.12 +/-     | 400 | 4  | 0  | 4,707,443:24:6 |      |
| 507  | 98 | 297 | 18:30:06.600 | 465SD6A | 6DMSC P100.1       | DMS Control Tape P/B 100.8kbps         | 400 | 4  | 0  | 4,707,448:75:0 |      |
| 508  | 98 | 297 | 18:30:06.600 |         | DMS: : *E4-DELAY   | RDY, TRACK 1, FWD, TIC 202.12 +/-      | 400 | 4  | 0  | 4,707,448:75:0 |      |
| 509  | 98 | 297 | 18:30:13.266 |         | DMS: : *RUNUP      | P100, TRACK 1, FWD, TIC 202.12 +/-     | 400 | 4  | 0  | 4,707,448:85:0 |      |
| 510  | 98 | 297 | 18:30:17.133 |         | DMS: : *P_SLEW     | P100, TRACK 1, FWD, TIC *207.62 +/-    | 400 | 4  | 0  | 4,707,448:90:8 |      |
| 511  | 98 | 297 | 18:30:17.133 |         | DMS: : *AT_SPD     | P100, TRACK 1, FWD, TIC 207.62 +/-     | 400 | 4  | 0  | 4,707,448:90:8 |      |
| 512  | 98 | 297 | 19:02:00.600 |         | DMS: : *RUNDOWN    | P100, TRACK 1, FWD, TIC *6063.01 +/-   | 400 | 4  | 0  | 4,707,480:34:0 |      |
| 513  | 98 | 297 | 19:02:00.600 | 465SD6B | 6DMSC RDY,1        | DMS Control Tape stop                  | 400 | 4  | 0  | 4,707,480:35:8 |      |
| 514  | 98 | 297 | 19:02:01.800 |         | DMS: : *READY      | RDY, TRACK 1, FWD, TIC *6063.81 +/-    | 400 | 4  | 0  | 4,707,480:34:0 |      |
| 515  | 98 | 297 | 19:17:36.600 | 465SE6A | 6DMSC P100.2       | DMS Control Tape P/B 100.8kbps         | 400 | 4  | 0  | 4,707,495:73:0 |      |
| 516  | 98 | 297 | 19:17:36.600 |         | DMS: : *US-RUNUP   | P7, TRACK 1, FWD, TIC 6063.81 +/-      | 400 | 4  | 0  | 4,707,495:73:0 |      |
| 517  | 98 | 297 | 19:17:38.000 |         | DMS: : *US AT_SP   | P7, TRACK 1, FWD, TIC *6063.93 +/-     | 400 | 4  | 0  | 4,707,495:75:1 |      |
| 518  | 98 | 297 | 19:17:43.266 |         | DMS: : *US_RD      | P7, TRACK 1, FWD, TIC *6065.17 +/-     | 400 | 4  | 0  | 4,707,495:83:0 |      |
| 519  | 98 | 297 | 19:17:44.466 |         | DMS: : *RUNUP      | P100, TRACK *2, *REV, TIC *6065.23 +/- | 400 | 4  | 0  | 4,707,495:84:8 |      |
| 520  | 98 | 297 | 19:17:48.333 |         | DMS: : *AT_SPD     | P100, TRACK 2, REV, TIC 6059.73 +/-    | 400 | 4  | 0  | 4,707,495:90:6 |      |
| 521  | 98 | 297 | 19:17:48.333 |         | DMS: : *P_SLEW     | P100, TRACK 2, REV, TIC *6059.73 +/-   | 400 | 4  | 0  | 4,707,495:90:6 |      |
| 522  | 98 | 297 | 19:49:44.600 | 465SF6A | 6DMSC P100.3       | DMS Control Tape P/B 100.8kbps         | 400 | 4  | 0  | 4,707,527:53:0 |      |
| 523  | 98 | 297 | 19:49:44.600 |         | DMS: : *RUNDOWN    | P100, TRACK 2, REV, TIC *164.96 +/-    | 400 | 4  | 0  | 4,707,527:53:0 |      |
| 524  | 98 | 297 | 19:49:45.800 |         | DMS: : *RUNUP      | P100, TRACK *3, *FWD, TIC *164.16 +/-  | 400 | 4  | 0  | 4,707,527:54:8 |      |
| 525  | 98 | 297 | 19:49:49.666 |         | DMS: : *AT_SPD     | P100, TRACK 3, FWD, TIC 169.66 +/-     | 400 | 4  | 0  | 4,707,527:60:6 |      |
| 526  | 98 | 297 | 19:49:49.666 |         | DMS: : *P_SLEW     | P100, TRACK 3, FWD, TIC *169.66 +/-    | 400 | 4  | 0  | 4,707,527:60:6 |      |
| 527  | 98 | 297 | 20:21:45.266 | 465SF6B | 6DMSC RDY,3        | DMS Control Tape stop                  | 400 | 4  | 0  | 4,707,559:22:0 |      |
| 528  | 98 | 297 | 20:21:45.266 |         | DMS: : *RUNDOWN    | P100, TRACK 3, FWD, TIC *6062.38 +/-   | 400 | 4  | 0  | 4,707,559:22:0 |      |
| 529  | 98 | 297 | 20:21:46.466 |         | DMS: : *READY      | RDY, TRACK 3, FWD, TIC *6063.18 +/-    | 400 | 4  | 0  | 4,707,559:23:8 |      |
| 530  | 98 | 297 | 20:36:28.600 | 465SG6A | 6DMSC P100.4       | DMS Control Tape P/B 100.8kbps         | 400 | 4  | 0  | 4,707,573:73:0 |      |
| 531  | 98 | 297 | 20:36:28.600 |         | DMS: : *US-RUNUP   | P7, TRACK *1, FWD, TIC 6063.18 +/-     | 400 | 4  | 0  | 4,707,573:73:0 |      |
| 532  | 98 | 297 | 20:36:30.000 |         | DMS: : *US AT_SP   | P7, TRACK 1, FWD, TIC *6063.30 +/-     | 400 | 4  | 0  | 4,707,573:75:1 |      |
| 533  | 98 | 297 | 20:36:35.266 |         | DMS: : *US_RD      | P7, TRACK 1, FWD, TIC *6064.53 +/-     | 400 | 4  | 0  | 4,707,573:83:0 |      |
| 534  | 98 | 297 | 20:36:36.466 |         | DMS: : *RUNUP      | P100, TRACK *4, *REV, TIC *6064.59 +/- | 400 | 4  | 0  | 4,707,573:84:8 |      |
| 535  | 98 | 297 | 20:36:40.333 |         | DMS: : *P_SLEW     | P100, TRACK 4, REV, TIC *6059.09 +/-   | 400 | 4  | 0  | 4,707,573:90:6 |      |
| 536  | 98 | 297 | 20:36:40.333 |         | DMS: : *AT_SPD     | P100, TRACK 4, REV, TIC 6059.09 +/-    | 400 | 4  | 0  | 4,707,573:90:6 |      |
| 537  | 98 | 297 | 21:08:35.933 |         | DMS: : *RUNDOWN    | P100, TRACK 4, REV, TIC *166.38 +/-    | 400 | 4  | 0  | 4,707,605:52:0 |      |
| 538  | 98 | 297 | 21:08:35.933 | 465SH6A | 6DMSC P100.3       | DMS Control Tape P/B 100.8kbps         | 400 | 4  | 0  | 4,707,605:52:0 |      |
| 539  | 98 | 297 | 21:08:37.133 |         | DMS: : *RUNUP      | P100, TRACK *3, *FWD, TIC *165.58 +/-  | 400 | 4  | 0  | 4,707,605:53:8 |      |
| 540  | 98 | 297 | 21:08:41.000 |         | DMS: : *P_SLEW     | P100, TRACK 3, FWD, TIC *171.08 +/-    | 400 | 4  | 0  | 4,707,605:59:6 |      |
| 541  | 98 | 297 | 21:08:41.000 |         | DMS: : *AT_SPD     | P100, TRACK 3, FWD, TIC 171.08 +/-     | 400 | 4  | 0  | 4,707,605:59:6 |      |
| 542  | 98 | 297 | 21:09:41.933 |         | DMS: : *RUNDOWN    | P100, TRACK 3, FWD, TIC *358.52 +/-    | 400 | 4  | 0  | 4,707,606:60:0 |      |
| 543  | 98 | 297 | 21:09:41.933 | 465SH6B | 6DMSC RDY,3        | DMS Control Tape stop                  | 400 | 4  | 0  | 4,707,606:60:0 |      |
| 544  | 98 | 297 | 21:09:43.133 |         | DMS: : *READY      | RDY, TRACK 3, FWD, TIC *359.32 +/-     | 400 | 4  | 0  | 4,707,607:86:0 |      |
| 545  | 98 | 297 | 21:10:59.933 | 488DN6A | 6TMSD NORM,AL5     | Sci, Eng, and D/L Chan                 | 400 | 4  | 0  | 4,707,621:00:0 |      |
| 546  | 98 | 297 | 21:24:11.933 |         | DMS: : *READY      | RDY, TRACK *4, *REV, TIC 359.32 +/-    | 400 | 4  | 0  | 4,707,621:00:0 |      |
| 547  | 98 | 297 | 21:24:11.933 | 465SI6A | 6DMSC RDY,4        | DMS Control Tape stop                  | 400 | 4  | 0  | 4,707,621:00:0 |      |
| 548  | 98 | 297 | 21:25:05.933 |         | DMS: : *US-RUNUP   | P7, TRACK *1, *FWD, TIC 359.32 +/-     | 400 | 4  | 0  | 4,707,621:81:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID    | Command      | Parameters       | Description                               | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|---------|--------------|------------------|---|-----|----|----|----------------|------|
| 549  | 98 | 297 | 21:25:05.933 | 465SJ6A | 6DTRN        | CMD,6DTRN,465SJ6 | DMS TRACK TURNAROUND                      | 400 | 4  | 0  | 4,707,621:81:0 |      |
| 550  | 98 | 297 | 21:25:05.933 |         | DMS:         | : *DMS-TURN      | P7, TRACK 4, REV, TIC 359.32 +/-          | 400 | 4  | 0  | 4,707,621:81:0 |      |
| 551  | 98 | 297 | 21:25:07.333 |         | DMS:         | : *US AT SP      | P7, TRACK 1, FWD, TIC * 359.44 +/-        | 400 | 4  | 0  | 4,707,621:83:1 |      |
| 552  | 98 | 297 | 21:25:12.600 |         | DMS:         | : *US_RD         | P7, TRACK 1, FWD, TIC * 360.67 +/-        | 400 | 4  | 0  | 4,707,622:00:0 |      |
| 553  | 98 | 297 | 21:25:13.800 |         | DMS:         | : *RUNUP         | P7, TRACK *4, *REV, TIC * 360.73 +/-      | 400 | 4  | 0  | 4,707,622:01:8 |      |
| 554  | 98 | 297 | 21:25:15.200 |         | DMS:         | : *AT SPD        | P7, TRACK 4, REV, TIC * 360.61 +/-        | 400 | 4  | 0  | 4,707,622:03:9 |      |
| 555  | 98 | 297 | 21:36:41.000 |         | DMS:         | : *REVERSE       | P7, TRACK 4, REV, TIC * 199.87 +/-        | 400 | 4  | 0  | 4,707,633:31:6 |      |
| 556  | 98 | 297 | 21:36:42.200 |         | DMS:         | : *RUNUP         | P7, TRACK 1, FWD, TIC 199.81 +/-          | 400 | 4  | 0  | 4,707,633:33:4 |      |
| 557  | 98 | 297 | 21:36:42.200 |         | DMS:         | : *TURNARND      | P7, TRACK *1, *FWD, TIC * 199.81 +/-      | 400 | 4  | 0  | 4,707,633:33:4 |      |
| 558  | 98 | 297 | 21:36:43.600 |         | DMS:         | : *AT SPD        | P7, TRACK 1, FWD, TIC * 199.93 +/-        | 400 | 4  | 0  | 4,707,633:35:5 |      |
| 559  | 98 | 297 | 21:36:55.600 |         | DMS:         | : *AUTOSTOP      | P7, TRACK 1, FWD, TIC * 202.06 +/-        | 400 | 4  | 0  | 4,707,633:53:5 |      |
| 560  | 98 | 297 | 21:36:56.800 |         | DMS:         | : *READY         | RDY, TRACK 1, FWD, TIC * 202.12 +/-       | 400 | 4  | 0  | 4,707,633:53:5 |      |
| 561  | 98 | 297 | 21:55:04.600 | 20UG4A  | <b>7SAFE</b> | <b>STOP</b>      | S/P NO MOVEMENT                           | 400 | 4  | 0  | 4,707,651:49:0 |      |
| 562  | 98 | 297 | 21:55:54.600 | 20UG4B  | 7SLEW        | DIS,POS,0.0      | Stator movement                           | 400 | 4  | 0  | 4,707,652:33:0 |      |
| 563  | 98 | 297 | 21:57:33.933 | 176SO6A | 6TMREC       | <b>RPB</b>       | RESUME PLAYBACK (PB CONTROL) Record Mode  | 400 | 4  | 0  | 4,707,654:00:0 |      |
| 564  | 98 | 297 | 23:18:37.933 | 488DN6B | 6TMSED       | NORM,AL4         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,707,734:16:0 |      |
| 565  | 98 | 297 | 23:39:57.933 | 488DN6C | 6TMSED       | NORM,AL5         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,707,755:25:0 |      |
| 566  | 98 | 298 | 00:39:41.266 | 488DN6D | 6TMSED       | FILL,AL5         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,707,814:31:0 |      |
| 567  | 98 | 298 | 01:01:01.933 | 488DN6E | 6TMSED       | FILL,AL6         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,707,835:41:0 |      |
| 568  | 98 | 298 | 01:06:55.933 | 488DO6A | 6TMSED       | NORM,AL6         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,707,841:26:0 |      |
| 569  | 98 | 298 | 07:52:45.866 | 488DP6A | 6TMSED       | NORM,AL5         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,708,242:60:0 |      |
| 570  | 98 | 298 | 09:03:09.866 | 488DP6B | 6TMSED       | NORM,AL4         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,708,312:26:0 |      |
| 571  | 98 | 298 | 09:11:24.533 | 488DP6C | 6TMSED       | FILL,AL4         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,708,320:40:0 |      |
| 572  | 98 | 298 | 15:50:02.533 | 488DQ6A | 6TMSED       | NORM,AL4         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,708,714:63:0 |      |
| 573  | 98 | 298 | 16:20:29.866 | 488DQ6B | 6TMSED       | NORM,AL5         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,708,744:74:0 |      |
| 574  | 98 | 298 | 18:26:21.866 | 488DQ6C | 6TMSED       | NORM,AL6         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,708,869:27:0 |      |
| 575  | 98 | 298 | 23:07:57.866 | 488DR6A | 6TMSED       | NORM,AL4         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,709,147:73:0 |      |
| 576  | 98 | 298 | 23:31:25.866 | 488DR6B | 6TMSED       | NORM,AL5         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,709,171:01:0 |      |
| 577  | 98 | 299 | 00:39:41.866 | 488DR6C | 6TMSED       | NORM,AL6         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,709,238:48:0 |      |
| 578  | 98 | 299 | 07:48:29.866 | 488DS6A | 6TMSED       | NORM,AL5         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,709,662:56:0 |      |
| 579  | 98 | 299 | 08:58:53.866 | 488DS6B | 6TMSED       | NORM,AL4         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,709,732:22:0 |      |
| 580  | 98 | 299 | 09:06:13.866 | 488DS6C | 6TMSED       | FILL,AL4         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,709,739:45:0 |      |
| 581  | 98 | 299 | 09:13:49.866 | 488DS6D | 6TMSED       | FILL,AL3         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,709,747:01:0 |      |
| 582  | 98 | 299 | 15:46:16.466 | 488DT6A | 6TMSED       | NORM,AL3         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,710,135:13:0 |      |
| 583  | 98 | 299 | 15:54:53.800 | 488DT6B | 6TMSED       | NORM,AL4         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,710,143:61:0 |      |
| 584  | 98 | 299 | 16:50:21.800 | 488DT6C | 6TMSED       | NORM,AL5         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,710,198:48:0 |      |
| 585  | 98 | 299 | 17:04:50.466 | 488DT6D | 6TMSED       | FILL,AL5         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,710,212:77:0 |      |
| 586  | 98 | 299 | 17:33:56.466 | 488DT6E | 6TMSED       | NORM,AL5         | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,710,241:57:0 |      |
| 587  | 98 | 299 | 17:57:34.466 | 176SV6A | 6TMREC       | <b>PPB</b>       | PAUSE PLAYBACK (PB CONTROL) Record Mode C | 400 | 4  | 0  | 4,710,265:00:0 |      |
| 588  | 98 | 299 | 18:02:00.466 | 20UR4B  | 7SLEW        | DIS,POS,0.0      | Stator movement                           | 400 | 4  | 0  | 4,710,269:35:0 |      |
| 589  | 98 | 299 | 18:03:00.466 | 20UR4D  | <b>7MODE</b> | <b>SPNL</b>      | AACS ALL-SPIN LOW                         | 400 | 4  | 0  | 4,710,270:34:0 |      |
| 590  | 98 | 299 | 18:05:00.466 | 20UR4E  | <b>7SAFE</b> | <b>UNSTOW</b>    | S/P TO 153 deg cone                       | 400 | 4  | 0  | 4,710,272:32:0 |      |
| 591  | 98 | 299 | 18:10:30.466 | 20UR4G  | 7VENT        | 0.611,1.333,8    | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,710,277:72:0 |      |
| 592  | 98 | 299 | 18:10:31.133 | 20UR4H  | 7VENT        | 0.611,10.989,8   | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,710,277:73:0 |      |
| 593  | 98 | 299 | 18:10:51.133 | 20UR4I  | 7VENT        | 0.611,1.333,6    | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,710,278:12:0 |      |
| 594  | 98 | 299 | 18:10:51.800 | 20UR4J  | 7VENT        | 0.611,10.989,6   | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,710,278:13:0 |      |
| 595  | 98 | 299 | 18:11:11.800 | 20UR4K  | 7VENT        | 0.611,1.333,4    | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,710,278:43:0 |      |
| 596  | 98 | 299 | 18:11:12.466 | 20UR4L  | 7VENT        | 0.611,0.666,5    | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,710,278:44:0 |      |
| 597  | 98 | 299 | 18:11:22.466 | 20UR4M  | 7VENT        | 0.611,1.333,4    | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,710,278:59:0 |      |
| 598  | 98 | 299 | 18:11:23.133 | 20UR4N  | 7VENT        | 0.611,0.666,5    | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,710,278:60:0 |      |
| 599  | 98 | 299 | 18:11:33.133 | 20UR4O  | 7VENT        | 1.211,1.333,10   | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,710,278:75:0 |      |
| 600  | 98 | 299 | 18:11:33.800 | 20UR4P  | 7VENT        | 1.211,0.666,12   | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,710,278:76:0 |      |
| 601  | 98 | 299 | 18:13:20.466 | 20UR4S  | 7VENT        | 0.611,1.333,7    | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,710,280:54:0 |      |
| 602  | 98 | 299 | 18:13:21.133 | 20UR4T  | 7VENT        | 0.611,10.989,7   | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,710,280:55:0 |      |
| 603  | 98 | 299 | 18:13:41.133 | 20UR4U  | 7VENT        | 0.611,1.333,1    | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,710,280:85:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID          | Command         | Parameters      | Description                               | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|---------------|-----------------|-----------------|---|-----|----|----|----------------|------|
| 604  | 98 | 299 | 18:13:41.800 | 20UR4V        | 7VENT           | 0.611,10.989,1  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,710,280:86:0 |      |
| 605  | 98 | 299 | 18:14:01.800 | 20UR4AC       | 7VENT           | 0.611,1.1333,2  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,710,281:25:0 |      |
| 606  | 98 | 299 | 18:14:02.466 | 20UR4AD       | 7VENT           | 0.611,0.666,3   | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,710,281:26:0 |      |
| 607  | 98 | 299 | 18:14:12.466 | 20UR4AE       | 7VENT           | 0.611,1.1333,2  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,710,281:41:0 |      |
| 608  | 98 | 299 | 18:14:13.133 | 20UR4AF       | 7VENT           | 0.611,0.666,3   | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,710,281:42:0 |      |
| 609  | 98 | 299 | 18:14:23.133 | 20UR4W        | 7VENT           | 1.211,1.1333,9  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,710,281:57:0 |      |
| 610  | 98 | 299 | 18:14:23.800 | 20UR4X        | 7VENT           | 1.211,0.666,11  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,710,281:58:0 |      |
| 611  | 98 | 299 | 18:15:20.466 | 20UR4Z        | 7MODE           | CRU             | AACS CRUISE MODE                          | 400 | 4  | 0  | 4,710,282:52:0 |      |
| 612  | 98 | 299 | 18:40:04.466 | 20UK4A        | 7SAFE           | STOP            | S/P NO MOVEMENT                           | 400 | 4  | 0  | 4,710,307:03:0 |      |
| 613  | 98 | 299 | 18:40:54.466 | 20UK4B        | 7SLEW           | DIS,POS,0.0     | Stator movement                           | 400 | 4  | 0  | 4,710,307:78:0 |      |
| 614  | 98 | 299 | 18:42:03.800 | 176SW6A       | 6TMREC          | RPB             | RESUME PLAYBACK (PB CONTROL) Record Mode  | 400 | 4  | 0  | 4,710,309:00:0 |      |
| 615  | 98 | 300 | 00:39:41.800 | 488DU6A       | 6TMSED          | NORM,AL6        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,710,662:64:0 |      |
| 616  | 98 | 300 | 01:46:15.800 | 488DU6B       | 6TMSED          | FILL,AL6        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,710,728:49:0 |      |
| 617  | 98 | 300 | 02:13:05.133 | 488DU6C       | 6TMSED          | NORM,AL6        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,710,755:06:0 |      |
| 618  | 98 | 300 | 07:48:29.800 | 488DV6A       | 6TMSED          | NORM,AL5        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,711,086:72:0 |      |
| 619  | 98 | 300 | 08:56:45.800 | 488DV6B       | 6TMSED          | NORM,AL4        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,711,154:28:0 |      |
| 620  | 98 | 300 | 09:06:13.133 | 488DV6C       | 6TMSED          | FILL,AL4        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,711,163:60:0 |      |
| 621  | 98 | 300 | 09:15:57.800 | 488DV6D       | 6TMSED          | FILL,AL5        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,711,173:27:0 |      |
| 622  | 98 | 300 | 16:43:04.466 | 488DW6A       | 6TMSED          | NORM,AL5        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,711,615:45:0 |      |
| 623  | 98 | 300 | 18:00:45.800 | 488DW6B       | 6TMSED          | NORM,AL6        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,711,692:30:0 |      |
| 624  | 98 | 300 | 23:18:37.733 | 488DX6A       | 6TMSED          | NORM,AL5        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,712,006:64:0 |      |
| 625  | 98 | 301 | 01:03:09.733 | 488DX6B       | 6TMSED          | NORM,AL4        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,712,110:08:0 |      |
| 626  | 98 | 301 | 01:16:10.400 | 488DX6C       | 6TMSED          | FILL,AL4        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,712,122:87:0 |      |
| 627  | 98 | 301 | 01:24:29.733 | 488DX6D       | 6TMSED          | FILL,AL6        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,712,131:17:0 |      |
| 628  | 98 | 301 | 03:02:08.400 | 488DX6E       | 6TMSED          | NORM,AL6        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,712,227:69:0 |      |
| 629  | 98 | 301 | 07:52:45.733 | 488DY6A       | 6TMSED          | NORM,AL5        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,712,515:17:0 |      |
| 630  | 98 | 301 | 08:51:41.733 | 488DY6B       | 6TMSED          | FILL,AL5        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,712,573:43:0 |      |
| 631  | 98 | 301 | 08:52:29.733 | 488DY6C       | 6TMSED          | FILL,AL4        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,712,574:24:0 |      |
| 632  | 98 | 301 | 09:01:01.733 | 488DY6D       | 6TMSED          | FILL,AL5        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,712,582:64:0 |      |
| 633  | 98 | 301 | 16:57:58.400 | 488DZ6A       | 6TMSED          | NORM,AL5        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,713,054:37:0 |      |
| 634  | 98 | 301 | 18:10:01.733 | 488DZ6B       | 6TMSED          | FILL,AL5        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,713,125:61:0 |      |
| 635  | 98 | 301 | 18:39:07.733 | 488DZ6C       | 6TMSED          | NORM,AL5        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,713,154:41:0 |      |
| 636  | 98 | 302 | 00:26:53.733 | 488EA6A       | 6TMSED          | NORM,AL4        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,713,498:36:0 |      |
| 637  | 98 | 302 | 01:21:04.400 | 488EA6B       | 6TMSED          | FILL,AL4        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,713,551:89:0 |      |
| 638  | 98 | 302 | 01:30:53.733 | 488EA6C       | 6TMSED          | FILL,AL6        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,713,561:63:0 |      |
| 639  | 98 | 302 | 03:42:03.066 | 488EA6D       | 6TMSED          | NORM,AL6        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,713,691:37:0 |      |
| 640  | 98 | 302 | 07:52:45.666 | 488EB6A       | 6TMSED          | NORM,AL5        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,713,939:33:0 |      |
| 641  | 98 | 302 | 08:51:38.333 | 488EB6B       | 6TMSED          | FILL,AL5        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,713,997:54:0 |      |
| 642  | 98 | 302 | 08:52:29.666 | 488EB6C       | 6TMSED          | FILL,AL4        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,713,998:40:0 |      |
| 643  | 98 | 302 | 15:39:40.333 | 488EC6A       | 6TMSED          | NORM,AL4        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,714,401:13:0 |      |
| 644  | 98 | 302 | 16:01:17.666 | 488EC6B       | 6TMSED          | NORM,AL5        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,714,422:48:0 |      |
| 645  | 98 | 302 | 17:35:09.666 | 488EC6C       | 6TMSED          | NORM,AL6        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,714,515:33:0 |      |
| 646  | 98 | 302 | 23:27:09.666 | 488ED6A       | 6TMSED          | NORM,AL5        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,714,863:45:0 |      |
| 647  | 98 | 303 | 00:26:53.666 | 488ED6B       | 6TMSED          | NORM,AL6        | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,714,922:52:0 |      |
| 648  | 98 | 303 | 06:00:03.000 | 17NNRCTRLT01- | -----START----- |                 |   | 400 | 4  | 0  | :              | :    |
| 649  | 98 | 303 | 06:00:07.000 | 41XE99A       | POWER           | PWR MODE change | Change to Calib/Decon Mode                | 400 | 4  | 0  | 4,715,252:06:0 |      |
| 650  | 98 | 303 | 06:00:07.000 | 41XE3I        | 40T1PR          |                 | 1 PCT Heater 1 OFF (primary relay)        | 400 | 4  | 0  | 4,715,252:12:0 |      |
| 651  | 98 | 303 | 06:00:17.000 | 41XE3J        | 40T1PR          |                 | 2 PCT Heater 1 OFF (primary relay)        | 400 | 4  | 0  | 4,715,252:27:0 |      |
| 652  | 98 | 303 | 06:00:27.000 | 41XE3K        | 40T2R           |                 | 1 PCT Heater 2 OFF                        | 400 | 4  | 0  | 4,715,252:42:0 |      |
| 653  | 98 | 303 | 06:00:37.000 | 41XE3L        | 40T2R           |                 | 2 PCT Heater 2 OFF                        | 400 | 4  | 0  | 4,715,252:57:0 |      |
| 654  | 98 | 303 | 06:11:06.333 | 176XU6A       | 6TMREC          | PPB             | PAUSE PLAYBACK (PB CONTROL) Record Mode C | 400 | 4  | 0  | 4,715,263:00:0 |      |
| 655  | 98 | 303 | 06:14:12.333 | 20XE4A        | 7SAFE           | UNSTOP          | S/P TO 153 deg cone                       | 400 | 4  | 0  | 4,715,266:06:0 |      |
| 656  | 98 | 303 | 06:18:19.000 | 20DA4A        | 7SAFE           | STOP            | S/P NO MOVEMENT                           | 400 | 4  | 0  | 4,715,270:12:0 |      |
| 657  | 98 | 303 | 06:19:09.000 | 20DA4B        | 7SLEW           | DIS,POS,0.0     | Stator movement                           | 400 | 4  | 0  | 4,715,270:87:0 |      |
| 658  | 98 | 303 | 06:21:13.000 | 176XV6A       | 6TMREC          | RPB             | RESUME PLAYBACK (PB CONTROL) Record Mode  | 400 | 4  | 0  | 4,715,273:00:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID       | Command Parameters | Description  | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|------------|--------------------|--|-----|----|----|----------------|------|
| 659  | 98 | 303 | 06:22:13.666 | 185XE10A3A | 40HRP              | 1 RCT Heater ON (primary relay)                      | 400 | 4  | 0  | 4,715,274:00:0 |      |
| 660  | 98 | 303 | 06:22:19.000 | 185XE10B3A | 40HRP              | 2 RCT Heater ON (primary relay)                      | 400 | 4  | 0  | 4,715,274:08:0 |      |
| 661  | 98 | 303 | 07:52:45.666 | 488EE6A    | 6TMSED             | NORM,AL5<br>Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,715,363:49:0 |      |
| 662  | 98 | 303 | 08:46:49.666 | 488EE6B    | 6TMSED             | FILL,AL5<br>Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,715,417:01:0 |      |
| 663  | 98 | 303 | 08:48:13.666 | 488EE6C    | 6TMSED             | FILL,AL4<br>Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,715,418:36:0 |      |
| 664  | 98 | 303 | 15:39:34.266 | 488EF6A    | 6TMSED             | NORM,AL4<br>Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,715,825:20:0 |      |
| 665  | 98 | 303 | 15:54:53.600 | 488EF6B    | 6TMSED             | NORM,AL5<br>Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,715,840:34:0 |      |
| 666  | 98 | 303 | 17:20:13.600 | 488EF6C    | 6TMSED             | NORM,AL6<br>Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,715,924:70:0 |      |
| 667  | 98 | 303 | 18:17:00.266 | 125XE      | NIMSINIT           | GS<br>##### GROUP START INIT                         | 400 | 4  | 0  | 4,715,980:84:0 |      |
| 668  | 98 | 303 | 18:17:00.266 | 125XE4A    | 37IST              | 1,0,0,OFF,0,0,0<br>Chopper ON, Sync, 63Hz (Ref)      | 460 | 4  | 0  | 4,715,980:84:0 |      |
| 669  | 98 | 303 | 18:18:00.933 | 125XE4B    | 37IST              | 1,2,0,OFF,0,0,0<br>Chopper ON, Sync, Chopper (Ref)   | 460 | 4  | 0  | 4,715,981:84:0 |      |
| 670  | 98 | 303 | 18:19:01.600 | 125XE4C    | 37IST              | 0,2,0,OFF,0,1,3<br>Gain State 1                      | 1R0 | 4  | 0  | 4,715,982:84:0 |      |
| 671  | 98 | 303 | 18:20:02.266 | 125XE11A   | NIMSINIT           | GE<br>##### GROUP END INIT                           | 1R0 | 4  | 0  | 4,715,983:84:0 |      |
| 672  | 98 | 303 | 18:20:02.266 | 125XE4D    | 37MB               | 1B,1B,0,0,0,0<br>Selects mirror (spatial) edit table | 1R0 | 4  | 0  | 4,715,983:84:0 |      |
| 673  | 98 | 303 | 18:22:03.600 | 127XE      | NIMSTAB            | GS<br>%% %% %% GROUP START TAB                       | 1R0 | 4  | 0  | 4,715,985:84:0 |      |
| 674  | 98 | 303 | 18:22:03.600 | 127XE4A    | 37IOP              | 3,0<br>Long Map, Grating Start Position =00          | 1R3 | 4  | 0  | 4,715,985:84:0 |      |
| 675  | 98 | 303 | 18:22:04.266 | 127XE4B    | 37ETB              | 0A,CA,18,03,FF,1<br>Loads wavelength edit table      | 1R3 | 4  | 0  | 4,715,985:85:0 |      |
| 676  | 98 | 303 | 18:22:12.266 | 127XE11A   | NIMSTAB            | GE<br>%% %% %% GROUP END TAB                         | 1R3 | 4  | 0  | 4,715,986:06:0 |      |
| 677  | 98 | 303 | 18:26:10.933 | 176XE6A    | 6TMREC             | PPB<br>PAUSE PLAYBACK (PB CONTROL) Record Mode C     | 1R3 | 4  | 0  | 4,715,990:00:0 |      |
| 678  | 98 | 303 | 18:32:14.933 | 192XE4A    | 7CONE              | 17,0,119,7<br>Check S/P Position                     | 1R3 | 4  | 0  | 4,715,996:00:0 |      |
| 679  | 98 | 303 | 18:32:36.266 | 432XE6A    | 6RTSL2             | NIMSEL,AACNCG,RT<br>NIMS R/T SELECT                  | 1R3 | 4  | 0  | 4,715,998:30:0 |      |
| 680  | 98 | 303 | 18:35:35.600 | 432XF6A    | 6RTDS2             | NIMDSL,AACNCG,RT<br>NIMS R/T DESELECT                | 1R3 | 4  | 0  | 4,715,999:28:0 |      |
| 681  | 98 | 303 | 18:38:18.933 | 192XE4B    | 7CONE              | 17,0,0,0<br>Check S/P Position                       | 1R3 | 4  | 0  | 4,716,002:00:0 |      |
| 682  | 98 | 303 | 18:40:40.266 | 432XU6A    | 6RTSL2             | NIMSEL,AACNCG,RT<br>NIMS R/T SELECT                  | 1R3 | 4  | 0  | 4,716,004:30:0 |      |
| 683  | 98 | 303 | 18:42:40.266 | 432XV6A    | 6RTDS2             | NIMDSL,AACNCG,RT<br>NIMS R/T DESELECT                | 1R3 | 4  | 0  | 4,716,006:28:0 |      |
| 684  | 98 | 303 | 18:44:22.933 | 192XE4C    | 7CONE              | 17,0,119,7<br>Check S/P Position                     | 1R3 | 4  | 0  | 4,716,008:00:0 |      |
| 685  | 98 | 303 | 18:46:24.266 | 185XE10C3A | 40HRPR             | 1 RCT Heater OFF (primary relay)                     | 1R3 | 4  | 0  | 4,716,010:00:0 |      |
| 686  | 98 | 303 | 18:46:29.600 | 185XE10D3A | 40HRPR             | 2 RCT Heater OFF (primary relay)                     | 1R3 | 4  | 0  | 4,716,010:08:0 |      |
| 687  | 98 | 303 | 18:46:44.266 | 432XW6A    | 6RTSL2             | NIMSEL,AACNCG,RT<br>NIMS R/T SELECT                  | 1R3 | 4  | 0  | 4,716,010:30:0 |      |
| 688  | 98 | 303 | 18:47:43.600 | 432XY6A    | 6RTDS2             | NIMDSL,AACNCG,RT<br>NIMS R/T DESELECT                | 1R3 | 4  | 0  | 4,716,011:28:0 |      |
| 689  | 98 | 303 | 18:49:21.600 | 125DC11A   | NIMSINIT           | GE<br>##### GROUP END INIT                           | 1R3 | 4  | 0  | 4,716,012:84:0 |      |
| 690  | 98 | 303 | 18:49:21.600 | 125DC      | NIMSINIT           | GS<br>##### GROUP START INIT                         | 1R3 | 4  | 0  | 4,716,012:84:0 |      |
| 691  | 98 | 303 | 18:49:21.600 | 125DC4A    | 37IST              | 0,2,0,OFF,0,1,1<br>Gain State 4                      | 4R3 | 4  | 0  | 4,716,012:84:0 |      |
| 692  | 98 | 303 | 18:50:22.266 | 127DC      | NIMSTAB            | GS<br>%% %% %% GROUP START TAB                       | 4R3 | 4  | 0  | 4,716,013:84:0 |      |
| 693  | 98 | 303 | 18:50:22.266 | 127DC4A    | 37IOP              | 3,0<br>Long Map, Grating Start Position =00          | 4R3 | 4  | 0  | 4,716,013:84:0 |      |
| 694  | 98 | 303 | 18:50:22.933 | 127DC4B    | 37ETB              | 07,C,7,31,80,00,0<br>Loads wavelength edit table     | 4R3 | 4  | 0  | 4,716,013:85:0 |      |
| 695  | 98 | 303 | 18:50:26.933 | 192XE4D    | 7CONE              | 17,0,153,0<br>Check S/P Position                     | 4R3 | 4  | 0  | 4,716,014:00:0 |      |
| 696  | 98 | 303 | 18:50:30.933 | 127DC11A   | NIMSTAB            | GE<br>%% %% %% GROUP END TAB                         | 4R3 | 4  | 0  | 4,716,014:06:0 |      |
| 697  | 98 | 303 | 18:50:46.933 | 432DC6A    | 6RTSL2             | NIMSEL,AACNCG,RT<br>NIMS R/T SELECT                  | 4R3 | 4  | 0  | 4,716,014:30:0 |      |
| 698  | 98 | 303 | 18:51:22.933 | 125DD      | NIMSINIT           | GS<br>##### GROUP START INIT                         | 4R3 | 4  | 0  | 4,716,014:84:0 |      |
| 699  | 98 | 303 | 18:51:22.933 | 125DD11A   | NIMSINIT           | GE<br>##### GROUP END INIT                           | 4R3 | 4  | 0  | 4,716,014:84:0 |      |
| 700  | 98 | 303 | 18:51:22.933 | 125DD4A    | 37IST              | 0,2,1,OFF,1,0,1<br>OPCAL                             | 4R3 | 4  | 0  | 4,716,014:84:0 |      |
| 701  | 98 | 303 | 18:53:24.266 | 125DE      | NIMSINIT           | GS<br>##### GROUP START INIT                         | 4R3 | 4  | 0  | 4,716,016:84:0 |      |
| 702  | 98 | 303 | 18:53:24.266 | 125DE11A   | NIMSINIT           | GE<br>##### GROUP END INIT                           | 4R3 | 4  | 0  | 4,716,016:84:0 |      |
| 703  | 98 | 303 | 18:53:24.266 | 125DE4A    | 37IST              | 0,2,1,OFF,1,0,1<br>OPCAL                             | 4R3 | 4  | 0  | 4,716,016:84:0 |      |
| 704  | 98 | 303 | 18:53:47.600 | 432DE6A    | 6RTDS2             | NIMDSL,AACNCG,RT<br>NIMS R/T DESELECT                | 4R3 | 4  | 0  | 4,716,017:28:0 |      |
| 705  | 98 | 303 | 18:57:26.933 | 127XF4A    | 37IOP              | 0,0<br>Safe, Grating Start Position =00              | 4R0 | 4  | 0  | 4,716,020:84:0 |      |
| 706  | 98 | 303 | 18:57:26.933 | 127XF      | NIMSTAB            | GS<br>%% %% %% GROUP START TAB                       | 4R0 | 4  | 0  | 4,716,020:84:0 |      |
| 707  | 98 | 303 | 18:57:27.600 | 127XF4B    | 37ETB              | 04,C,4,02,00,00<br>Loads wavelength edit table       | 4R0 | 4  | 0  | 4,716,020:85:0 |      |
| 708  | 98 | 303 | 18:57:35.600 | 127XF11A   | NIMSTAB            | GE<br>%% %% %% GROUP END TAB                         | 4R0 | 4  | 0  | 4,716,021:06:0 |      |
| 709  | 98 | 303 | 19:00:28.933 | 125XF4A    | 37MB               | 0,0,0,0,0,0<br>Selects mirror (spatial) edit table   | 4R0 | 4  | 0  | 4,716,023:84:0 |      |
| 710  | 98 | 303 | 19:00:28.933 | 125XF      | NIMSINIT           | GS<br>##### GROUP START INIT                         | 4R0 | 4  | 0  | 4,716,023:84:0 |      |
| 711  | 98 | 303 | 19:01:29.600 | 125XF4B    | 37IST              | 1,0,0,OFF,0,0,0<br>Chopper ON, Sync, 63Hz (Ref)      | 460 | 4  | 0  | 4,716,024:84:0 |      |
| 712  | 98 | 303 | 19:02:30.266 | 125XF11A   | NIMSINIT           | GE<br>##### GROUP END INIT                           | 460 | 4  | 0  | 4,716,025:84:0 |      |
| 713  | 98 | 303 | 19:02:30.266 | 125XF4C    | 37IST              | 1,1,0,OFF,0,0,0<br>Chopper OFF, N/A, 63Hz (Ref)      | 400 | 4  | 0  | 4,716,025:84:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID         | Command | Parameters     | Description                              | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|--------------|---------|----------------|--|-----|----|----|----------------|------|
| 714  | 98 | 303 | 19:08:42.933 | 41XU99A      | POWER   |                | Change to Maneuver/Playback Mode         | 400 | 4  | 0  | 4,716,032:06:0 |      |
| 715  | 98 | 303 | 19:10:36.933 | 41XU3G       | 40T1P   |                | 1 PCT Heater 1 ON (primary relay)        | 400 | 4  | 0  | 4,716,033:86:0 |      |
| 716  | 98 | 303 | 19:10:46.933 | 41XU3H       | 40T1P   |                | 2 PCT Heater 1 ON (primary relay)        | 400 | 4  | 0  | 4,716,034:10:0 |      |
| 717  | 98 | 303 | 19:10:56.933 | 41XU3I       | 40T2    |                | 1 PCT Heater 2 ON                        | 400 | 4  | 0  | 4,716,034:25:0 |      |
| 718  | 98 | 303 | 19:11:06.933 | 41XU3J       | 40T2    |                | 2 PCT Heater 2 ON                        | 400 | 4  | 0  | 4,716,034:40:0 |      |
| 719  | 98 | 303 | 19:15:47.666 | 17NNRCRLT01- |         | -----STOP----- |  | 400 | 4  | 0  | :              |      |
| 720  | 98 | 303 | 19:18:53.600 | 20DB4A       | 7SAFE   | STOP           | S/P NO MOVEMENT                          | 400 | 4  | 0  | 4,716,042:12:0 |      |
| 721  | 98 | 303 | 19:19:43.600 | 20DB4B       | 7SLEW   | DIS,POS,0.0    | Stator movement                          | 400 | 4  | 0  | 4,716,042:87:0 |      |
| 722  | 98 | 303 | 19:21:47.600 | 176XF6A      | 6TMREG  | RPB            | RESUME PLAYBACK (PB CONTROL) Record Mode | 400 | 4  | 0  | 4,716,045:00:0 |      |
| 723  | 98 | 303 | 22:46:37.600 | 488EG6A      | 6TMSED  | NORM,AL4       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,716,247:53:0 |      |
| 724  | 98 | 303 | 23:25:01.600 | 488EG6B      | 6TMSED  | NORM,AL5       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,716,285:51:0 |      |
| 725  | 98 | 304 | 00:15:14.266 | 488EG6C      | 6TMSED  | FILL,AL5       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,716,335:20:0 |      |
| 726  | 98 | 304 | 00:44:20.933 | 488EG6D      | 6TMSED  | NORM,AL5       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,716,364:01:0 |      |
| 727  | 98 | 304 | 01:50:05.600 | 488EG6E      | 6TMSED  | NORM,AL6       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,716,429:03:0 |      |
| 728  | 98 | 304 | 06:01:49.600 | 488EH6A      | 6TMSED  | NORM,AL5       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,716,678:00:0 |      |
| 729  | 98 | 304 | 08:22:37.600 | 488EH6B      | 6TMSED  | NORM,AL4       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,716,817:23:0 |      |
| 730  | 98 | 304 | 08:50:50.933 | 488EH6C      | 6TMSED  | FILL,AL4       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,716,845:15:0 |      |
| 731  | 98 | 304 | 15:29:29.600 | 488EI6A      | 6TMSED  | NORM,AL4       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,717,239:39:0 |      |
| 732  | 98 | 304 | 15:50:37.600 | 488EI6B      | 6TMSED  | NORM,AL5       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,717,260:30:0 |      |
| 733  | 98 | 304 | 17:09:33.600 | 488EI6C      | 6TMSED  | NORM,AL6       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,717,338:36:0 |      |
| 734  | 98 | 304 | 22:57:17.533 | 488EJ6A      | 6TMSED  | NORM,AL5       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,717,682:28:0 |      |
| 735  | 98 | 304 | 23:50:37.533 | 488EJ6B      | 6TMSED  | NORM,AL6       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,717,735:05:0 |      |
| 736  | 98 | 305 | 07:52:45.533 | 488EK6A      | 6TMSED  | NORM,AL5       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,718,211:81:0 |      |
| 737  | 98 | 305 | 08:41:14.200 | 488EK6B      | 6TMSED  | FILL,AL5       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,718,259:76:0 |      |
| 738  | 98 | 305 | 08:41:49.533 | 488EK6C      | 6TMSED  | FILL,AL4       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,718,260:38:0 |      |
| 739  | 98 | 305 | 15:24:23.533 | 488EL6A      | 6TMSED  | NORM,AL4       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,718,658:51:0 |      |
| 740  | 98 | 305 | 15:44:13.533 | 488EL6B      | 6TMSED  | NORM,AL5       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,718,678:16:0 |      |
| 741  | 98 | 305 | 17:01:01.533 | 488EL6C      | 6TMSED  | NORM,AL6       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,718,754:12:0 |      |
| 742  | 98 | 305 | 22:38:05.533 | 488EM6A      | 6TMSED  | NORM,AL4       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,719,087:45:0 |      |
| 743  | 98 | 305 | 22:59:25.533 | 488EM6B      | 6TMSED  | NORM,AL5       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,719,108:54:0 |      |
| 744  | 98 | 305 | 23:39:57.533 | 488EM6C      | 6TMSED  | NORM,AL6       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,719,148:62:0 |      |
| 745  | 98 | 306 | 07:52:45.466 | 488EN6A      | 6TMSED  | NORM,AL5       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,719,636:06:0 |      |
| 746  | 98 | 306 | 08:37:33.466 | 488EN6B      | 6TMSED  | NORM,AL4       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,719,680:34:0 |      |
| 747  | 98 | 306 | 08:40:40.133 | 488EN6C      | 6TMSED  | FILL,AL4       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,719,683:41:0 |      |
| 748  | 98 | 306 | 15:29:17.466 | 488EO6A      | 6TMSED  | NORM,AL4       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,720,087:53:0 |      |
| 749  | 98 | 306 | 16:20:29.466 | 488EO6B      | 6TMSED  | NORM,AL5       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,720,138:20:0 |      |
| 750  | 98 | 306 | 16:40:29.466 | 488EO6C      | 6TMSED  | FILL,AL5       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,720,158:00:0 |      |
| 751  | 98 | 306 | 17:09:35.466 | 488EO6D      | 6TMSED  | NORM,AL5       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,720,186:71:0 |      |
| 752  | 98 | 307 | 00:20:29.466 | 488EP6A      | 6TMSED  | NORM,AL4       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,720,612:86:0 |      |
| 753  | 98 | 307 | 00:29:01.466 | 488EP6B      | 6TMSED  | NORM,AL6       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,720,621:35:0 |      |
| 754  | 98 | 307 | 01:46:54.800 | 488EP6C      | 6TMSED  | FILL,AL6       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,720,698:38:0 |      |
| 755  | 98 | 307 | 02:13:44.133 | 488EP6D      | 6TMSED  | NORM,AL6       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,720,724:86:0 |      |
| 756  | 98 | 307 | 07:52:45.466 | 488EQ6A      | 6TMSED  | NORM,AL5       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,721,060:22:0 |      |
| 757  | 98 | 307 | 08:30:52.800 | 488EQ6B      | 6TMSED  | FILL,AL5       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,721,097:86:0 |      |
| 758  | 98 | 307 | 08:31:09.466 | 488EQ6C      | 6TMSED  | FILL,AL4       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,721,098:20:0 |      |
| 759  | 98 | 307 | 08:39:41.466 | 488EQ6D      | 6TMSED  | FILL,AL5       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,721,106:60:0 |      |
| 760  | 98 | 307 | 16:27:24.733 | 488ER6A      | 6TMSED  | NORM,AL5       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,721,569:22:0 |      |
| 761  | 98 | 307 | 16:39:41.400 | 488ER6B      | 6TMSED  | NORM,AL6       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,721,581:35:0 |      |
| 762  | 98 | 307 | 23:37:49.400 | 488ES6A      | 6TMSED  | NORM,AL5       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,721,994:84:0 |      |
| 763  | 98 | 308 | 00:26:53.400 | 488ES6B      | 6TMSED  | NORM,AL6       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,722,043:41:0 |      |
| 764  | 98 | 308 | 07:46:21.400 | 488ET6A      | 6TMSED  | NORM,AL5       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,722,478:08:0 |      |
| 765  | 98 | 308 | 08:28:14.733 | 488ET6B      | 6TMSED  | FILL,AL5       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,722,519:47:0 |      |
| 766  | 98 | 308 | 08:35:25.400 | 488ET6C      | 6TMSED  | FILL,AL6       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,722,526:56:0 |      |
| 767  | 98 | 308 | 16:56:26.066 | 488EU6A      | 6TMSED  | NORM,AL6       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,723,022:11:0 |      |
| 768  | 98 | 308 | 23:37:49.333 | 488EV6A      | 6TMSED  | NORM,AL5       | Sci. Eng. and D/L Chan                   | 400 | 4  | 0  | 4,723,419:09:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID    | Command | Parameters       | Description                               | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|---------|---------|------------------|---|-----|----|----|----------------|------|
| 769  | 98 | 309 | 00:41:49.333 | 488EV6B | 6TMSED  | NORM,AL4         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,723,482:36:0 |      |
| 770  | 98 | 309 | 00:55:25.333 | 488EV6C | 6TMSED  | FILL,AL4         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,723,495:77:0 |      |
| 771  | 98 | 309 | 01:05:17.333 | 488EV6D | 6TMSED  | FILL,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,723,505:55:0 |      |
| 772  | 98 | 309 | 02:26:23.333 | 488EV6E | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,723,585:74:0 |      |
| 773  | 98 | 309 | 03:42:06.666 | 488EW6A | 6TMSED  | FILL,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,723,660:64:0 |      |
| 774  | 98 | 309 | 04:08:56.000 | 488EW6B | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,723,687:21:0 |      |
| 775  | 98 | 309 | 06:31:41.333 | 488EW6C | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,723,828:38:0 |      |
| 776  | 98 | 309 | 08:07:41.333 | 488EW6D | 6TMSED  | NORM,AL4         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,723,923:33:0 |      |
| 777  | 98 | 309 | 08:25:23.333 | 488EW6E | 6TMSED  | FILL,AL4         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,723,940:79:0 |      |
| 778  | 98 | 309 | 08:35:25.333 | 488EX6A | 6TMSED  | FILL,AL5         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,723,950:72:0 |      |
| 779  | 98 | 309 | 15:27:13.333 | 488EY6A | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,724,358:06:0 |      |
| 780  | 98 | 309 | 16:24:45.333 | 488EY6B | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,724,414:88:0 |      |
| 781  | 98 | 309 | 19:05:00.000 | 488EY6C | 6TMSED  | NORM,AH6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,724,573:41:0 |      |
| 782  | 98 | 309 | 19:08:35.333 | 176GC6A | 6TMREC  | PPB              | PAUSE PLAYBACK (PB CONTROL) Record Mode C | 400 | 4  | 0  | 4,724,577:00:0 |      |
| 783  | 98 | 309 | 19:34:30.000 | 20NY4I  | 7MODE   | INT              | AACS INERTIAL MODE                        | 400 | 4  | 0  | 4,724,602:57:0 |      |
| 784  | 98 | 309 | 19:49:30.000 | 20NY4K  | 7SLEW   | INIT,POS,17.45   | Stator movement                           | 400 | 4  | 0  | 4,724,617:42:0 |      |
| 785  | 98 | 309 | 20:01:30.000 | 20NY4L  | 7SLEW   | DIS,POS,0.0      | Stator movement                           | 400 | 4  | 0  | 4,724,629:30:0 |      |
| 786  | 98 | 309 | 20:08:30.000 | 20NY4M  | 7SLEW   | INIT,NEG,17.45   | Stator movement                           | 400 | 4  | 0  | 4,724,636:23:0 |      |
| 787  | 98 | 309 | 20:20:30.000 | 20NY4N  | 7SLEW   | DIS,POS,0.0      | Stator movement                           | 400 | 4  | 0  | 4,724,648:11:0 |      |
| 788  | 98 | 309 | 20:27:30.000 | 20NY4O  | 7SLEW   | INIT,POS,4.36    | Stator movement                           | 400 | 4  | 0  | 4,724,655:04:0 |      |
| 789  | 98 | 309 | 20:39:30.000 | 20NY4P  | 7SLEW   | DIS,POS,0.0      | Stator movement                           | 400 | 4  | 0  | 4,724,666:83:0 |      |
| 790  | 98 | 309 | 20:46:30.000 | 20NY4Q  | 7SLEW   | INIT,NEG,4.36    | Stator movement                           | 400 | 4  | 0  | 4,724,673:76:0 |      |
| 791  | 98 | 309 | 20:58:30.000 | 20NY4R  | 7SLEW   | DIS,POS,0.0      | Stator movement                           | 400 | 4  | 0  | 4,724,685:64:0 |      |
| 792  | 98 | 309 | 21:10:30.000 | 20NY4AH | 7MODE   | GRU              | AACS CRUISE MODE                          | 400 | 4  | 0  | 4,724,697:52:0 |      |
| 793  | 98 | 309 | 21:24:54.000 | 20SK4A  | 7SAFE   | STOP             | SIP NO MOVEMENT                           | 400 | 4  | 0  | 4,724,711:74:0 |      |
| 794  | 98 | 309 | 21:24:54.000 | 20SK4B  | 7SLEW   | DIS,POS,0.0      | Stator movement                           | 400 | 4  | 0  | 4,724,711:74:0 |      |
| 795  | 98 | 309 | 21:26:06.000 | 176GD6A | 6TMREC  | RPB              | RESUME PLAYBACK (PB CONTROL) Record Mode  | 400 | 4  | 0  | 4,724,713:00:0 |      |
| 796  | 98 | 309 | 21:28:00.000 | 488EZ6A | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,724,714:80:0 |      |
| 797  | 98 | 309 | 23:37:49.333 | 488EZ6B | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,724,843:25:0 |      |
| 798  | 98 | 310 | 00:26:53.333 | 488EZ6C | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,724,891:73:0 |      |
| 799  | 98 | 310 | 07:42:05.266 | 488FA6A | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,725,322:20:0 |      |
| 800  | 98 | 310 | 08:21:10.600 | 488FA6B | 6TMSED  | FILL,AL5         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,725,360:80:0 |      |
| 801  | 98 | 310 | 08:22:37.266 | 488FA6C | 6TMSED  | FILL,AL4         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,725,362:28:0 |      |
| 802  | 98 | 310 | 15:13:54.600 | 488FB6A | 6TMSED  | NORM,AL4         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,725,769:07:0 |      |
| 803  | 98 | 310 | 15:44:13.266 | 488FB6B | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,725,799:05:0 |      |
| 804  | 98 | 310 | 16:25:52.600 | 488FB6C | 6TMSED  | FILL,AL5         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,725,840:23:0 |      |
| 805  | 98 | 310 | 16:54:58.600 | 488FB6D | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,725,869:03:0 |      |
| 806  | 98 | 310 | 19:15:25.266 | 488FB6E | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,726,007:85:0 |      |
| 807  | 98 | 310 | 20:36:29.266 | 488FC6A | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,726,088:10:0 |      |
| 808  | 98 | 310 | 23:14:21.266 | 488FC6B | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,726,244:22:0 |      |
| 809  | 98 | 310 | 23:47:17.933 | 488FC6C | 6TMSED  | FILL,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,726,276:75:0 |      |
| 810  | 98 | 311 | 00:14:07.266 | 488FC6D | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,726,303:32:0 |      |
| 811  | 98 | 311 | 07:42:05.266 | 488FD6A | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,726,746:36:0 |      |
| 812  | 98 | 311 | 08:16:13.266 | 488FD6B | 6TMSED  | NORM,AL4         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,726,780:14:0 |      |
| 813  | 98 | 311 | 08:20:11.266 | 488FD6C | 6TMSED  | FILL,AL4         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,726,784:07:0 |      |
| 814  | 98 | 311 | 14:58:49.200 | 488FE6A | 6TMSED  | NORM,AL4         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,727,178:30:0 |      |
| 815  | 98 | 311 | 15:14:21.200 | 488FE6B | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,727,193:63:0 |      |
| 816  | 98 | 311 | 16:14:05.200 | 488FE6C | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,727,252:70:0 |      |
| 817  | 98 | 311 | 17:00:03.866 | 20CS6A  | 6TMREC  | PPB              | PAUSE PLAYBACK (PB CONTROL) Record Mode C | 400 | 4  | 0  | 4,727,298:22:0 |      |
| 818  | 98 | 311 | 18:00:03.866 | 20CS6B  | 6TMSED  | NORM,BA6         | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,727,357:53:0 |      |
| 819  | 98 | 311 | 18:02:51.866 | 20CS4H  | 7VECT   | BB1              | Inert vect update UTC                     | 400 | 4  | 0  | 4,727,360:32:0 |      |
| 820  | 98 | 311 | 18:02:55.866 | 20CS4I  | 7STAT   | 17.45,258.214,-1 | Stator inertial point                     | 400 | 4  | 0  | 4,727,360:38:0 |      |
| 821  | 98 | 311 | 18:08:55.866 | 20CS4J  | 7SLEW   | DIS,POS,0.0      | Stator movement                           | 400 | 4  | 0  | 4,727,366:32:0 |      |
| 822  | 98 | 311 | 18:08:59.866 | 20CS6H  | 6MROH   | 7.673E:2,A40     | read from AACSA7.673E:2,A40               | 400 | 4  | 0  | 4,727,366:38:0 |      |
| 823  | 98 | 311 | 18:14:49.866 | 20CS6I  | 6MROH   | 7.673E:2,A40     | read from AACSA7.673E:2,A40               | 400 | 4  | 0  | 4,727,372:17:0 |      |





| Line | YR | DOY | SCET         | - GMT | PSID    | Command | Parameters        | Description                       | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|-------|---------|---------|-------------------|-----------------------------------|-----|----|----|----------------|------|
| 879  | 98 | 311 | 18:53:07.866 |       | 20CS6BL | 6MCOPI  | B1B1B,3C64,AAACSB | B1B1B,3C64,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,410:06:0 |      |
| 880  | 98 | 311 | 18:53:07.866 |       | 20CS6BM | 6MCOPI  | B1A1A,5492,B1B2A  | B1A1A,5492,B1B2A,1877,18A         | 400 | 4  | 0  | 4,727,410:06:0 |      |
| 881  | 98 | 311 | 18:53:08.533 |       | 20CS6BN | 6MCOPI  | B1B1B,3CDE,AAACSB | B1B1B,3CDE,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,410:07:0 |      |
| 882  | 98 | 311 | 18:53:08.533 |       | 20CS6BO | 6MCOPI  | B1A1A,54BF,B1B2A  | B1A1A,54BF,B1B2A,15F7,162         | 400 | 4  | 0  | 4,727,410:07:0 |      |
| 883  | 98 | 311 | 18:53:09.200 |       | 20CS6BP | 6MCOPI  | B1B1B,3D58,AAACSB | B1B1B,3D58,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,410:08:0 |      |
| 884  | 98 | 311 | 18:53:09.200 |       | 20CS6BQ | 6MCOPI  | B1A1A,54EC,AAACSB | B1A1A,54EC,AAACSB,1877,18A        | 400 | 4  | 0  | 4,727,410:08:0 |      |
| 885  | 98 | 311 | 18:53:09.866 |       | 20CS6BR | 6MCOPI  | B1B1B,3DD2,AAACSB | B1B1B,3DD2,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,410:09:0 |      |
| 886  | 98 | 311 | 18:53:09.866 |       | 20CS6BS | 6MCOPI  | B1A1A,5519,B1B2A  | B1A1A,5519,B1B2A,15F7,162         | 400 | 4  | 0  | 4,727,410:09:0 |      |
| 887  | 98 | 311 | 18:53:10.533 |       | 20CS6BT | 6MCOPI  | B1B1B,3E4C,AAACSB | B1B1B,3E4C,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,410:10:0 |      |
| 888  | 98 | 311 | 18:53:10.533 |       | 20CS6BU | 6MCOPI  | B1A1A,5546,B1B2A  | B1A1A,5546,B1B2A,1877,18A         | 400 | 4  | 0  | 4,727,410:10:0 |      |
| 889  | 98 | 311 | 18:53:11.200 |       | 20CS6BV | 6MCOPI  | B1B1B,3EC6,AAACSB | B1B1B,3EC6,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,410:11:0 |      |
| 890  | 98 | 311 | 18:53:11.200 |       | 20CS6BW | 6MCOPI  | B1A1A,5573,B1B2A  | B1A1A,5573,B1B2A,15F7,162         | 400 | 4  | 0  | 4,727,410:11:0 |      |
| 891  | 98 | 311 | 18:53:11.866 |       | 20CS6BX | 6MCOPI  | B1B1B,3F40,AAACSB | B1B1B,3F40,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,410:12:0 |      |
| 892  | 98 | 311 | 18:53:11.866 |       | 20CS6BY | 6MCOPI  | B1A1A,55A0,B1B2A  | B1A1A,55A0,B1B2A,1877,18A         | 400 | 4  | 0  | 4,727,410:12:0 |      |
| 893  | 98 | 311 | 18:53:12.533 |       | 20CS6BZ | 6MCOPI  | B1B1B,3FBA,AAACSB | B1B1B,3FBA,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,410:13:0 |      |
| 894  | 98 | 311 | 18:53:12.533 |       | 20CS6CA | 6MCOPI  | B1A1A,55CD,AAACSB | B1A1A,55CD,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,410:13:0 |      |
| 895  | 98 | 311 | 18:53:13.200 |       | 20CS6CB | 6MCOPI  | B1B1B,4034,AAACSB | B1B1B,4034,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,410:14:0 |      |
| 896  | 98 | 311 | 18:53:13.200 |       | 20CS6CC | 6MCOPI  | B1A1A,55FA,B1B2A  | B1A1A,55FA,B1B2A,1877,18A         | 400 | 4  | 0  | 4,727,410:14:0 |      |
| 897  | 98 | 311 | 18:53:13.866 |       | 20CS6CD | 6MCOPI  | B1B1B,40AE,AAACSB | B1B1B,40AE,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,410:15:0 |      |
| 898  | 98 | 311 | 18:53:13.866 |       | 20CS6CE | 6MCOPI  | B1A1A,5627,B1B2A  | B1A1A,5627,B1B2A,15F7,162         | 400 | 4  | 0  | 4,727,410:15:0 |      |
| 899  | 98 | 311 | 18:53:14.533 |       | 20CS6CF | 6MCOPI  | B1B1B,4128,AAACSB | B1B1B,4128,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,410:16:0 |      |
| 900  | 98 | 311 | 18:53:14.533 |       | 20CS6CG | 6MCOPI  | B1A1A,5654,B1B2A  | B1A1A,5654,B1B2A,1877,18A         | 400 | 4  | 0  | 4,727,410:16:0 |      |
| 901  | 98 | 311 | 18:53:15.200 |       | 20CS6CH | 6MCOPI  | B1B1B,41A2,AAACSB | B1B1B,41A2,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,410:17:0 |      |
| 902  | 98 | 311 | 18:53:15.200 |       | 20CS6CI | 6MCOPI  | B1A1A,5681,B1B2A  | B1A1A,5681,B1B2A,15F7,162         | 400 | 4  | 0  | 4,727,410:17:0 |      |
| 903  | 98 | 311 | 18:53:15.866 |       | 20CS6CJ | 6MCOPI  | B1B1B,421C,AAACSB | B1B1B,421C,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,410:18:0 |      |
| 904  | 98 | 311 | 18:53:15.866 |       | 20CS6CK | 6MCOPI  | B1A1A,56AE,B1B2A  | B1A1A,56AE,B1B2A,1877,18A         | 400 | 4  | 0  | 4,727,410:18:0 |      |
| 905  | 98 | 311 | 18:53:16.533 |       | 20CS6CL | 6MCOPI  | B1B1B,4296,AAACSB | B1B1B,4296,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,410:19:0 |      |
| 906  | 98 | 311 | 18:53:16.533 |       | 20CS6CM | 6MCOPI  | B1A1A,56DB,B1B2A  | B1A1A,56DB,B1B2A,15F7,162         | 400 | 4  | 0  | 4,727,410:19:0 |      |
| 907  | 98 | 311 | 18:53:17.200 |       | 20CS6CO | 6MCOPI  | B1A1A,5708,B1B2A  | B1A1A,5708,B1B2A,1877,18A         | 400 | 4  | 0  | 4,727,410:20:0 |      |
| 908  | 98 | 311 | 18:53:17.200 |       | 20CS6CN | 6MCOPI  | B1B1B,4310,AAACSB | B1B1B,4310,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,410:20:0 |      |
| 909  | 98 | 311 | 18:53:17.866 |       | 20CS6CP | 6MCOPI  | B1B1B,438A,AAACSB | B1B1B,438A,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,410:21:0 |      |
| 910  | 98 | 311 | 18:53:17.866 |       | 20CS6CQ | 6MCOPI  | B1A1A,5735,B1B2A  | B1A1A,5735,B1B2A,15F7,162         | 400 | 4  | 0  | 4,727,410:21:0 |      |
| 911  | 98 | 311 | 18:53:18.533 |       | 20CS6CR | 6MCOPI  | B1B1B,4404,AAACSB | B1B1B,4404,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,410:22:0 |      |
| 912  | 98 | 311 | 18:53:18.533 |       | 20CS6CS | 6MCOPI  | B1A1A,5762,B1B2A  | B1A1A,5762,B1B2A,1877,18A         | 400 | 4  | 0  | 4,727,410:22:0 |      |
| 913  | 98 | 311 | 18:56:51.866 |       | 20CS4N  | 7MODE   | CRU               | AACS CRUISE MODE                  | 400 | 4  | 0  | 4,727,413:69:0 |      |
| 914  | 98 | 311 | 18:57:50.533 |       | 20CS6CV | 6MCOPI  | B1A1A,578F,B1B2A  | B1A1A,578F,B1B2A,15F7,162         | 400 | 4  | 0  | 4,727,414:66:0 |      |
| 915  | 98 | 311 | 18:57:50.533 |       | 20CS6CU | 6MCOPI  | B1B1B,447E,AAACSB | B1B1B,447E,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,414:66:0 |      |
| 916  | 98 | 311 | 18:57:51.200 |       | 20CS6CW | 6MCOPI  | B1B1B,44F8,AAACSB | B1B1B,44F8,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,414:67:0 |      |
| 917  | 98 | 311 | 18:57:51.200 |       | 20CS6CX | 6MCOPI  | B1A1A,57BC,B1B2A  | B1A1A,57BC,B1B2A,1877,18A         | 400 | 4  | 0  | 4,727,414:67:0 |      |
| 918  | 98 | 311 | 18:57:51.866 |       | 20CS4O  | 7SAFE   | UNSTOW            | SIP TO 153 deg cone               | 400 | 4  | 0  | 4,727,414:68:0 |      |
| 919  | 98 | 311 | 18:57:51.866 |       | 20CS6CZ | 6MCOPI  | B1A1A,57E9,B1B2A  | B1A1A,57E9,B1B2A,15F7,162         | 400 | 4  | 0  | 4,727,414:68:0 |      |
| 920  | 98 | 311 | 18:57:51.866 |       | 20CS6CY | 6MCOPI  | B1B1B,4572,AAACSB | B1B1B,4572,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,414:68:0 |      |
| 921  | 98 | 311 | 18:57:52.533 |       | 20CS6DB | 6MCOPI  | B1A1A,5816,B1B2A  | B1A1A,5816,B1B2A,1877,18A         | 400 | 4  | 0  | 4,727,414:69:0 |      |
| 922  | 98 | 311 | 18:57:52.533 |       | 20CS6DA | 6MCOPI  | B1B1B,45EC,AAACSB | B1B1B,45EC,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,414:69:0 |      |
| 923  | 98 | 311 | 18:57:53.200 |       | 20CS6DC | 6MCOPI  | B1B1B,4666,AAACSB | B1B1B,4666,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,414:70:0 |      |
| 924  | 98 | 311 | 18:57:53.200 |       | 20CS6DD | 6MCOPI  | B1A1A,5843,B1B2A  | B1A1A,5843,B1B2A,15F7,162         | 400 | 4  | 0  | 4,727,414:70:0 |      |
| 925  | 98 | 311 | 18:57:53.866 |       | 20CS6DE | 6MCOPI  | B1B1B,46E0,AAACSB | B1B1B,46E0,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,414:71:0 |      |
| 926  | 98 | 311 | 18:57:53.866 |       | 20CS6DF | 6MCOPI  | B1A1A,5870,B1B2A  | B1A1A,5870,B1B2A,1877,18A         | 400 | 4  | 0  | 4,727,414:71:0 |      |
| 927  | 98 | 311 | 18:57:54.533 |       | 20CS6DH | 6MCOPI  | B1A1A,589D,B1B2A  | B1A1A,589D,B1B2A,15F7,162         | 400 | 4  | 0  | 4,727,414:72:0 |      |
| 928  | 98 | 311 | 18:57:54.533 |       | 20CS6DG | 6MCOPI  | B1B1B,475A,AAACSB | B1B1B,475A,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,414:72:0 |      |
| 929  | 98 | 311 | 18:57:55.200 |       | 20CS6DI | 6MCOPI  | B1B1B,47D4,AAACSB | B1B1B,47D4,AAACSB,6100,617        | 400 | 4  | 0  | 4,727,414:73:0 |      |
| 930  | 98 | 311 | 19:02:00.533 |       | 20CS4T  | 7SLEW   | DIS,POS,0.0       | Stator movement                   | 400 | 4  | 0  | 4,727,418:77:0 |      |
| 931  | 98 | 311 | 19:02:55.200 |       | 20CS4Q  | 7STAR   |                   | 11,338,218.95 Star catalog update | 400 | 4  | 0  | 4,727,419:68:0 |      |
| 932  | 98 | 311 | 19:05:43.200 |       | 20CS6DO | 6TMREC  | RPB               | RESUME PLAYBACK (PB CONTROL)      | 400 | 4  | 0  | 4,727,422:47:0 |      |
| 933  | 98 | 311 | 19:05:47.200 |       | 20CS6DP | 6MROH   | 7.6F96,2A40       | read from AACSAT7.6F96,2A40       | 400 | 4  | 0  | 4,727,422:53:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID    | Command | Parameters       | Description            | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|---------|---------|------------------|------------------------|-----|----|----|----------------|------|
| 934  | 98 | 311 | 19:06:47.200 | 20CS6DQ | 6MROH   | B1B2A,3000,194,A | read fromB1B2A,3000,1  | 400 | 4  | 0  | 4,727,423:52:0 |      |
| 935  | 98 | 311 | 20:11:47.200 | 20CS6DR | 6MROH   | B1A2B,5000,71,B4 | read fromB1A2B,5000,7  | 400 | 4  | 0  | 4,727,487:78:0 |      |
| 936  | 98 | 311 | 20:36:47.200 | 20CS6DS | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,727,512:53:0 |      |
| 937  | 98 | 311 | 22:27:25.200 | 488FF6A | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,727,622:00:0 |      |
| 938  | 98 | 311 | 23:10:05.200 | 488FF6B | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,727,664:18:0 |      |
| 939  | 98 | 312 | 07:35:41.200 | 488FG6A | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,728,164:22:0 |      |
| 940  | 98 | 312 | 08:12:14.533 | 488FG6B | 6TMSED  | FILL,AL5         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,728,200:36:0 |      |
| 941  | 98 | 312 | 08:16:13.200 | 488FG6C | 6TMSED  | FILL,AL4         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,728,204:30:0 |      |
| 942  | 98 | 312 | 14:53:43.200 | 488FH6A | 6TMSED  | NORM,AL4         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,728,597:42:0 |      |
| 943  | 98 | 312 | 15:10:05.200 | 488FH6B | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,728,613:59:0 |      |
| 944  | 98 | 312 | 16:09:49.200 | 488FH6C | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,728,672:66:0 |      |
| 945  | 98 | 312 | 22:12:29.133 | 488FI6A | 6TMSED  | NORM,AL4         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,729,031:37:0 |      |
| 946  | 98 | 312 | 22:29:33.133 | 488FI6B | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,729,048:26:0 |      |
| 947  | 98 | 312 | 23:03:41.133 | 488FI6C | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,729,082:04:0 |      |
| 948  | 98 | 313 | 05:34:08.466 | 488FJ6A | 6TMSED  | FILL,AL6         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,729,468:19:0 |      |
| 949  | 98 | 313 | 05:40:59.133 | 488FJ6B | 6TMSED  | NORM,AL7         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,729,474:89:0 |      |
| 950  | 98 | 313 | 05:59:41.133 | 488FJ6C | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,729,493:43:0 |      |
| 951  | 98 | 313 | 13:06:21.133 | 488FK6A | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,729,915:41:0 |      |
| 952  | 98 | 313 | 14:42:21.133 | 488FK6B | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,730,010:36:0 |      |
| 953  | 98 | 313 | 14:57:17.133 | 488FK6C | 6TMSED  | NORM,AL3         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,730,025:15:0 |      |
| 954  | 98 | 313 | 14:57:53.800 | 488FK6D | 6TMSED  | FILL,AL3         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,730,025:70:0 |      |
| 955  | 98 | 313 | 15:18:37.133 | 488FK6E | 6TMSED  | FILL,AL5         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,730,046:24:0 |      |
| 956  | 98 | 313 | 17:26:49.800 | 488FL6A | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,730,173:06:0 |      |
| 957  | 98 | 313 | 18:41:10.466 | 488FL6B | 6TMSED  | FILL,AL5         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,730,246:54:0 |      |
| 958  | 98 | 313 | 19:02:37.133 | 488FL6C | 6TMSED  | FILL,AL6         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,730,267:73:0 |      |
| 959  | 98 | 313 | 19:08:26.466 | 488FL6D | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,730,273:51:0 |      |
| 960  | 98 | 313 | 20:36:29.133 | 488FL6E | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,730,360:58:0 |      |
| 961  | 98 | 313 | 22:59:25.133 | 488FM6A | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,730,502:00:0 |      |
| 962  | 98 | 313 | 23:32:34.466 | 488FM6B | 6TMSED  | FILL,AL6         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,730,534:72:0 |      |
| 963  | 98 | 313 | 23:59:24.466 | 488FM6C | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,730,561:30:0 |      |
| 964  | 98 | 314 | 04:09:04.400 | 488FM6D | 6TMSED  | FILL,AL6         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,730,808:23:0 |      |
| 965  | 98 | 314 | 05:40:53.066 | 488FN6A | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,730,899:05:0 |      |
| 966  | 98 | 314 | 05:53:17.066 | 488FN6B | 6TMSED  | NORM,AL7         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,730,911:29:0 |      |
| 967  | 98 | 314 | 13:02:05.066 | 488FO6A | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,731,335:37:0 |      |
| 968  | 98 | 314 | 14:35:57.066 | 488FO6B | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,731,428:22:0 |      |
| 969  | 98 | 314 | 14:46:37.066 | 488FO6C | 6TMSED  | NORM,AL4         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,731,438:72:0 |      |
| 970  | 98 | 314 | 15:03:41.066 | 488FO6D | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,731,455:61:0 |      |
| 971  | 98 | 314 | 16:03:25.066 | 488FO6E | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,731,514:68:0 |      |
| 972  | 98 | 314 | 23:16:29.066 | 488FP6A | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,731,943:05:0 |      |
| 973  | 98 | 315 | 00:16:13.066 | 488FP6B | 6TMSED  | NORM,AL4         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,732,002:12:0 |      |
| 974  | 98 | 315 | 00:19:50.400 | 488FP6C | 6TMSED  | FILL,AL4         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,732,005:65:0 |      |
| 975  | 98 | 315 | 00:29:01.066 | 488FP6D | 6TMSED  | FILL,AL5         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,732,014:72:0 |      |
| 976  | 98 | 315 | 04:11:41.733 | 488FP6E | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,732,235:02:0 |      |
| 977  | 98 | 315 | 04:23:41.066 | 488FQ6A | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,732,246:80:0 |      |
| 978  | 98 | 315 | 05:49:01.066 | 488FQ6B | 6TMSED  | NORM,AL7         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,732,331:25:0 |      |
| 979  | 98 | 315 | 09:50:03.733 | 488FQ6C | 6TMSED  | FILL,AL7         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,732,569:61:0 |      |
| 980  | 98 | 315 | 09:52:13.066 | 488FQ6D | 6TMSED  | FILL,AL5         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,732,571:73:0 |      |
| 981  | 98 | 315 | 16:56:38.333 | 488FR6A | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,732,991:51:0 |      |
| 982  | 98 | 315 | 18:11:22.333 | 488FR6B | 6TMSED  | FILL,AL5         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,733,065:43:0 |      |
| 983  | 98 | 315 | 18:40:28.333 | 488FR6C | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,733,094:23:0 |      |
| 984  | 98 | 315 | 18:54:05.000 | 488FR6D | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,733,107:65:0 |      |
| 985  | 98 | 315 | 20:17:17.000 | 488FR6E | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,733,190:00:0 |      |
| 986  | 98 | 315 | 23:46:21.000 | 488FS6A | 6TMSED  | NORM,AL4         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,733,396:70:0 |      |
| 987  | 98 | 316 | 00:24:44.333 | 488FS6B | 6TMSED  | FILL,AL4         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,733,434:67:0 |      |
| 988  | 98 | 316 | 00:33:17.000 | 488FS6C | 6TMSED  | FILL,AL5         | Sci. Eng. and D/L Chan | 400 | 4  | 0  | 4,733,443:17:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID    | Command | Parameters     | Description                               | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|---------|---------|----------------|---|-----|----|----|----------------|------|
| 989  | 98 | 316 | 04:06:35.666 | 488FS6D | 6TMSED  | NORM,AL5       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,733,654:14:0 |      |
| 990  | 98 | 316 | 04:19:25.000 | 488FS6E | 6TMSED  | NORM,AL6       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,733,666:76:0 |      |
| 991  | 98 | 316 | 05:49:01.000 | 488FT6A | 6TMSED  | NORM,AL7       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,733,755:41:0 |      |
| 992  | 98 | 316 | 12:55:41.000 | 488FU6A | 6TMSED  | NORM,AL6       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,734,177:39:0 |      |
| 993  | 98 | 316 | 14:25:17.000 | 488FU6B | 6TMSED  | NORM,AL5       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,734,266:04:0 |      |
| 994  | 98 | 316 | 14:46:37.000 | 488FU6C | 6TMSED  | NORM,AL3       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,734,287:13:0 |      |
| 995  | 98 | 316 | 14:47:19.000 | 488FU6D | 6TMSED  | FILL,AL3       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,734,287:76:0 |      |
| 996  | 98 | 316 | 14:57:17.000 | 488FU6E | 6TMSED  | FILL,AL1       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,734,297:63:0 |      |
| 997  | 98 | 316 | 15:33:33.000 | 488FU6A | 6TMSED  | FILL,AL6       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,734,333:51:0 |      |
| 998  | 98 | 316 | 16:55:39.000 | 488FU6B | 6TMSED  | NORM,AL6       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,734,414:69:0 |      |
| 999  | 98 | 316 | 18:57:13.600 | 176SX6A | 6TMREC  | PPB            | PAUSE PLAYBACK (PB CONTROL) Record Mode C | 400 | 4  | 0  | 4,734,535:00:0 |      |
| 1000 | 98 | 316 | 18:58:00.266 | 488FV6C | 6TMSED  | NORM,BA6       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,734,535:70:0 |      |
| 1001 | 98 | 316 | 19:02:00.266 | 20US4B  | 7SLEW   | DIS,POS,0.0    | Stator movement                           | 400 | 4  | 0  | 4,734,539:66:0 |      |
| 1002 | 98 | 316 | 19:03:00.266 | 20US4D  | 7MODE   | SPNL           | AACS ALL-SPIN LOW                         | 400 | 4  | 0  | 4,734,540:65:0 |      |
| 1003 | 98 | 316 | 19:05:00.266 | 20US4E  | 7SAFE   | UNSTOW         | SIP TO 153 deg cone                       | 400 | 4  | 0  | 4,734,542:63:0 |      |
| 1004 | 98 | 316 | 19:10:30.266 | 20US4G  | 7VENT   | 0.611,1.333,8  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,734,548:12:0 |      |
| 1005 | 98 | 316 | 19:10:30.933 | 20US4H  | 7VENT   | 0.611,1.0989,8 | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,734,548:13:0 |      |
| 1006 | 98 | 316 | 19:10:50.933 | 20US4I  | 7VENT   | 0.611,1.333,6  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,734,548:43:0 |      |
| 1007 | 98 | 316 | 19:10:51.600 | 20US4J  | 7VENT   | 0.611,1.0989,6 | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,734,548:44:0 |      |
| 1008 | 98 | 316 | 19:11:11.600 | 20US4K  | 7VENT   | 0.611,1.333,4  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,734,548:74:0 |      |
| 1009 | 98 | 316 | 19:11:12.266 | 20US4L  | 7VENT   | 0.611,0.666,5  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,734,548:75:0 |      |
| 1010 | 98 | 316 | 19:11:22.266 | 20US4M  | 7VENT   | 0.611,1.333,4  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,734,548:90:0 |      |
| 1011 | 98 | 316 | 19:11:22.933 | 20US4N  | 7VENT   | 0.611,0.666,5  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,734,549:00:0 |      |
| 1012 | 98 | 316 | 19:11:32.933 | 20US4O  | 7VENT   | 1.211,1.333,10 | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,734,549:15:0 |      |
| 1013 | 98 | 316 | 19:11:33.600 | 20US4P  | 7VENT   | 1.211,0.666,12 | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,734,549:16:0 |      |
| 1014 | 98 | 316 | 19:13:20.266 | 20US4S  | 7VENT   | 0.611,1.333,7  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,734,550:85:0 |      |
| 1015 | 98 | 316 | 19:13:20.933 | 20US4T  | 7VENT   | 0.611,1.0989,7 | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,734,550:86:0 |      |
| 1016 | 98 | 316 | 19:13:40.933 | 20US4U  | 7VENT   | 0.611,1.333,1  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,734,551:25:0 |      |
| 1017 | 98 | 316 | 19:13:41.600 | 20US4V  | 7VENT   | 0.611,1.0989,1 | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,734,551:26:0 |      |
| 1018 | 98 | 316 | 19:14:01.600 | 20US4AC | 7VENT   | 0.611,1.333,2  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,734,551:56:0 |      |
| 1019 | 98 | 316 | 19:14:02.266 | 20US4AD | 7VENT   | 0.611,0.666,3  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,734,551:57:0 |      |
| 1020 | 98 | 316 | 19:14:12.266 | 20US4AE | 7VENT   | 0.611,1.333,2  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,734,551:72:0 |      |
| 1021 | 98 | 316 | 19:14:12.933 | 20US4AF | 7VENT   | 0.611,0.666,3  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,734,551:73:0 |      |
| 1022 | 98 | 316 | 19:14:22.933 | 20US4W  | 7VENT   | 1.211,1.333,9  | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,734,551:88:0 |      |
| 1023 | 98 | 316 | 19:14:23.600 | 20US4X  | 7VENT   | 1.211,0.666,11 | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,734,551:89:0 |      |
| 1024 | 98 | 316 | 19:15:20.266 | 20US4Z  | 7MODE   | CRU            | AACS CRUISE MODE                          | 400 | 4  | 0  | 4,734,552:83:0 |      |
| 1025 | 98 | 316 | 19:30:00.266 | 488FV6D | 6TMSED  | NORM,AL6       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,734,567:38:0 |      |
| 1026 | 98 | 316 | 19:40:04.266 | 20UL4A  | 7SAFE   | STOP           | S/P NO MOVEMENT                           | 400 | 4  | 0  | 4,734,577:34:0 |      |
| 1027 | 98 | 316 | 19:40:54.266 | 20UL4B  | 7SLEW   | DIS,POS,0.0    | Stator movement                           | 400 | 4  | 0  | 4,734,578:18:0 |      |
| 1028 | 98 | 316 | 19:42:43.600 | 176SY6A | 6TMREC  | RPB            | RESUME PLAYBACK (PB CONTROL) Record Mode  | 400 | 4  | 0  | 4,734,580:00:0 |      |
| 1029 | 98 | 316 | 23:05:48.933 | 488FW6A | 6TMSED  | NORM,AL5       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,734,780:78:0 |      |
| 1030 | 98 | 317 | 00:05:32.933 | 488FW6B | 6TMSED  | NORM,AL4       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,734,839:85:0 |      |
| 1031 | 98 | 317 | 00:24:38.266 | 488FW6C | 6TMSED  | FILL,AL4       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,734,858:74:0 |      |
| 1032 | 98 | 317 | 04:03:16.266 | 488FW6D | 6TMSED  | NORM,AL4       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,735,075:04:0 |      |
| 1033 | 98 | 317 | 04:13:00.933 | 488FW6E | 6TMSED  | NORM,AL5       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,735,084:62:0 |      |
| 1034 | 98 | 317 | 05:01:30.266 | 488FX6A | 6TMSED  | FILL,AL5       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,735,132:58:0 |      |
| 1035 | 98 | 317 | 05:30:36.933 | 488FX6B | 6TMSED  | NORM,AL5       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,735,161:39:0 |      |
| 1036 | 98 | 317 | 05:49:00.933 | 488FX6C | 6TMSED  | NORM,AL6       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,735,179:57:0 |      |
| 1037 | 98 | 317 | 12:47:08.933 | 488FY6A | 6TMSED  | NORM,AL5       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,735,593:15:0 |      |
| 1038 | 98 | 317 | 14:21:00.933 | 488FY6B | 6TMSED  | NORM,AL4       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,735,686:00:0 |      |
| 1039 | 98 | 317 | 14:38:24.933 | 488FY6C | 6TMSED  | FILL,AL4       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,735,703:19:0 |      |
| 1040 | 98 | 317 | 14:40:12.933 | 488FY6D | 6TMSED  | FILL,AL2       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,735,704:90:0 |      |
| 1041 | 98 | 317 | 14:55:08.933 | 488FY6E | 6TMSED  | FILL,AL5       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,735,719:69:0 |      |
| 1042 | 98 | 317 | 16:56:26.933 | 488FZ6A | 6TMSED  | NORM,AL5       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,735,839:66:0 |      |
| 1043 | 98 | 317 | 18:11:33.600 | 488FZ6B | 6TMSED  | FILL,AL5       | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,735,914:01:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID    | Command | Parameters     | Description                  | GCM | GO | GS | RIM            | MFI           |
|------|----|-----|--------------|---------|---------|----------------|------------------------------|-----|----|----|----------------|---------------|
| 1044 | 98 | 317 | 18:40:39.600 | 488FZ6C | 6TMSED  | NORM,AL5       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,735,942:72:0 |               |
| 1045 | 98 | 317 | 20:05:00.266 | 488FZ6D | 6TMSED  | NORM,AH5       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,736,026:19:0 |               |
| 1046 | 98 | 317 | 20:08:50.266 | 176NV6A | 6TMREC  | PPB            | PAUSE PLAYBACK (PB CONTROL)  | 400 | 4  | 0  | 4,736,030:00:0 | Record Mode C |
| 1047 | 98 | 317 | 20:39:00.266 | 20NV4I  | 7MODE   | INT            | AACS INERTIAL MODE           | 400 | 4  | 0  | 4,736,059:76:0 |               |
| 1048 | 98 | 317 | 20:54:00.266 | 20NV4K  | 7SLEW   | INIT,POS,17.45 | Stator movement              | 400 | 4  | 0  | 4,736,074:61:0 |               |
| 1049 | 98 | 317 | 21:06:00.266 | 20NV4L  | 7SLEW   | DIS,POS,0.0    | Stator movement              | 400 | 4  | 0  | 4,736,086:49:0 |               |
| 1050 | 98 | 317 | 21:13:00.266 | 20NV4M  | 7SLEW   | INIT,NEG,17.45 | Stator movement              | 400 | 4  | 0  | 4,736,093:42:0 |               |
| 1051 | 98 | 317 | 21:25:00.266 | 20NV4N  | 7SLEW   | DIS,POS,0.0    | Stator movement              | 400 | 4  | 0  | 4,736,105:30:0 |               |
| 1052 | 98 | 317 | 21:37:00.266 | 20NV4AH | 7MODE   | GRU            | AACS CRUISE MODE             | 400 | 4  | 0  | 4,736,117:18:0 |               |
| 1053 | 98 | 317 | 21:53:04.266 | 20SU4A  | 7SAFE   | STOP           | SIP NO MOVEMENT              | 400 | 4  | 0  | 4,736,133:08:0 |               |
| 1054 | 98 | 317 | 21:53:54.266 | 20SU4B  | 7SLEW   | DIS,POS,0.0    | Stator movement              | 400 | 4  | 0  | 4,736,133:83:0 |               |
| 1055 | 98 | 317 | 21:55:00.266 | 176GF6A | 6TMREC  | RPB            | RESUME PLAYBACK (PB CONTROL) | 400 | 4  | 0  | 4,736,135:00:0 | Record Mode   |
| 1056 | 98 | 317 | 22:13:00.266 | 488FZ6E | 6TMSED  | NORM,AL5       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,736,152:73:0 |               |
| 1057 | 98 | 317 | 23:35:40.933 | 488GA6A | 6TMSED  | NORM,AL4       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,736,234:52:0 |               |
| 1058 | 98 | 318 | 00:14:32.933 | 488GA6B | 6TMSED  | FILL,AL4       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,736,273:01:0 |               |
| 1059 | 98 | 318 | 00:19:35.600 | 176VA6A | 6TMREC  | PPB            | PAUSE PLAYBACK (PB CONTROL)  | 400 | 4  | 0  | 4,736,278:00:0 | Record Mode C |
| 1060 | 98 | 318 | 00:24:44.933 | 488GA6C | 6TMSED  | FILL,AL5       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,736,283:09:0 |               |
| 1061 | 98 | 318 | 03:56:24.866 | 488GA6D | 6TMSED  | NORM,AL5       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,736,492:40:0 |               |
| 1062 | 98 | 318 | 04:08:44.866 | 488GA6E | 6TMSED  | NORM,AL6       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,736,504:58:0 |               |
| 1063 | 98 | 318 | 05:38:20.866 | 488GB6A | 6TMSED  | NORM,AL7       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,736,593:23:0 |               |
| 1064 | 98 | 318 | 12:47:08.866 | 488GC6A | 6TMSED  | NORM,AL6       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,737,017:31:0 |               |
| 1065 | 98 | 318 | 14:21:00.866 | 488GC6B | 6TMSED  | NORM,AL5       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,737,110:16:0 |               |
| 1066 | 98 | 318 | 14:31:40.866 | 488GC6C | 6TMSED  | NORM,AL4       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,737,120:66:0 |               |
| 1067 | 98 | 318 | 14:48:44.866 | 488GC6D | 6TMSED  | NORM,AL5       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,737,137:55:0 |               |
| 1068 | 98 | 318 | 14:49:08.866 | 176VB6A | 6TMREC  | RPB            | RESUME PLAYBACK (PB CONTROL) | 400 | 4  | 0  | 4,737,138:00:0 | Record Mode   |
| 1069 | 98 | 318 | 15:54:52.866 | 488GC6E | 6TMSED  | NORM,AL6       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,737,203:01:0 |               |
| 1070 | 98 | 318 | 21:34:36.200 | 176VC6A | 6TMREC  | PPB            | PAUSE PLAYBACK (PB CONTROL)  | 400 | 4  | 0  | 4,737,539:00:0 | Record Mode C |
| 1071 | 98 | 318 | 22:55:08.866 | 488GD6A | 6TMSED  | NORM,AL5       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,737,618:60:0 |               |
| 1072 | 98 | 319 | 00:01:16.866 | 488GD6B | 6TMSED  | NORM,AL4       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,737,684:06:0 |               |
| 1073 | 98 | 319 | 00:24:27.533 | 488GD6C | 6TMSED  | FILL,AL4       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,737,697:09:0 |               |
| 1074 | 98 | 319 | 00:24:44.866 | 488GD6D | 6TMSED  | FILL,AL5       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,737,707:25:0 |               |
| 1075 | 98 | 319 | 03:56:18.866 | 488GD6E | 6TMSED  | NORM,AL5       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,737,916:47:0 |               |
| 1076 | 98 | 319 | 04:08:44.866 | 488GE6A | 6TMSED  | NORM,AL6       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,737,928:74:0 |               |
| 1077 | 98 | 319 | 05:38:20.866 | 488GE6B | 6TMSED  | NORM,AL7       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,738,017:39:0 |               |
| 1078 | 98 | 319 | 12:36:28.800 | 488GF6A | 6TMSED  | NORM,AL6       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,738,430:88:0 |               |
| 1079 | 98 | 319 | 14:16:44.800 | 488GF6B | 6TMSED  | NORM,AL4       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,738,530:12:0 |               |
| 1080 | 98 | 319 | 14:44:28.800 | 488GF6C | 6TMSED  | NORM,AL5       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,738,557:51:0 |               |
| 1081 | 98 | 319 | 14:44:55.466 | 176VD6A | 6TMREC  | RPB            | RESUME PLAYBACK (PB CONTROL) | 400 | 4  | 0  | 4,738,558:00:0 | Record Mode   |
| 1082 | 98 | 319 | 15:48:28.800 | 488GF6D | 6TMSED  | NORM,AL6       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,738,620:78:0 |               |
| 1083 | 98 | 319 | 21:55:24.800 | 488GG6A | 6TMSED  | NORM,AL5       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,738,983:69:0 |               |
| 1084 | 98 | 319 | 22:38:04.800 | 488GG6B | 6TMSED  | NORM,AL6       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,739,025:87:0 |               |
| 1085 | 98 | 320 | 01:23:56.800 | 176VE6A | 6TMREC  | PPB            | PAUSE PLAYBACK (PB CONTROL)  | 400 | 4  | 0  | 4,739,190:00:0 | Record Mode C |
| 1086 | 98 | 320 | 03:42:58.800 | 488GG6C | 6TMSED  | FILL,AL6       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,739,327:46:0 |               |
| 1087 | 98 | 320 | 03:45:16.800 | 488GG6D | 6TMSED  | FILL,AL5       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,739,329:71:0 |               |
| 1088 | 98 | 320 | 03:51:13.466 | 488GG6E | 6TMSED  | NORM,AL5       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,739,335:60:0 |               |
| 1089 | 98 | 320 | 04:04:28.800 | 488GH6A | 6TMSED  | NORM,AL6       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,739,348:70:0 |               |
| 1090 | 98 | 320 | 05:38:20.800 | 488GH6B | 6TMSED  | NORM,AL7       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,739,441:55:0 |               |
| 1091 | 98 | 320 | 09:29:08.800 | 488GH6C | 6TMSED  | FILL,AL7       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,739,669:79:0 |               |
| 1092 | 98 | 320 | 09:30:52.800 | 488GH6D | 6TMSED  | FILL,AL5       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,739,671:53:0 |               |
| 1093 | 98 | 320 | 17:36:09.400 | 488GI6A | 6TMSED  | NORM,AL5       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,740,151:48:0 |               |
| 1094 | 98 | 320 | 17:36:38.066 | 176VF6A | 6TMREC  | RPB            | RESUME PLAYBACK (PB CONTROL) | 400 | 4  | 0  | 4,740,152:00:0 | Record Mode   |
| 1095 | 98 | 320 | 18:51:50.733 | 488GI6B | 6TMSED  | FILL,AL5       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,740,226:35:0 |               |
| 1096 | 98 | 320 | 19:20:56.733 | 488GI6C | 6TMSED  | NORM,AL5       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,740,255:15:0 |               |
| 1097 | 98 | 320 | 23:20:44.733 | 488GI6D | 6TMSED  | NORM,AL4       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,740,492:30:0 |               |
| 1098 | 98 | 320 | 23:49:16.066 | 488GJ6A | 6TMSED  | FILL,AL4       | Sci, Eng, and D/L Chan       | 400 | 4  | 0  | 4,740,520:49:0 |               |

| Line | YR | DOY | SCET - GMT   | PSID        | Command | Parameters       | Description                 | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|-------------|---------|------------------|-----------------------------|-----|----|----|----------------|------|
| 1099 | 98 | 320 | 23:59:08.733 | 488GJ6B     | 6TMSED  | FILL,AL6         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,740,530:28:0 |      |
| 1100 | 98 | 321 | 00:10:15.400 | 488GJ6C     | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,740,541:27:0 |      |
| 1101 | 98 | 321 | 01:03:14.733 | 488GJ6D     | 6TMSED  | FILL,AL6         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,740,593:64:0 |      |
| 1102 | 98 | 321 | 01:30:04.066 | 488GJ6E     | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,740,620:21:0 |      |
| 1103 | 98 | 321 | 03:43:24.733 | 488GK6A     | 6TMSED  | FILL,AL6         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,740,752:10:0 |      |
| 1104 | 98 | 321 | 03:49:32.733 | 488GK6B     | 6TMSED  | FILL,AL7         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,740,758:16:0 |      |
| 1105 | 98 | 321 | 05:39:20.733 | 488GK6C     | 6TMSED  | NORM,AL7         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,740,866:70:0 |      |
| 1106 | 98 | 321 | 07:29:46.733 | 432MC431A6A | 6RCDL   | DDSDSL,PLSNCG,EP | Record Deselect (DDS o      | 400 | 4  | 0  | 4,740,975:90:0 |      |
| 1107 | 98 | 321 | 07:29:47.400 | 432MC6A     | 6RTSL1  |                  | R/T Select of DDS and       | 400 | 4  | 0  | 4,740,976:00:0 |      |
| 1108 | 98 | 321 | 12:21:32.733 | 488GL6A     | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,741,264:50:0 |      |
| 1109 | 98 | 321 | 14:06:04.733 | 488GL6B     | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,741,367:85:0 |      |
| 1110 | 98 | 321 | 14:21:00.733 | 488GL6C     | 6TMSED  | NORM,AL4         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,741,382:64:0 |      |
| 1111 | 98 | 321 | 14:38:04.733 | 488GL6D     | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,741,399:53:0 |      |
| 1112 | 98 | 321 | 15:48:28.733 | 488GL6E     | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,741,469:19:0 |      |
| 1113 | 98 | 321 | 22:35:56.733 | 488GM6A     | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,741,872:18:0 |      |
| 1114 | 98 | 321 | 23:20:44.733 | 488GM6B     | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,741,916:46:0 |      |
| 1115 | 98 | 322 | 03:38:02.000 | 488GM6C     | 6TMSED  | FILL,AL6         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,742,170:88:0 |      |
| 1116 | 98 | 322 | 03:41:00.666 | 488GM6D     | 6TMSED  | FILL,AL5         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,742,173:83:0 |      |
| 1117 | 98 | 322 | 03:46:02.666 | 488GM6E     | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,742,178:81:0 |      |
| 1118 | 98 | 322 | 03:58:04.666 | 488GN6A     | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,742,190:72:0 |      |
| 1119 | 98 | 322 | 05:38:20.666 | 488GN6B     | 6TMSED  | NORM,AL7         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,742,289:87:0 |      |
| 1120 | 98 | 322 | 12:10:52.666 | 488GO6A     | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,742,678:16:0 |      |
| 1121 | 98 | 322 | 13:59:40.666 | 488GO6B     | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,742,785:71:0 |      |
| 1122 | 98 | 322 | 14:21:00.666 | 488GO6C     | 6TMSED  | NORM,AL3         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,742,806:80:0 |      |
| 1123 | 98 | 322 | 14:22:02.666 | 488GO6D     | 6TMSED  | FILL,AL3         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,742,807:82:0 |      |
| 1124 | 98 | 322 | 14:42:20.666 | 488GO6E     | 6TMSED  | FILL,AL6         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,742,827:89:0 |      |
| 1125 | 98 | 322 | 16:55:06.000 | 488GP6A     | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,742,959:25:0 |      |
| 1126 | 98 | 322 | 21:40:28.666 | 488GP6B     | 6TMSED  | NORM,AL4         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,743,241:47:0 |      |
| 1127 | 98 | 322 | 22:08:12.666 | 488GP6C     | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,743,268:86:0 |      |
| 1128 | 98 | 322 | 23:02:02.666 | 488GQ6A     | 6TMSED  | FILL,AL5         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,743,322:17:0 |      |
| 1129 | 98 | 322 | 23:31:08.666 | 488GQ6B     | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,743,350:88:0 |      |
| 1130 | 98 | 323 | 00:00:00.000 | 481UC4A     | 7VECT   |                  | Inert vect update UTC       | 400 | 4  | 0  | 4,743,379:46:0 |      |
| 1131 | 98 | 323 | 00:07:40.666 | 488GQ6C     | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,743,387:09:0 |      |
| 1132 | 98 | 323 | 03:32:37.333 | 488GQ6D     | 6TMSED  | FILL,AL6         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,743,589:72:0 |      |
| 1133 | 98 | 323 | 03:34:36.666 | 488GQ6E     | 6TMSED  | FILL,AL5         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,743,591:69:0 |      |
| 1134 | 98 | 323 | 03:40:57.333 | 488GR6A     | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,743,598:03:0 |      |
| 1135 | 98 | 323 | 03:53:48.666 | 488GR6B     | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,743,610:68:0 |      |
| 1136 | 98 | 323 | 04:48:26.666 | 488GR6C     | 6TMSED  | FILL,AL6         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,743,664:71:0 |      |
| 1137 | 98 | 323 | 05:15:16.000 | 488GR6D     | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,743,691:28:0 |      |
| 1138 | 98 | 323 | 05:49:00.666 | 488GR6E     | 6TMSED  | NORM,AL7         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,743,724:62:0 |      |
| 1139 | 98 | 323 | 07:00:00.000 | 481UA4A     | 7VECT   | BB1              | Inert vect update UTC       | 400 | 4  | 0  | 4,743,794:81:0 |      |
| 1140 | 98 | 323 | 11:51:40.600 | 488GS6A     | 6TMSED  | NORM,AL6         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,744,083:33:0 |      |
| 1141 | 98 | 323 | 13:51:08.600 | 488GS6B     | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,744,201:47:0 |      |
| 1142 | 98 | 323 | 14:10:20.600 | 488GS6C     | 6TMSED  | NORM,AL4         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,744,220:46:0 |      |
| 1143 | 98 | 323 | 15:07:56.600 | 488GS6D     | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,744,277:43:0 |      |
| 1144 | 98 | 323 | 15:32:05.266 | 488GS6E     | 6TMSED  | FILL,AL5         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,744,301:32:0 |      |
| 1145 | 98 | 323 | 16:01:11.933 | 488GT6A     | 6TMSED  | NORM,AL5         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,744,330:13:0 |      |
| 1146 | 98 | 323 | 17:23:00.600 | 488GT6B     | 6TMSED  | NORM,AH5         | Sci. Eng. and D/L Chan      | 400 | 4  | 0  | 4,744,411:05:0 |      |
| 1147 | 98 | 323 | 17:28:00.600 | 176SF6A     | 6TMREC  | PPB              | PAUSE PLAYBACK (PB CONTROL) | 400 | 4  | 0  | 4,744,416:00:0 |      |
| 1148 | 98 | 323 | 17:38:59.933 | 20CA4C      | 7STAT   | 17.45,82.5018,-2 | Stator inertial point       | 400 | 4  | 0  | 4,744,426:79:0 |      |
| 1149 | 98 | 323 | 17:59:59.933 | 474CA416A4B | 7MODE   | INT              | AACS INERTIAL MODE          | 400 | 4  | 0  | 4,744,447:58:0 |      |
| 1150 | 98 | 323 | 18:01:59.933 | 474CA416A4D | 7SAFE   | UNSTOW           | S/P TO 153 deg cone         | 400 | 4  | 0  | 4,744,449:56:0 |      |
| 1151 | 98 | 323 | 18:02:19.933 | 20CA4D      | 7STAT   | 17.45,82.5018,-2 | Stator inertial point       | 400 | 4  | 0  | 4,744,449:86:0 |      |
| 1152 | 98 | 323 | 18:06:13.933 | 474CA416A4E | 7BURN   | LZ,82.5018,-20.5 | ALERT -- Thruster fire      | 400 | 4  | 0  | 4,744,453:73:0 |      |
| 1153 | 98 | 323 | 18:13:59.933 | 20CA4F      | 7SLEW   | DIS,POS,0.0      | Stator movement             | 400 | 4  | 0  | 4,744,461:44:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID        | Command Parameters         | Description                               | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|-------------|----------------------------|---|-----|----|----|----------------|------|
| 1154 | 98 | 323 | 18:19:51.933 | 20CA4G      | 7MODE CRU                  | AACS CRUISE MODE                          | 400 | 4  | 0  | 4,744,467:26:0 |      |
| 1155 | 98 | 323 | 18:44:07.933 | 20CA4L      | 7STAT 17.45,82.5018,-2     | Stator inertial point                     | 400 | 4  | 0  | 4,744,491:26:0 |      |
| 1156 | 98 | 323 | 18:47:07.933 | 20CA4O      | 7MODE INT                  | AACS INERTIAL MODE                        | 400 | 4  | 0  | 4,744,494:23:0 |      |
| 1157 | 98 | 323 | 18:49:07.933 | 474CA416A4G | 7BURN T.82.5018,-20.56     | ALERT -- Thruster fire                    | 400 | 4  | 0  | 4,744,496:21:0 |      |
| 1158 | 98 | 323 | 19:00:33.933 | 20CA4Q      | 7SLEW DIS,POS,0.0          | Stator movement                           | 400 | 4  | 0  | 4,744,507:49:0 |      |
| 1159 | 98 | 323 | 19:05:25.933 | 20CA4R      | 7MODE CRU                  | AACS CRUISE MODE                          | 400 | 4  | 0  | 4,744,512:32:0 |      |
| 1160 | 98 | 323 | 20:12:57.933 | 20CB4A      | 7SAFE STOP                 | SIP NO MOVEMENT                           | 400 | 4  | 0  | 4,744,519:13:0 |      |
| 1161 | 98 | 323 | 20:13:47.933 | 20CB4B      | 7SLEW DIS,POS,0.0          | Stator movement                           | 400 | 4  | 0  | 4,744,579:88:0 |      |
| 1162 | 98 | 323 | 20:14:50.600 | 176CA6A     | 6TMREC RPB                 | RESUME PLAYBACK (PB CONTROL) Record Mode  | 400 | 4  | 0  | 4,744,581:00:0 |      |
| 1163 | 98 | 323 | 22:31:00.600 | 488GU6A     | 6TMUSED NORM,AL5           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,744,715:61:0 |      |
| 1164 | 98 | 323 | 22:31:20.600 | 176SG6A     | 6TMREC RPB                 | RESUME PLAYBACK (PB CONTROL) Record Mode  | 400 | 4  | 0  | 4,744,715:61:0 |      |
| 1165 | 98 | 323 | 22:35:00.600 | 41SA99A     | POWER PWR MODE change      | Change to Data Taking Mode                | 400 | 4  | 0  | 4,744,719:57:0 |      |
| 1166 | 98 | 323 | 22:35:04.600 | 41SA3A      | 40T1PR                     | 1 PCT Heater 1 OFF (primary relay)        | 400 | 4  | 0  | 4,744,719:63:0 |      |
| 1167 | 98 | 323 | 22:35:14.600 | 41SA3B      | 40T1PR                     | 2 PCT Heater 1 OFF (primary relay)        | 400 | 4  | 0  | 4,744,719:78:0 |      |
| 1168 | 98 | 323 | 22:35:24.600 | 41SA3C      | 40T2R                      | 1 PCT Heater 2 OFF                        | 400 | 4  | 0  | 4,744,720:02:0 |      |
| 1169 | 98 | 323 | 22:35:34.600 | 41SA3D      | 40T2R                      | 2 PCT Heater 2 OFF                        | 400 | 4  | 0  | 4,744,720:17:0 |      |
| 1170 | 98 | 323 | 22:55:08.600 | 488GU6B     | 6TMUSED NORM,AL4           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,744,739:49:0 |      |
| 1171 | 98 | 323 | 23:50:36.600 | 488GU6C     | 6TMUSED NORM,AL6           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,744,794:36:0 |      |
| 1172 | 98 | 324 | 00:48:30.600 | 488GU6D     | 6TMUSED FILL,AL6           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,744,851:60:0 |      |
| 1173 | 98 | 324 | 01:15:19.933 | 488GU6E     | 6TMUSED NORM,AL6           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,744,878:17:0 |      |
| 1174 | 98 | 324 | 03:27:43.933 | 488GV6A     | 6TMUSED FILL,AL6           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,745,009:12:0 |      |
| 1175 | 98 | 324 | 03:30:20.600 | 488GV6B     | 6TMUSED FILL,AL5           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,745,011:65:0 |      |
| 1176 | 98 | 324 | 03:35:52.600 | 488GV6C     | 6TMUSED NORM,AL5           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,745,017:17:0 |      |
| 1177 | 98 | 324 | 03:53:48.600 | 488GV6D     | 6TMUSED NORM,AL6           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,745,034:84:0 |      |
| 1178 | 98 | 324 | 06:12:28.600 | 488GV6E     | 6TMUSED NORM,AL7           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,745,172:06:0 |      |
| 1179 | 98 | 324 | 11:04:44.600 | 488GW6A     | 6TMUSED NORM,AL6           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,745,461:11:0 |      |
| 1180 | 98 | 324 | 13:40:28.600 | 488GW6B     | 6TMUSED NORM,AL5           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,745,615:13:0 |      |
| 1181 | 98 | 324 | 14:06:04.600 | 488GW6C     | 6TMUSED NORM,AL4           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,745,640:42:0 |      |
| 1182 | 98 | 324 | 15:14:20.600 | 488GW6D     | 6TMUSED NORM,AL5           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,745,707:89:0 |      |
| 1183 | 98 | 324 | 15:32:10.600 | 488GW6E     | 6TMUSED FILL,AL5           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,745,725:56:0 |      |
| 1184 | 98 | 324 | 16:01:16.600 | 488GX6A     | 6TMUSED NORM,AL5           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,745,754:36:0 |      |
| 1185 | 98 | 324 | 21:21:16.533 | 488GX6B     | 6TMUSED NORM,AL4           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,746,070:80:0 |      |
| 1186 | 98 | 324 | 21:49:00.533 | 488GX6C     | 6TMUSED NORM,AL5           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,746,098:28:0 |      |
| 1187 | 98 | 324 | 22:48:24.533 | 488GY6A     | 6TMUSED FILL,AL5           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,746,157:05:0 |      |
| 1188 | 98 | 324 | 22:48:44.533 | 488GY6B     | 6TMUSED FILL,AL6           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,746,157:35:0 |      |
| 1189 | 98 | 324 | 23:15:24.533 | 488GY6C     | 6TMUSED NORM,AL6           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,746,183:69:0 |      |
| 1190 | 98 | 324 | 23:41:56.533 | 176SP6A     | 6TMREC TPB                 | TERMINATE PLAYBACK (PB CONTROL) Record Mo | 400 | 4  | 0  | 4,746,210:00:0 |      |
| 1191 | 98 | 324 | 23:48:00.533 |             | DMS: : *TURNARND           | P7, TRACK 1, FWD, TIC 202.12 +/-          | 400 | 4  | 0  | 4,746,216:00:0 |      |
| 1192 | 98 | 324 | 23:48:00.533 | 465TA6A     | 6DMST 5000 DMS Slew to TIC |   | 400 | 4  | 0  | 4,746,216:00:0 |      |
| 1193 | 98 | 324 | 23:48:00.533 |             | DMS: : *E4-DELAY           | RDY, TRACK 1, FWD, TIC 202.12 +/-         | 400 | 4  | 0  | 4,746,216:00:0 |      |
| 1194 | 98 | 324 | 23:48:00.533 |             | DMS: : *SLEW-TIC           | P7, TRACK 1, FWD, TIC 202.12 +/-          | 400 | 4  | 0  | 4,746,216:00:0 |      |
| 1195 | 98 | 324 | 23:48:07.200 |             | DMS: : *RUNUP              | P7, TRACK 1, FWD, TIC 202.12 +/-          | 400 | 4  | 0  | 4,746,216:10:0 |      |
| 1196 | 98 | 324 | 23:48:08.600 |             | DMS: : *AT SPD             | P7, TRACK 1, FWD, TIC *202.24 +/-         | 400 | 4  | 0  | 4,746,216:12:1 |      |
| 1197 | 98 | 325 | 03:28:12.533 | 488GY6D     | 6TMUSED NORM,AL7           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,746,433:71:0 |      |
| 1198 | 98 | 325 | 04:34:58.533 | 488GY6E     | 6TMUSED FILL,AL7           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,746,499:74:0 |      |
| 1199 | 98 | 325 | 04:59:31.866 | 488GZ6A     | 6TMUSED NORM,AL7           | Sci. Eng. and D/L Chan                    | 400 | 4  | 0  | 4,746,524:09:0 |      |
| 1200 | 98 | 325 | 05:29:09.333 |             | DMS: : *RUNDOWN            | P7, TRACK 1, FWD, TIC *4997.94 +/-        | 400 | 4  | 0  | 4,746,553:36:2 |      |
| 1201 | 98 | 325 | 05:29:10.533 |             | DMS: : *READY              | RDY, TRACK 1, FWD, TIC *4998.00 +/-       | 400 | 4  | 0  | 4,746,553:38:0 |      |
| 1202 | 98 | 325 | 05:41:41.866 | 465TB6A     | 6DMSC P100.4               | DMS Control Tape P/B 100.8kbps            | 400 | 4  | 0  | 4,746,565:73:0 |      |
| 1203 | 98 | 325 | 05:41:41.866 |             | DMS: : *US-RUNUP           | P7, TRACK 1, FWD, TIC 4998.00 +/-         | 400 | 4  | 0  | 4,746,565:73:0 |      |
| 1204 | 98 | 325 | 05:41:43.266 |             | DMS: : *US_AT_SP           | P7, TRACK 1, FWD, TIC *4998.12 +/-        | 400 | 4  | 0  | 4,746,565:75:1 |      |
| 1205 | 98 | 325 | 05:41:48.533 |             | DMS: : *US RD              | P7, TRACK 1, FWD, TIC *4999.35 +/-        | 400 | 4  | 0  | 4,746,565:83:0 |      |
| 1206 | 98 | 325 | 05:41:49.733 |             | DMS: : *RUNUP              | P100, TRACK *4, REV, TIC *4999.41 +/-     | 400 | 4  | 0  | 4,746,565:84:8 |      |
| 1207 | 98 | 325 | 05:41:53.600 |             | DMS: : *AT SPD             | P100, TRACK 4, REV, TIC 4993.91 +/-       | 400 | 4  | 0  | 4,746,565:90:6 |      |
| 1208 | 98 | 325 | 05:41:53.600 |             | DMS: : *P_SLEW             | P100, TRACK 4, REV, TIC *4993.91 +/-      | 400 | 4  | 0  | 4,746,565:90:6 |      |

| Line | YR | DOY | SCET - GMT   | PSID    | Command | Parameters       | Description                            | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|---------|---------|------------------|--|-----|----|----|----------------|------|
| 1209 | 98 | 325 | 06:07:33.866 | 465TB6B | 6DMSC   | RDY,4            | DMS Control Tape stop                  | 400 | 4  | 0  | 4,746,591:35:0 |      |
| 1210 | 98 | 325 | 06:07:33.866 |         | DMS:    | : *RUNDOWN       | P100, TRACK 4, REV, TIC * 255.79 +/-   | 400 | 4  | 0  | 4,746,591:35:0 |      |
| 1211 | 98 | 325 | 06:07:35.066 |         | DMS:    | : *READY         | RDY, TRACK 4, REV, TIC * 254.99 +/-    | 400 | 4  | 0  | 4,746,591:36:8 |      |
| 1212 | 98 | 325 | 07:31:24.533 | 488GZ6B | 6TMSD   | NORM,AL5         | Sci, Eng, and D/L Chan                 | 400 | 4  | 0  | 4,746,674:28:0 |      |
| 1213 | 98 | 325 | 08:05:21.866 | 465TC6A | 6DTRN   | CMD,6DTRN,465TC6 | DMS TRACK TURNAROUND                   | 400 | 4  | 0  | 4,746,707:81:0 |      |
| 1214 | 98 | 325 | 08:05:21.866 |         | DMS:    | : *US-RUNUP      | P7, TRACK *1, FWD, TIC 254.99 +/-      | 400 | 4  | 0  | 4,746,707:81:0 |      |
| 1215 | 98 | 325 | 08:05:21.866 |         | DMS:    | : *DMS-TURN      | P7, TRACK 4, REV, TIC 254.99 +/-       | 400 | 4  | 0  | 4,746,707:81:0 |      |
| 1216 | 98 | 325 | 08:05:23.266 |         | DMS:    | : *US AT SP      | P7, TRACK 1, FWD, TIC * 255.11 +/-     | 400 | 4  | 0  | 4,746,707:83:1 |      |
| 1217 | 98 | 325 | 08:05:28.533 |         | DMS:    | : *US RD         | P7, TRACK 1, FWD, TIC * 256.34 +/-     | 400 | 4  | 0  | 4,746,708:00:0 |      |
| 1218 | 98 | 325 | 08:05:29.733 |         | DMS:    | : *RUNUP         | P7, TRACK *4, REV, TIC * 256.40 +/-    | 400 | 4  | 0  | 4,746,708:01:8 |      |
| 1219 | 98 | 325 | 08:05:31.133 |         | DMS:    | : *AT SPD        | P7, TRACK 4, REV, TIC * 256.28 +/-     | 400 | 4  | 0  | 4,746,708:03:9 |      |
| 1220 | 98 | 325 | 08:09:09.866 | 488GZ6C | 6TMSD   | NORM,AH5         | Sci, Eng, and D/L Chan                 | 400 | 4  | 0  | 4,746,711:59:0 |      |
| 1221 | 98 | 325 | 08:09:31.800 |         | DMS:    | : *REVERSE       | P7, TRACK 4, REV, TIC * 199.87 +/-     | 400 | 4  | 0  | 4,746,712:00:9 |      |
| 1222 | 98 | 325 | 08:09:33.000 |         | DMS:    | : *RUNUP         | P7, TRACK 1, FWD, TIC 199.81 +/-       | 400 | 4  | 0  | 4,746,712:02:7 |      |
| 1223 | 98 | 325 | 08:09:33.000 |         | DMS:    | : *TURNARND      | P7, TRACK *1, FWD, TIC * 199.81 +/-    | 400 | 4  | 0  | 4,746,712:02:7 |      |
| 1224 | 98 | 325 | 08:09:34.400 |         | DMS:    | : *AT SPD        | P7, TRACK 1, FWD, TIC * 199.93 +/-     | 400 | 4  | 0  | 4,746,712:04:8 |      |
| 1225 | 98 | 325 | 08:09:46.400 |         | DMS:    | : *AUTOSTOP      | P7, TRACK 1, FWD, TIC * 202.06 +/-     | 400 | 4  | 0  | 4,746,712:22:8 |      |
| 1226 | 98 | 325 | 08:09:47.600 |         | DMS:    | : *READY         | RDY, TRACK 1, FWD, TIC * 202.12 +/-    | 400 | 4  | 0  | 4,746,712:24:6 |      |
| 1227 | 98 | 325 | 08:15:24.533 | 465TD6A | 6DMSC   | P100,1           | DMS Control Tape P/B 100.8kbps         | 400 | 4  | 0  | 4,746,717:75:0 |      |
| 1228 | 98 | 325 | 08:15:24.533 |         | DMS:    | : *E4-DELAY      | RDY, TRACK 1, FWD, TIC 202.12 +/-      | 400 | 4  | 0  | 4,746,717:75:0 |      |
| 1229 | 98 | 325 | 08:15:31.200 |         | DMS:    | : *RUNUP         | P100, TRACK 1, FWD, TIC 202.12 +/-     | 400 | 4  | 0  | 4,746,717:85:0 |      |
| 1230 | 98 | 325 | 08:15:35.066 |         | DMS:    | : *AT SPD        | P100, TRACK 1, FWD, TIC 207.62 +/-     | 400 | 4  | 0  | 4,746,717:90:8 |      |
| 1231 | 98 | 325 | 08:15:35.066 |         | DMS:    | : *P SLEW        | P100, TRACK 1, FWD, TIC * 207.62 +/-   | 400 | 4  | 0  | 4,746,717:90:8 |      |
| 1232 | 98 | 325 | 08:47:18.533 | 465TD6B | 6DMSC   | RDY,1            | DMS Control Tape stop                  | 400 | 4  | 0  | 4,746,749:34:0 |      |
| 1233 | 98 | 325 | 08:47:18.533 |         | DMS:    | : *RUNDOWN       | P100, TRACK 1, FWD, TIC * 6063.01 +/-  | 400 | 4  | 0  | 4,746,749:34:0 |      |
| 1234 | 98 | 325 | 08:47:19.733 |         | DMS:    | : *READY         | RDY, TRACK 1, FWD, TIC * 6063.81 +/-   | 400 | 4  | 0  | 4,746,749:35:8 |      |
| 1235 | 98 | 325 | 09:02:54.533 | 465TE6A | 6DMSC   | P100,2           | DMS Control Tape P/B 100.8kbps         | 400 | 4  | 0  | 4,746,764:73:0 |      |
| 1236 | 98 | 325 | 09:02:54.533 |         | DMS:    | : *US AT SP      | P7, TRACK 1, FWD, TIC * 6063.93 +/-    | 400 | 4  | 0  | 4,746,764:75:1 |      |
| 1237 | 98 | 325 | 09:02:55.933 |         | DMS:    | : *US RD         | P7, TRACK 1, FWD, TIC * 6065.17 +/-    | 400 | 4  | 0  | 4,746,764:83:0 |      |
| 1238 | 98 | 325 | 09:03:01.200 |         | DMS:    | : *RUNUP         | P100, TRACK *2, REV, TIC * 6065.23 +/- | 400 | 4  | 0  | 4,746,764:84:8 |      |
| 1239 | 98 | 325 | 09:03:02.400 |         | DMS:    | : *P SLEW        | P100, TRACK 2, REV, TIC * 6059.73 +/-  | 400 | 4  | 0  | 4,746,764:90:6 |      |
| 1240 | 98 | 325 | 09:03:06.266 |         | DMS:    | : *AT SPD        | P100, TRACK 2, REV, TIC * 6059.73 +/-  | 400 | 4  | 0  | 4,746,764:90:6 |      |
| 1241 | 98 | 325 | 09:03:06.266 |         | DMS:    | : *RUNDOWN       | P100, TRACK 2, REV, TIC * 164.96 +/-   | 400 | 4  | 0  | 4,746,796:53:0 |      |
| 1242 | 98 | 325 | 09:35:02.533 | 465TF6A | 6DMSC   | P100,3           | DMS Control Tape P/B 100.8kbps         | 400 | 4  | 0  | 4,746,796:53:0 |      |
| 1243 | 98 | 325 | 09:35:02.533 |         | DMS:    | : *RUNUP         | P100, TRACK *3, FWD, TIC * 164.16 +/-  | 400 | 4  | 0  | 4,746,796:54:8 |      |
| 1244 | 98 | 325 | 09:35:03.733 |         | DMS:    | : *AT SPD        | P100, TRACK 3, FWD, TIC 169.66 +/-     | 400 | 4  | 0  | 4,746,796:60:6 |      |
| 1245 | 98 | 325 | 09:35:07.600 |         | DMS:    | : *P SLEW        | P100, TRACK 3, FWD, TIC * 169.66 +/-   | 400 | 4  | 0  | 4,746,796:60:6 |      |
| 1246 | 98 | 325 | 10:07:03.200 | 465TF6B | 6DMSC   | RDY,3            | DMS Control Tape stop                  | 400 | 4  | 0  | 4,746,828:22:0 |      |
| 1247 | 98 | 325 | 10:07:03.200 |         | DMS:    | : *RUNDOWN       | P100, TRACK 3, FWD, TIC * 6062.38 +/-  | 400 | 4  | 0  | 4,746,828:22:0 |      |
| 1248 | 98 | 325 | 10:07:04.400 |         | DMS:    | : *READY         | RDY, TRACK 3, FWD, TIC * 6063.18 +/-   | 400 | 4  | 0  | 4,746,828:23:8 |      |
| 1249 | 98 | 325 | 10:07:04.400 |         | DMS:    | : *US-RUNUP      | P7, TRACK *1, FWD, TIC 6063.18 +/-     | 400 | 4  | 0  | 4,746,842:73:0 |      |
| 1250 | 98 | 325 | 10:21:46.533 | 465TG6A | 6DMSC   | P100,4           | DMS Control Tape P/B 100.8kbps         | 400 | 4  | 0  | 4,746,842:73:0 |      |
| 1251 | 98 | 325 | 10:21:46.533 |         | DMS:    | : *US AT SP      | P7, TRACK 1, FWD, TIC * 6063.30 +/-    | 400 | 4  | 0  | 4,746,842:75:1 |      |
| 1252 | 98 | 325 | 10:21:47.933 |         | DMS:    | : *US RD         | P7, TRACK 1, FWD, TIC * 6064.53 +/-    | 400 | 4  | 0  | 4,746,842:83:0 |      |
| 1253 | 98 | 325 | 10:21:53.200 |         | DMS:    | : *RUNUP         | P100, TRACK *4, REV, TIC * 6064.59 +/- | 400 | 4  | 0  | 4,746,842:84:8 |      |
| 1254 | 98 | 325 | 10:21:54.400 |         | DMS:    | : *AT SPD        | P100, TRACK 4, REV, TIC 6059.09 +/-    | 400 | 4  | 0  | 4,746,842:90:6 |      |
| 1255 | 98 | 325 | 10:21:58.266 |         | DMS:    | : *P SLEW        | P100, TRACK 4, REV, TIC * 6059.09 +/-  | 400 | 4  | 0  | 4,746,842:90:6 |      |
| 1256 | 98 | 325 | 10:21:58.266 | 465TH6A | 6DMSC   | P100,3           | DMS Control Tape P/B 100.8kbps         | 400 | 4  | 0  | 4,746,874:52:0 |      |
| 1257 | 98 | 325 | 10:53:53.866 |         | DMS:    | : *RUNDOWN       | P100, TRACK 4, REV, TIC * 166.38 +/-   | 400 | 4  | 0  | 4,746,874:52:0 |      |
| 1258 | 98 | 325 | 10:53:53.866 |         | DMS:    | : *RUNUP         | P100, TRACK *3, FWD, TIC * 165.58 +/-  | 400 | 4  | 0  | 4,746,874:53:8 |      |
| 1259 | 98 | 325 | 10:53:55.066 |         | DMS:    | : *P SLEW        | P100, TRACK 3, FWD, TIC * 171.08 +/-   | 400 | 4  | 0  | 4,746,874:59:6 |      |
| 1260 | 98 | 325 | 10:53:58.933 |         | DMS:    | : *AT SPD        | P100, TRACK 3, FWD, TIC 171.08 +/-     | 400 | 4  | 0  | 4,746,874:59:6 |      |
| 1261 | 98 | 325 | 10:53:58.933 |         | DMS:    | : *RUNDOWN       | P100, TRACK 3, FWD, TIC * 358.52 +/-   | 400 | 4  | 0  | 4,746,875:60:0 |      |
| 1262 | 98 | 325 | 10:54:59.866 | 465TH6B | 6DMSC   | RDY,3            | DMS Control Tape stop                  | 400 | 4  | 0  | 4,746,875:60:0 |      |
| 1263 | 98 | 325 | 10:54:59.866 |         | DMS:    | : *P SLEW        | P100, TRACK 3, FWD, TIC * 358.52 +/-   | 400 | 4  | 0  | 4,746,875:60:0 |      |

| Line | YR | DOY | SCET - GMT   | PSID    | Command Parameters     | Description                               | GCM | GO | GS | RIM            | MF I |
|------|----|-----|--------------|---------|------------------------|---|-----|----|----|----------------|------|
| 1264 | 98 | 325 | 10:55:01.066 |         | DMS: : *READY          | RDY, TRACK 3, FWD, TIC * 359.32 +/-       | 400 | 4  | 0  | 4,746,875:61:8 |      |
| 1265 | 98 | 325 | 10:55:59.866 | 488GZ6D | 6TMSED NORM,AL5        | Sci, Eng, and D/L Chan                    | 400 | 4  | 0  | 4,746,876:59:0 |      |
| 1266 | 98 | 325 | 11:09:29.866 |         | DMS: : READY           | RDY, TRACK *4, *REV, TIC 359.32 +/-       | 400 | 4  | 0  | 4,746,890:00:0 |      |
| 1267 | 98 | 325 | 11:09:29.866 | 465TI6A | 6DMSC RDY,4            | DMS Control Tape stop                     | 400 | 4  | 0  | 4,746,890:00:0 |      |
| 1268 | 98 | 325 | 11:10:23.866 |         | DMS: : *DMS-TURN       | P7, TRACK 4, REV, TIC 359.32 +/-          | 400 | 4  | 0  | 4,746,890:81:0 |      |
| 1269 | 98 | 325 | 11:10:23.866 |         | DMS: : *US-RUNUP       | P7, TRACK *1, *FWD, TIC 359.32 +/-        | 400 | 4  | 0  | 4,746,890:81:0 |      |
| 1270 | 98 | 325 | 11:10:23.866 | 465TJ6A | 6DTRN CMD,6DTRN,465TJ6 | DMS TRACK TURNAROUND                      | 400 | 4  | 0  | 4,746,890:81:0 |      |
| 1271 | 98 | 325 | 11:10:25.266 |         | DMS: : *US AT SP       | P7, TRACK 1, FWD, TIC * 359.44 +/-        | 400 | 4  | 0  | 4,746,890:83:1 |      |
| 1272 | 98 | 325 | 11:10:30.533 |         | DMS: : *US RD          | P7, TRACK 1, FWD, TIC * 360.67 +/-        | 400 | 4  | 0  | 4,746,891:00:0 |      |
| 1273 | 98 | 325 | 11:10:31.733 |         | DMS: : *RUNUP          | P7, TRACK *4, *REV, TIC * 360.73 +/-      | 400 | 4  | 0  | 4,746,891:01:8 |      |
| 1274 | 98 | 325 | 11:10:33.133 |         | DMS: : *AT SPD         | P7, TRACK 4, REV, TIC * 360.61 +/-        | 400 | 4  | 0  | 4,746,891:03:9 |      |
| 1275 | 98 | 325 | 11:21:58.933 |         | DMS: : *REVERSE        | P7, TRACK 4, REV, TIC * 199.87 +/-        | 400 | 4  | 0  | 4,746,902:31:6 |      |
| 1276 | 98 | 325 | 11:22:00.133 |         | DMS: : *TURNARND       | P7, TRACK *1, *FWD, TIC * 199.81 +/-      | 400 | 4  | 0  | 4,746,902:33:4 |      |
| 1277 | 98 | 325 | 11:22:00.133 |         | DMS: : *RUNUP          | P7, TRACK 1, FWD, TIC 199.81 +/-          | 400 | 4  | 0  | 4,746,902:33:4 |      |
| 1278 | 98 | 325 | 11:22:01.533 |         | DMS: : *AT SPD         | P7, TRACK 1, FWD, TIC * 199.93 +/-        | 400 | 4  | 0  | 4,746,902:35:5 |      |
| 1279 | 98 | 325 | 11:22:13.533 |         | DMS: : *AUTOSTOP       | P7, TRACK 1, FWD, TIC * 202.06 +/-        | 400 | 4  | 0  | 4,746,902:53:5 |      |
| 1280 | 98 | 325 | 11:22:14.733 |         | DMS: : *READY          | RDY, TRACK 1, FWD, TIC * 202.12 +/-       | 400 | 4  | 0  | 4,746,902:55:3 |      |
| 1281 | 98 | 325 | 11:59:59.866 |         | DMS: : READY           | RDY, TRACK 1, FWD, TIC 202.12 +/-         | 400 | 4  | 0  | 4,746,939:86:0 |      |
| 1282 | 98 | 325 | 12:00:00.000 | 20A3EW  | 37A Final Condition    | NIMS Power ON                             | 400 | 4  | 0  | 4,746,939:86:2 |      |
| 1283 | 98 | 325 | 12:00:00.000 | 20A3EX  | 37HR Final Condition   | Replacement Heaters OFF                   | 400 | 4  | 0  | 4,746,939:86:2 |      |
| 1284 | 98 | 325 | 12:00:00.000 | 20A3EY  | 37C1PR Final Condition | Optics Heater 1 OFF (primary relay)       | 400 | 4  | 0  | 4,746,939:86:2 |      |
| 1285 | 98 | 325 | 12:00:00.000 | 20A3EZ  | 37C2PR Final Condition | Optics Heater 2 OFF (primary relay)       | 400 | 4  | 0  | 4,746,939:86:2 |      |
| 1286 | 98 | 325 | 12:00:00.000 | 20A3FA  | 37F1PR Final Condition | Radiator Flash Heater OFF (primary relay) | 400 | 4  | 0  | 4,746,939:86:2 |      |
| 1287 | 98 | 325 | 12:00:00.000 | 20A3FB  | 37F2PR Final Condition | Shield Flash Heater OFF (primary relay)   | 400 | 4  | 0  | 4,746,939:86:2 |      |
| 1288 | 98 | 325 | 12:00:00.000 | 20A3FD  | 40HRPR Final Condition | RCT Heater OFF (primary relay)            | 400 | 4  | 0  | 4,746,939:86:2 |      |
| 1289 | 98 | 325 | 12:00:00.000 | 20A3FE  | 40T1PR Final Condition | PCT Heater 1 OFF (primary relay)          | 400 | 4  | 0  | 4,746,939:86:2 |      |
| 1290 | 98 | 325 | 12:00:00.000 | 20A3FF  | 40T2R Final Condition  | PCT Heater 2 OFF                          | 400 | 4  | 0  | 4,746,939:86:2 |      |



# 17JNJUPRTS01

```

OAPEL: 17JNJUPRTS01      ALIAS: 17JNJUPRTS01
EXT: R                    PSID: DA
SCLK1: 04665439:00:0     SCLK2: 04665448:12:2
SCET1: 1998-268/06:33:32.066 SCET2: 1998-268/06:40:46.066
TARGET: JUPITER          PARTITION: 1
  
```

```

MODE: 3                  GAIN: 2
CHOP: 1                  GRAT_OFF: 4
PTAB_A: 1 1 0 0 124     PTAB_B: 1 1 0 0 124
ECAL: 0                  OPCAL: 0
R/T: 1                   RECORD: 0
  
```

```

MB_DOWN: 11011          MB_UP: 11011
COMP_FLAG: 0
EST_COMP: 0.0           EST_COMPV: 0.0
RATE_CON1: 00000        RATE_CON2: 00000
NWAVETOT: 408           TLMFMT: RT
  
```

```

THRESHOLD_SEL: 0
THRESHOLD_VALUES: 000, 000, 000, 000, 000, 000, 000, 000, 000, 000
                  000, 000, 000, 000, 000, 000, 000, 000, 000
  
```

```

WETGID: 0302408000      03 02 408 000
WTGRP_SIZ: 2
  
```

## EDIT TABLE

| GRATING STEP | HEX MASK | DETECTOR MASK         |
|--------------|----------|-----------------------|
| 0            | 1FFFF    | 1,1111,1111,1111,1111 |
| 1            | 1FFFF    | 1,1111,1111,1111,1111 |
| 2            | 1FFFF    | 1,1111,1111,1111,1111 |
| 3            | 1FFFF    | 1,1111,1111,1111,1111 |
| 4            | 1FFFF    | 1,1111,1111,1111,1111 |
| 5            | 1FFFF    | 1,1111,1111,1111,1111 |
| 6            | 1FFFF    | 1,1111,1111,1111,1111 |
| 7            | 1FFFF    | 1,1111,1111,1111,1111 |
| 8            | 1FFFF    | 1,1111,1111,1111,1111 |
| 9            | 1FFFF    | 1,1111,1111,1111,1111 |
| 10           | 1FFFF    | 1,1111,1111,1111,1111 |
| 11           | 1FFFF    | 1,1111,1111,1111,1111 |
| 12           | 1FFFF    | 1,1111,1111,1111,1111 |
| 13           | 1FFFF    | 1,1111,1111,1111,1111 |
| 14           | 1FFFF    | 1,1111,1111,1111,1111 |
| 15           | 1FFFF    | 1,1111,1111,1111,1111 |
| 16           | 1FFFF    | 1,1111,1111,1111,1111 |
| 17           | 1FFFF    | 1,1111,1111,1111,1111 |
| 18           | 1FFFF    | 1,1111,1111,1111,1111 |
| 19           | 1FFFF    | 1,1111,1111,1111,1111 |
| 20           | 1FFFF    | 1,1111,1111,1111,1111 |
| 21           | 1FFFF    | 1,1111,1111,1111,1111 |
| 22           | 1FFFF    | 1,1111,1111,1111,1111 |
| 23           | 1FFFF    | 1,1111,1111,1111,1111 |
| 24           | 00000    | 0,0000,0000,0000,0000 |
| 25           | 00000    | 0,0000,0000,0000,0000 |

# 17ENEUR20H01

```

OAPEL: 17ENEUR20H01          ALIAS: 17ENEUR20H01
EXT: A                        PSID: EA
SCLK1: 04665462:87:0        SCLK2: 04665465:90:0
SCET1: 98-268/06:57:45.400  SCET2: 98-268/07:00:49.400
TARGET: EUROPA              PARTITION: 1
    
```

```

MODE: 3                      GAIN: 4
CHOP: 1                      GRAT_OFF: 4
PTAB_A: 1 1 0 0 124        PTAB_B: 1 1 0 0 124
ECAL: 0                     OPCAL: 0
R/T: 0                      RECORD: 1
    
```

```

MB_DOWN: 00000              MB_UP: 00000
COMP_FLAG: 1
EST_COMP: 2.0              EST_COMPV: 0.3
RATE_CON1: 00000          RATE_CON2: 65525
NWAVETOT: 240             TLMFMT: LPU
    
```

```

THRESHOLD_SEL: 0
THRESHOLD_VALUES: 000, 000, 000, 000, 000, 000, 000, 000, 000, 000
                   000, 000, 000, 000, 000, 000, 000, 000, 000
    
```

```

WETGID: 0326240001        03 26 240 001
WTGRP_SIZ: 26
    
```

### EDIT TABLE

| GRATING STEP | HEX MASK | DETECTOR MASK         |
|--------------|----------|-----------------------|
| 0            | 005FF    | 0,0000,0101,1111,1111 |
| 1            | 005FF    | 0,0000,0101,1111,1111 |
| 2            | 005FF    | 0,0000,0101,1111,1111 |
| 3            | 005FF    | 0,0000,0101,1111,1111 |
| 4            | 005FF    | 0,0000,0101,1111,1111 |
| 5            | 005FF    | 0,0000,0101,1111,1111 |
| 6            | 005FF    | 0,0000,0101,1111,1111 |
| 7            | 005FF    | 0,0000,0101,1111,1111 |
| 8            | 005FF    | 0,0000,0101,1111,1111 |
| 9            | 005FF    | 0,0000,0101,1111,1111 |
| 10           | 005FF    | 0,0000,0101,1111,1111 |
| 11           | 005FF    | 0,0000,0101,1111,1111 |
| 12           | 005FF    | 0,0000,0101,1111,1111 |
| 13           | 005FF    | 0,0000,0101,1111,1111 |
| 14           | 005FF    | 0,0000,0101,1111,1111 |
| 15           | 005FF    | 0,0000,0101,1111,1111 |
| 16           | 005FF    | 0,0000,0101,1111,1111 |
| 17           | 005FF    | 0,0000,0101,1111,1111 |
| 18           | 005FF    | 0,0000,0101,1111,1111 |
| 19           | 005FF    | 0,0000,0101,1111,1111 |
| 20           | 005FF    | 0,0000,0101,1111,1111 |
| 21           | 005FF    | 0,0000,0101,1111,1111 |
| 22           | 005FF    | 0,0000,0101,1111,1111 |
| 23           | 005FF    | 0,0000,0101,1111,1111 |
| 24           | 00000    | 0,0000,0000,0000,0000 |
| 25           | 00000    | 0,0000,0000,0000,0000 |

# 17ENEUR20H01

OAPEL: 17ENEUR20H01                    ALIAS: 17ENEUR20H01  
EXT: C                                    PSID: EA  
SCLK1: 04665466:00:0                  SCLK2: 04665466:42:0  
SCET1: 98-268/07:00:50.066          SCET2: 98-268/07:01:18.733  
TARGET: EUROPA                         PARTITION: 1

MODE: 3                                  GAIN: 3  
CHOP: 1                                  GRAT\_OFF: 4  
PTAB\_A: 1 1 0 0 124                  PTAB\_B: 1 1 0 0 124  
ECAL: 0                                  OPCAL: 0  
R/T: 0                                  RECORD: 1

MB\_DOWN: 00000                        MB\_UP: 00000  
COMP\_FLAG: 1  
EST\_COMP: 2.0                          EST\_COMPV: 0.3  
RATE\_CON1: 00000                      RATE\_CON2: 65525  
NWAVETOT: 240                         TLMFMT: LPU

THRESHOLD\_SEL: 0  
THRESHOLD\_VALUES: 000, 000, 000, 000, 000, 000, 000, 000, 000, 000  
   000, 000, 000, 000, 000, 000, 000, 000, 000

WETGID: 0326240001                    03 26 240 001  
WTGRP\_SIZ: 26

## EDIT TABLE

| GRATING STEP | HEX MASK | DETECTOR MASK         |
|--------------|----------|-----------------------|
| 0            | 005FF    | 0,0000,0101,1111,1111 |
| 1            | 005FF    | 0,0000,0101,1111,1111 |
| 2            | 005FF    | 0,0000,0101,1111,1111 |
| 3            | 005FF    | 0,0000,0101,1111,1111 |
| 4            | 005FF    | 0,0000,0101,1111,1111 |
| 5            | 005FF    | 0,0000,0101,1111,1111 |
| 6            | 005FF    | 0,0000,0101,1111,1111 |
| 7            | 005FF    | 0,0000,0101,1111,1111 |
| 8            | 005FF    | 0,0000,0101,1111,1111 |
| 9            | 005FF    | 0,0000,0101,1111,1111 |
| 10           | 005FF    | 0,0000,0101,1111,1111 |
| 11           | 005FF    | 0,0000,0101,1111,1111 |
| 12           | 005FF    | 0,0000,0101,1111,1111 |
| 13           | 005FF    | 0,0000,0101,1111,1111 |
| 14           | 005FF    | 0,0000,0101,1111,1111 |
| 15           | 005FF    | 0,0000,0101,1111,1111 |
| 16           | 005FF    | 0,0000,0101,1111,1111 |
| 17           | 005FF    | 0,0000,0101,1111,1111 |
| 18           | 005FF    | 0,0000,0101,1111,1111 |
| 19           | 005FF    | 0,0000,0101,1111,1111 |
| 20           | 005FF    | 0,0000,0101,1111,1111 |
| 21           | 005FF    | 0,0000,0101,1111,1111 |
| 22           | 005FF    | 0,0000,0101,1111,1111 |
| 23           | 005FF    | 0,0000,0101,1111,1111 |
| 24           | 00000    | 0,0000,0000,0000,0000 |
| 25           | 00000    | 0,0000,0000,0000,0000 |

# 17ENEUR20H01

OAPEL: 17ENEUR20H01                    ALIAS: 17ENEUR20H01  
 EXT: B                                    PSID: EA  
 SCLK1: 04665467:34:0                   SCLK2: 04665471:83:0  
 SCET1: 98-268/07:02:14.066           SCET2: 98-268/07:06:49.400  
 TARGET: EUROPA                           PARTITION: 1

MODE: 3                                    GAIN: 3  
 CHOP: 1                                    GRAT\_OFF: 4  
 PTAB\_A: 1 1 0 0 124                    PTAB\_B: 1 1 0 0 124  
 ECAL: 0                                    OPCAL: 0  
 R/T: 0                                      RECORD: 1

MB\_DOWN: 00000                           MB\_UP: 00000  
 COMP\_FLAG: 1  
 EST\_COMP: 2.0                            EST\_COMPV: 0.3  
 RATE\_CON1: 00000                        RATE\_CON2: 65525  
 NWAVETOT: 240                            TLMFMT: LPU

THRESHOLD\_SEL: 0  
 THRESHOLD\_VALUES: 000, 000, 000, 000, 000, 000, 000, 000, 000, 000  
    000, 000, 000, 000, 000, 000, 000, 000, 000

WETGID: 0326240001                      03 26 240 001  
 WTGRP\_SIZ: 26

## EDIT TABLE

| GRATING STEP | HEX MASK | DETECTOR MASK         |
|--------------|----------|-----------------------|
| 0            | 1BDC8    | 1,1011,1101,1100,1000 |
| 1            | 1BDC8    | 1,1011,1101,1100,1000 |
| 2            | 1BDC8    | 1,1011,1101,1100,1000 |
| 3            | 1BDC8    | 1,1011,1101,1100,1000 |
| 4            | 1BDC8    | 1,1011,1101,1100,1000 |
| 5            | 1BDC8    | 1,1011,1101,1100,1000 |
| 6            | 1BDC8    | 1,1011,1101,1100,1000 |
| 7            | 1BDC8    | 1,1011,1101,1100,1000 |
| 8            | 1BDC8    | 1,1011,1101,1100,1000 |
| 9            | 1BDC8    | 1,1011,1101,1100,1000 |
| 10           | 1BDC8    | 1,1011,1101,1100,1000 |
| 11           | 1BDC8    | 1,1011,1101,1100,1000 |
| 12           | 1BDC8    | 1,1011,1101,1100,1000 |
| 13           | 1BDC8    | 1,1011,1101,1100,1000 |
| 14           | 1BDC8    | 1,1011,1101,1100,1000 |
| 15           | 1BDC8    | 1,1011,1101,1100,1000 |
| 16           | 1BDC8    | 1,1011,1101,1100,1000 |
| 17           | 1BDC8    | 1,1011,1101,1100,1000 |
| 18           | 1BDC8    | 1,1011,1101,1100,1000 |
| 19           | 1BDC8    | 1,1011,1101,1100,1000 |
| 20           | 1BDC8    | 1,1011,1101,1100,1000 |
| 21           | 1BDC8    | 1,1011,1101,1100,1000 |
| 22           | 1BDC8    | 1,1011,1101,1100,1000 |
| 23           | 1BDC8    | 1,1011,1101,1100,1000 |
| 24           | 00000    | 0,0000,0000,0000,0000 |
| 25           | 00000    | 0,0000,0000,0000,0000 |

# 17JNWHTOVL01

```

OAPEL: 17JNWHTOVL01      ALIAS: 17JNWHTOVL01
EXT: A                    PSID: EB
SCLK1: 04665685:00:0     SCLK2: 04665694:73:0
SCET1: 98-268/10:42:16.066 SCET2: 98-268/10:52:11.400
TARGET: JUPITER          PARTITION: 1
  
```

```

MODE: 3                   GAIN: 4
CHOP: 1                   GRAT_OFF: 4
PTAB_A: 1 1 0 0 124      PTAB_B: 1 1 0 0 124
ECAL: 0                   OPCAL: 0
R/T: 0                    RECORD: 1
  
```

```

MB_DOWN: 00000           MB_UP: 00000
COMP_FLAG: 1
EST_COMP: 2.0           EST_COMPV: 0.3
RATE_CON1: 00000        RATE_CON2: 65525
NWAVETOT: 66           TLMFMT: LPU
  
```

```

THRESHOLD_SEL: 0
THRESHOLD_VALUES: 000, 000, 000, 000, 000, 000, 000, 000, 000, 000
                  000, 000, 000, 000, 000, 000, 000, 000, 000
  
```

```

WETGID: 0326066001      03 26 066 001
WTGRP_SIZ: 26
  
```

## EDIT TABLE

| GRATING STEP | HEX MASK | DETECTOR MASK         |
|--------------|----------|-----------------------|
| 0            | 00003    | 0,0000,0000,0000,0011 |
| 1            | 00003    | 0,0000,0000,0000,0011 |
| 2            | 00003    | 0,0000,0000,0000,0011 |
| 3            | 00003    | 0,0000,0000,0000,0011 |
| 4            | 00003    | 0,0000,0000,0000,0011 |
| 5            | 00003    | 0,0000,0000,0000,0011 |
| 6            | 00007    | 0,0000,0000,0000,0111 |
| 7            | 00007    | 0,0000,0000,0000,0111 |
| 8            | 00007    | 0,0000,0000,0000,0111 |
| 9            | 00007    | 0,0000,0000,0000,0111 |
| 10           | 00007    | 0,0000,0000,0000,0111 |
| 11           | 00007    | 0,0000,0000,0000,0111 |
| 12           | 00007    | 0,0000,0000,0000,0111 |
| 13           | 00007    | 0,0000,0000,0000,0111 |
| 14           | 00007    | 0,0000,0000,0000,0111 |
| 15           | 00007    | 0,0000,0000,0000,0111 |
| 16           | 00007    | 0,0000,0000,0000,0111 |
| 17           | 00007    | 0,0000,0000,0000,0111 |
| 18           | 00007    | 0,0000,0000,0000,0111 |
| 19           | 00007    | 0,0000,0000,0000,0111 |
| 20           | 00007    | 0,0000,0000,0000,0111 |
| 21           | 00007    | 0,0000,0000,0000,0111 |
| 22           | 00007    | 0,0000,0000,0000,0111 |
| 23           | 00007    | 0,0000,0000,0000,0111 |
| 24           | 00000    | 0,0000,0000,0000,0000 |
| 25           | 00000    | 0,0000,0000,0000,0000 |

# 17JNWHTOVL02

```

OAPEL: 17JNWHTOVL02      ALIAS: 17JNWHTOVL02
EXT: A                    PSID: EC
SCLK1: 04665759:00:0     SCLK2: 04665768:73:0
SCET1: 98-268/11:57:05.400 SCET2: 98-268/12:07:00.733
TARGET: JUPITER          PARTITION: 1
  
```

```

MODE: 3                   GAIN: 4
CHOP: 1                   GRAT_OFF: 4
PTAB_A: 1 1 0 0 124     PTAB_B: 1 1 0 0 124
ECAL: 0                   OPCAL: 0
R/T: 0                    RECORD: 1
  
```

```

MB_DOWN: 00000           MB_UP: 00000
COMP_FLAG: 1
EST_COMP: 2.0           EST_COMPV: 0.3
RATE_CON1: 00000       RATE_CON2: 65525
NWAVETOT: 66           TLMFMT: LPU
  
```

```

THRESHOLD_SEL: 0
THRESHOLD_VALUES: 000, 000, 000, 000, 000, 000, 000, 000, 000, 000
                  000, 000, 000, 000, 000, 000, 000, 000, 000
  
```

```

WETGID: 0326066001      03 26 066 001
WTGRP_SIZ: 26
  
```

## EDIT TABLE

| GRATING STEP | HEX MASK | DETECTOR MASK         |
|--------------|----------|-----------------------|
| 0            | 00003    | 0,0000,0000,0000,0011 |
| 1            | 00003    | 0,0000,0000,0000,0011 |
| 2            | 00003    | 0,0000,0000,0000,0011 |
| 3            | 00003    | 0,0000,0000,0000,0011 |
| 4            | 00003    | 0,0000,0000,0000,0011 |
| 5            | 00003    | 0,0000,0000,0000,0011 |
| 6            | 00007    | 0,0000,0000,0000,0111 |
| 7            | 00007    | 0,0000,0000,0000,0111 |
| 8            | 00007    | 0,0000,0000,0000,0111 |
| 9            | 00007    | 0,0000,0000,0000,0111 |
| 10           | 00007    | 0,0000,0000,0000,0111 |
| 11           | 00007    | 0,0000,0000,0000,0111 |
| 12           | 00007    | 0,0000,0000,0000,0111 |
| 13           | 00007    | 0,0000,0000,0000,0111 |
| 14           | 00007    | 0,0000,0000,0000,0111 |
| 15           | 00007    | 0,0000,0000,0000,0111 |
| 16           | 00007    | 0,0000,0000,0000,0111 |
| 17           | 00007    | 0,0000,0000,0000,0111 |
| 18           | 00007    | 0,0000,0000,0000,0111 |
| 19           | 00007    | 0,0000,0000,0000,0111 |
| 20           | 00007    | 0,0000,0000,0000,0111 |
| 21           | 00007    | 0,0000,0000,0000,0111 |
| 22           | 00007    | 0,0000,0000,0000,0111 |
| 23           | 00007    | 0,0000,0000,0000,0111 |
| 24           | 00000    | 0,0000,0000,0000,0000 |
| 25           | 00000    | 0,0000,0000,0000,0000 |

# 17JNJUPRTS02

```

OAPEL: 17JNJUPRTS02      ALIAS: 17JNJUPRTS02
EXT: R                    PSID: DB
SCLK1: 04665779:00:0     SCLK2: 04665788:12:0
SCET1: 1998-268/12:17:18.733 SCET2: 1998-268/12:26:32.733
TARGET: JUPITER          PARTITION: 1
  
```

```

MODE: 3                   GAIN: 2
CHOP: 1                   GRAT_OFF: 4
PTAB_A: 1 1 0 0 124      PTAB_B: 1 1 0 0 124
ECAL: 0                   OPCAL: 0
R/T: 1                    RECORD: 0
  
```

```

MB_DOWN: 11011           MB_UP: 11011
COMP_FLAG: 0
EST_COMP: 0.0           EST_COMPV: 0.0
RATE_CON1: 00000        RATE_CON2: 00000
NWAVETOT: 408           TLMFMT: RT
  
```

```

THRESHOLD_SEL: 0
THRESHOLD_VALUES: 000, 000, 000, 000, 000, 000, 000, 000, 000, 000
                  000, 000, 000, 000, 000, 000, 000, 000, 000
  
```

```

WETGID: 0302408000      03 02 408 000
WTGRP_SIZ: 2
  
```

## EDIT TABLE

| GRATING STEP | HEX MASK | DETECTOR MASK         |
|--------------|----------|-----------------------|
| 0            | 1FFFF    | 1,1111,1111,1111,1111 |
| 1            | 1FFFF    | 1,1111,1111,1111,1111 |
| 2            | 1FFFF    | 1,1111,1111,1111,1111 |
| 3            | 1FFFF    | 1,1111,1111,1111,1111 |
| 4            | 1FFFF    | 1,1111,1111,1111,1111 |
| 5            | 1FFFF    | 1,1111,1111,1111,1111 |
| 6            | 1FFFF    | 1,1111,1111,1111,1111 |
| 7            | 1FFFF    | 1,1111,1111,1111,1111 |
| 8            | 1FFFF    | 1,1111,1111,1111,1111 |
| 9            | 1FFFF    | 1,1111,1111,1111,1111 |
| 10           | 1FFFF    | 1,1111,1111,1111,1111 |
| 11           | 1FFFF    | 1,1111,1111,1111,1111 |
| 12           | 1FFFF    | 1,1111,1111,1111,1111 |
| 13           | 1FFFF    | 1,1111,1111,1111,1111 |
| 14           | 1FFFF    | 1,1111,1111,1111,1111 |
| 15           | 1FFFF    | 1,1111,1111,1111,1111 |
| 16           | 1FFFF    | 1,1111,1111,1111,1111 |
| 17           | 1FFFF    | 1,1111,1111,1111,1111 |
| 18           | 1FFFF    | 1,1111,1111,1111,1111 |
| 19           | 1FFFF    | 1,1111,1111,1111,1111 |
| 20           | 1FFFF    | 1,1111,1111,1111,1111 |
| 21           | 1FFFF    | 1,1111,1111,1111,1111 |
| 22           | 1FFFF    | 1,1111,1111,1111,1111 |
| 23           | 1FFFF    | 1,1111,1111,1111,1111 |
| 24           | 00000    | 0,0000,0000,0000,0000 |
| 25           | 00000    | 0,0000,0000,0000,0000 |

# 17JNWHTOVL03

```

OAPEL: 17JNWHTOVL03      ALIAS: 17JNWHTOVL03
EXT:    A                PSID:    ED
SCLK1:  04665794:00:0    SCLK2:  04665803:73:0
SCET1:   98-268/12:32:28.733  SCET2:   98-268/12:42:24.066
TARGET:  JUPITER        PARTITION:  1
  
```

```

MODE:      3                GAIN:      2
CHOP:      1                GRAT_OFF:  4
PTAB_A:    1 1 0 0 124    PTAB_B:    1 1 0 0 124
ECAL:      0                OPCAL:     0
R/T:       0                RECORD:    1
  
```

```

MB_DOWN:   00000          MB_UP:     00000
COMP_FLAG: 1
EST_COMP:  2.0           EST_COMPV: 0.3
RATE_CON1: 00000        RATE_CON2: 65525
NWAVETOT: 249           TLMFMT:    LPU
  
```

```

THRESHOLD_SEL: 0
THRESHOLD_VALUES:  000, 000, 000, 000, 000, 000, 000, 000, 000, 000
                   000, 000, 000, 000, 000, 000, 000, 000, 000
  
```

```

WETGID:    0326249001      03  26  249  001
WTGRP_SIZ: 26
  
```

## EDIT TABLE

| GRATING STEP | HEX MASK | DETECTOR MASK         |
|--------------|----------|-----------------------|
| 0            | 11CC3    | 1,0001,1100,1100,0011 |
| 1            | 11CC3    | 1,0001,1100,1100,0011 |
| 2            | 11CC3    | 1,0001,1100,1100,0011 |
| 3            | 11CC3    | 1,0001,1100,1100,0011 |
| 4            | 13DC3    | 1,0011,1101,1100,0011 |
| 5            | 13DC3    | 1,0011,1101,1100,0011 |
| 6            | 13DC7    | 1,0011,1101,1100,0111 |
| 7            | 1BDC7    | 1,1011,1101,1100,0111 |
| 8            | 1BD87    | 1,1011,1101,1000,0111 |
| 9            | 1BDC7    | 1,1011,1101,1100,0111 |
| 10           | 0BDC7    | 0,1011,1101,1100,0111 |
| 11           | 0BDC7    | 0,1011,1101,1100,0111 |
| 12           | 0BDC7    | 0,1011,1101,1100,0111 |
| 13           | 0BDC7    | 0,1011,1101,1100,0111 |
| 14           | 0BDC7    | 0,1011,1101,1100,0111 |
| 15           | 0BDC7    | 0,1011,1101,1100,0111 |
| 16           | 1BD87    | 1,1011,1101,1000,0111 |
| 17           | 1BD87    | 1,1011,1101,1000,0111 |
| 18           | 1BD07    | 1,1011,1101,0000,0111 |
| 19           | 1BD07    | 1,1011,1101,0000,0111 |
| 20           | 1BD87    | 1,1011,1101,1000,0111 |
| 21           | 1BD87    | 1,1011,1101,1000,0111 |
| 22           | 1BD87    | 1,1011,1101,1000,0111 |
| 23           | 1B987    | 1,1011,1001,1000,0111 |
| 24           | 00000    | 0,0000,0000,0000,0000 |
| 25           | 00000    | 0,0000,0000,0000,0000 |



# 17JNJUPRTS03

```

OAPEL: 17JNJUPRTS03      ALIAS: 17JNJUPRTS03
EXT: R                    PSID: DC
SCLK1: 04665906:00:0     SCLK2: 04665915:12:0
SCET1: 1998-268/14:25:43.400 SCET2: 1998-268/14:34:57.400
TARGET: JUPITER          PARTITION: 1
    
```

```

MODE: 3                   GAIN: 2
CHOP: 1                   GRAT_OFF: 4
PTAB_A: 1 1 0 0 124     PTAB_B: 1 1 0 0 124
ECAL: 0                   OPCAL: 0
R/T: 1                    RECORD: 0
    
```

```

MB_DOWN: 11011           MB_UP: 11011
COMP_FLAG: 0
EST_COMP: 0.0           EST_COMPV: 0.0
RATE_CON1: 00000       RATE_CON2: 00000
NWAVETOT: 408          TLMFMT: RT
    
```

```

THRESHOLD_SEL: 0
THRESHOLD_VALUES: 000, 000, 000, 000, 000, 000, 000, 000, 000, 000
                  000, 000, 000, 000, 000, 000, 000, 000, 000
    
```

```

WETGID: 0302408000      03 02 408 000
WTGRP_SIZ: 2
    
```

## EDIT TABLE

| GRATING STEP | HEX MASK | DETECTOR MASK         |
|--------------|----------|-----------------------|
| 0            | 1FFFF    | 1,1111,1111,1111,1111 |
| 1            | 1FFFF    | 1,1111,1111,1111,1111 |
| 2            | 1FFFF    | 1,1111,1111,1111,1111 |
| 3            | 1FFFF    | 1,1111,1111,1111,1111 |
| 4            | 1FFFF    | 1,1111,1111,1111,1111 |
| 5            | 1FFFF    | 1,1111,1111,1111,1111 |
| 6            | 1FFFF    | 1,1111,1111,1111,1111 |
| 7            | 1FFFF    | 1,1111,1111,1111,1111 |
| 8            | 1FFFF    | 1,1111,1111,1111,1111 |
| 9            | 1FFFF    | 1,1111,1111,1111,1111 |
| 10           | 1FFFF    | 1,1111,1111,1111,1111 |
| 11           | 1FFFF    | 1,1111,1111,1111,1111 |
| 12           | 1FFFF    | 1,1111,1111,1111,1111 |
| 13           | 1FFFF    | 1,1111,1111,1111,1111 |
| 14           | 1FFFF    | 1,1111,1111,1111,1111 |
| 15           | 1FFFF    | 1,1111,1111,1111,1111 |
| 16           | 1FFFF    | 1,1111,1111,1111,1111 |
| 17           | 1FFFF    | 1,1111,1111,1111,1111 |
| 18           | 1FFFF    | 1,1111,1111,1111,1111 |
| 19           | 1FFFF    | 1,1111,1111,1111,1111 |
| 20           | 1FFFF    | 1,1111,1111,1111,1111 |
| 21           | 1FFFF    | 1,1111,1111,1111,1111 |
| 22           | 1FFFF    | 1,1111,1111,1111,1111 |
| 23           | 1FFFF    | 1,1111,1111,1111,1111 |
| 24           | 00000    | 0,0000,0000,0000,0000 |
| 25           | 00000    | 0,0000,0000,0000,0000 |

# 17ENGLOBAL01

OAPEL: 17ENGLOBAL01                    ALIAS: 17ENGLOBAL01  
 EXT: A                                    PSID: DD  
 SCLK1: 04666410:00:0                   SCLK2: 04666454:38:0  
 SCET1: 98-268/22:55:19.400           SCET2: 98-268/23:40:14.733  
 TARGET: EUROPA                          PARTITION: 1

MODE: 3                                    GAIN: 3  
 CHOP: 1                                   GRAT\_OFF: 4  
 PTAB\_A: 1 1 0 0 124                    PTAB\_B: 1 1 0 0 124  
 ECAL: 0                                   OPCAL: 0  
 R/T: 0                                    RECORD: 1

MB\_DOWN: 00000                            MB\_UP: 00000  
 COMP\_FLAG: 1  
 EST\_COMP: 2.0                            EST\_COMPV: 0.3  
 RATE\_CON1: 00000                        RATE\_CON2: 65525  
 NWAVETOT: 228                            TLMFMT: MPW

THRESHOLD\_SEL: 0  
 THRESHOLD\_VALUES: 000, 000, 000, 000, 000, 000, 000, 000, 000, 000  
     000, 000, 000, 000, 000, 000, 000, 000

WETGID: 0326228001                        03 26 228 001  
 WTGRP\_SIZ: 26

## EDIT TABLE

| GRATING STEP | HEX MASK | DETECTOR MASK         |
|--------------|----------|-----------------------|
| 0            | 03C00    | 0,0011,1100,0000,0000 |
| 1            | 1BDFF    | 1,1011,1101,1111,1111 |
| 2            | 03C00    | 0,0011,1100,0000,0000 |
| 3            | 1BDFF    | 1,1011,1101,1111,1111 |
| 4            | 03C00    | 0,0011,1100,0000,0000 |
| 5            | 1BDFF    | 1,1011,1101,1111,1111 |
| 6            | 03C00    | 0,0011,1100,0000,0000 |
| 7            | 1BDFF    | 1,1011,1101,1111,1111 |
| 8            | 03C00    | 0,0011,1100,0000,0000 |
| 9            | 1BDFF    | 1,1011,1101,1111,1111 |
| 10           | 03C00    | 0,0011,1100,0000,0000 |
| 11           | 1BDFF    | 1,1011,1101,1111,1111 |
| 12           | 03C00    | 0,0011,1100,0000,0000 |
| 13           | 1BDFF    | 1,1011,1101,1111,1111 |
| 14           | 03C00    | 0,0011,1100,0000,0000 |
| 15           | 1BDFF    | 1,1011,1101,1111,1111 |
| 16           | 03C00    | 0,0011,1100,0000,0000 |
| 17           | 1BDFF    | 1,1011,1101,1111,1111 |
| 18           | 03C00    | 0,0011,1100,0000,0000 |
| 19           | 1BDFF    | 1,1011,1101,1111,1111 |
| 20           | 03C00    | 0,0011,1100,0000,0000 |
| 21           | 1BDFF    | 1,1011,1101,1111,1111 |
| 22           | 03C00    | 0,0011,1100,0000,0000 |
| 23           | 1BDFF    | 1,1011,1101,1111,1111 |
| 24           | 00000    | 0,0000,0000,0000,0000 |
| 25           | 00000    | 0,0000,0000,0000,0000 |

# 17ENSUCOMP01

```

OAPEL: 17ENSUCOMP01      ALIAS: 17ENSUCOMP01
EXT: A                    PSID: DE
SCLK1: 04666672:87:0     SCLK2: 04666692:08:0
SCET1: 98-269/03:21:12.066 SCET2: 98-269/03:40:32.733
TARGET: EUROPA           PARTITION: 1
  
```

```

MODE: 3                  GAIN: 4
CHOP: 1                  GRAT_OFF: 4
PTAB_A: 1 1 0 0 124     PTAB_B: 1 1 0 0 124
ECAL: 0                  OPCAL: 0
R/T: 0                   RECORD: 1
  
```

```

MB_DOWN: 00000          MB_UP: 00000
COMP_FLAG: 1
EST_COMP: 2.0           EST_COMPV: 0.3
RATE_CON1: 00000        RATE_CON2: 65525
NWAVETOT: 360           TLMFMT: MPW
  
```

```

THRESHOLD_SEL: 0
THRESHOLD_VALUES: 000, 000, 000, 000, 000, 000, 000, 000, 000, 000
                  000, 000, 000, 000, 000, 000, 000, 000, 000
  
```

```

WETGID: 0326360001      03 26 360 001
WTGRP_SIZ: 26
  
```

## EDIT TABLE

| GRATING STEP | HEX MASK | DETECTOR MASK         |
|--------------|----------|-----------------------|
| 0            | 1BDFF    | 1,1011,1101,1111,1111 |
| 1            | 1BDFF    | 1,1011,1101,1111,1111 |
| 2            | 1BDFF    | 1,1011,1101,1111,1111 |
| 3            | 1BDFF    | 1,1011,1101,1111,1111 |
| 4            | 1BDFF    | 1,1011,1101,1111,1111 |
| 5            | 1BDFF    | 1,1011,1101,1111,1111 |
| 6            | 1BDFF    | 1,1011,1101,1111,1111 |
| 7            | 1BDFF    | 1,1011,1101,1111,1111 |
| 8            | 1BDFF    | 1,1011,1101,1111,1111 |
| 9            | 1BDFF    | 1,1011,1101,1111,1111 |
| 10           | 1BDFF    | 1,1011,1101,1111,1111 |
| 11           | 1BDFF    | 1,1011,1101,1111,1111 |
| 12           | 1BDFF    | 1,1011,1101,1111,1111 |
| 13           | 1BDFF    | 1,1011,1101,1111,1111 |
| 14           | 1BDFF    | 1,1011,1101,1111,1111 |
| 15           | 1BDFF    | 1,1011,1101,1111,1111 |
| 16           | 1BDFF    | 1,1011,1101,1111,1111 |
| 17           | 1BDFF    | 1,1011,1101,1111,1111 |
| 18           | 1BDFF    | 1,1011,1101,1111,1111 |
| 19           | 1BDFF    | 1,1011,1101,1111,1111 |
| 20           | 1BDFF    | 1,1011,1101,1111,1111 |
| 21           | 1BDFF    | 1,1011,1101,1111,1111 |
| 22           | 1BDFF    | 1,1011,1101,1111,1111 |
| 23           | 1BDFF    | 1,1011,1101,1111,1111 |
| 24           | 00000    | 0,0000,0000,0000,0000 |
| 25           | 00000    | 0,0000,0000,0000,0000 |

# 17ENSUCOMP02

```

OAPEL: 17ENSUCOMP02      ALIAS: 17ENSUCOMP02
EXT: A                    PSID: DF
SCLK1: 04666710:87:0     SCLK2: 04666727:64:0
SCET1: 98-269/03:59:37.400 SCET2: 98-269/04:16:34.066
TARGET: EUROPA           PARTITION: 1
  
```

```

MODE: 4                   GAIN: 4
CHOP: 1                   GRAT_OFF: 4
PTAB_A: 1 0 0 0 124      PTAB_B: 1 0 0 0 124
ECAL: 0                   OPCAL: 0
R/T: 0                    RECORD: 1
  
```

```

MB_DOWN: 00000           MB_UP: 00000
COMP_FLAG: 1
EST_COMP: 2.0            EST_COMPV: 0.3
RATE_CON1: 00000        RATE_CON2: 65525
NWAVETOT: 360           TLMFMT: MPW
  
```

```

THRESHOLD_SEL: 0
THRESHOLD_VALUES: 000, 000, 000, 000, 000, 000, 000, 000, 000, 000
                  000, 000, 000, 000, 000, 000, 000, 000, 000
  
```

```

WETGID: 0426360001      04 26 360 001
WTGRP_SIZ: 26
  
```

## EDIT TABLE

| GRATING STEP | HEX MASK | DETECTOR MASK         |
|--------------|----------|-----------------------|
| 0            | 1BDFF    | 1,1011,1101,1111,1111 |
| 1            | 1BDFF    | 1,1011,1101,1111,1111 |
| 2            | 1BDFF    | 1,1011,1101,1111,1111 |
| 3            | 1BDFF    | 1,1011,1101,1111,1111 |
| 4            | 1BDFF    | 1,1011,1101,1111,1111 |
| 5            | 1BDFF    | 1,1011,1101,1111,1111 |
| 6            | 1BDFF    | 1,1011,1101,1111,1111 |
| 7            | 1BDFF    | 1,1011,1101,1111,1111 |
| 8            | 1BDFF    | 1,1011,1101,1111,1111 |
| 9            | 1BDFF    | 1,1011,1101,1111,1111 |
| 10           | 1BDFF    | 1,1011,1101,1111,1111 |
| 11           | 1BDFF    | 1,1011,1101,1111,1111 |
| 12           | 1BDFF    | 1,1011,1101,1111,1111 |
| 13           | 1BDFF    | 1,1011,1101,1111,1111 |
| 14           | 1BDFF    | 1,1011,1101,1111,1111 |
| 15           | 1BDFF    | 1,1011,1101,1111,1111 |
| 16           | 1BDFF    | 1,1011,1101,1111,1111 |
| 17           | 1BDFF    | 1,1011,1101,1111,1111 |
| 18           | 1BDFF    | 1,1011,1101,1111,1111 |
| 19           | 1BDFF    | 1,1011,1101,1111,1111 |
| 20           | 1BDFF    | 1,1011,1101,1111,1111 |
| 21           | 1BDFF    | 1,1011,1101,1111,1111 |
| 22           | 1BDFF    | 1,1011,1101,1111,1111 |
| 23           | 1BDFF    | 1,1011,1101,1111,1111 |
| 24           | 00000    | 0,0000,0000,0000,0000 |
| 25           | 00000    | 0,0000,0000,0000,0000 |

# 17ENSUCOMP03

```

OAPEL: 17ENSUCOMP03      ALIAS: 17ENSUCOMP03
EXT: A                    PSID: DG
SCLK1: 04666730:86:0     SCLK2: 04666752:54:0
SCET1: 98-269/04:19:50.733 SCET2: 98-269/04:41:43.400
TARGET: EUROPA           PARTITION: 1
  
```

```

MODE: 3                   GAIN: 4
CHOP: 1                   GRAT_OFF: 4
PTAB_A: 1 1 0 0 124      PTAB_B: 1 1 0 0 124
ECAL: 0                   OPCAL: 0
R/T: 0                    RECORD: 1
  
```

```

MB_DOWN: 00000           MB_UP: 00000
COMP_FLAG: 1
EST_COMP: 2.0           EST_COMPV: 0.3
RATE_CON1: 00000        RATE_CON2: 65525
NWAVETOT: 360           TLMFMT: MPW
  
```

```

THRESHOLD_SEL: 0
THRESHOLD_VALUES: 000, 000, 000, 000, 000, 000, 000, 000, 000, 000
                  000, 000, 000, 000, 000, 000, 000, 000, 000
  
```

```

WETGID: 0326360001      03 26 360 001
WTGRP_SIZ: 26
  
```

## EDIT TABLE

| GRATING STEP | HEX MASK | DETECTOR MASK         |
|--------------|----------|-----------------------|
| 0            | 1BDFF    | 1,1011,1101,1111,1111 |
| 1            | 1BDFF    | 1,1011,1101,1111,1111 |
| 2            | 1BDFF    | 1,1011,1101,1111,1111 |
| 3            | 1BDFF    | 1,1011,1101,1111,1111 |
| 4            | 1BDFF    | 1,1011,1101,1111,1111 |
| 5            | 1BDFF    | 1,1011,1101,1111,1111 |
| 6            | 1BDFF    | 1,1011,1101,1111,1111 |
| 7            | 1BDFF    | 1,1011,1101,1111,1111 |
| 8            | 1BDFF    | 1,1011,1101,1111,1111 |
| 9            | 1BDFF    | 1,1011,1101,1111,1111 |
| 10           | 1BDFF    | 1,1011,1101,1111,1111 |
| 11           | 1BDFF    | 1,1011,1101,1111,1111 |
| 12           | 1BDFF    | 1,1011,1101,1111,1111 |
| 13           | 1BDFF    | 1,1011,1101,1111,1111 |
| 14           | 1BDFF    | 1,1011,1101,1111,1111 |
| 15           | 1BDFF    | 1,1011,1101,1111,1111 |
| 16           | 1BDFF    | 1,1011,1101,1111,1111 |
| 17           | 1BDFF    | 1,1011,1101,1111,1111 |
| 18           | 1BDFF    | 1,1011,1101,1111,1111 |
| 19           | 1BDFF    | 1,1011,1101,1111,1111 |
| 20           | 1BDFF    | 1,1011,1101,1111,1111 |
| 21           | 1BDFF    | 1,1011,1101,1111,1111 |
| 22           | 1BDFF    | 1,1011,1101,1111,1111 |
| 23           | 1BDFF    | 1,1011,1101,1111,1111 |
| 24           | 00000    | 0,0000,0000,0000,0000 |
| 25           | 00000    | 0,0000,0000,0000,0000 |

# 17ENSUCOMP04

```

OAPEL: 17ENSUCOMP04      ALIAS: 17ENSUCOMP04
EXT: A                    PSID: DH
SCLK1: 04666754:86:0     SCLK2: 04666764:62:0
SCET1: 98-269/04:44:06.733 SCET2: 98-269/04:53:56.733
TARGET: EUROPA           PARTITION: 1
  
```

```

MODE: 3                   GAIN: 4
CHOP: 1                   GRAT_OFF: 4
PTAB_A: 1 1 0 0 124      PTAB_B: 1 1 0 0 124
ECAL: 0                   OPCAL: 0
R/T: 0                    RECORD: 1
  
```

```

MB_DOWN: 00000           MB_UP: 00000
COMP_FLAG: 1
EST_COMP: 2.0           EST_COMPV: 0.3
RATE_CON1: 00000        RATE_CON2: 65525
NWAVETOT: 360           TLMFMT: MPW
  
```

```

THRESHOLD_SEL: 0
THRESHOLD_VALUES: 000, 000, 000, 000, 000, 000, 000, 000, 000, 000
                  000, 000, 000, 000, 000, 000, 000, 000, 000
  
```

```

WETGID: 0326360001      03 26 360 001
WTGRP_SIZ: 26
  
```

## EDIT TABLE

| GRATING STEP | HEX MASK | DETECTOR MASK         |
|--------------|----------|-----------------------|
| 0            | 1BDFF    | 1,1011,1101,1111,1111 |
| 1            | 1BDFF    | 1,1011,1101,1111,1111 |
| 2            | 1BDFF    | 1,1011,1101,1111,1111 |
| 3            | 1BDFF    | 1,1011,1101,1111,1111 |
| 4            | 1BDFF    | 1,1011,1101,1111,1111 |
| 5            | 1BDFF    | 1,1011,1101,1111,1111 |
| 6            | 1BDFF    | 1,1011,1101,1111,1111 |
| 7            | 1BDFF    | 1,1011,1101,1111,1111 |
| 8            | 1BDFF    | 1,1011,1101,1111,1111 |
| 9            | 1BDFF    | 1,1011,1101,1111,1111 |
| 10           | 1BDFF    | 1,1011,1101,1111,1111 |
| 11           | 1BDFF    | 1,1011,1101,1111,1111 |
| 12           | 1BDFF    | 1,1011,1101,1111,1111 |
| 13           | 1BDFF    | 1,1011,1101,1111,1111 |
| 14           | 1BDFF    | 1,1011,1101,1111,1111 |
| 15           | 1BDFF    | 1,1011,1101,1111,1111 |
| 16           | 1BDFF    | 1,1011,1101,1111,1111 |
| 17           | 1BDFF    | 1,1011,1101,1111,1111 |
| 18           | 1BDFF    | 1,1011,1101,1111,1111 |
| 19           | 1BDFF    | 1,1011,1101,1111,1111 |
| 20           | 1BDFF    | 1,1011,1101,1111,1111 |
| 21           | 1BDFF    | 1,1011,1101,1111,1111 |
| 22           | 1BDFF    | 1,1011,1101,1111,1111 |
| 23           | 1BDFF    | 1,1011,1101,1111,1111 |
| 24           | 00000    | 0,0000,0000,0000,0000 |
| 25           | 00000    | 0,0000,0000,0000,0000 |

# 17ENGLOBAL02

```

OAPEL: 17ENGLOBAL02          ALIAS: 17ENGLOBAL02
EXT: A                        PSID: DI
SCLK1: 04667020:00:0        SCLK2: 04667026:90:0
SCET1: 98-269/09:12:06.000  SCET2: 98-269/09:19:10.000
TARGET: EUROPA              PARTITION: 1
  
```

```

MODE: 3                      GAIN: 4
CHOP: 1                      GRAT_OFF: 4
PTAB_A: 1 1 0 0 124        PTAB_B: 1 1 0 0 124
ECAL: 0                     OPCAL: 0
R/T: 0                      RECORD: 1
  
```

```

MB_DOWN: 00000              MB_UP: 00000
COMP_FLAG: 1
EST_COMP: 2.0              EST_COMPV: 0.3
RATE_CON1: 00000          RATE_CON2: 65525
NWAVETOT: 360             TLMFMT: MPW
  
```

```

THRESHOLD_SEL: 0
THRESHOLD_VALUES: 000, 000, 000, 000, 000, 000, 000, 000, 000, 000
                  000, 000, 000, 000, 000, 000, 000, 000, 000
  
```

```

WETGID: 0326360001        03 26 360 001
WTGRP_SIZ: 26
  
```

## EDIT TABLE

| GRATING STEP | HEX MASK | DETECTOR MASK         |
|--------------|----------|-----------------------|
| 0            | 1BDFF    | 1,1011,1101,1111,1111 |
| 1            | 1BDFF    | 1,1011,1101,1111,1111 |
| 2            | 1BDFF    | 1,1011,1101,1111,1111 |
| 3            | 1BDFF    | 1,1011,1101,1111,1111 |
| 4            | 1BDFF    | 1,1011,1101,1111,1111 |
| 5            | 1BDFF    | 1,1011,1101,1111,1111 |
| 6            | 1BDFF    | 1,1011,1101,1111,1111 |
| 7            | 1BDFF    | 1,1011,1101,1111,1111 |
| 8            | 1BDFF    | 1,1011,1101,1111,1111 |
| 9            | 1BDFF    | 1,1011,1101,1111,1111 |
| 10           | 1BDFF    | 1,1011,1101,1111,1111 |
| 11           | 1BDFF    | 1,1011,1101,1111,1111 |
| 12           | 1BDFF    | 1,1011,1101,1111,1111 |
| 13           | 1BDFF    | 1,1011,1101,1111,1111 |
| 14           | 1BDFF    | 1,1011,1101,1111,1111 |
| 15           | 1BDFF    | 1,1011,1101,1111,1111 |
| 16           | 1BDFF    | 1,1011,1101,1111,1111 |
| 17           | 1BDFF    | 1,1011,1101,1111,1111 |
| 18           | 1BDFF    | 1,1011,1101,1111,1111 |
| 19           | 1BDFF    | 1,1011,1101,1111,1111 |
| 20           | 1BDFF    | 1,1011,1101,1111,1111 |
| 21           | 1BDFF    | 1,1011,1101,1111,1111 |
| 22           | 1BDFF    | 1,1011,1101,1111,1111 |
| 23           | 1BDFF    | 1,1011,1101,1111,1111 |
| 24           | 00000    | 0,0000,0000,0000,0000 |
| 25           | 00000    | 0,0000,0000,0000,0000 |

# 17ENGLOBAL02

```

OAPEL: 17ENGLOBAL02      ALIAS: 17ENGLOBAL02
EXT: B                    PSID: DI
SCLK1: 04667027:00:0     SCLK2: 04667041:90:0
SCET1: 98-269/09:19:10.666 SCET2: 98-269/09:34:20.000
TARGET: EUROPA          PARTITION: 1
  
```

```

MODE: 3                  GAIN: 3
CHOP: 1                  GRAT_OFF: 4
PTAB_A: 1 1 0 0 124     PTAB_B: 1 1 0 0 124
ECAL: 0                  OPCAL: 0
R/T: 0                   RECORD: 1
  
```

```

MB_DOWN: 00000          MB_UP: 00000
COMP_FLAG: 1
EST_COMP: 2.0           EST_COMPV: 0.3
RATE_CON1: 00000       RATE_CON2: 65525
NWAVETOT: 360          TLMFMT: MPW
  
```

```

THRESHOLD_SEL: 0
THRESHOLD_VALUES: 000, 000, 000, 000, 000, 000, 000, 000, 000, 000
                  000, 000, 000, 000, 000, 000, 000, 000, 000
  
```

```

WETGID: 0326360001     03 26 360 001
WTGRP_SIZ: 26
  
```

## EDIT TABLE

| GRATING STEP | HEX MASK | DETECTOR MASK         |
|--------------|----------|-----------------------|
| 0            | 1BDFF    | 1,1011,1101,1111,1111 |
| 1            | 1BDFF    | 1,1011,1101,1111,1111 |
| 2            | 1BDFF    | 1,1011,1101,1111,1111 |
| 3            | 1BDFF    | 1,1011,1101,1111,1111 |
| 4            | 1BDFF    | 1,1011,1101,1111,1111 |
| 5            | 1BDFF    | 1,1011,1101,1111,1111 |
| 6            | 1BDFF    | 1,1011,1101,1111,1111 |
| 7            | 1BDFF    | 1,1011,1101,1111,1111 |
| 8            | 1BDFF    | 1,1011,1101,1111,1111 |
| 9            | 1BDFF    | 1,1011,1101,1111,1111 |
| 10           | 1BDFF    | 1,1011,1101,1111,1111 |
| 11           | 1BDFF    | 1,1011,1101,1111,1111 |
| 12           | 1BDFF    | 1,1011,1101,1111,1111 |
| 13           | 1BDFF    | 1,1011,1101,1111,1111 |
| 14           | 1BDFF    | 1,1011,1101,1111,1111 |
| 15           | 1BDFF    | 1,1011,1101,1111,1111 |
| 16           | 1BDFF    | 1,1011,1101,1111,1111 |
| 17           | 1BDFF    | 1,1011,1101,1111,1111 |
| 18           | 1BDFF    | 1,1011,1101,1111,1111 |
| 19           | 1BDFF    | 1,1011,1101,1111,1111 |
| 20           | 1BDFF    | 1,1011,1101,1111,1111 |
| 21           | 1BDFF    | 1,1011,1101,1111,1111 |
| 22           | 1BDFF    | 1,1011,1101,1111,1111 |
| 23           | 1BDFF    | 1,1011,1101,1111,1111 |
| 24           | 00000    | 0,0000,0000,0000,0000 |
| 25           | 00000    | 0,0000,0000,0000,0000 |



# 17ENGLOBAL02

```

OAPEL: 17ENGLOBAL02      ALIAS: 17ENGLOBAL02
EXT: C                    PSID: DI
SCLK1: 04667042:00:0     SCLK2: 04667048:70:0
SCET1: 98-269/09:34:20.666 SCET2: 98-269/09:41:11.333
TARGET: EUROPA           PARTITION: 1
  
```

```

MODE: 3                  GAIN: 4
CHOP: 1                 GRAT_OFF: 4
PTAB_A: 1 1 0 0 124    PTAB_B: 1 1 0 0 124
ECAL: 0                 OPCAL: 0
R/T: 0                  RECORD: 1
  
```

```

MB_DOWN: 00000          MB_UP: 00000
COMP_FLAG: 1
EST_COMP: 2.0           EST_COMPV: 0.3
RATE_CON1: 00000       RATE_CON2: 65525
NWAVETOT: 360          TLMFMT: MPW
  
```

```

THRESHOLD_SEL: 0
THRESHOLD_VALUES: 000, 000, 000, 000, 000, 000, 000, 000, 000, 000
                  000, 000, 000, 000, 000, 000, 000, 000, 000
  
```

```

WETGID: 0326360001     03 26 360 001
WTGRP_SIZ: 26
  
```

## EDIT TABLE

| GRATING STEP | HEX MASK | DETECTOR MASK         |
|--------------|----------|-----------------------|
| 0            | 1BDFF    | 1,1011,1101,1111,1111 |
| 1            | 1BDFF    | 1,1011,1101,1111,1111 |
| 2            | 1BDFF    | 1,1011,1101,1111,1111 |
| 3            | 1BDFF    | 1,1011,1101,1111,1111 |
| 4            | 1BDFF    | 1,1011,1101,1111,1111 |
| 5            | 1BDFF    | 1,1011,1101,1111,1111 |
| 6            | 1BDFF    | 1,1011,1101,1111,1111 |
| 7            | 1BDFF    | 1,1011,1101,1111,1111 |
| 8            | 1BDFF    | 1,1011,1101,1111,1111 |
| 9            | 1BDFF    | 1,1011,1101,1111,1111 |
| 10           | 1BDFF    | 1,1011,1101,1111,1111 |
| 11           | 1BDFF    | 1,1011,1101,1111,1111 |
| 12           | 1BDFF    | 1,1011,1101,1111,1111 |
| 13           | 1BDFF    | 1,1011,1101,1111,1111 |
| 14           | 1BDFF    | 1,1011,1101,1111,1111 |
| 15           | 1BDFF    | 1,1011,1101,1111,1111 |
| 16           | 1BDFF    | 1,1011,1101,1111,1111 |
| 17           | 1BDFF    | 1,1011,1101,1111,1111 |
| 18           | 1BDFF    | 1,1011,1101,1111,1111 |
| 19           | 1BDFF    | 1,1011,1101,1111,1111 |
| 20           | 1BDFF    | 1,1011,1101,1111,1111 |
| 21           | 1BDFF    | 1,1011,1101,1111,1111 |
| 22           | 1BDFF    | 1,1011,1101,1111,1111 |
| 23           | 1BDFF    | 1,1011,1101,1111,1111 |
| 24           | 00000    | 0,0000,0000,0000,0000 |
| 25           | 00000    | 0,0000,0000,0000,0000 |

# 17NNPCTRLT01

```

OAPEL: 17NNPCTRLT01      ALIAS: LSNNPCTRLT01
EXT: R                    PSID: FB
SCLK1: 04680567:00:0     SCLK2: 04680568:12:0
SCET1: 1998-278/21:29:36.866  SCET2: 1998-278/21:30:45.533
TARGET: CAL              PARTITION: 1
  
```

```

MODE: 3                  GAIN: 4
CHOP: 1                  GRAT_OFF: 4
PTAB_A: 1 1 0 0 124     PTAB_B: 1 1 0 0 124
ECAL: 0                  OPCAL: 0
R/T: 1                   RECORD: 0
  
```

```

MB_DOWN: 11011          MB_UP: 11011
COMP_FLAG: 0
EST_COMP: 0.0           EST_COMPV: 0.0
RATE_CON1: 00000       RATE_CON2: 00000
NWAVETOT: 252          TLMFMT: RT
  
```

```

THRESHOLD_SEL: 0
THRESHOLD_VALUES: 000, 000, 000, 000, 000, 000, 000, 000, 000, 000
                  000, 000, 000, 000, 000, 000, 000, 000, 000
  
```

```

WETGID: 0303252000      03 03 252 000
WTGRP_SIZ: 3
  
```

## EDIT TABLE

| GRATING STEP | HEX MASK | DETECTOR MASK         |
|--------------|----------|-----------------------|
| 0            | 1FFC0    | 1,1111,1111,1100,0000 |
| 1            | 1FFC0    | 1,1111,1111,1100,0000 |
| 2            | 1FFC0    | 1,1111,1111,1100,0000 |
| 3            | 1FFC0    | 1,1111,1111,1100,0000 |
| 4            | 1FFC0    | 1,1111,1111,1100,0000 |
| 5            | 1FFC0    | 1,1111,1111,1100,0000 |
| 6            | 1FFC0    | 1,1111,1111,1100,0000 |
| 7            | 1FFC0    | 1,1111,1111,1100,0000 |
| 8            | 1FFC0    | 1,1111,1111,1100,0000 |
| 9            | 1FFC0    | 1,1111,1111,1100,0000 |
| 10           | 1FFC0    | 1,1111,1111,1100,0000 |
| 11           | 1FFC0    | 1,1111,1111,1100,0000 |
| 12           | 1FF80    | 1,1111,1111,1000,0000 |
| 13           | 1FF80    | 1,1111,1111,1000,0000 |
| 14           | 1FF80    | 1,1111,1111,1000,0000 |
| 15           | 1FF80    | 1,1111,1111,1000,0000 |
| 16           | 1FF80    | 1,1111,1111,1000,0000 |
| 17           | 1FF80    | 1,1111,1111,1000,0000 |
| 18           | 1FF80    | 1,1111,1111,1000,0000 |
| 19           | 1FF80    | 1,1111,1111,1000,0000 |
| 20           | 1FF80    | 1,1111,1111,1000,0000 |
| 21           | 1FF80    | 1,1111,1111,1000,0000 |
| 22           | 1FF80    | 1,1111,1111,1000,0000 |
| 23           | 1FF80    | 1,1111,1111,1000,0000 |
| 24           | 00000    | 0,0000,0000,0000,0000 |
| 25           | 00000    | 0,0000,0000,0000,0000 |

# 17NNPCTRLT01

OAPEL: 17NNPCTRLT01                    ALIAS: LSNNPCTRLT01  
EXT: S                                    PSID: FB  
SCLK1: 04680573:00:0                   SCLK2: 04680582:12:0  
SCET1: 1998-278/21:35:40.866           SCET2: 1998-278/21:44:56.866  
TARGET: CAL                              PARTITION: 1

MODE: 3                                   GAIN: 4  
CHOP: 1                                  GRAT\_OFF: 4  
PTAB\_A: 1 1 0 0 124                    PTAB\_B: 1 1 0 0 124  
ECAL: 0                                  OPCAL: 0  
R/T: 1                                    RECORD: 0

MB\_DOWN: 11011                           MB\_UP: 11011  
COMP\_FLAG: 0  
EST\_COMP: 0.0                            EST\_COMPV: 0.0  
RATE\_CON1: 00000                        RATE\_CON2: 00000  
NWAVETOT: 252                            TLMFMT: RT

THRESHOLD\_SEL: 0  
THRESHOLD\_VALUES: 000, 000, 000, 000, 000, 000, 000, 000, 000, 000  
    000, 000, 000, 000, 000, 000, 000, 000, 000

WETGID: 0303252000                      03 03 252 000  
WTGRP\_SIZ: 3

## EDIT TABLE

| GRATING STEP | HEX MASK | DETECTOR MASK         |
|--------------|----------|-----------------------|
| 0            | 1FFC0    | 1,1111,1111,1100,0000 |
| 1            | 1FFC0    | 1,1111,1111,1100,0000 |
| 2            | 1FFC0    | 1,1111,1111,1100,0000 |
| 3            | 1FFC0    | 1,1111,1111,1100,0000 |
| 4            | 1FFC0    | 1,1111,1111,1100,0000 |
| 5            | 1FFC0    | 1,1111,1111,1100,0000 |
| 6            | 1FFC0    | 1,1111,1111,1100,0000 |
| 7            | 1FFC0    | 1,1111,1111,1100,0000 |
| 8            | 1FFC0    | 1,1111,1111,1100,0000 |
| 9            | 1FFC0    | 1,1111,1111,1100,0000 |
| 10           | 1FFC0    | 1,1111,1111,1100,0000 |
| 11           | 1FFC0    | 1,1111,1111,1100,0000 |
| 12           | 1FF80    | 1,1111,1111,1000,0000 |
| 13           | 1FF80    | 1,1111,1111,1000,0000 |
| 14           | 1FF80    | 1,1111,1111,1000,0000 |
| 15           | 1FF80    | 1,1111,1111,1000,0000 |
| 16           | 1FF80    | 1,1111,1111,1000,0000 |
| 17           | 1FF80    | 1,1111,1111,1000,0000 |
| 18           | 1FF80    | 1,1111,1111,1000,0000 |
| 19           | 1FF80    | 1,1111,1111,1000,0000 |
| 20           | 1FF80    | 1,1111,1111,1000,0000 |
| 21           | 1FF80    | 1,1111,1111,1000,0000 |
| 22           | 1FF80    | 1,1111,1111,1000,0000 |
| 23           | 1FF80    | 1,1111,1111,1000,0000 |
| 24           | 00000    | 0,0000,0000,0000,0000 |
| 25           | 00000    | 0,0000,0000,0000,0000 |

# 17NNRCTRLT01

```

OAPEL: 17NNRCTRLT01      ALIAS: LSNNRCTRTA01
EXT: R                    PSID: XU
SCLK1: 04715999:00:0     SCLK2: 04715999:12:0
SCET1: 1998-303/18:35:16.933 SCET2: 1998-303/18:35:24.933
TARGET: CAL              PARTITION: 1
    
```

```

MODE: 3                  GAIN: 1
CHOP: 1                 GRAT_OFF: 4
PTAB_A: 1 1 0 0 124    PTAB_B: 1 1 0 0 124
ECAL: 0                 OPCAL: 0
R/T: 1                 RECORD: 0
    
```

```

MB_DOWN: 11011         MB_UP: 11011
COMP_FLAG: 0
EST_COMP: 0.0         EST_COMPV: 0.0
RATE_CON1: 00000     RATE_CON2: 00000
NWAVETOT: 252        TLMFMT: RT
    
```

```

THRESHOLD_SEL: 0
THRESHOLD_VALUES: 000, 000, 000, 000, 000, 000, 000, 000, 000, 000
                  000, 000, 000, 000, 000, 000, 000, 000, 000
    
```

```

WETGID: 0303252000    03 03 252 000
WTGRP_SIZ: 3
    
```

## EDIT TABLE

| GRATING STEP | HEX MASK | DETECTOR MASK         |
|--------------|----------|-----------------------|
| 0            | 003FF    | 0,0000,0011,1111,1111 |
| 1            | 003FF    | 0,0000,0011,1111,1111 |
| 2            | 003FF    | 0,0000,0011,1111,1111 |
| 3            | 003FF    | 0,0000,0011,1111,1111 |
| 4            | 003FF    | 0,0000,0011,1111,1111 |
| 5            | 003FF    | 0,0000,0011,1111,1111 |
| 6            | 003FF    | 0,0000,0011,1111,1111 |
| 7            | 003FF    | 0,0000,0011,1111,1111 |
| 8            | 003FF    | 0,0000,0011,1111,1111 |
| 9            | 003FF    | 0,0000,0011,1111,1111 |
| 10           | 003FF    | 0,0000,0011,1111,1111 |
| 11           | 003FF    | 0,0000,0011,1111,1111 |
| 12           | 007FF    | 0,0000,0111,1111,1111 |
| 13           | 007FF    | 0,0000,0111,1111,1111 |
| 14           | 007FF    | 0,0000,0111,1111,1111 |
| 15           | 007FF    | 0,0000,0111,1111,1111 |
| 16           | 007FF    | 0,0000,0111,1111,1111 |
| 17           | 007FF    | 0,0000,0111,1111,1111 |
| 18           | 007FF    | 0,0000,0111,1111,1111 |
| 19           | 007FF    | 0,0000,0111,1111,1111 |
| 20           | 007FF    | 0,0000,0111,1111,1111 |
| 21           | 007FF    | 0,0000,0111,1111,1111 |
| 22           | 007FF    | 0,0000,0111,1111,1111 |
| 23           | 007FF    | 0,0000,0111,1111,1111 |
| 24           | 00000    | 0,0000,0000,0000,0000 |
| 25           | 00000    | 0,0000,0000,0000,0000 |

# 17NNRCTRLT01

OAPEL: 17NNRCTRLT01                    ALIAS: LSNNRCTRTA01  
EXT: S                                    PSID: XU  
SCLK1: 04716005:00:0                   SCLK2: 04716006:12:0  
SCET1: 1998-303/18:40:80.933           SCET2: 1998-303/18:42:29.600  
TARGET: CAL                              PARTITION: 1

MODE: 3                                    GAIN: 1  
CHOP: 1                                   GRAT\_OFF: 4  
PTAB\_A: 1 1 0 0 124                    PTAB\_B: 1 1 0 0 124  
ECAL: 0                                   OPCAL: 0  
R/T: 1                                    RECORD: 0

MB\_DOWN: 11011                           MB\_UP: 11011  
COMP\_FLAG: 0  
EST\_COMP: 0.0                            EST\_COMPV: 0.0  
RATE\_CON1: 00000                        RATE\_CON2: 00000  
NWAVETOT: 252                            TLMFMT: RT

THRESHOLD\_SEL: 0  
THRESHOLD\_VALUES: 000, 000, 000, 000, 000, 000, 000, 000, 000, 000  
    000, 000, 000, 000, 000, 000, 000, 000

WETGID: 0303252000                      03 03 252 000  
WTGRP\_SIZ: 3

## EDIT TABLE

| GRATING STEP | HEX MASK | DETECTOR MASK         |
|--------------|----------|-----------------------|
| 0            | 003FF    | 0,0000,0011,1111,1111 |
| 1            | 003FF    | 0,0000,0011,1111,1111 |
| 2            | 003FF    | 0,0000,0011,1111,1111 |
| 3            | 003FF    | 0,0000,0011,1111,1111 |
| 4            | 003FF    | 0,0000,0011,1111,1111 |
| 5            | 003FF    | 0,0000,0011,1111,1111 |
| 6            | 003FF    | 0,0000,0011,1111,1111 |
| 7            | 003FF    | 0,0000,0011,1111,1111 |
| 8            | 003FF    | 0,0000,0011,1111,1111 |
| 9            | 003FF    | 0,0000,0011,1111,1111 |
| 10           | 003FF    | 0,0000,0011,1111,1111 |
| 11           | 003FF    | 0,0000,0011,1111,1111 |
| 12           | 007FF    | 0,0000,0111,1111,1111 |
| 13           | 007FF    | 0,0000,0111,1111,1111 |
| 14           | 007FF    | 0,0000,0111,1111,1111 |
| 15           | 007FF    | 0,0000,0111,1111,1111 |
| 16           | 007FF    | 0,0000,0111,1111,1111 |
| 17           | 007FF    | 0,0000,0111,1111,1111 |
| 18           | 007FF    | 0,0000,0111,1111,1111 |
| 19           | 007FF    | 0,0000,0111,1111,1111 |
| 20           | 007FF    | 0,0000,0111,1111,1111 |
| 21           | 007FF    | 0,0000,0111,1111,1111 |
| 22           | 007FF    | 0,0000,0111,1111,1111 |
| 23           | 007FF    | 0,0000,0111,1111,1111 |
| 24           | 00000    | 0,0000,0000,0000,0000 |
| 25           | 00000    | 0,0000,0000,0000,0000 |

# 17NNRCTRLT01

```

OAPEL: 17NNRCTRLT01          ALIAS: LSNNRCTRTA01
EXT: T                        PSID: XU
SCLK1: 04716011:00:0        SCLK2: 04716011:12:0
SCET1: 1998-303/18:47:24.933 SCET2: 1998-303/18:47:32.933
TARGET: CAL                  PARTITION: 1
  
```

```

MODE: 3                      GAIN: 1
CHOP: 1                      GRAT_OFF: 4
PTAB_A: 1 1 0 0 124        PTAB_B: 1 1 0 0 124
ECAL: 0                     OPCAL: 0
R/T: 1                      RECORD: 0
  
```

```

MB_DOWN: 11011              MB_UP: 11011
COMP_FLAG: 0
EST_COMP: 0.0              EST_COMPV: 0.0
RATE_CON1: 00000           RATE_CON2: 00000
NWAVETOT: 252              TLMFMT: RT
  
```

```

THRESHOLD_SEL: 0
THRESHOLD_VALUES: 000, 000, 000, 000, 000, 000, 000, 000, 000, 000
                  000, 000, 000, 000, 000, 000, 000, 000, 000
  
```

```

WETGID: 0303252000        03 03 252 000
WTGRP_SIZ: 3
  
```

## EDIT TABLE

| GRATING STEP | HEX MASK | DETECTOR MASK         |
|--------------|----------|-----------------------|
| 0            | 003FF    | 0,0000,0011,1111,1111 |
| 1            | 003FF    | 0,0000,0011,1111,1111 |
| 2            | 003FF    | 0,0000,0011,1111,1111 |
| 3            | 003FF    | 0,0000,0011,1111,1111 |
| 4            | 003FF    | 0,0000,0011,1111,1111 |
| 5            | 003FF    | 0,0000,0011,1111,1111 |
| 6            | 003FF    | 0,0000,0011,1111,1111 |
| 7            | 003FF    | 0,0000,0011,1111,1111 |
| 8            | 003FF    | 0,0000,0011,1111,1111 |
| 9            | 003FF    | 0,0000,0011,1111,1111 |
| 10           | 003FF    | 0,0000,0011,1111,1111 |
| 11           | 003FF    | 0,0000,0011,1111,1111 |
| 12           | 007FF    | 0,0000,0111,1111,1111 |
| 13           | 007FF    | 0,0000,0111,1111,1111 |
| 14           | 007FF    | 0,0000,0111,1111,1111 |
| 15           | 007FF    | 0,0000,0111,1111,1111 |
| 16           | 007FF    | 0,0000,0111,1111,1111 |
| 17           | 007FF    | 0,0000,0111,1111,1111 |
| 18           | 007FF    | 0,0000,0111,1111,1111 |
| 19           | 007FF    | 0,0000,0111,1111,1111 |
| 20           | 007FF    | 0,0000,0111,1111,1111 |
| 21           | 007FF    | 0,0000,0111,1111,1111 |
| 22           | 007FF    | 0,0000,0111,1111,1111 |
| 23           | 007FF    | 0,0000,0111,1111,1111 |
| 24           | 00000    | 0,0000,0000,0000,0000 |
| 25           | 00000    | 0,0000,0000,0000,0000 |

# 17NNOPCAL\_01

```

OAPEL: 17NNOPCAL_01      ALIAS: LSNNOPCAL_01
EXT: R                    PSID: DC
SCLK1: 04716015:00:0     SCLK2: 04716017:12:0
SCET1: 1998-303/18:51:27.600 SCET2: 1998-303/18:53:36.933
TARGET: CAL              PARTITION: 1
  
```

```

MODE: 3                  GAIN: 4
CHOP: 1                  GRAT_OFF: 4
PTAB_A: 1 1 0 0 124     PTAB_B: 1 1 0 0 124
ECAL: 0                  OPCAL: 1
R/T: 1                   RECORD: 0
  
```

```

MB_DOWN: 11011          MB_UP: 11011
COMP_FLAG: 0
EST_COMP: 0.0           EST_COMPV: 0.0
RATE_CON1: 00000       RATE_CON2: 00000
NWAVETOT: 048          TLMFMT: RT
  
```

```

THRESHOLD_SEL: 0
THRESHOLD_VALUES: 000, 000, 000, 000, 000, 000, 000, 000, 000, 000
                  000, 000, 000, 000, 000, 000, 000, 000, 000
  
```

```

WETGID: 0302048000     03 02 048 000
WTGRP_SIZ: 2
  
```

## EDIT TABLE

| GRATING STEP | HEX MASK | DETECTOR MASK         |
|--------------|----------|-----------------------|
| 0            | 18000    | 1,1000,0000,0000,0000 |
| 1            | 18000    | 1,1000,0000,0000,0000 |
| 2            | 18000    | 1,1000,0000,0000,0000 |
| 3            | 18000    | 1,1000,0000,0000,0000 |
| 4            | 18000    | 1,1000,0000,0000,0000 |
| 5            | 18000    | 1,1000,0000,0000,0000 |
| 6            | 18000    | 1,1000,0000,0000,0000 |
| 7            | 18000    | 1,1000,0000,0000,0000 |
| 8            | 18000    | 1,1000,0000,0000,0000 |
| 9            | 18000    | 1,1000,0000,0000,0000 |
| 10           | 18000    | 1,1000,0000,0000,0000 |
| 11           | 18000    | 1,1000,0000,0000,0000 |
| 12           | 18000    | 1,1000,0000,0000,0000 |
| 13           | 18000    | 1,1000,0000,0000,0000 |
| 14           | 18000    | 1,1000,0000,0000,0000 |
| 15           | 18000    | 1,1000,0000,0000,0000 |
| 16           | 18000    | 1,1000,0000,0000,0000 |
| 17           | 18000    | 1,1000,0000,0000,0000 |
| 18           | 18000    | 1,1000,0000,0000,0000 |
| 19           | 18000    | 1,1000,0000,0000,0000 |
| 20           | 18000    | 1,1000,0000,0000,0000 |
| 21           | 18000    | 1,1000,0000,0000,0000 |
| 22           | 18000    | 1,1000,0000,0000,0000 |
| 23           | 18000    | 1,1000,0000,0000,0000 |
| 24           | 00000    | 0,0000,0000,0000,0000 |
| 25           | 00000    | 0,0000,0000,0000,0000 |

NIMS E17 OBSTAB

This is a time-ordered ASCII TABLE (listing) of GALILEO NIMS observation parameters for use by downlink data processing of the NIMS E17 data. Each Obstab entry is 512 bytes long but is presented here as 4 lines of 128 characters per entry. Included items come from NIMS commands in (1) the Standard Sequence Data File (SSDF) and (2) the Playback Table Update Process (PTUP), plus some items from (3) the NIMS/CDS software load.

Note that SCLK1, SCLK2, SCET1 and SCET2 of non-realtime observations reflect the amount of data actually played back, rather than the amount recorded on tape. Likewise, the wavelength edit table pointers of non-realtime observations point to the playback edit table masks, rather than the ones used during recording.

Some of these items are needed for MIPS realtime processing of NIMS data, others for NIMSMERGE generation of the EDR and still others by NIMS/ISIS and MIPS systematic processing of EDRs into cubes. Missing non-required items will not interfere with a processing step. For completeness, almost all uplinked parameters are included in the table. (Only those items which will almost certainly remain constant have been omitted; e.g. Rice decision tables.)

The source below is one of:

- SEF for the Standard Sequence Data File (SSDF), specifying parameters of one of the NIMS (37) commands
- PBK for the Playback Table Update Process (PTUP), specifying parameters of the NIMPBK SINGLE command
- S/W for the NIMS/CDS software load process
- NIMS for NIMS team systematic processing requests to MIPS

\* indicates item absolutely required for UDR generation (decompression, wavelength edit processing)  
 # indicates item useful for UDR generation (for checking)  
 unmarked items needed for cube generation or useful for general information  
 <tbdb> indicates more details will be forthcoming

| name        | nchar | columns | .description   | .source   |
|-------------|-------|---------|--|---|
| OAPEL       | 12    | 1 - 12  | .Oapel Name from SEF (no aliases yet)  | SEF: activity ID, 1st 12 chars should be unique     |
| ALIAS       | 12    | 13 - 24 | .NIMS alias name for OAPEL   | NIMS:   |
| EXT         | 1     | 25 - 25 | .Extension, for split OAPELS, A,B,C...<br>for playback, R,S,T... for realtime.<br>Required for realtime. | NIMS: if breaking activity into several cubes       |
| PSID        | 2     | 26 - 27 | .Parameter Set Identification  | SEF: <tbdb>   |
| * SCLK1     | 13    | 28 - 40 | .Start time of played-back OBS in SCLK   | PBK (except realtime data: SEF)                     |
| * SCLK2     | 13    | 41 - 53 | .Stop time of played-back OBS in SCLK  | PBK (except realtime data: SEF)                     |
| * PARTITION | 1     | 54 - 54 | .Partition for SCLK1 and SCLK2.  |   |
| <spare>     | 9     | 55 - 63 |  |   |
| TARGET      | 8     | 64 - 71 | .Primary Target of OBS   | SEF: translate from 3rd char in OAPEL (activity ID) |



```

-----
MODE      2 72 - 73      .NIMS Instrument MODE (0-15)      SEF: 37IOP, data byte 2, bits 5-8
GAIN      1 74 - 74      .Gain State (true value)          SEF: 37IST, data byte 3, bits 7-8 (if bit 6 = 1)
                                         0=gs2, 1=gs4, 2=gs3, 3=gs1
CHOP      1 75 - 75      .Chopper State (1=Ref,2=63Hz,3=FreeRun,4=Off) SEF: 37IST, data byte 2, bits 7-8 (if bit 6 = 1)
                                         0=63hz, 1=off, 2=ref, 3=freeerun
GRAT_OFF  1 76 - 76      .Grating Offset (0-7, default 4)   SEF: 37GOF, data byte 2, bits 5-8
PTAB_A(6) 12 77 - 88      .First PTAB |repeat count,mirror op,autobias...SEF: functions of MODE (from 37IOP) as modified by
PTAB_B(6) 12 89 - 100  .Second PTAB |...grating start, grating delta... 37MPT, unless special sequence (modes 12-15)
.         .         |...number of grating positions) in which case values come from 37SS
                                         parameters <tbd>
ECAL      1 101 - 101     .Electronics Calibration Active (1=yes) SEF: 37IST, data byte 3, bit 4 (1=on)
OPCAL     1 102 - 102     .Optics Calibration active (1=yes)   SEF: 37IST, data byte 3, bit 5 (1=on)
# REAL_TIME 1 103 - 103     .NIMS in Real-Time Telemetry (1=yes) SEF: track RT_INST_SEL .and. 37RT
# RECORD   1 104 - 104     .NIMS in Record Telemetry (1=yes)   SEF: track DMS status event:
                                         RECORD, REVERSE, RESUME, RUNDOWN <tbd>

* THRESHSEL 1 105 - 105     .Threshold value select (>0 = yes)   PBK: THRESHLD_TBL > 0 (i.e. 1-3)
<spare>    1 106 - 106     .
# RTISELDN 5 107 - 111     .RTI select, 5 binary bits (for mirror SEF: 37MB data byte 1, bits 4-8 <tbd>
                                         position blocking, down scan)
# RTISELUP 5 112 - 116     .RTI select, 5 binary bits (for mirror SEF: 37MB data byte 2, bits 4-8 <tbd>
                                         position blocking, up scan)
<spare>    1 117 - 117     .
* RICEFLAG 1 118 - 118     .Rice compression flag              PBK: 0 no compression
                                         1 Rice compression, ref vals each mirror scan
                                         3 Rice compression, ref vals each RIM rollover

<spare>    1 119 - 119     .
ESTCOMP    3 120 - 122     .Rice estimated compression ratio (m.n) PBK: CMPR_DVSR <tbd>
ESTCOMPV   3 123 - 125     .Rice estimated error in compression ratio (m.n)PBK: CMPR_UNC <tbd>
# RATECON1 5 126 - 130     .Rate control lower limit           PBK: | S/W table entry indexed by LOSSY_COMP (1-7)
# RATECON2 5 131 - 135     .Rate control upper limit           PBK: | or 0 if LOSSY_COMP = 0 (no rate control)
                                         |
<spare>    17 136 - 152     .
NWAVERTOT 3 153 - 155     .Total number of wavelengths selected Compute from relevant Wavelength Edit Table group
TLMFMT     3 156 - 158     .Telemetry format (MPW et al, LPU or LNR) SEF: 6TMREC command
SCET1      21 159 - 179     .Start time of played-back OBS in UTC PBK (except realtime data: SEF)
SCET2      21 180 - 200     .Stop time of played-back OBS in UTC  PBK (except realtime data: SEF)
<spares>   67 201 - 267     .Start time of played-back OBS in UTC  PBK (except realtime data: SEF)
* THRESH   51 268 - 318     .Threshold values (17 3-digit values, 0-999) PBK: S/W table indexed by THRESH_TBL > 0, else 0s
-----

```

```

# WETGID      10 319 - 328      .Wavelength selection group ID (unique)      PBK: WET_GID      (realtime <tbd>)
Rule of formation: mmeelll1nnn where
mm = instrument mode (0-15)
ee = # entries in group
lll = number of wavelengths selected
nnn = sequence number
* WETGRPSIZ      2 329 - 330      .# Wavelength Edit entries (1-26)      PBK: ED_GRP_LEN      (realtime SEF: 37ETB <tbd>)
* WETGRP      182 331 - 512      .Wavelength Edit Table group: WETGRPSIZ      PBK: ED_GRP      (realtime SEF: 37ETB data bytes 2..)

```

entries, each one has 7 characters. The first 2 characters are the repeat count (01-26). The other 5 characters contain 5 hex digits, representing the detector mask in the form BHHH where B is 0 or 1 and H has range 0-15. (These entries are from the 37ETB instrument edit group for realtime data and from the logical AND of corresponding entries in the instrument and playback edit groups for playback data.)

.The TARGET names used are:

```

CAL      - N - non-science targets, usually calibration targets
EARTH    - W - Earth
MOON     - L - Moon
SKY      - H - Stellar Space (space and stars)
VENUS    - V - Venus
GASPRA   - P - Gaspra
IDA      - U - Ida
JUPITER  - J - Jupiter
IO       - I - Io
EUROPA   - E - Europa
GANYMEDE - G - Ganymede
CALLISTO - C - Callisto
J_RING   - R - Jupiter rings

```

(the single letter abbreviation appears as the third character in the OAPEL name ).





```

-----
17NNRCRTRLT01LSNRCRTRTA01SXU04716005:00:004716006:12:01          CAL  3114 1 1 0 0 124 1 1 0 0 12400100 1101111011 0 0.00.0000
0000000                252RT 1998-303/18:40:80.9331998-303/18:42:29.600
000000000000000000000000000000000000000000000000000000000000 312003FF12007FF0200000
17NNRCRTRLT01LSNRCRTRTA01TXU04716011:00:004716011:12:01          CAL  3114 1 1 0 0 124 1 1 0 0 12400100 1101111011 0 0.00.0000
0000000                252RT 1998-303/18:47:24.9331998-303/18:47:32.933
000000000000000000000000000000000000000000000000000000000000 312003FF12007FF0200000
17NNOPCAL_01LSNNOFCAL_01RDC04716015:00:004716017:12:01          CAL  3414 1 1 0 0 124 1 1 0 0 12401100 1101111011 0 0.00.0000
0000000                048RT 1998-303/18:51:27.6001998-303/18:53:36.933
000000000000000000000000000000000000000000000000000000000000 2241800000200000
-----

```

# Chapter 5 - Detailed Observation Designs

## Contents

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## Introduction to Chapter 5

### Detailed Observation Designs

Each NIMS Detailed Observation Design consists of an OAPEL form and a Pointer plot. The OAPEL form is a brief description of the design of the observation. The Pointer plot is a plot of the target body with the NIMS footprint incorporated in the mosaic design superimposed on the target body. The size and orientation of the target body is plotted as it appears at the time of the first NIMS footprint plotted. For long observations, the target body may rotate or move relative to the spacecraft during the observation. Some observations, such as calibrations, do not have Pointer plots.

The Pointer plots and OAPEL forms in this chapter have been updated to report the actual data returned.

The Pointer plots have the spatial extent of the actual data returned outlined with a thick line. When no data were returned for a particular observation, its Pointer plot has a single slash across the plot with the text "NO DATA RETURNED" printed in the upper left corner of the plot.

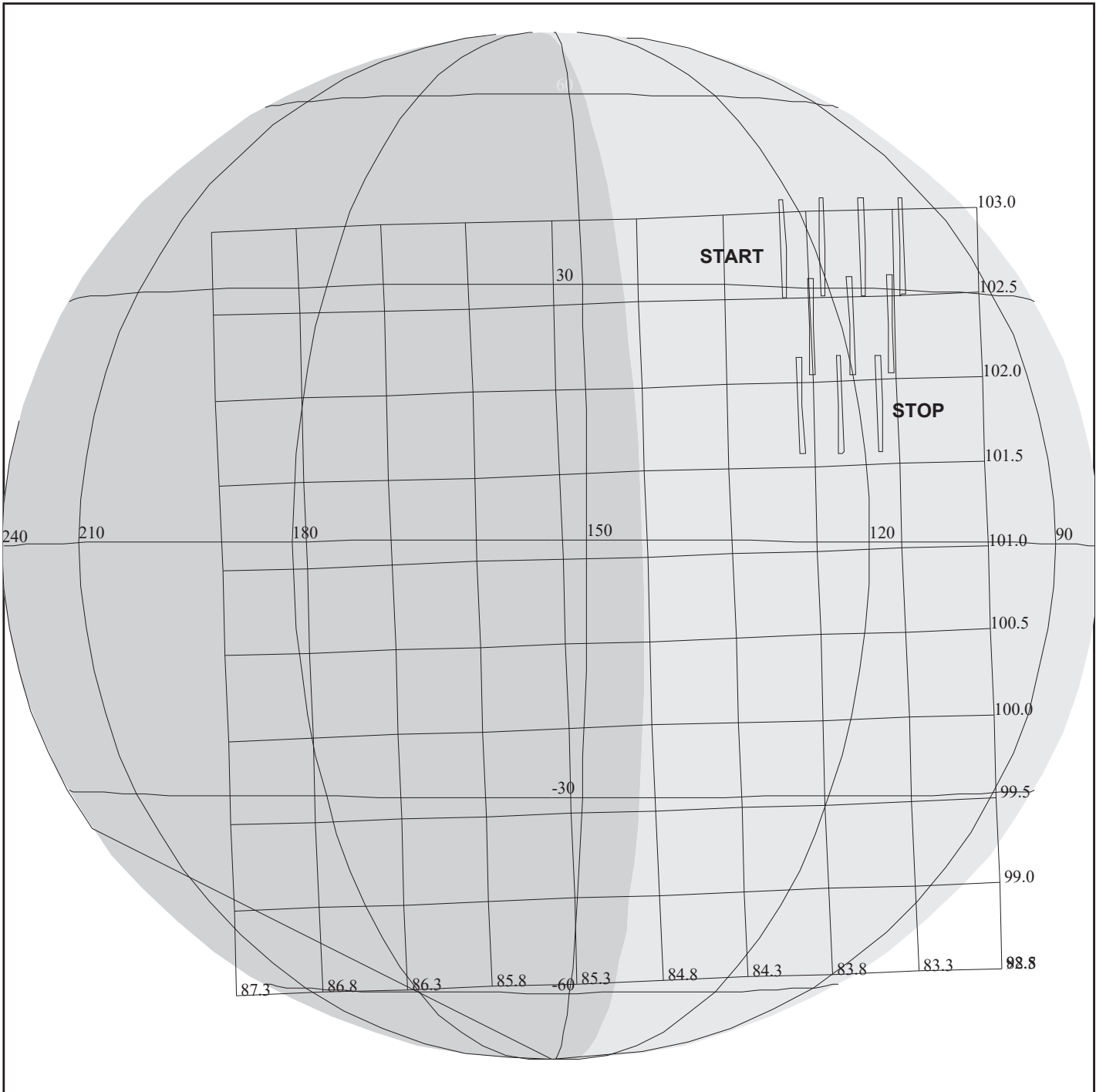
The text of the OAPEL forms have been modified to reflect the actual NIMS instrument parameters for playback. An extra line containing one or some of the following statements has been added to the Observation Objective section of the OAPEL form to report the data return status:

```
"Data Returned"      == Data from this observation returned
"No Data Returned"   == NO Data from this observation returned
"Processor Halted"   == The NIMS Processor had halted at this time.
```

More information regarding NIMS data return can be found in Chapter 7 of this guide.

|   |                       |                                 |                                |
|---|-----------------------|---------------------------------|--------------------------------|
| NIMS Software Reload  |                       | ACTIVITY ID: 17NNJUPRTS01-      |                                |
|   |                       | START TIME: 98-268/06:17:55.335 |                                |
| Activity ID: Orbit 17 Target N Inst N OAPEL JUPRTS SeqNo 01 -   |                       |                                 |                                |
| Title   | NIMS Software Reload  | Instrument                      |                                |
| Requestor   | NIMS-SWG/M. SEGURA    | Team NIMS                       | Working Group NIMS SWG         |
| Time System   | CDS                   | Load ID                         | Calendar Date 09/25/98 Week 39 |
| Start   | JEE-CDS 00001550:00:0 | 98-268/06:17:55.335             | JEE-001/02:07:13.333           |
| End   | JEE-CDS 00001540:00:0 | 98-268/06:28:02.002             | JEE-001/01:57:06.666           |
| Duration  | 00000010:00:0         | 000/00:10:06.667                | 000/00:10:06.667               |
| Top Label   | 17NNJUPRTS01-         |                                 |                                |
| Bottom Label  |                       |                                 |                                |
| Plot Key  | NIMS                  | Type                            | SCI                            |
| CDS Bytes   | 0                     | Report Options                  | BOTH                           |
| CDS Source  | OAP                   | Spin State                      | DUAL                           |
|   |                       | Scan Platform                   | No                             |
|   |                       | DMS                             | No                             |
| Observation Objective   |                       |                                 |                                |
| NIMS Software Reload  |                       |                                 |                                |
| Each NIMS GEM observation will have an instrument reload before the start of each observation. Each reload has its own OAPEL form, but only this first form is included in the NIMSGUIDE.                               |                       |                                 |                                |
| The NIMS E17 reload OAPELs are:<br>17NNJUPRTS01,17NNEUR20H01,17NNWHTOVL01,17NNWHTOVL02,<br>17NNJUPRTS02,17NNWHTOVL03,17NNJUPRTS03,17NNGLOBAL01,<br>17NNSUCOMP01,17NNSUCOMP02,17NNSUCOMP03,17NNSUCOMP04,<br>17NNGLOBAL02 |                       |                                 |                                |
| Design Detail   |                       |                                 |                                |
| Use a standard set of commands to halt the instrument, load the software and reinitialize the instrument.   |                       |                                 |                                |
| 37PL - Halt NIMS Processor  |                       |                                 |                                |
| 37MRL - Memory Reallocate   |                       |                                 |                                |
| 6MCPY - Copy flight software from CDS to NIMS 1000  |                       |                                 |                                |
| 6MCPY - Copy flight software from CDS to NIMS 1598  |                       |                                 |                                |
| 37IRT - Instrument Reset  |                       |                                 |                                |
| 37MN - Memory Normal  |                       |                                 |                                |
| 37IST - Chopper Reference   |                       |                                 |                                |
| Galileo Activity Plan Form  |                       | 08/31/98 13:50:52               | rev 6/95                       |





**17JNJUPRTS01**

165DA:TT= 0 TMC= 1 C= 0.00 XC= 0.00 BS= 0/8836 TC= 1(35 125 )  
 A= 728 pD= 1810 SR=17.450 RA50=251.32 DEC50=-22.20 cone= 83.94 clock=102.78  
 117DA:#SB= 1 OR= 0.060 RR=12.000 BM=F RC= 1 BS= 0/8836  
 1:#s= 3 Cs= -11.50 XCs= 0.00 Cr= 13.00 XCr= -8.00 sD= 582 rD= 24

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17JNJUPRTS01

CENTRAL BODY:JUPITER

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS:

START:JEE 98-269/08:26:40.000 -CDS 1536:00:0

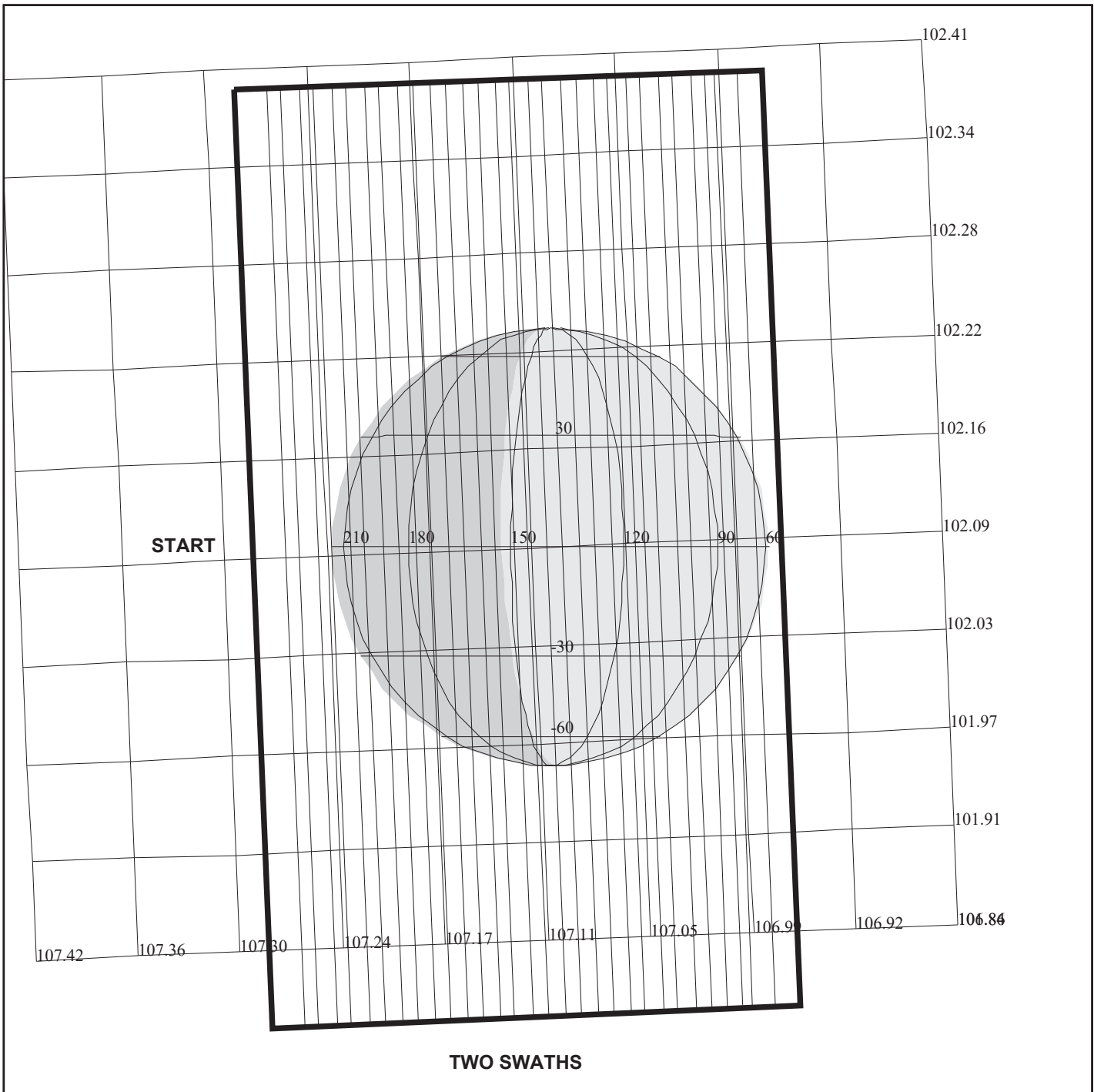
OBSERVATION:17JNJUPRTS01

THINNING:NIM 7

BODY PLOT TIME:TARGET-TIME D= 1810 S= 1.000

DESCRIP:Jupiter\_Realtime\_Observation

|   |                              |                |                     |                      |          |
|---|------------------------------|----------------|---------------------|----------------------|----------|
| Jupiter Realtime Observation  |                              | ACTIVITY ID:   | 17JNJUPRTS01*       |                      |          |
|   |                              | START TIME:    | 98-268/06:28:02.002 |                      |          |
| Activity ID: Orbit 17 Target J Inst N OAPEL JUPRTS SeqNo 01 *   |                              |                |                     |                      |          |
| Title   | Jupiter Realtime Observation |                | Instrument          |                      | NIMS     |
| Requestor   | NIMS-AWG/A. OCAMPO           |                | Team                | NIMS Working Group   | AWG      |
| Time System   | CDS                          | Load ID        | Calendar Date       | 09/25/98             | Week 39  |
| Start   | JEE-CDS 00001540:00:0        |                | 98-268/06:28:02.002 | JEE-001/01:57:06.666 |          |
| End   | JEE-CDS 00001526:00:0        |                | 98-268/06:42:11.335 | JEE-001/01:42:57.333 |          |
| Duration  | 00000014:00:0                |                | 000/00:14:09.333    | 000/00:14:09.333     |          |
| Top Label   | 17JNJUPRTS01*                |                |                     |                      |          |
| Bottom Label  |                              |                |                     |                      |          |
| Plot Key  | NIMS                         | Type           | SCI                 |                      |          |
| CDS Bytes   | 0                            | Report Options | BOTH                |                      |          |
| CDS Source  | OAP                          | Spin State     | DUAL                | Scan Platform        | Yes      |
|   |                              |                |                     | DMS                  | No       |
| Observation Objective   |                              |                |                     |                      |          |
| Search for Jupiter atmospheric composition and thermal variations over time.  |                              |                |                     |                      |          |
| FREE_RTS = 0.16 Mbits   |                              |                |                     |                      |          |
| Data Returned   |                              |                |                     |                      |          |
| Design Detail   |                              |                |                     |                      |          |
| Long map. Three scans, each three RIMS long. Target to 35 North latitude on the first scan. No scan overlap, Nyquist sampling not necessary - lit surface only not longitude dependent. No overlap in FOV. NIMS R/T only returns every seventh FOV. |                              |                |                     |                      |          |
| SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT   |                              |                |                     |                      |          |
| Long Map (LM), Gain 2, Grating Start 0, R/T, RT408  |                              |                |                     |                      |          |
| Galileo Activity Plan Form  |                              |                | 08/31/98            | 13:50:52             | rev 6/95 |



TWO SWATHS

**17ENEUR20H01**

165EA:TT= 0 TMC= 1 C= 3.00 XC= 0.00 BS= 0/3022 TC= 3  
 A= 728 pD= 1810 SR=17.450 RA50=276.66 DEC50=-24.44 cone=107.27 clock=102.09  
 117EA:#SB= 1 OR= 0.020 RR=12.000 BM=F RC= 1 BS= 0/3022  
 1:#s= 2 Cs= -5.20 XCs= 0.00 Cr= 5.20 XCr= 0.00 sD= 814 rD= 182

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17ENEUR20H01

TARGET BODY : EUROPA

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS:

THINNING:NIM 2

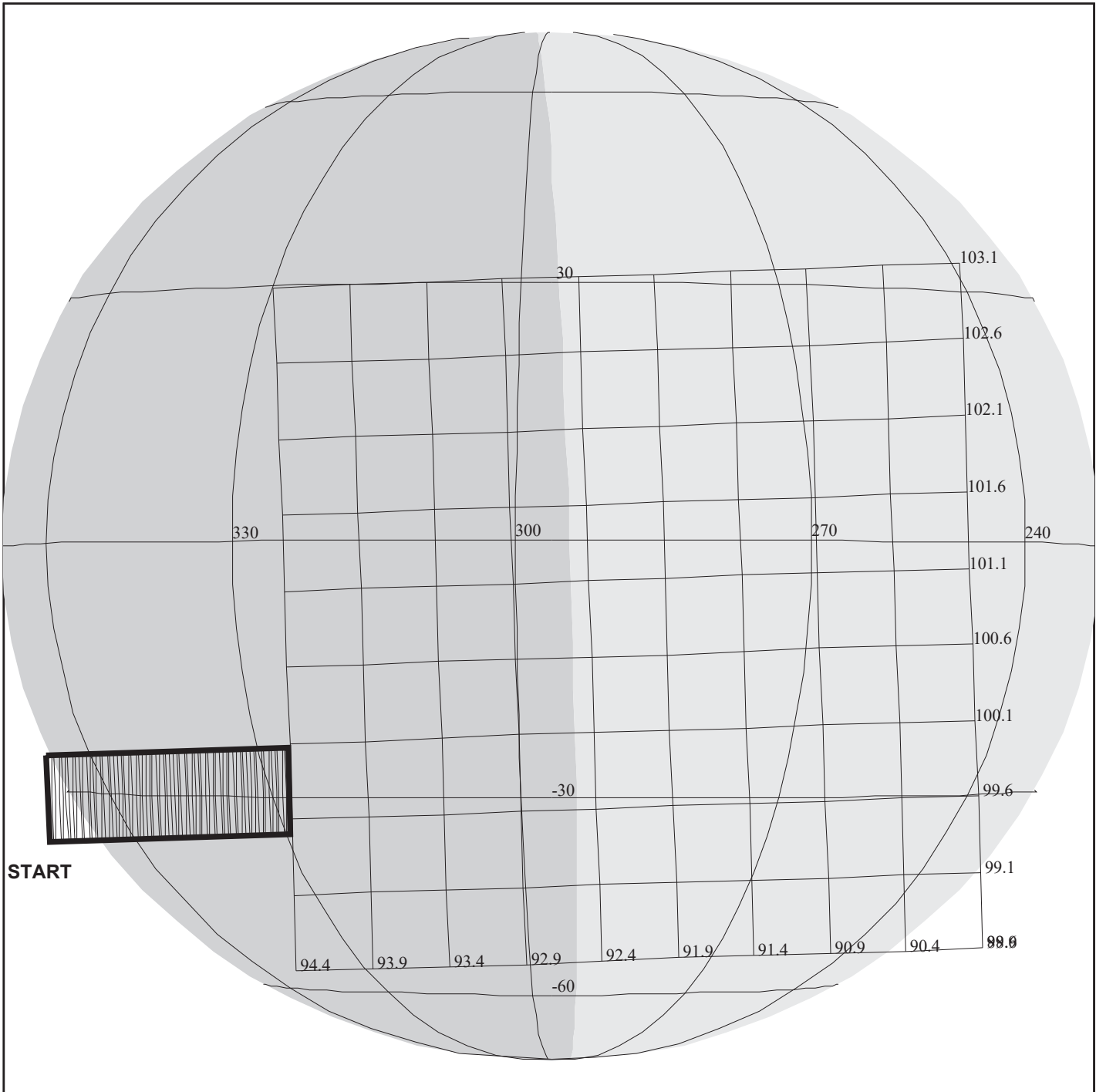
START:EEE 98-269/03:54:40.733 -CDS 1244:00:0

BODY PLOT TIME:TARGET-TIME D= 1810 S= 0.400

OBSERVATION:17ENEUR20H01

DESCRIP:EUROPA\_-20\_HOURS

|  |                       |                                 |                                |
|--|-----------------------|---------------------------------|--------------------------------|
| Europa 20 Hour Map   |                       | ACTIVITY ID: 17ENEUR20H01-      |                                |
|  |                       | START TIME: 98-268/06:48:15.513 |                                |
| Activity ID: Orbit 17 Target E Inst N OAPEL EUR20H SeqNo 01 -  |                       |                                 |                                |
| Title  | Europa 20 Hour Map    | Instrument                      |                                |
| Requestor  | NIMS-SWG/M. SEGURA    | Team                            | NIMS Working Group             |
|  |                       |                                 | NIMS SWG                       |
| Time System  | CDS                   | Load ID                         | Calendar Date 09/25/98 Week 39 |
| Start  | EEE-CDS 00001248:00:0 | 98-268/06:48:15.513             | EEE-000/21:01:52.000           |
| End  | EEE-CDS 00001234:00:0 | 98-268/07:02:24.847             | EEE-000/20:47:42.666           |
| Duration   | 00000014:00:0         | 000/00:14:09.334                | 000/00:14:09.334               |
| Top Label  | 17ENEUR20H01-         |                                 |                                |
| Bottom Label   |                       |                                 |                                |
| Plot Key   | NIMS                  | Type                            | SCI                            |
| CDS Bytes  | 0                     | Report Options                  | BOTH                           |
| CDS Source   | OAP                   | Spin State                      | ALL                            |
|  |                       | Scan Platform                   | No                             |
|  |                       | DMS                             | No                             |
| Observation Objective  |                       |                                 |                                |
| Distant Europa global mapping at 20 hours prior to closest approach. Special emphasis given to the non-ice components on Europa's surface. |                       |                                 |                                |
| Data Returned  |                       |                                 |                                |
| Design Detail  |                       |                                 |                                |
| Long Map, Nyquist sampling, 2 scans across the body with one Rim of time between the 2 scans.  |                       |                                 |                                |
| First Scan in Gain State 4 - emphasis on longer wavelengths.   |                       |                                 |                                |
| Second scan in Gain State 3 - emphasis on shorter wavelengths.   |                       |                                 |                                |
| SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT  |                       |                                 |                                |
| Long Map (LM), Gain 4, Grating Start 0, LPU, ELM240T, ELM240T  |                       |                                 |                                |
| Long Map (LM), Gain 3, Grating Start 0, LPU, ELM240V, ELM240V  |                       |                                 |                                |
| Galileo Activity Plan Form   |                       | 08/31/98 13:50:52               | rev 6/95                       |



**17JNWHTOVL01**

165EB:TT= 0 TMC= 1 C= 12.00 XC= 0.00 BS= 0/3608 TC= 1(-30 350 )  
 A= 546 pD= 1810 SR=17.450 RA50=264.12 DEC50=-26.46 cone= 95.99 clock= 99.83  
 117EB:#SB= 1 OR= 0.040 RR=12.000 BM=F RC= 1 BS= 0/3608  
 1:#s= 1 Cs= -24.00 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 1810 rD= 2

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17JNWHTOVL01

CENTRAL BODY:JUPITER

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS:

START:JEE 98-269/08:26:40.000 -CDS 1290:00:0

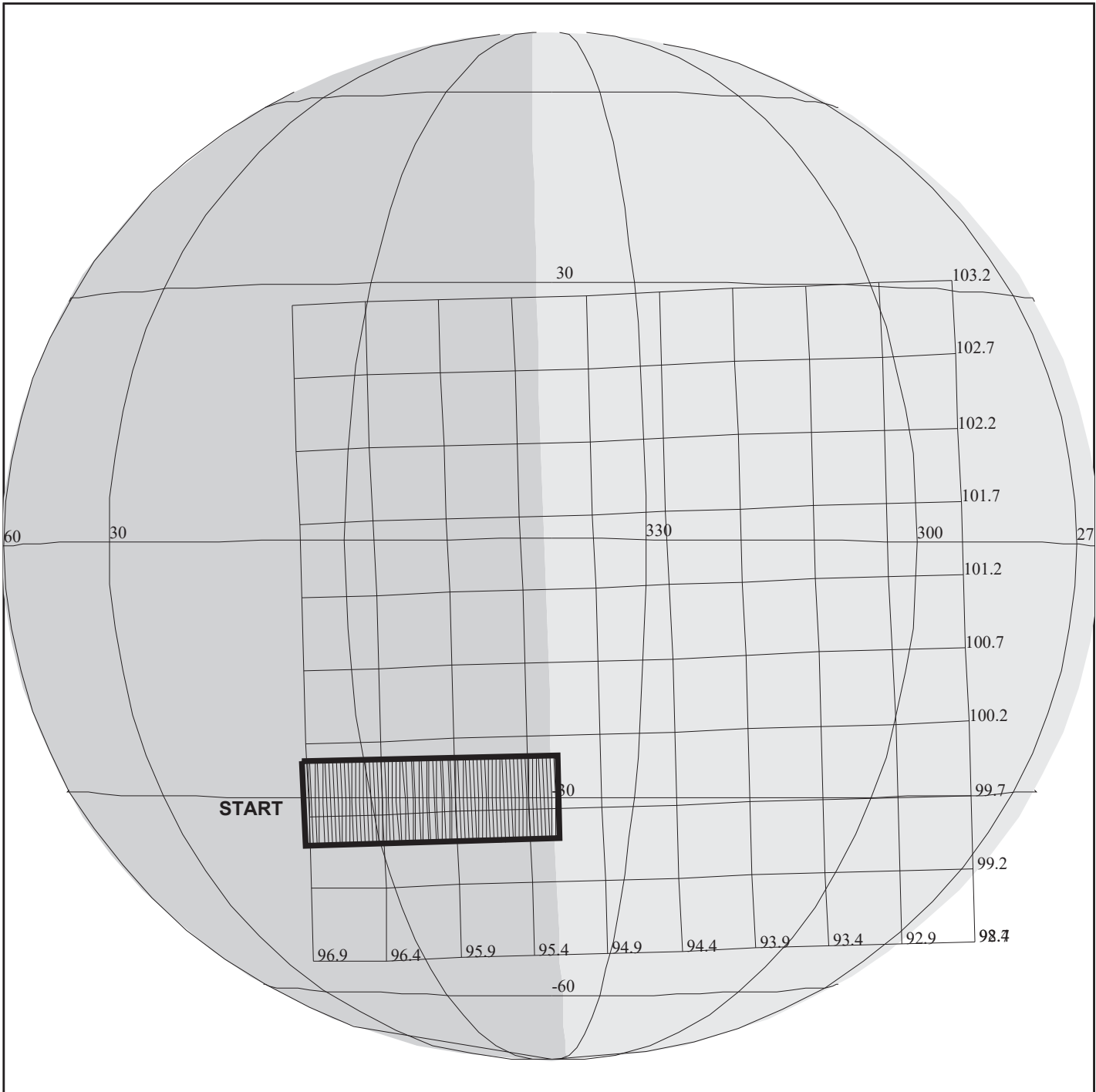
OBSERVATION:17JNWHTOVL01

THINNING:NIM 2

BODY PLOT TIME:TARGET-TIME D= 1810 S= 1.000

DESCRIP:NIMS\_MERGING\_WHITE\_OVAL

|  |                    |                |                     |                      |          |
|--|--------------------|----------------|---------------------|----------------------|----------|
| Jupiter White Oval   |                    | ACTIVITY ID:   | 17JNWHTOVL01-       |                      |          |
|  |                    | START TIME:    | 98-268/10:37:46.668 |                      |          |
| Activity ID: Orbit 17 Target J Inst N OAPEL WHTOVL SeqNo 01 -  |                    |                |                     |                      |          |
| Title  | Jupiter White Oval |                | Instrument          |                      | NIMS     |
| Requestor  | NIMS-AWG/K. BAINES |                | Team                | NIMS Working Group   | AWG      |
| Time System  | CDS                | Load ID        | Calendar Date       | 09/25/98             | Week 39  |
| Start  | JEE-CDS            | 00001293:00:0  | 98-268/10:37:46.668 | JEE-000/21:47:22.000 |          |
| End  | JEE-CDS            | 00001280:00:0  | 98-268/10:50:55.335 | JEE-000/21:34:13.333 |          |
| Duration   |                    | 00000013:00:0  | 000/00:13:08.667    | 000/00:13:08.667     |          |
| Top Label  | 17JNWHTOVL01-      |                |                     |                      |          |
| Bottom Label   |                    |                |                     |                      |          |
| Plot Key   | NIMS               | Type           | SCI                 |                      |          |
| CDS Bytes  | 0                  | Report Options | BOTH                |                      |          |
| CDS Source   | OAP                | Spin State     | DUAL                | Scan Platform        | Yes      |
|  |                    |                | DMS                 |                      | Yes      |
| Observation Objective  |                    |                |                     |                      |          |
| To observe the newly created white oval, which was formed in the Spring of 1998, from the merging of two white ovals previously named BC and DE.   |                    |                |                     |                      |          |
| Data Returned  |                    |                |                     |                      |          |
| Design Detail  |                    |                |                     |                      |          |
| 4 Rims of targeting time, one scan 12 Rims long.<br>Longitude coverage: 350 degrees to 357 degrees (centered)<br>Latitude: 30 degrees South<br>Long map mode, Nyquist sampling<br>Nightside. |                    |                |                     |                      |          |
| SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT  |                    |                |                     |                      |          |
| Long Map (LM), Gain 4, Grating Start 0, LPU, JSB253B, JSB66B   |                    |                |                     |                      |          |
| Galileo Activity Plan Form   |                    |                | 08/31/98            | 13:50:53             | rev 6/95 |



**17JNWHTOVL02**

165EC:TT= 0 TMC= 1 C= 18.00 XC= 0.00 BS= 0/7076 TC= 1(-30 350 )  
 A= 728 pD= 1810 SR=17.450 RA50=265.12 DEC50=-26.56 cone= 96.89 clock= 99.78  
 117EC:#SB= 1 OR= 0.040 RR=12.000 BM=F RC= 1 BS= 0/7076  
 1:#s= 1 Cs= -24.00 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 1810 rD= 2

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17JNWHTOVL02

CENTRAL BODY:JUPITER

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS:

START:JEE 98-269/08:26:40.000 -CDS 1216:00:0

OBSERVATION:17JNWHTOVL02

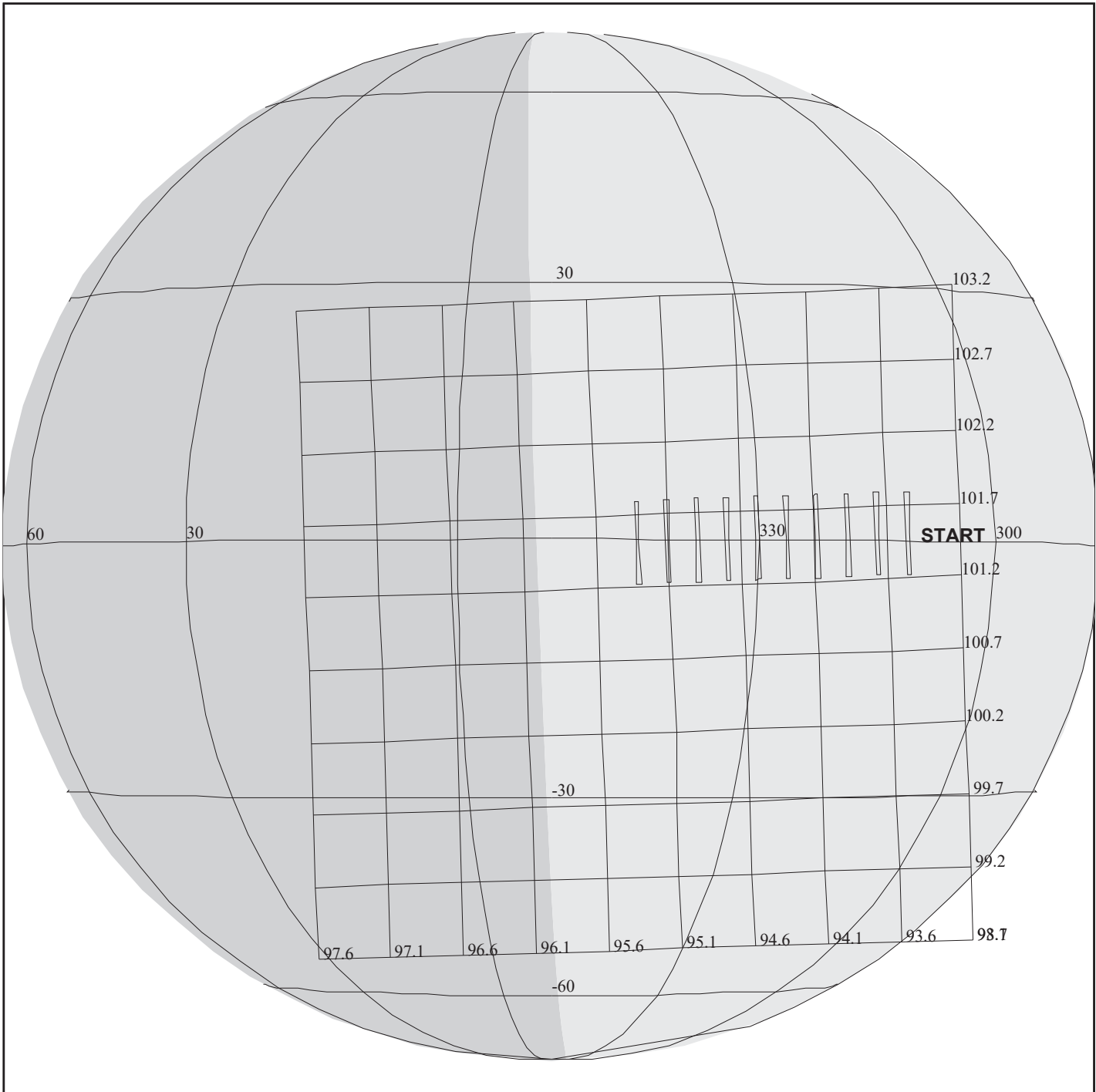
THINNING:NIM 2

BODY PLOT TIME:TARGET-TIME D= 1810 S= 1.000

DESCRIP:NIMS\_MERGING\_WHITE\_OVAL

|   |                       |                                 |                                |
|---|-----------------------|---------------------------------|--------------------------------|
| Jupiter White Oval  |                       | ACTIVITY ID: 17JNWHTOVL02-      |                                |
|   |                       | START TIME: 98-268/11:51:35.335 |                                |
| Activity ID: Orbit 17 Target J Inst N OAPEL WHTOVL SeqNo 02 -   |                       |                                 |                                |
| Title   | Jupiter White Oval    | Instrument                      |                                |
| Requestor   | NIMS-AWG/K. BAINES    | Team                            | NIMS Working Group             |
|   |                       |                                 | NIMS AWG                       |
| Time System   | CDS                   | Load ID                         | Calendar Date 09/25/98 Week 39 |
| Start   | JEE-CDS 00001220:00:0 | 98-268/11:51:35.335             | JEE-000/20:33:33.333           |
| End   | JEE-CDS 00001206:00:0 | 98-268/12:05:44.668             | JEE-000/20:19:24.000           |
| Duration  | 00000014:00:0         | 000/00:14:09.333                | 000/00:14:09.333               |
| Top Label   | 17JNWHTOVL02-         |                                 |                                |
| Bottom Label  |                       |                                 |                                |
| Plot Key  | NIMS                  | Type                            | SCI                            |
| CDS Bytes   | 0                     | Report Options                  | BOTH                           |
| CDS Source  | OAP                   | Spin State                      | DUAL                           |
|   |                       | Scan Platform                   | Yes                            |
|   |                       | DMS                             | Yes                            |
| Observation Objective   |                       |                                 |                                |
| To observe the newly created white oval, which was formed in the Spring of 1998, from the merging of two white ovals previously named BC and DE.  |                       |                                 |                                |
| Data Returned   |                       |                                 |                                |
| Design Detail   |                       |                                 |                                |
| 4 Rims of targeting time, one scan 12 Rims long.<br>Longitude coverage: 350 degrees to 357 degrees (centered)<br>Latitude: 30 degrees South<br>Long map mode, Nyquist sampling<br>Nightside and Terminator. |                       |                                 |                                |
| SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT   |                       |                                 |                                |
| Long Map (LM), Gain 4, Grating Start 0, LPU, JSB253B, JSB66B  |                       |                                 |                                |
| Galileo Activity Plan Form  |                       | 08/31/98 13:50:53               | rev 6/95                       |





**17JNJUPRTS02**

165DB:TT= 0 TMC= 1 C= -43.00 XC= 0.00 BS= 0/0716 TC= 3  
 A= 728 pD= 1810 SR=17.450 RA50=261.39 DEC50=-24.59 cone= 93.40 clock=101.52  
 117DB:#SB= 1 OR= 0.060 RR=12.000 BM=F RC= 1 BS= 0/0716  
 1:#s= 1 Cs= 36.00 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 1810 rD= 2

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17JNJUPRTS02

CENTRAL BODY:JUPITER

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS:

THINNING:NIM 7

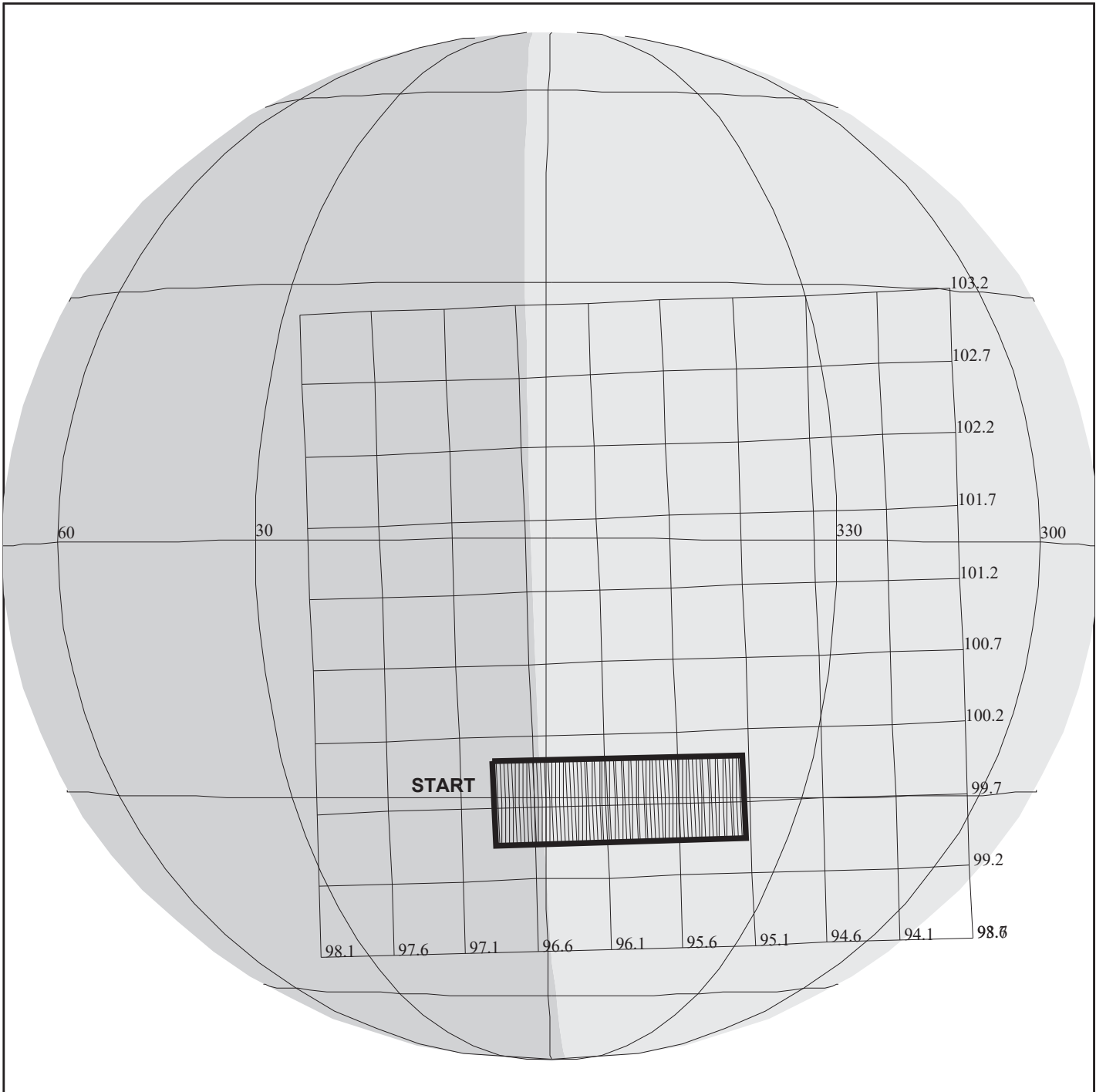
START:JEE 98-269/08:26:40.000 -CDS 1196:00:0

BODY PLOT TIME:TARGET-TIME D= 1810 S= 1.000

OBSERVATION:17JNJUPRTS02

DESCRIP:Jupiter\_Realtime\_Observation

|  |                              |                |                     |                      |          |
|--|------------------------------|----------------|---------------------|----------------------|----------|
| Jupiter Realtime Observation   |                              | ACTIVITY ID:   | 17JNJUPRTS02*       |                      |          |
|  |                              | START TIME:    | 98-268/12:11:48.668 |                      |          |
| Activity ID: Orbit 17 Target J Inst N OAPEL JUPRTS SeqNo 02 *                |                              |                |                     |                      |          |
| Title  | Jupiter Realtime Observation |                | Instrument          |                      | NIMS     |
| Requestor  | NIMS-AWG/A. OCAMPO           |                | Team                | NIMS Working Group   | AWG      |
| Time System  | CDS                          | Load ID        | Calendar Date       | 09/25/98             | Week 39  |
| Start  | JEE-CDS 00001200:00:0        |                | 98-268/12:11:48.668 | JEE-000/20:13:20.000 |          |
| End  | JEE-CDS 00001186:00:0        |                | 98-268/12:25:58.002 | JEE-000/19:59:10.666 |          |
| Duration   | 00000014:00:0                |                | 000/00:14:09.334    | 000/00:14:09.334     |          |
| Top Label  | 17JNJUPRTS02*                |                |                     |                      |          |
| Bottom Label   |                              |                |                     |                      |          |
| Plot Key   | NIMS                         | Type           | SCI                 |                      |          |
| CDS Bytes  | 0                            | Report Options | BOTH                |                      |          |
| CDS Source   | OAP                          | Spin State     | DUAL                | Scan Platform        | Yes      |
|  |                              |                |                     | DMS                  | No       |
| Observation Objective  |                              |                |                     |                      |          |
| Search for Jupiter atmospheric composition and thermal variations over time. |                              |                |                     |                      |          |
| FREE_RTS=0.16 Mbits  |                              |                |                     |                      |          |
| Data Returned  |                              |                |                     |                      |          |
| Design Detail  |                              |                |                     |                      |          |
| Long map. One scan ten RIMS long.  |                              |                |                     |                      |          |
| Equator - Nyquist sampling not necessary.                                    |                              |                |                     |                      |          |
| Longitude - not dependent. No overlap in FOV.                                |                              |                |                     |                      |          |
| NIMS R/T only returns every seventh FOV.                                     |                              |                |                     |                      |          |
| SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT          |                              |                |                     |                      |          |
| Long Map (LM), Gain 2, Grating Start 0, R/T, RT408                           |                              |                |                     |                      |          |
| Galileo Activity Plan Form   |                              |                | 08/31/98            | 13:50:53             | rev 6/95 |



**17JNWHTOVL03**

165ED:TT= 0 TMC= 1 C= 17.00 XC= 0.00 BS= 0/3446 TC= 1(-30 350 )  
 A= 728 pD= 1810 SR=17.450 RA50=265.09 DEC50=-26.59 cone= 96.87 clock= 99.76  
 117ED:#SB= 1 OR= 0.040 RR=12.000 BM=F RC= 1 BS= 0/3446  
 1:#s= 1 Cs= -24.00 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 1810 rD= 2

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17JNWHTOVL03

CENTRAL BODY:JUPITER

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS:

START:JEE 98-269/08:26:40.000 -CDS 1181:00:0

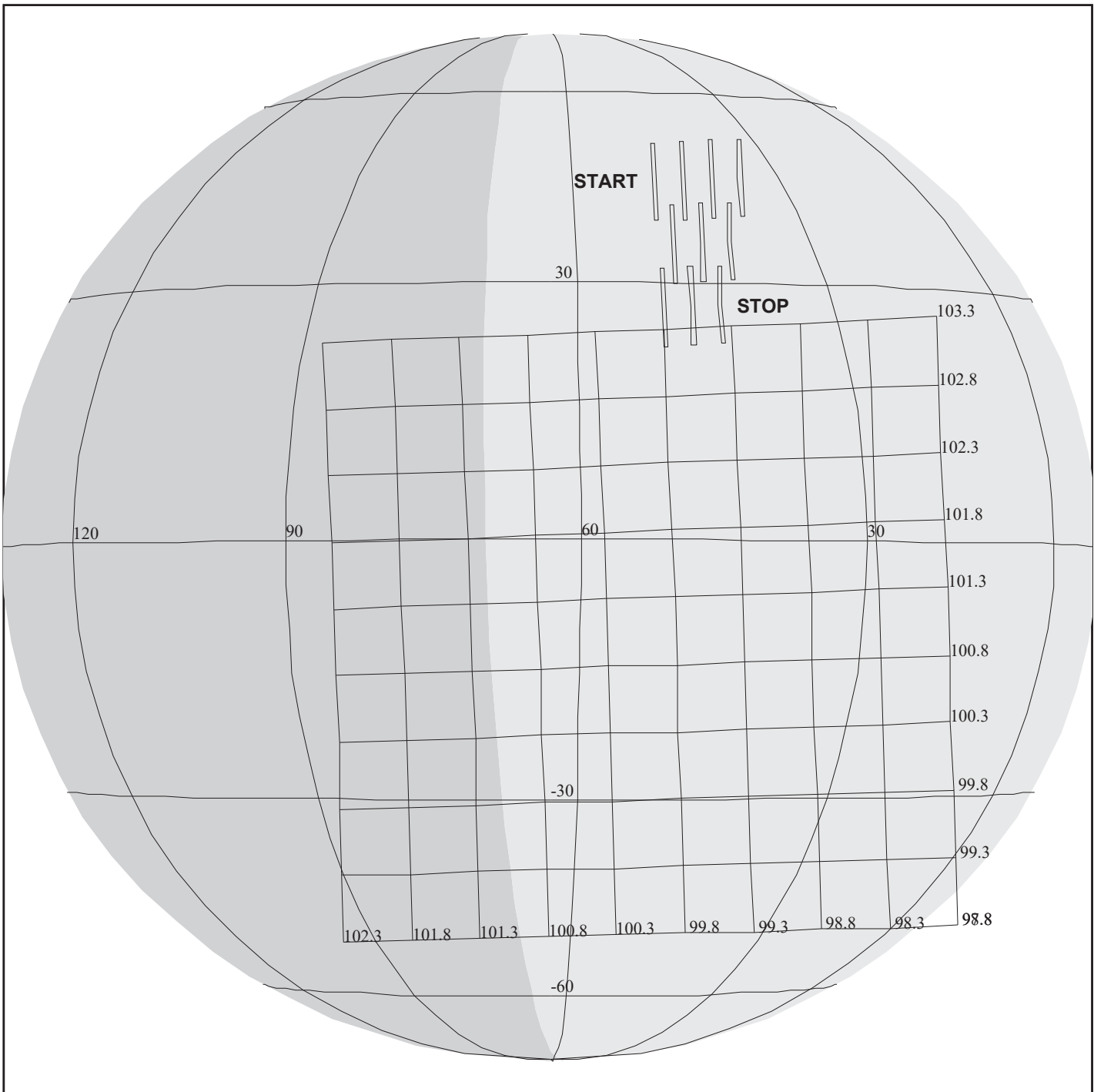
OBSERVATION:17JNWHTOVL03

THINNING:NIM 2

BODY PLOT TIME:TARGET-TIME D= 1810 S= 1.000

DESCRIP:NIMS\_MERGING\_WHITE\_OVAL

|   |                       |                                 |                                |
|---|-----------------------|---------------------------------|--------------------------------|
| Jupiter White Oval  |                       | ACTIVITY ID: 17JNWHTOVL03-      |                                |
|   |                       | START TIME: 98-268/12:27:59.335 |                                |
| Activity ID: Orbit 17 Target J Inst N OAPEL WHTOVL SeqNo 03 -   |                       |                                 |                                |
| Title   | Jupiter White Oval    | Instrument                      |                                |
| Requestor   | NIMS-AWG/K. BAINES    | Team                            | NIMS Working Group             |
|   |                       |                                 | NIMS AWG                       |
| Time System   | CDS                   | Load ID                         | Calendar Date 09/25/98 Week 39 |
| Start   | JEE-CDS 00001184:00:0 | 98-268/12:27:59.335             | JEE-000/19:57:09.333           |
| End   | JEE-CDS 00001170:00:0 | 98-268/12:42:08.668             | JEE-000/19:43:00.000           |
| Duration  | 00000014:00:0         | 000/00:14:09.333                | 000/00:14:09.333               |
| Top Label   | 17JNWHTOVL03-         |                                 |                                |
| Bottom Label  |                       |                                 |                                |
| Plot Key  | NIMS                  | Type                            | SCI                            |
| CDS Bytes   | 0                     | Report Options                  | BOTH                           |
| CDS Source  | OAP                   | Spin State                      | DUAL                           |
|   |                       | Scan Platform                   | Yes                            |
|   |                       | DMS                             | Yes                            |
| Observation Objective   |                       |                                 |                                |
| To observe the newly created white oval, which was formed in the Spring of 1998, from the merging of two white ovals previously named BC and DE.  |                       |                                 |                                |
| Data Returned   |                       |                                 |                                |
| Design Detail   |                       |                                 |                                |
| 4 Rims of targeting time, one scan 12 Rims long.<br>Longitude coverage: 350 degrees to 357 degrees (centered)<br>Latitude: 30 degrees South<br>Long map mode, Nyquist sampling<br>Terminator and Dayside. |                       |                                 |                                |
| SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT   |                       |                                 |                                |
| Long Map (LM), Gain 2, Grating Start 0, LPU, JSB253B, JSB253B   |                       |                                 |                                |
| Galileo Activity Plan Form  |                       | 08/31/98 13:50:53               | rev 6/95                       |



165DC:TT= 0 TMC=1 C= -15.00 XC= 46.00 BS= 0/3648 TC= 3  
 A= 728 pD= 1810 SR=17.450 RA50=268.62 DEC50=-22.13 cone= 99.87 clock=104.41  
 117DC:#SB= 1 OR= 0.060 RR=12.000 BM=F RC= 1 BS= 0/3648  
 1:#s= 3 Cs= -11.50 XCs= 0.00 Cr= 12.00 XCr= -8.00 sD= 582 rD= 26

**17JNJUPRTS03**

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17JNJUPRTS03

CENTRAL BODY:JUPITER

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS:

START:JEE 98-269/08:26:40.000 -CDS 1070:00:0

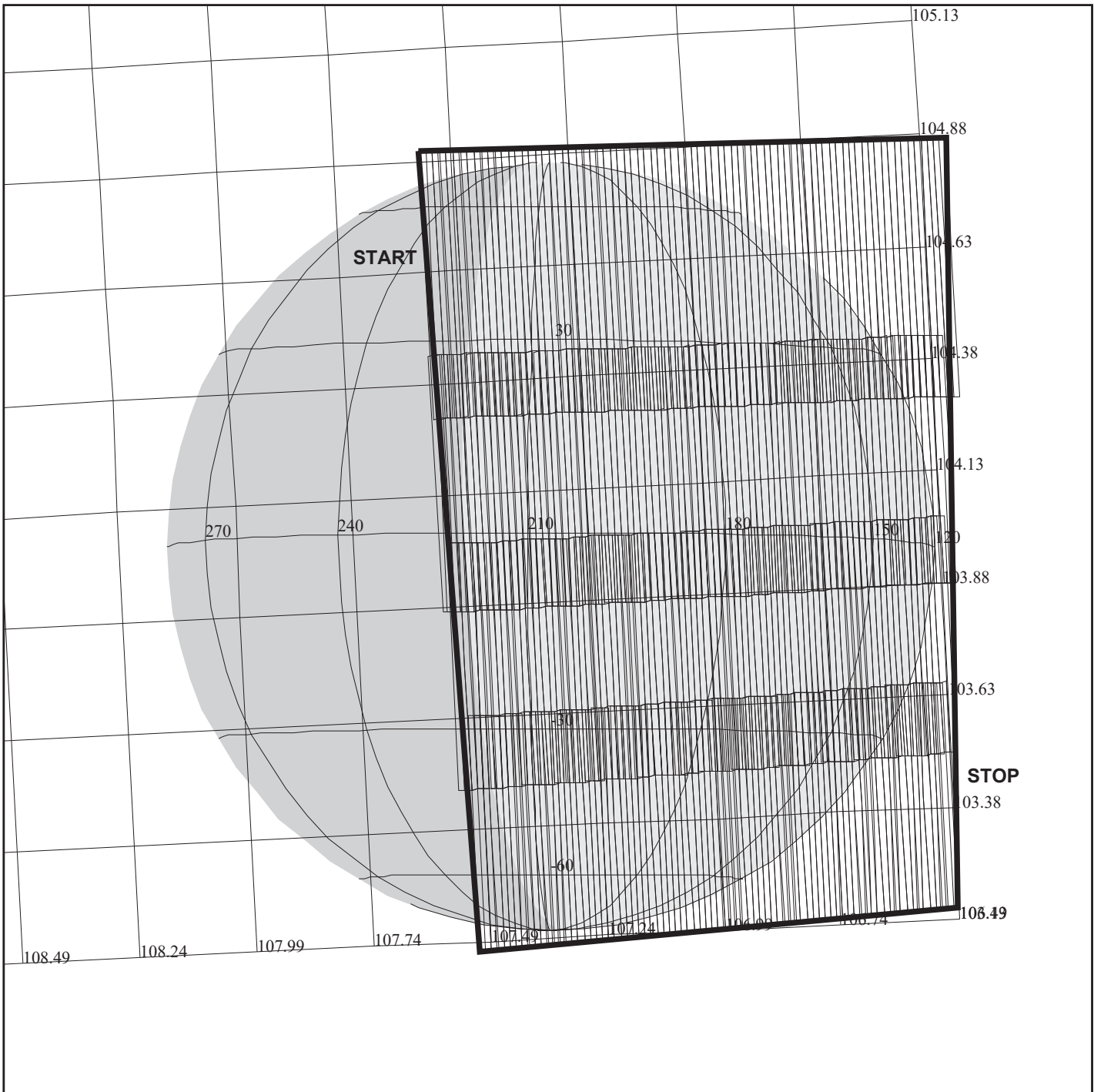
OBSERVATION:17JNJUPRTS03

THINNING:NIM 7

BODY PLOT TIME:TARGET-TIME D= 1810 S= 1.000

DESCRIP:Jupiter\_Realtime\_Observation

|   |                              |                |                     |                      |          |
|---|------------------------------|----------------|---------------------|----------------------|----------|
| Jupiter Realtime Observation  |                              | ACTIVITY ID:   | 17JNJUPRTS03*       |                      |          |
|   |                              | START TIME:    | 98-268/14:20:13.335 |                      |          |
| Activity ID: Orbit 17 Target J Inst N OAPEL JUPRTS SeqNo 03 *   |                              |                |                     |                      |          |
| Title   | Jupiter Realtime Observation |                | Instrument          |                      | NIMS     |
| Requestor   | NIMS-AWG/A. OCAMPO           |                | Team                | NIMS Working Group   | AWG      |
| Time System   | CDS                          | Load ID        | Calendar Date       | 09/25/98             | Week 39  |
| Start   | JEE-CDS 00001073:00:0        |                | 98-268/14:20:13.335 | JEE-000/18:04:55.333 |          |
| End   | JEE-CDS 00001058:00:0        |                | 98-268/14:35:23.335 | JEE-000/17:49:45.333 |          |
| Duration  | 00000015:00:0                |                | 000/00:15:10.000    | 000/00:15:10.000     |          |
| Top Label   | 17JNJUPRTS03*                |                |                     |                      |          |
| Bottom Label  |                              |                |                     |                      |          |
| Plot Key  | NIMS                         | Type           | SCI                 |                      |          |
| CDS Bytes   | 0                            | Report Options | BOTH                |                      |          |
| CDS Source  | OAP                          | Spin State     | DUAL                | Scan Platform        | Yes      |
|   |                              |                |                     | DMS                  | No       |
| Observation Objective   |                              |                |                     |                      |          |
| Search for Jupiter atmospheric composition and thermal variations over time.                                      |                              |                |                     |                      |          |
| FREE_RTS=0.16 Mbits   |                              |                |                     |                      |          |
| Data Returned   |                              |                |                     |                      |          |
| Design Detail   |                              |                |                     |                      |          |
| Long map. Three scans, each three RIMS long.  |                              |                |                     |                      |          |
| Target to 35 degrees North latitude for first scan.   |                              |                |                     |                      |          |
| No scan overlap; Nyquist sampling not necessary - lit surface only not longitudinal dependent. No overlap in FOV. |                              |                |                     |                      |          |
| NIMS R/T only returns every seventh FOV.  |                              |                |                     |                      |          |
| SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT   |                              |                |                     |                      |          |
| Long Map (LM), Gain 2, Grating Start 0, R/T, RT408  |                              |                |                     |                      |          |
| Galileo Activity Plan Form  |                              |                | 08/31/98            | 13:50:54             | rev 6/95 |



**17ENGLOBAL01**

165DD:TT= 0 TMC= 1 C= 4.00 XC= 10.00 BS= 0/5558 TC= 3  
 A= 728 pD= 8180 SR=17.450 RA50=276.92 DEC50=-22.04 cone=107.55 clock=104.60  
 117DD:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/5558  
 1:#s= 4 Cs= -20.20 XCs= 0.00 Cr= 20.00 XCr= -7.30 sD= 2030 rD= 20

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17ENGLOBAL01

TARGET BODY : EUROPA

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS:

THINNING:NIM 1

START:EEE 98-269/03:54:40.733 -CDS 296:00:0

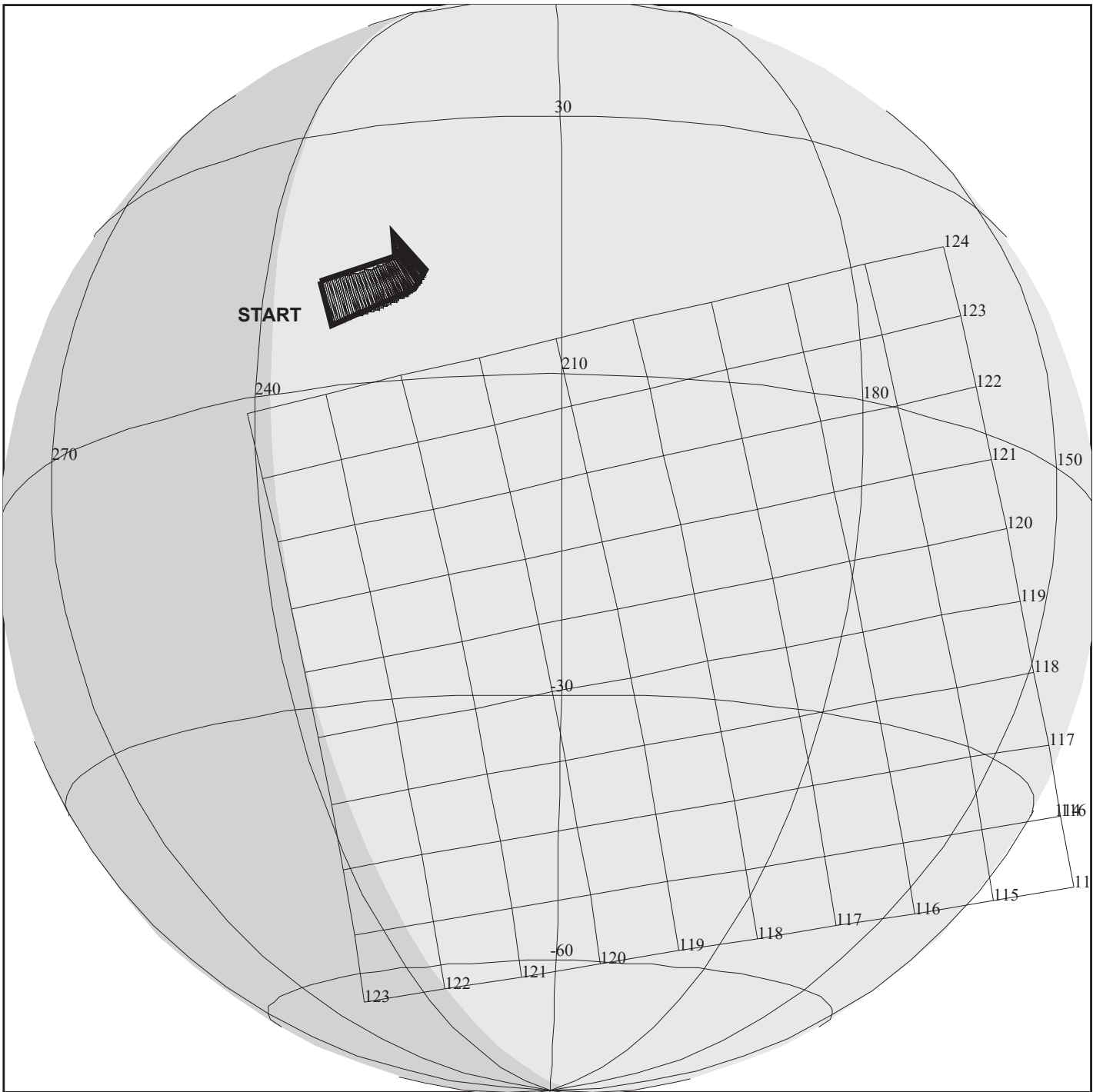
BODY PLOT TIME:TARGET-TIME D= 8180 S= 0.700

OBSERVATION:17ENGLOBAL01

DESCRIP:Europa\_Global\_Observation

|  |                           |                |                     |                      |          |
|--|---------------------------|----------------|---------------------|----------------------|----------|
| Europa Global Observation  |                           | ACTIVITY ID:   | 17ENGLOBAL01-       |                      |          |
|  |                           | START TIME:    | 98-268/22:46:47.513 |                      |          |
| Activity ID: Orbit 17 Target E Inst N OAPEL GLOBAL SeqNo 01 -                        |                           |                |                     |                      |          |
| Title  | Europa Global Observation |                | Instrument          |                      | NIMS     |
| Requestor  | NIMS-SWG/A. OCAMPO        |                | Team                | NIMS Working Group   | SWG      |
| Time System  | CDS                       | Load ID        | Calendar Date       | 09/25/98             | Week 39  |
| Start  | EEE-CDS                   | 300:00:0       | 98-268/22:46:47.513 | EEE-000/05:03:20.000 |          |
| End  | EEE-CDS                   | 00000250:00:0  | 98-268/23:37:20.847 | EEE-000/04:12:46.666 |          |
| Duration   |                           | 00000050:00:0  | 000/00:50:33.334    | 000/00:50:33.334     |          |
| Top Label  | 17ENGLOBAL01-             |                |                     |                      |          |
| Bottom Label   |                           |                |                     |                      |          |
| Plot Key   | NIMS                      | Type           | SCI                 |                      |          |
| CDS Bytes  | 150                       | Report Options | BOTH                |                      |          |
| CDS Source   | OAP                       | Spin State     | DUAL                | Scan Platform        | Yes      |
|  |                           |                |                     | DMS                  | Yes      |
| Observation Objective  |                           |                |                     |                      |          |
| Europa global mosaic covering West longitude at 236-128 degrees at 50 KM resolution. |                           |                |                     |                      |          |
| Data Returned  |                           |                |                     |                      |          |
| Design Detail  |                           |                |                     |                      |          |
| NIMS mode = LM TICS= 2373, FMT= MPW, MBTG= 8.890 , PPR_RA=0.459                      |                           |                |                     |                      |          |
| Europa Global Mosaic   |                           |                |                     |                      |          |
| Number of swaths is four, from north to south.                                       |                           |                |                     |                      |          |
| Latitudes from +90 to -90 degrees.   |                           |                |                     |                      |          |
| Lit Longitudes from 220 (terminator) to 120 (limb) degrees west.                     |                           |                |                     |                      |          |
| All swaths in gain state 3.  |                           |                |                     |                      |          |
| SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT                  |                           |                |                     |                      |          |
| Long Map (LM), Gain 3, Grating Start 0, MPW, ELM442, ELM228C                         |                           |                |                     |                      |          |
| Galileo Activity Plan Form   |                           |                | 08/31/98            | 13:50:54             | rev 6/95 |





**17ENSUCOMP01**

165DE:TT= 0 TMC= 1 C= 0.00 XC= 0.00 BS= 0/3424 TC= 1(8.65 233 )  
 A= 728 pD= 3448 SR=17.450 RA50=291.84 DEC50= -3.56 cone=121.71 clock=125.32  
 117DE:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/3424  
 1:#s= 1 Cs= -34.30 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 3448 rD= 2

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17ENSUCOMP01

TARGET BODY : EUROPA

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS:

START:EEE 98-269/03:54:40.733 -CDS 33:00:0

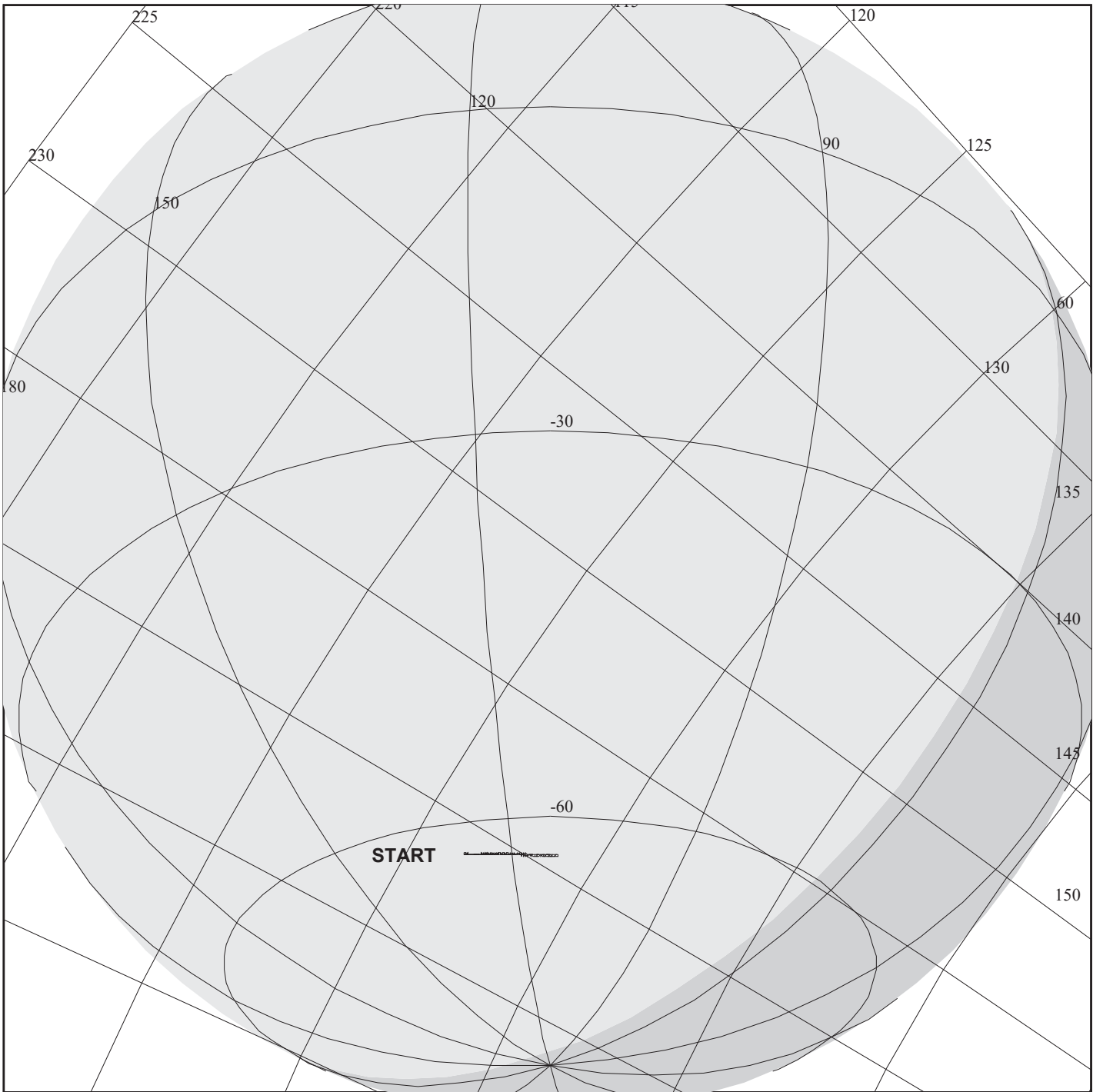
OBSERVATION:17ENSUCOMP01

THINNING:NIM 1

BODY PLOT TIME:TARGET-TIME D= 3448 S= 1.000

DESCRIP:Europa\_Surface\_Composition

|   |                            |                |                     |                      |          |
|---|----------------------------|----------------|---------------------|----------------------|----------|
| Europa Surface Composition  |                            | ACTIVITY ID:   | 17ENSUCOMP01-       |                      |          |
|   |                            | START TIME:    | 98-269/03:11:42.180 |                      |          |
| Activity ID: Orbit 17 Target E Inst N OAPEL SUCOMP SeqNo 01 -   |                            |                |                     |                      |          |
| Title   | Europa Surface Composition |                | Instrument          |                      | NIMS     |
| Requestor   | NIMS-SWG/J. SHIRLEY        |                | Team                | NIMS Working Group   | SWG      |
| Time System   | CDS                        | Load ID        | Calendar Date       | 09/26/98             | Week 39  |
| Start   | EEE-CDS                    | 00000038:00:0  | 98-269/03:11:42.180 | EEE-000/00:38:25.333 |          |
| End   | EEE-CDS                    | 00000014:00:0  | 98-269/03:35:58.180 | EEE-000/00:14:09.333 |          |
| Duration  |                            | 00000024:00:0  | 000/00:24:16.000    | 000/00:24:16.000     |          |
| Top Label   | 17ENSUCOMP01-              |                |                     |                      |          |
| Bottom Label  |                            |                |                     |                      |          |
| Plot Key  | NIMS                       | Type           | SCI                 |                      |          |
| CDS Bytes   | 150                        | Report Options | BOTH                | Scan Platform        | Yes      |
| CDS Source  | OAP                        | Spin State     | DUAL                | DMS                  | Yes      |
| Observation Objective   |                            |                |                     |                      |          |
| Europa surface composition observation centered at 7 N, 225 W, a region with strong non-ice material spectral features. |                            |                |                     |                      |          |
| Data Returned   |                            |                |                     |                      |          |
| Design Detail   |                            |                |                     |                      |          |
| NIMS mode = LM TICS= 1057, FMT= MPW, MBTG= 8.098, PPR_RA=0.369  |                            |                |                     |                      |          |
| Single Swath centered near 9 degrees north latitude near the terminator. Longitudes from 233 to 225 degrees west.       |                            |                |                     |                      |          |
| Gain state = 4 Grating position = 0   |                            |                |                     |                      |          |
| SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT   |                            |                |                     |                      |          |
| Long Map (LM), Gain 4, Grating Start 0, MPW, ELM442, ELM360   |                            |                |                     |                      |          |
| Galileo Activity Plan Form  |                            |                | 08/31/98            | 13:50:54             | rev 6/95 |



165DF:TT= 0 TMC= 1 C= -30.00 XC= 0.00 BS= 0/0340 TC= 1(-66 120 )  
 A= 182 pD= 3082 SR=17.450 RA50= 17.47 DEC50= 41.55 cone=126.52 clock=241.07  
 117DF:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/0340  
 1:#s= 1 Cs= 30.70 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 3082 rD= 2

## 17ENSUCOMP02

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17ENSUCOMP02

TARGET BODY : EUROPA

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS:

START:EEE 98-269/03:54:40.733 +CDS 05:00:0

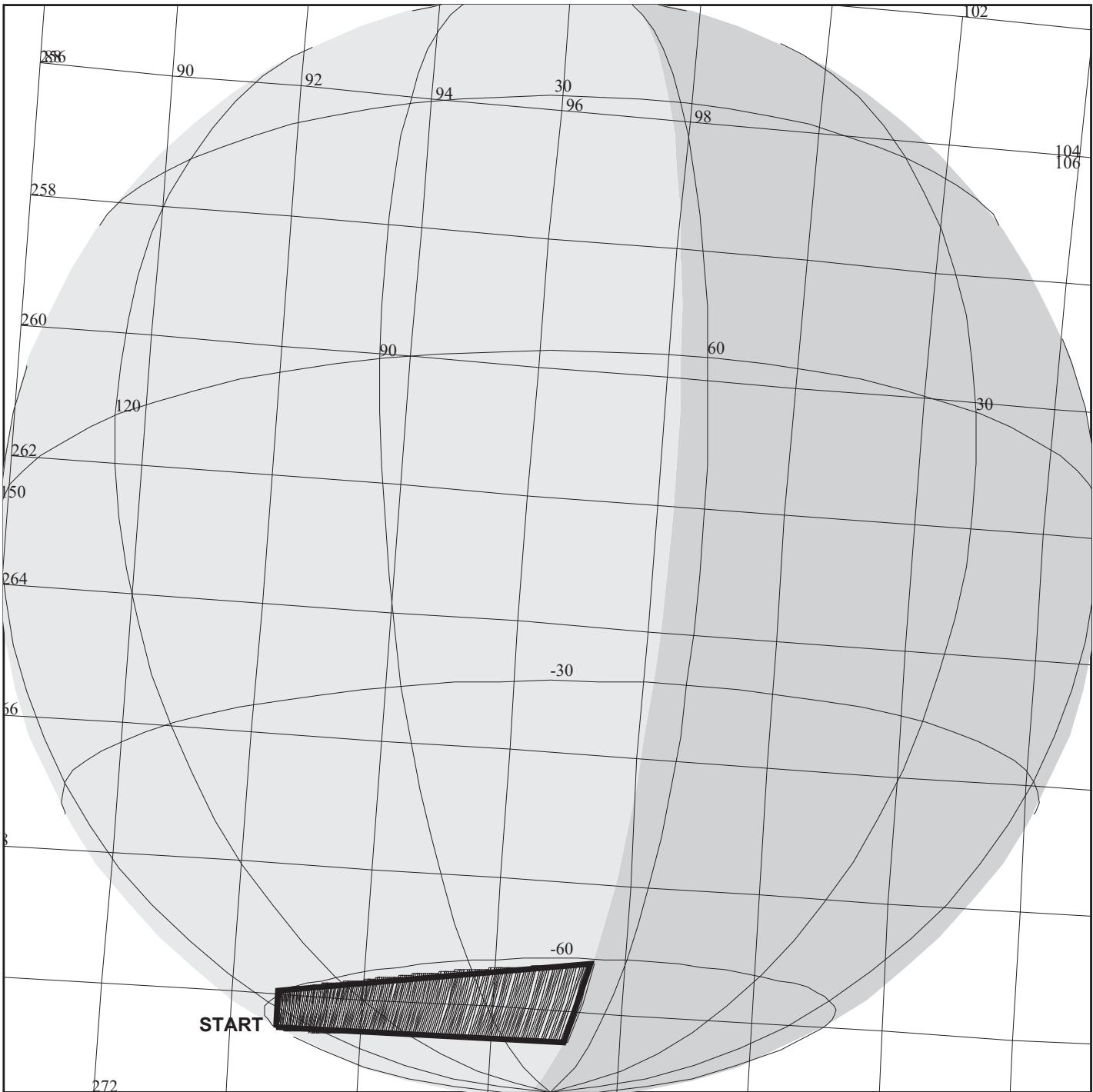
OBSERVATION:17ENSUCOMP02

THINNING:NIM 2

BODY PLOT TIME:TARGET-TIME D= 3082 S= 1.000

DESCRIP:Europa\_Surface\_Composition

|  |                            |                |                     |                      |          |
|--|----------------------------|----------------|---------------------|----------------------|----------|
| Europa Surface Composition   |                            | ACTIVITY ID:   | 17ENSUCOMP02-       |                      |          |
|  |                            | START TIME:    | 98-269/03:54:10.179 |                      |          |
| Activity ID: Orbit 17 Target E Inst N OAPEL SUCOMP SeqNo 02 -  |                            |                |                     |                      |          |
| Title  | Europa Surface Composition |                | Instrument          |                      | NIMS     |
| Requestor  | NIMS-SWG/A. OCAMPO         |                | Team                | NIMS Working Group   | SWG      |
| Time System  | CDS                        | Load ID        | Calendar Date       | 09/26/98             | Week 39  |
| Start  | EEE+CDS 4:00:0             |                | 98-269/03:54:10.179 | EEE+000/00:04:02.666 |          |
| End  | EEE+CDS 00000021:00:0      |                | 98-269/04:11:21.513 | EEE+000/00:21:14.000 |          |
| Duration   | 00000017:00:0              |                | 000/00:17:11.334    | 000/00:17:11.334     |          |
| Top Label  | 17ENSUCOMP02-              |                |                     |                      |          |
| Bottom Label   |                            |                |                     |                      |          |
| Plot Key   | NIMS                       | Type           | SCI                 |                      |          |
| CDS Bytes  | 150                        | Report Options | BOTH                |                      |          |
| CDS Source   | OAP                        | Spin State     | DUAL                | Scan Platform        | Yes      |
|  |                            |                | DMS                 |                      | Yes      |
| Observation Objective  |                            |                |                     |                      |          |
| Southern high latitudes of Europa imaged at high spectral resolution using long spectrometer mode to search for condensates of volatile non-water-ice materials. |                            |                |                     |                      |          |
| Europa observed in Long Spectrometer mode for better signal-to-noise.  |                            |                |                     |                      |          |
| Data Returned  |                            |                |                     |                      |          |
| Design Detail  |                            |                |                     |                      |          |
| NIMS mode = LS TICS= 899, FMT= MPW, MBTG= 6.221, PPR_RA=0.169  |                            |                |                     |                      |          |
| Long Spectrometer Mode   |                            |                |                     |                      |          |
| Single swath centered near 63 degrees south latitude.  |                            |                |                     |                      |          |
| Longitudes from 128 to 113 degrees west.   |                            |                |                     |                      |          |
| Gain state = 4 Grating position = 0  |                            |                |                     |                      |          |
| SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT  |                            |                |                     |                      |          |
| Long Spectrometer (LS), Gain 4, Grating Start 0, MPW, ELM442, ELM360   |                            |                |                     |                      |          |
| Galileo Activity Plan Form   |                            |                | 08/31/98            | 13:50:54             | rev 6/95 |



**17ENSUCOMP03**

165DG:TT= 0 TMC=1 C= 2.70 XC= 0.00 BS= 0/3980 TC= 1(-60 156 )  
 A= 182 pD= 3994 SR=17.450 RA50= 72.91 DEC50= 35.10 cone= 92.66 clock=270.22  
 117DG:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/3980  
 1:#s= 1 Cs= 39.80 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 3994 rD= 2

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17ENSUCOMP03

TARGET BODY : EUROPA

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS:

THINNING:NIM 1

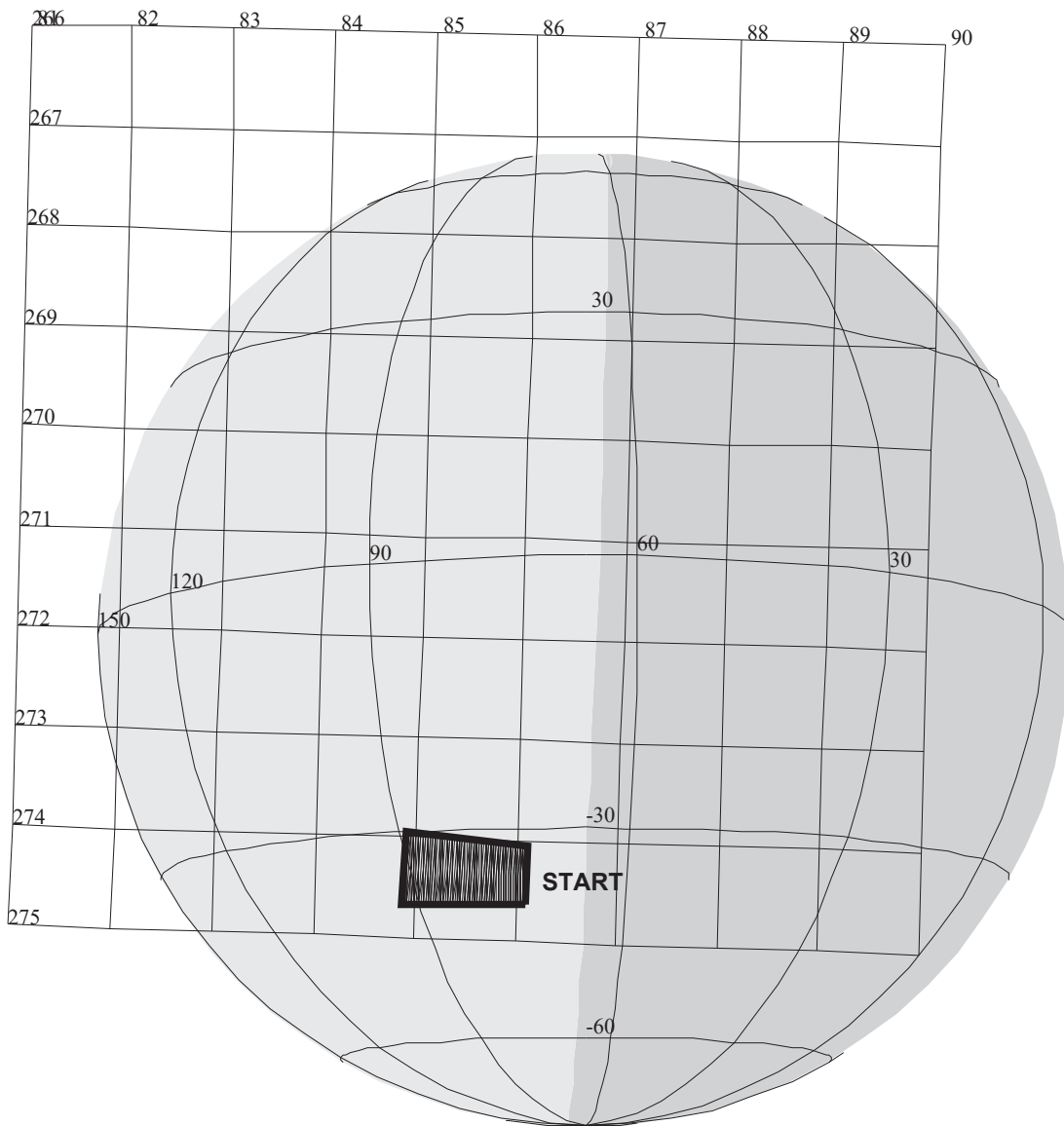
START:EEE 98-269/03:54:40.733 +CDS 25:00:0

BODY PLOT TIME:TARGET-TIME D= 3994 S= 1.000

OBSERVATION:17ENSUCOMP03

DESCRIP:Europa\_Surface\_Composition

|  |                            |                |                     |                      |          |
|--|----------------------------|----------------|---------------------|----------------------|----------|
| Europa Surface Composition   |                            | ACTIVITY ID:   | 17ENSUCOMP03-       |                      |          |
|  |                            | START TIME:    | 98-269/04:14:23.513 |                      |          |
| Activity ID: Orbit 17 Target E Inst N OAPEL SUCOMP SeqNo 03 -  |                            |                |                     |                      |          |
| Title  | Europa Surface Composition |                | Instrument          |                      | NIMS     |
| Requestor  | NIMS-SWG/J. SHIRLEY        |                | Team                | NIMS Working Group   | SWG      |
| Time System  | CDS                        | Load ID        | Calendar Date       | 09/26/98             | Week 39  |
| Start  | EEE+CDS                    | 00000024:00:0  | 98-269/04:14:23.513 | EEE+000/00:24:16.000 |          |
| End  | EEE+CDS                    | 00000047:00:0  | 98-269/04:37:38.846 | EEE+000/00:47:31.333 |          |
| Duration   |                            | 00000023:00:0  | 000/00:23:15.333    | 000/00:23:15.333     |          |
| Top Label  | 17ENSUCOMP03-              |                |                     |                      |          |
| Bottom Label   |                            |                |                     |                      |          |
| Plot Key   | NIMS                       | Type           | SCI                 |                      |          |
| CDS Bytes  | 150                        | Report Options | BOTH                | Scan Platform        | Yes      |
| CDS Source   | OAP                        | Spin State     | DUAL                | DMS                  | Yes      |
| Observation Objective  |                            |                |                     |                      |          |
| Europa surface composition observation at latitude -60 degrees and West longitudes 100 - 138 degrees for high-latitude leading side spectral coverage.   |                            |                |                     |                      |          |
| Data Returned  |                            |                |                     |                      |          |
| Design Detail  |                            |                |                     |                      |          |
| NIMS mode = LM TICS= 1163, FMT= MPW, MBTG= 7.200, PPR_RA=0.219<br>Single swath centered near 61 degrees south latitude.<br>Longitudes from 151 to 68 degrees west.<br>Swath goes from limb to terminator.<br>Gain state = 4 Grating position = 0 |                            |                |                     |                      |          |
| SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT  |                            |                |                     |                      |          |
| Long Map (LM), Gain 4, Grating Start 0, MPW, ELM442, ELM360  |                            |                |                     |                      |          |
| Galileo Activity Plan Form   |                            |                | 08/31/98            | 13:50:55             | rev 6/95 |



## 17ENSUCOMP04

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17ENSUCOMP04

TARGET BODY : EUROPA

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS:

START:EEE 98-269/03:54:40.733 +CDS 49:00:0

OBSERVATION:17ENSUCOMP04

165DH:TT= 0 TMC=1 C= 0.00 XC= -3.00 BS= 0/8348 TC= 1(-38 74 )  
 A= 182 pD= 1810 SR=17.450 RA50= 81.30 DEC50= 31.77 cone= 86.10 clock=274.35  
 117DH:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/8348  
 1:#s= 1 Cs= -18.00 XCs= 0.00 Cr= 0.00 XCr= 0.00 sD= 1810 rD= 2

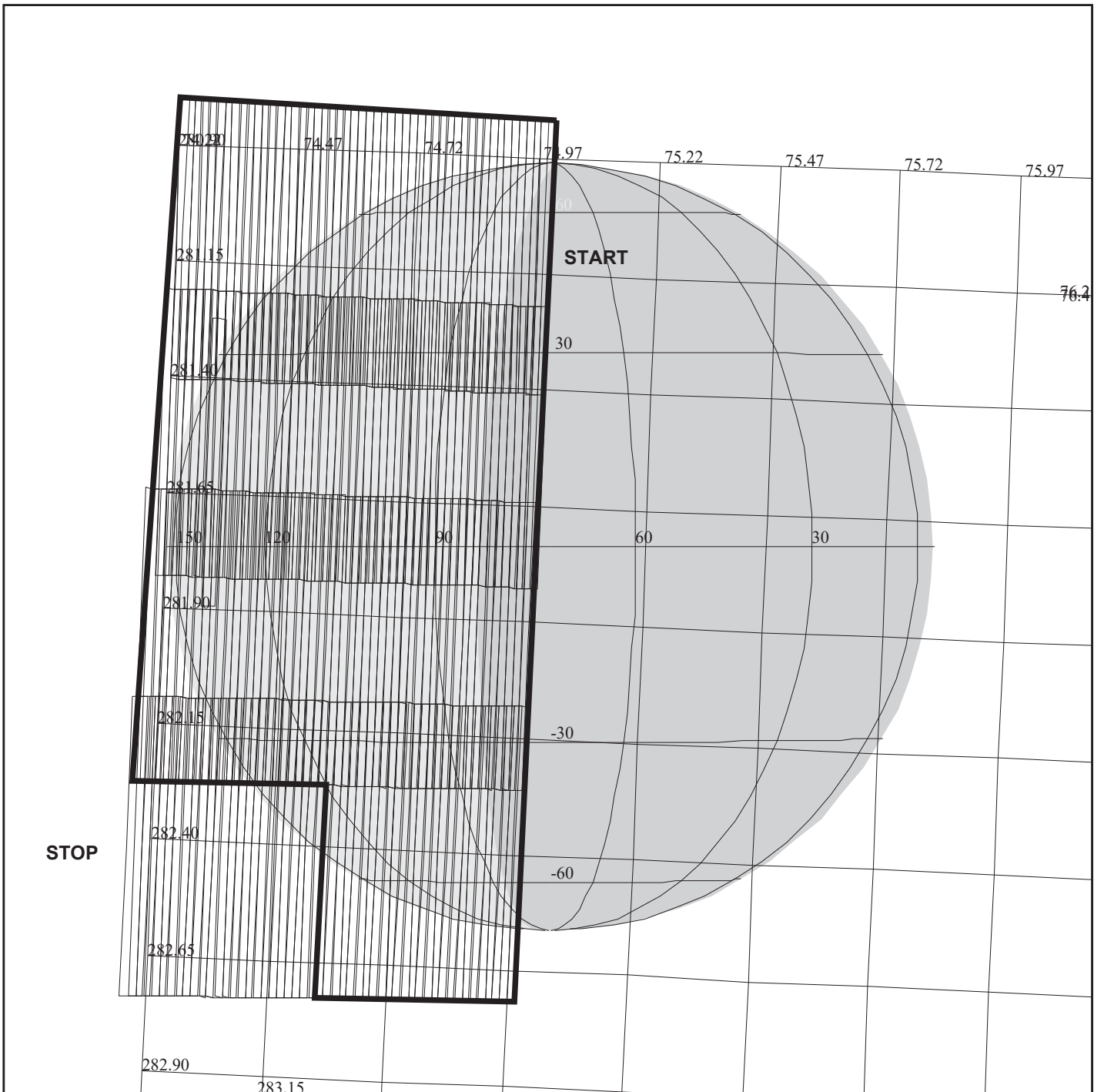
THINNING:NIM 1

BODY PLOT TIME:TARGET-TIME D= 1810 S= 0.700

DESCRIP:Europa\_Surface\_Composition

|  |                            |                |                     |                      |          |
|--|----------------------------|----------------|---------------------|----------------------|----------|
| Europa Surface Composition   |                            | ACTIVITY ID:   | 17ENSUCOMP04-       |                      |          |
|  |                            | START TIME:    | 98-269/04:39:40.179 |                      |          |
| Activity ID: Orbit 17 Target E Inst N OAPEL SUCOMP SeqNo 04 -  |                            |                |                     |                      |          |
| Title  | Europa Surface Composition |                | Instrument          |                      | NIMS     |
| Requestor  | NIMS-SWG/J. SHIRLEY        |                | Team                | NIMS Working Group   | SWG      |
| Time System  | CDS                        | Load ID        | Calendar Date       | 09/26/98             | Week 39  |
| Start  | EEE+CDS                    | 00000049:00:0  | 98-269/04:39:40.179 | EEE+000/00:49:32.666 |          |
| End  | EEE+CDS                    | 00000060:00:0  | 98-269/04:50:47.513 | EEE+000/01:00:40.000 |          |
| Duration   |                            | 00000011:00:0  | 000/00:11:07.334    | 000/00:11:07.334     |          |
| Top Label  | 17ENSUCOMP04-              |                |                     |                      |          |
| Bottom Label   |                            |                |                     |                      |          |
| Plot Key   | NIMS                       | Type           | SCI                 |                      |          |
| CDS Bytes  | 150                        | Report Options | BOTH                |                      |          |
| CDS Source   | OAP                        | Spin State     | DUAL                | Scan Platform        | Yes      |
|  |                            |                |                     | DMS                  | Yes      |
| Observation Objective  |                            |                |                     |                      |          |
| Europa surface composition observation centered near 30 S, 90 W to obtain spectra for diffuse dark material. |                            |                |                     |                      |          |
| Data Returned  |                            |                |                     |                      |          |
| Design Detail  |                            |                |                     |                      |          |
| NIMS mode = LM TICS= 530, FMT= MPW, MBTG= 3.456, PPR_RA= 0.100   |                            |                |                     |                      |          |
| Single swath centered near 36 degrees south latitude.  |                            |                |                     |                      |          |
| Longitudes from 74 to 90 degrees west.   |                            |                |                     |                      |          |
| Gain state = 4 Grating position = 0  |                            |                |                     |                      |          |
| SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT  |                            |                |                     |                      |          |
| Long Map (LM), Gain 4, Grating Start 0, MPW, ELM442, ELM360  |                            |                |                     |                      |          |
| Galileo Activity Plan Form   |                            |                | 08/31/98            | 13:50:55             | rev 6/95 |





165DI:TT= 0 TMC= 1 C= -0.50 XC= -10.50 BS= 0/6578 TC= 3  
 A= 728 pD= 5450 SR=17.450 RA50= 94.18 DEC50= 25.43 cone= 74.99 clock=281.11  
 117DI:#SB= 1 OR= 0.030 RR=12.000 BM=F RC= 1 BS= 0/6578  
 1:#s= 4 Cs= -12.90 XCs= 0.00 Cr= 12.80 XCr= 7.00 sD= 1294 rD= 20

**17ENGLOBAL02**

TARGET G3.1 lisac: 8/21/1998 14:45:10

FILE:P.17ENGLOBAL02

TARGET BODY : EUROPA

MINI:m.target

S/C EPH:/DATA/NAVIO/T-980723-tour.NS

PERIAPSIS:

START:EEE 98-269/03:54:40.733 +CDS 314:00:0

OBSERVATION:17ENGLOBAL02

THINNING:NIM 1

BODY PLOT TIME:TARGET-TIME D= 5450 S= 0.700

DESCRIP:Europa\_Global\_Observation

|   |                           |                |                     |                      |          |
|---|---------------------------|----------------|---------------------|----------------------|----------|
| Europa Global Observation   |                           | ACTIVITY ID:   | 17ENGLOBAL02-       |                      |          |
|   |                           | START TIME:    | 98-269/09:04:34.846 |                      |          |
| Activity ID: Orbit 17 Target E Inst N OAPEL GLOBAL SeqNo 02 -                         |                           |                |                     |                      |          |
| Title   | Europa Global Observation |                | Instrument          | NIMS                 |          |
| Requestor   | NIMS-SWG/A. OCAMPO        |                | Team                | NIMS Working Group   | SWG      |
| Time System   | CDS                       | Load ID        | Calendar Date       | 09/26/98             | Week 39  |
| Start   | EEE+CDS                   | 00000311:00:0  | 98-269/09:04:34.846 | EEE+000/05:14:27.333 |          |
| End   | EEE+CDS                   | 00000341:00:0  | 98-269/09:34:54.846 | EEE+000/05:44:47.333 |          |
| Duration  |                           | 00000030:00:0  | 000/00:30:20.000    | 000/00:30:20.000     |          |
| Top Label   | 17ENGLOBAL02-             |                |                     |                      |          |
| Bottom Label  |                           |                |                     |                      |          |
| Plot Key  | NIMS                      | Type           | SCI                 |                      |          |
| CDS Bytes   | 150                       | Report Options | BOTH                | Scan Platform        | Yes      |
| CDS Source  | OAP                       | Spin State     | DUAL                | DMS                  | Yes      |
| Observation Objective   |                           |                |                     |                      |          |
| Europa global mosaic covering West longitude at 70 - 150 degrees at 55 KM resolution. |                           |                |                     |                      |          |
| Data Returned   |                           |                |                     |                      |          |
| Design Detail   |                           |                |                     |                      |          |
| NIMS mode = LM TICS= 1585, FMT= MPW, MBTG= 8.640, PPR_RA= 0.299                       |                           |                |                     |                      |          |
| Europa Global Mosaic  |                           |                |                     |                      |          |
| Number of swaths is four, from north to south.  |                           |                |                     |                      |          |
| Latitudes from +90 to -90 degrees.  |                           |                |                     |                      |          |
| Lit Longitudes from 80 (terminator) to 162 (limb) degrees west.                       |                           |                |                     |                      |          |
| First Swath in Gain State 4.  |                           |                |                     |                      |          |
| Second Swath in Gain State 3.   |                           |                |                     |                      |          |
| Third Swath in Gain State 3.  |                           |                |                     |                      |          |
| Fourth Swath in Gain State 4.   |                           |                |                     |                      |          |
| SPACECRAFT IN CRUISE MODE - UNCOMPENSATED SPACECRAFT WOBBLE PRESENT                   |                           |                |                     |                      |          |
| Long Map (LM), Gain 4,3,3,4, Grating Start 0, MPW, ELM442, ELM360                     |                           |                |                     |                      |          |
| Galileo Activity Plan Form  |                           |                | 08/31/98            | 13:50:55             | rev 6/95 |

|   |                    |                                 |  |
|---|--------------------|---------------------------------|--|
| NIMS Chopper off  |                    | ACTIVITY ID: 17NNCHOPOF01-      |  |
|   |                    | START TIME: 98-269/10:35:34.846 |  |
| Activity ID: Orbit 17 Target N Inst N OAPEL CHOPOF SeqNo 01 -                                   |                    |                                 |  |
| Title   | NIMS Chopper off   |                                 | Instrument                               |
| Requestor   | NIMS-SWG/M. SEGURA |                                 | NIMS                                     |
|   | Team               | NIMS                            | Working Group                            |
|   |                    |                                 | SWG                                      |
| Time System   | CDS                | Load ID                         | Calendar Date 09/26/98 Week 39           |
| Start   | EEE+CDS            | 00000401:00:0                   | 98-269/10:35:34.846 EEE+000/06:45:27.333 |
| End   | EEE+CDS            | 00000411:00:0                   | 98-269/10:45:41.513 EEE+000/06:55:34.000 |
| Duration  |                    | 00000010:00:0                   | 000/00:10:06.667 000/00:10:06.667        |
| Top Label   | 17NNCHOPOF01-      |                                 |  |
| Bottom Label  |                    |                                 |  |
| Plot Key  | NIMS               | Type                            | SCI                                      |
| CDS Bytes   | 0                  | Report Options                  | BOTH                                     |
| CDS Source  | OAP                | Spin State                      | DUAL                                     |
|   |                    |                                 | Scan Platform                            |
|   |                    |                                 | No                                       |
|   |                    |                                 | No                                       |
| Observation Objective   |                    |                                 |  |
| NIMS Chopper off after encounter period.  |                    |                                 |  |
| Design Detail   |                    |                                 |  |
| Use two NIMS 37IST commands, the first to set chopper 63Hz, the second to turn off the chopper. |                    |                                 |  |
| 37IST,1,0,0,OFF,0,0,0   |                    |                                 |  |
| 37IST,1,1,0,OFF,0,0,0   |                    |                                 |  |
| Galileo Activity Plan Form  |                    | 08/31/98 13:50:55               | rev 6/95                                 |

|   |                                |                |                     |                      |          |
|---|--------------------------------|----------------|---------------------|----------------------|----------|
| NIMS Real-Time PCT Calibration  |                                | ACTIVITY ID:   | 17NNPCTRLT01-       |                      |          |
|   |                                | START TIME:    | 98-278/15:00:24.200 |                      |          |
| Activity ID: Orbit 17 Target N Inst N OAPEL PCTRLT SeqNo 01 -   |                                |                |                     |                      |          |
| Title   | NIMS Real-Time PCT Calibration |                | Instrument          | NIMS                 |          |
| Requestor   | NIMS-SWG/M. SEGURA             |                | Team                | NIMS Working Group   | SWG      |
| Time System   | CDS                            | Load ID        | Calendar Date       | 10/05/98             | Week 40  |
| Start   | PCT+CDS 0:00:0                 |                | 98-278/15:00:24.200 | PCT+000/00:00:00.000 |          |
| End   | PCT+CDS 00000465:00:0          |                | 98-278/22:50:34.200 | PCT+000/07:50:10.000 |          |
| Duration  | 00000465:00:0                  |                | 000/07:50:10.000    | 000/07:50:10.000     |          |
| Top Label   | 17NNPCTRLT01-                  |                |                     |                      |          |
| Bottom Label  |                                |                |                     |                      |          |
| Plot Key  | NIMS                           | Type           | SCI                 |                      |          |
| CDS Bytes   | 275                            | Report Options | BOTH                |                      |          |
| CDS Source  | OAP                            | Spin State     | DUAL                | Scan Platform        | Yes      |
|   |                                |                |                     | DMS                  | No       |
| Observation Objective   |                                |                |                     |                      |          |
| <p>This observation is an NIMS photometric calibration usint the PCT target. The data will be used to calibrate the NIMS visible detectors. The calibration data will be in Real-Time. At this time the off sun angle is about x.x degrees.</p>   |                                |                |                     |                      |          |
| Data Returned   |                                |                |                     |                      |          |
| Design Detail   |                                |                |                     |                      |          |
| <p>This is a Library Sequence.</p> <ol style="list-style-type: none"> <li>1) Turn off PCT heaters 6 hours before calibration.</li> <li>2) Scan Platform is at Safe/Unstow (cone = 153.00, clock = 0.00)</li> <li>3) Set NIMS to Long Map Mode, Gain State 4, Chopper Reference, Mirror Blocking (1B, 1B) (11011,11011), ETB=PCT252.</li> <li>4) Pause playback before using scan platform.</li> <li>5) Select 2 Rims of Dark in Real-Time (Return 2 LM grating cycles)</li> <li>6) Slew to PCT (cone = 54.88, clock = 244.07)</li> <li>7) Select 10 Rims of PCT in Real-Time (Return 10 LM grating cycles)</li> <li>8) Slew to Safe/Unstow (cone = 153.00, clock = 0.000).</li> <li>9) NIMS to Safe Mode, Reset Mirror Blocking (00,00) (00000, 00000) and turn off Chopper.</li> <li>10) Resume playback after using scan platform.</li> </ol> |                                |                |                     |                      |          |
| Long Map (LM), Gain 4, Grating Start 0, R/T, PCT252   |                                |                |                     |                      |          |
| Galileo Activity Plan Form  |                                |                | 08/31/98            | 13:50:55             | rev 6/95 |

|  |                                |                                 |                                |
|--|--------------------------------|---------------------------------|--------------------------------|
| NIMS RCT Real-Time Calibration   |                                | ACTIVITY ID: 17NNRCTRLT01-      |                                |
|  |                                | START TIME: 98-303/06:00:03.000 |                                |
| Activity ID: Orbit 17 Target N Inst N OAPEL RCTRLT SeqNo 01 -  |                                |                                 |                                |
| Title  | NIMS RCT Real-Time Calibration |                                 | Instrument                     |
| Requestor  | NIMS-AWG/K. BAINES             | Team                            | NIMS Working Group             |
|  |                                |                                 | NIMS AWG                       |
| Time System  | CDS                            | Load ID                         | Calendar Date 10/30/98 Week 44 |
| Start  | RTA+CDS 0:00:0                 | 98-303/06:00:03.000             | RTA+000/00:00:00.000           |
| End  | RTA+CDS 00000787:00:0          | 98-303/19:15:47.666             | RTA+000/13:15:44.666           |
| Duration   | 00000787:00:0                  | 000/13:15:44.666                | 000/13:15:44.666               |
| Top Label  | 17NNRCTRLT01-                  |                                 |                                |
| Bottom Label   |                                |                                 |                                |
| Plot Key   | NIMS                           | Type                            | SCI                            |
| CDS Bytes  | 450                            | Report Options                  | BOTH                           |
| CDS Source   | OAP                            | Spin State                      | DUAL                           |
|  |                                | Scan Platform                   | No                             |
|  |                                | DMS                             | No                             |
| Observation Objective  |                                |                                 |                                |
| <p>This observation is a NIMS radiometric calibration using the RCT target. The data will be used to calibrate the NIMS thermal detectors. The calibration data will be returned using Real Time Telemetry. An OPCAL is also performed.</p>  |                                |                                 |                                |
| Data Returned  |                                |                                 |                                |
| Design Detail  |                                |                                 |                                |
| This is a Library Sequence.  |                                |                                 |                                |
| <ol style="list-style-type: none"> <li>1) Turn on RCT Heaters for 12 hours.</li> <li>2) Set Engineering Variable Map to return NIMS Temps more frequently.</li> <li>3) Set NIMS to Long Map Mode, Gain state 1, Chopper Reference, Mirror Blocking (11011,11011), ETB=RCT252.</li> <li>4) Pause playback before using scan platform.</li> <li>5) Slew to Dark (cone = 119.7), return 1 grating cycle (12 mf) in R/T</li> <li>6) Slew to RCT (cone = 0.0), return 2 grating cycles (12 mf) in R/T</li> <li>7) Slew to Dark (cone = 119.7), return 1 grating cycle (12 mf) in R/T</li> <li>8) Slew to Safe (cone = 153.0)</li> <li>9) Long Map, gain state 4, ETB=OPCAL48</li> <li>10) Use 37IST to turn on OPCAL Lamp (two times).</li> <li>11) Select NIMS Real Time 1 Rim OPCAL, 1 Rim Dark, 1 Rim OPCAL.</li> <li>12) Set NIMS to Safe Mode and turn off Chopper.</li> <li>13) Resume Playback after using scan platform.</li> </ol> |                                |                                 |                                |
| Long Map (LM), Gain 1, Grating Start 0, R/T, RCT252  |                                |                                 |                                |
| Long Map (LM), Gain 4, Grating Start 0, R/T, OPCAL48   |                                |                                 |                                |
| Galileo Activity Plan Form   |                                | 08/31/98 13:50:56 rev 6/95      |                                |

## Chapter 6 - Edit Tables

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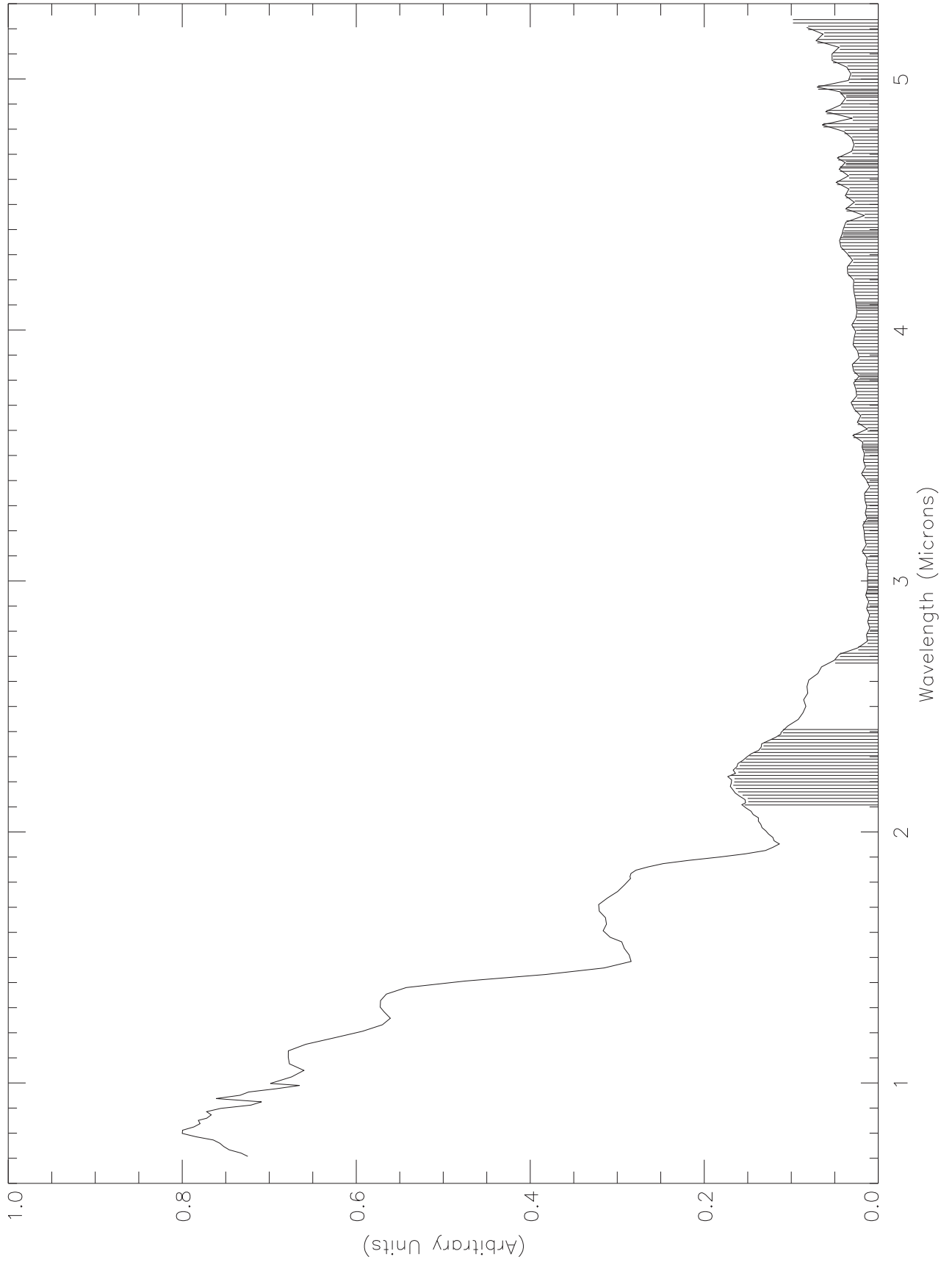
|      | Sub-Section        | Page |
|------|--------------------|------|
| 6.0  | Contents .....     | 1    |
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| 6.2  | ELM240T .....      | 3    |
| 6.3  | ELM240V .....      | 4    |
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| 6.8  | JSB253B .....      | 9    |
| 6.9  | OPCAL48 .....      | 10   |
| 6.10 | PCT252 .....       | 11   |
| 6.11 | RCT252 .....       | 12   |

## Introduction to Chapter 6

### NIMS Edit Table Plots

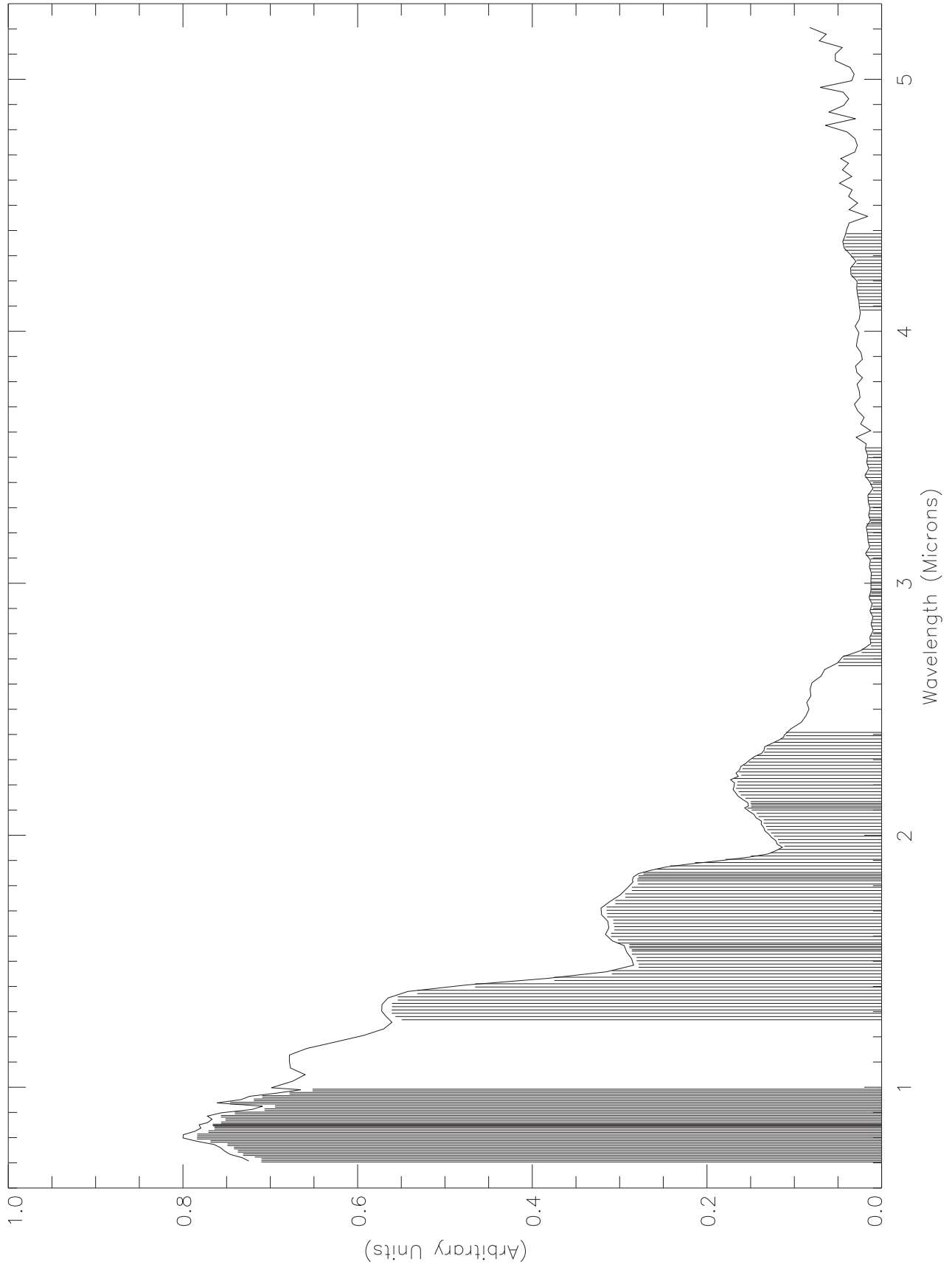
This chapter contains plots of the NIMS Edit Tables used in E17. The representative spectra used in these plots are observational reference spectra for the target body as obtained from telescopic observations from the Earth. Each reference spectrum is a composite of multiple published sources. Vertical lines below the reference curves mark the wavelengths selected for return. Where no spectral information is available, the selected wavelengths are shown as lines with amplitude equal to .05 on the vertical axis.

B\_ELM240T

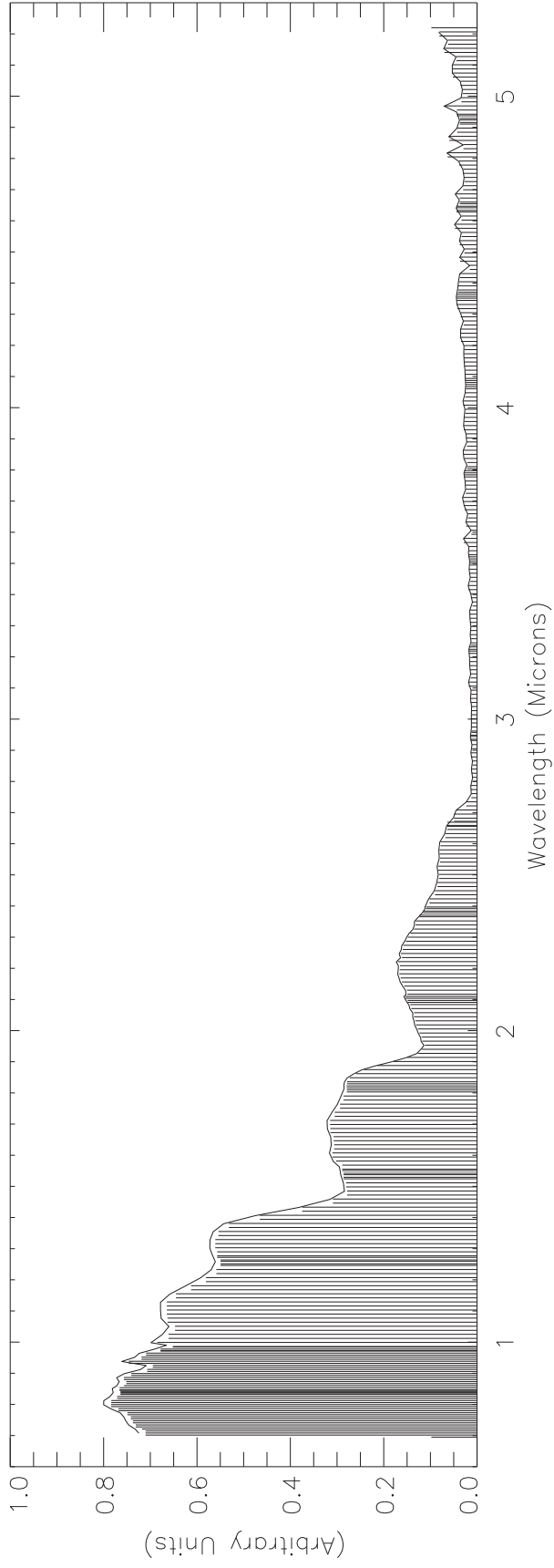




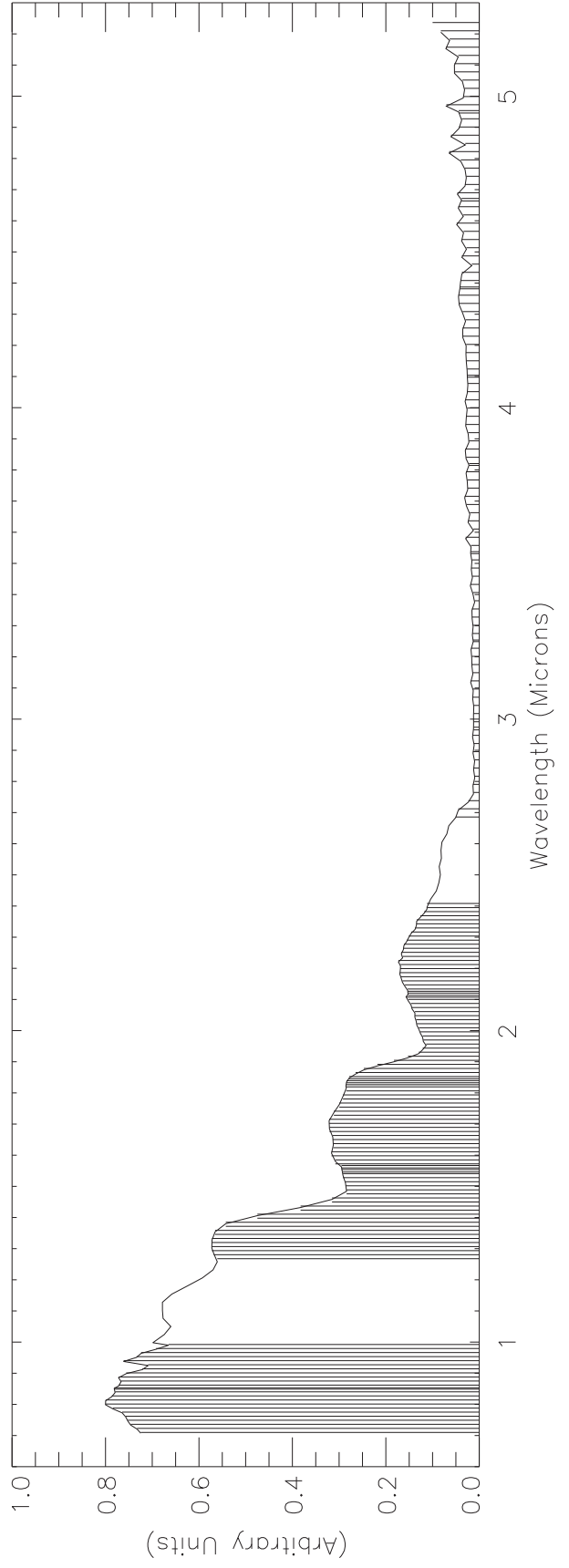
ELM240V.PBK



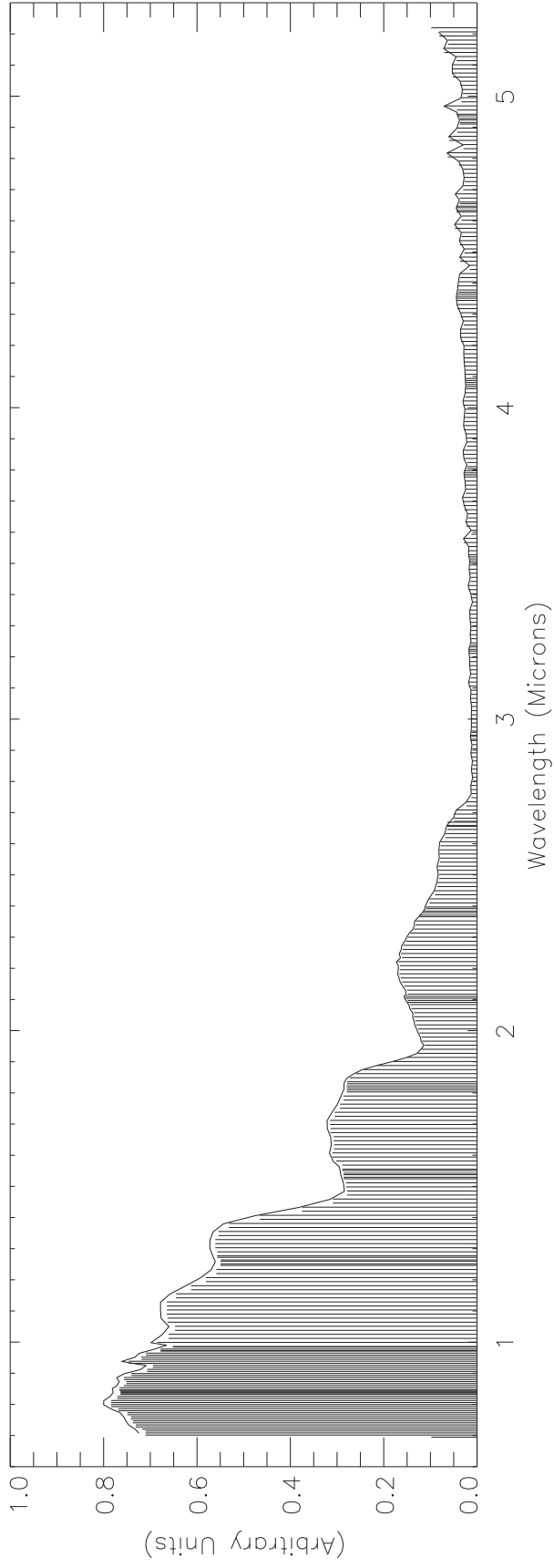
ELM442.ETB



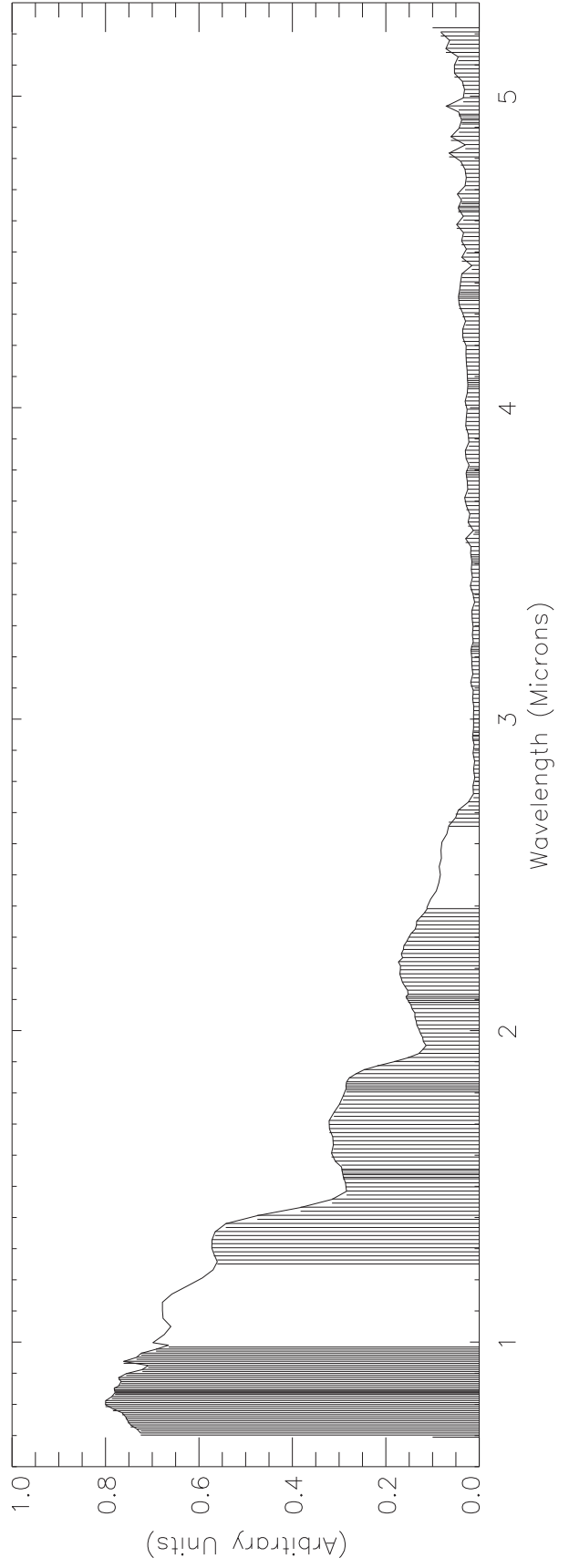
ELM228C.PBK



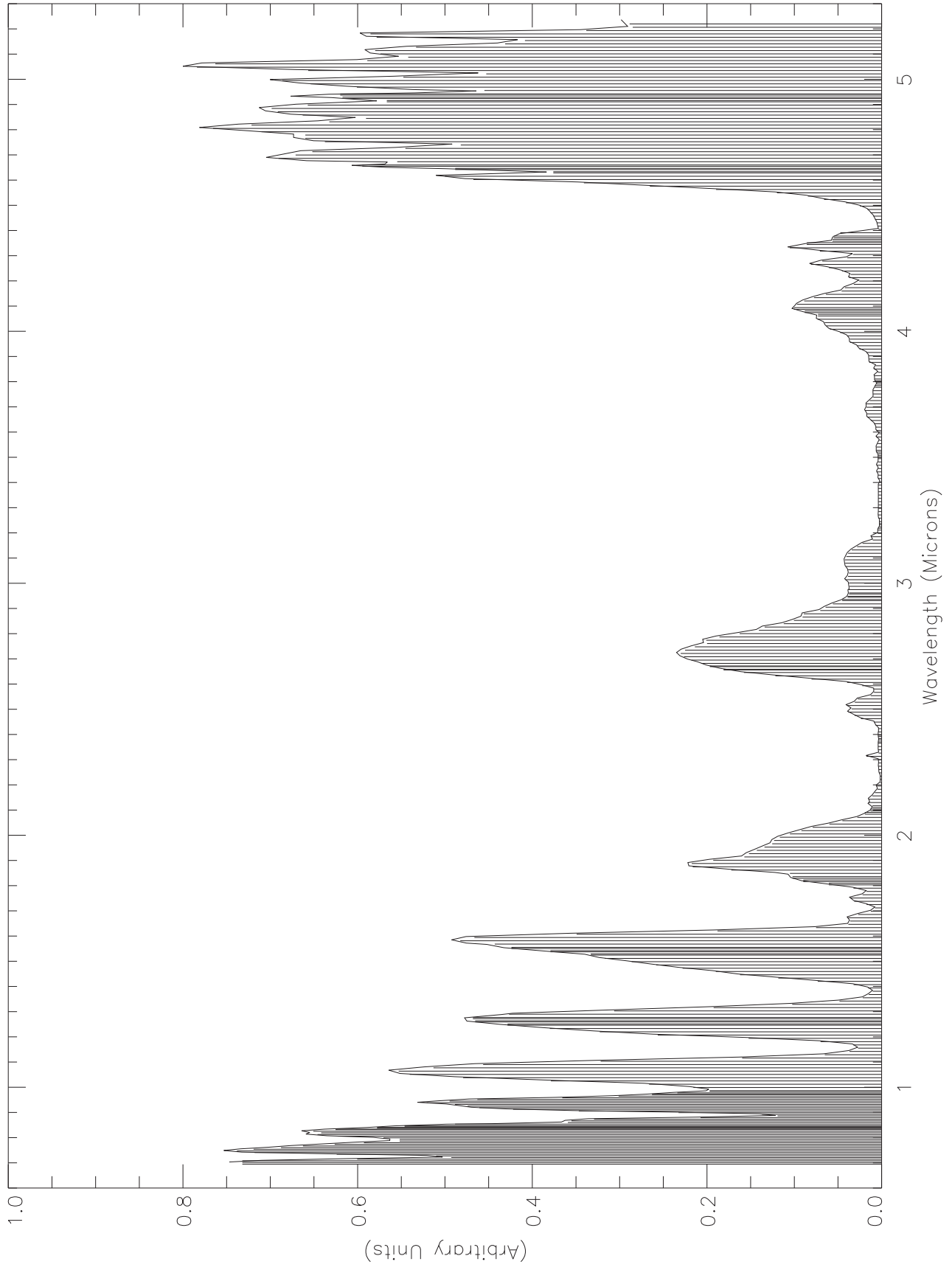
ELM442.ETB



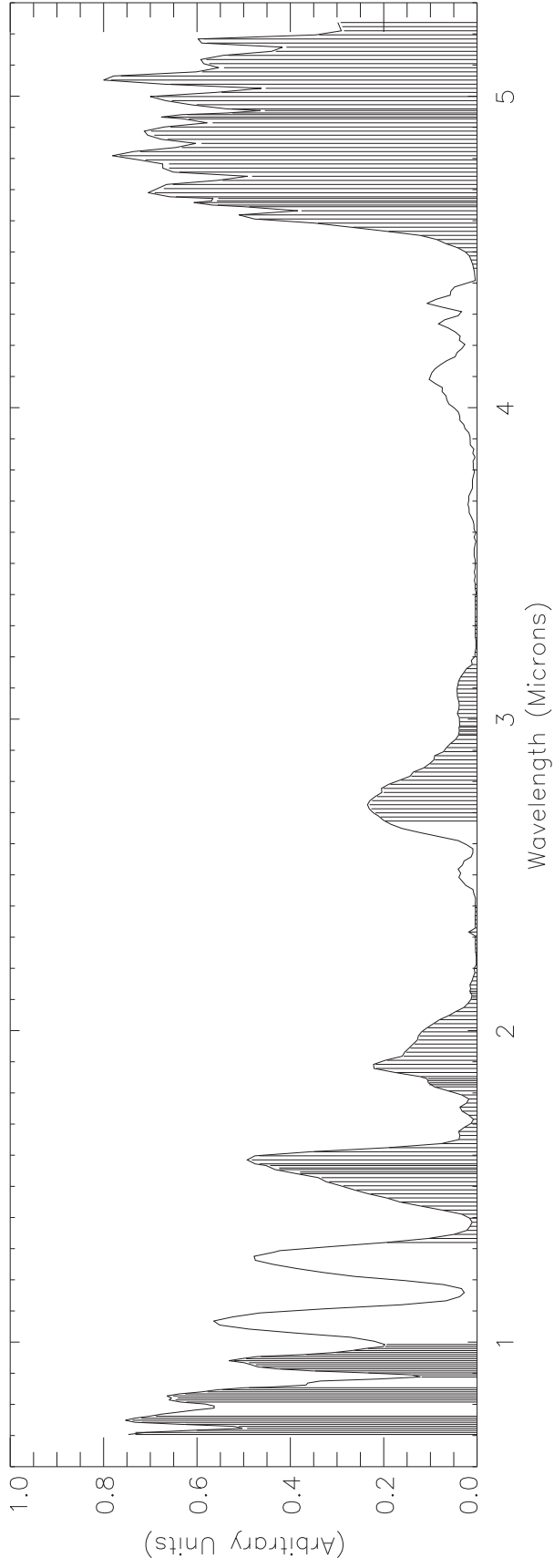
ELM360.PBK



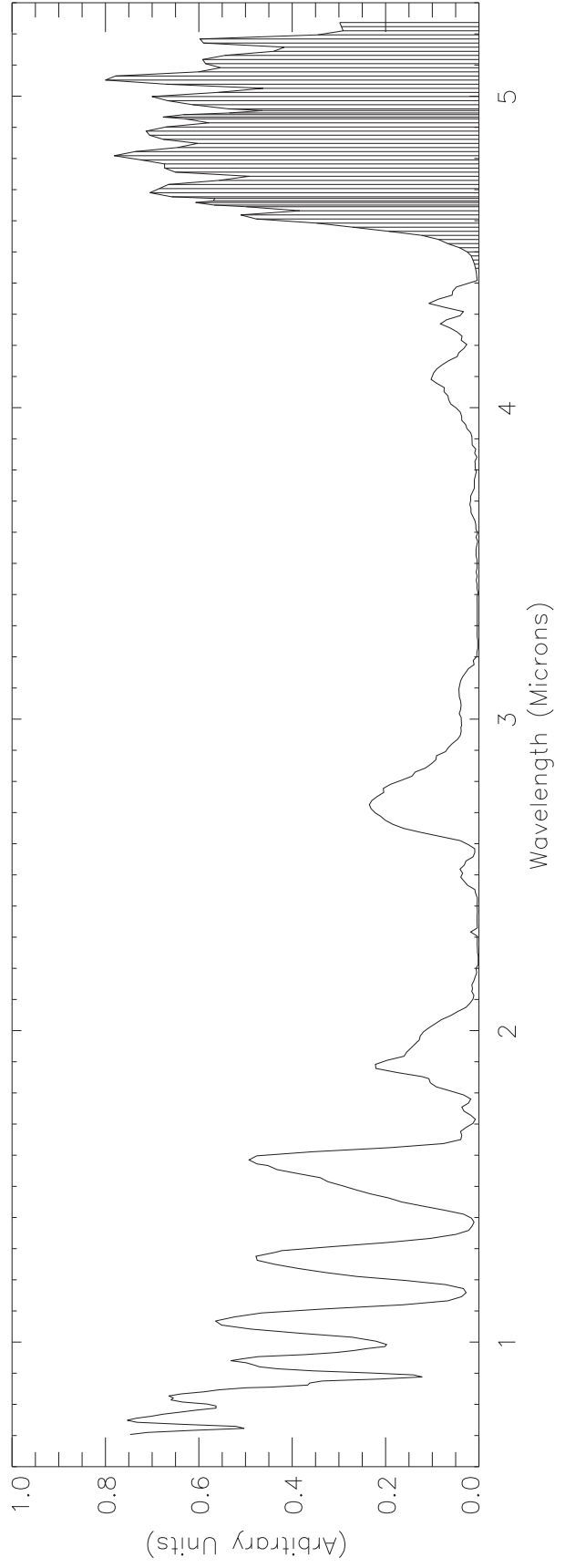
JLM408



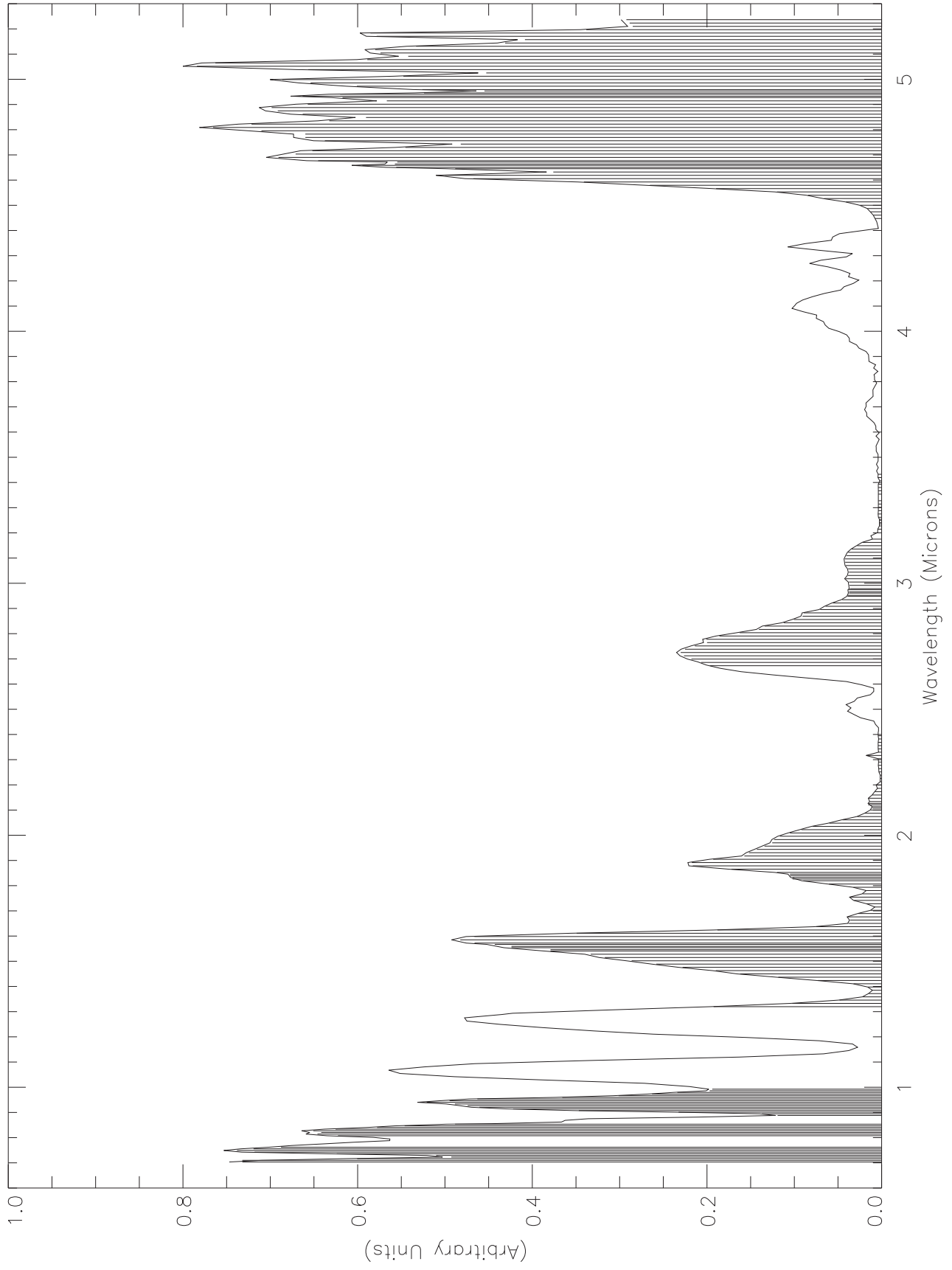
JSB253B.ETB



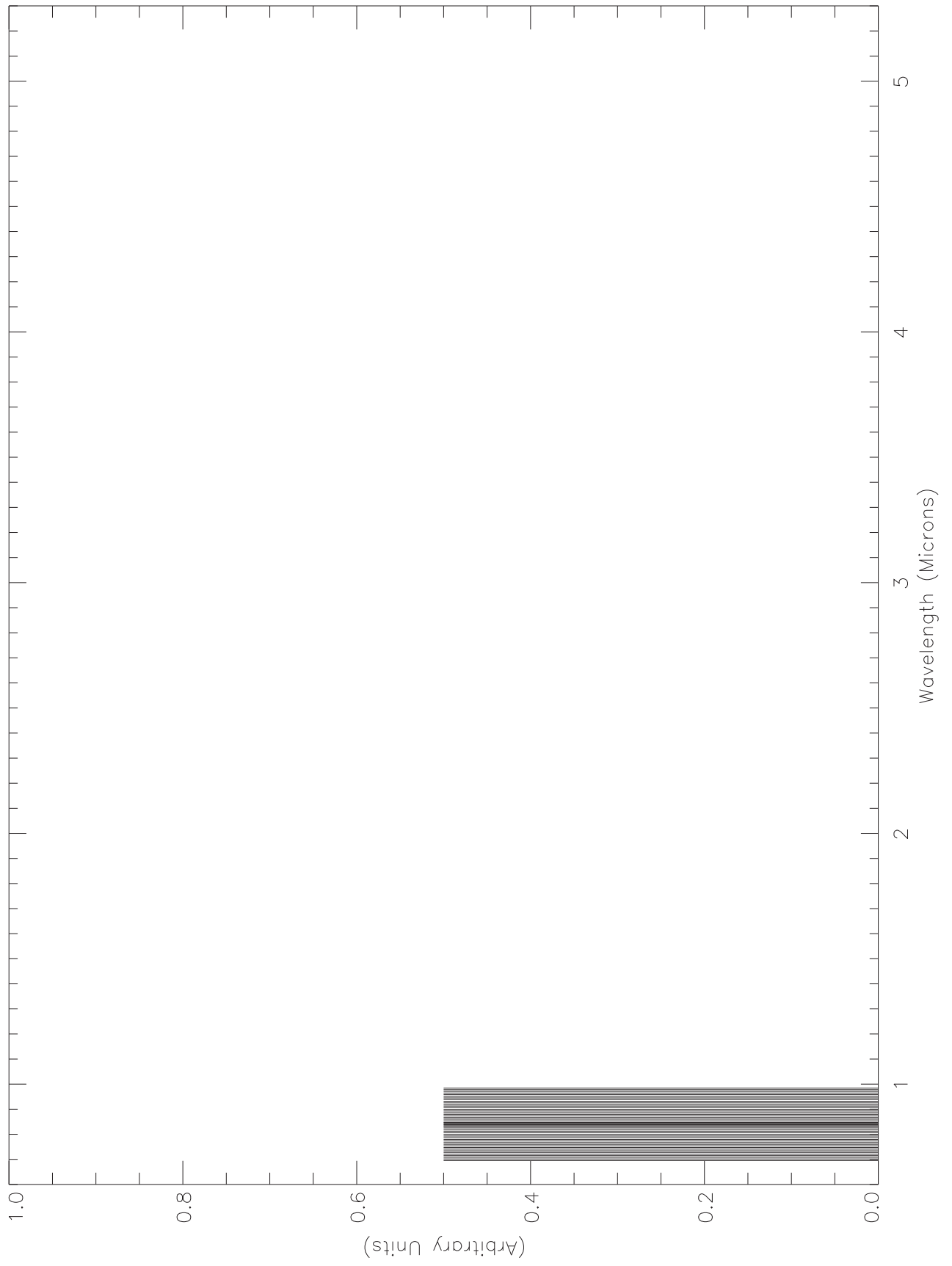
JSB666B.PBK



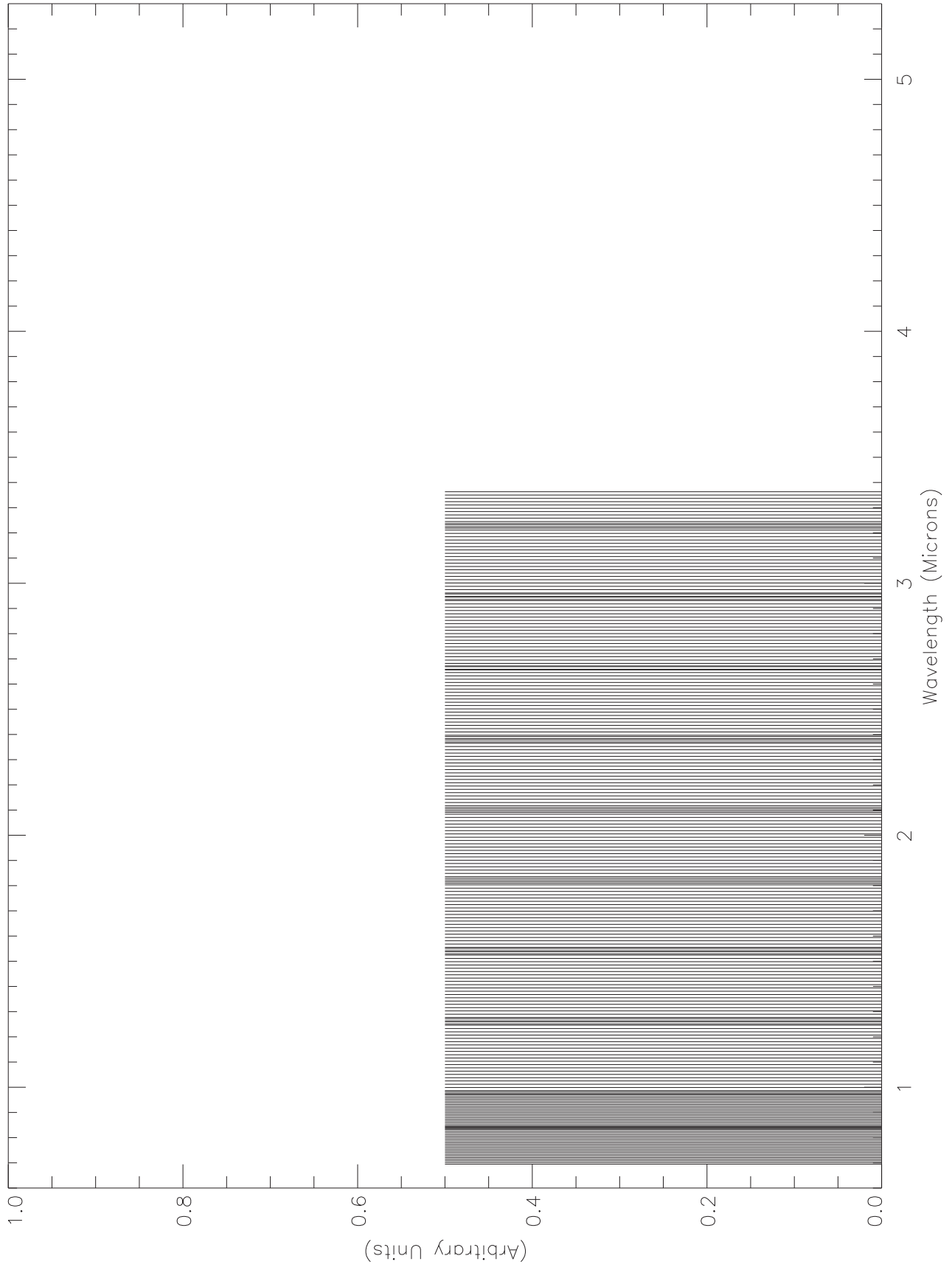
JSB253B.ETB



OPCAL48.ETB

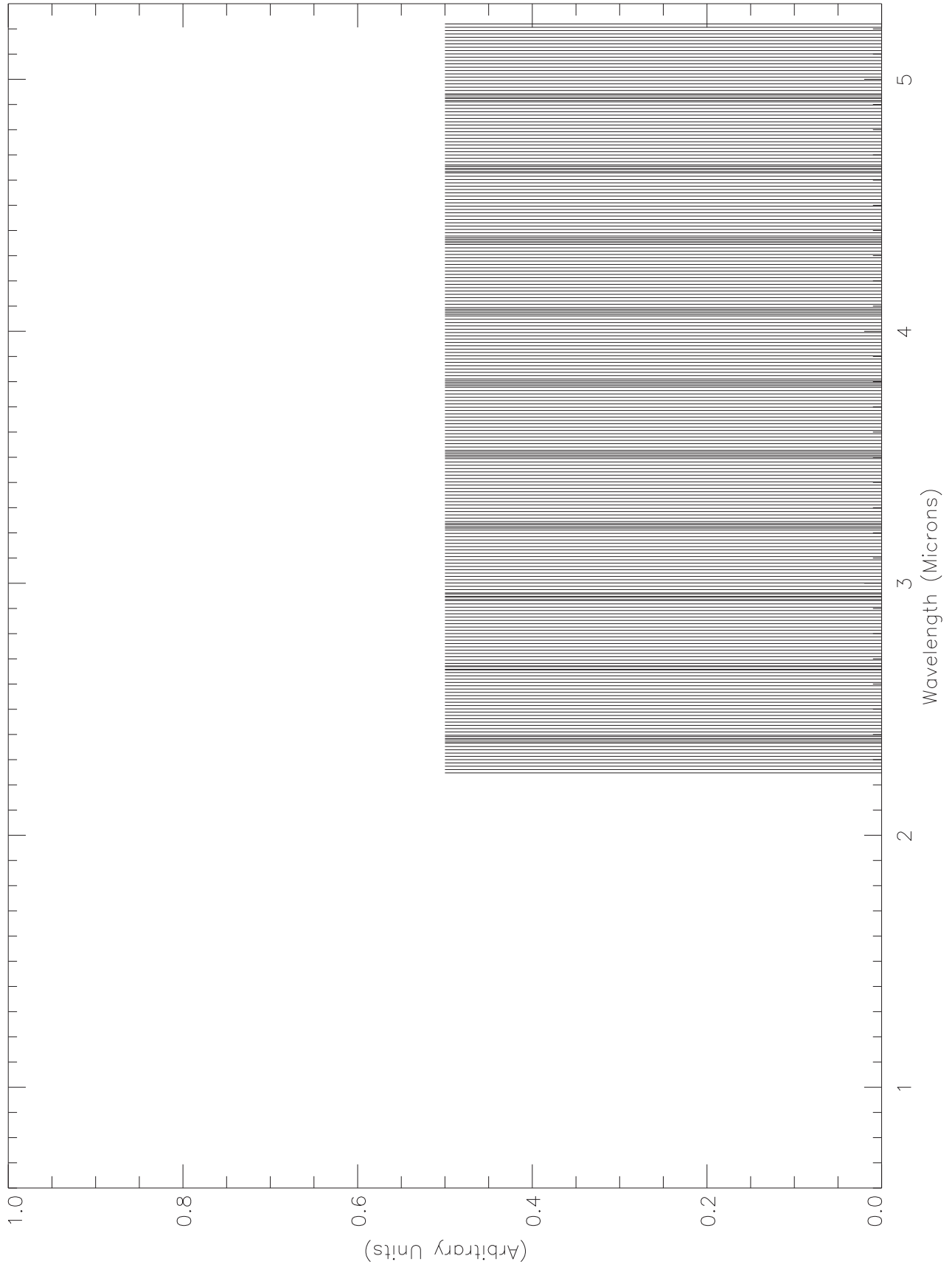


PCT252.ETB





RCT252.PBK



## Chapter 7 - Data Return

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| 7.7  | E17 NIMS Anomaly Discussion .....              | 15    |
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## Introduction to Chapter 7

This chapter is a report on the NIMS data return for the E17 orbit. Due to the low downlink data rates available for Galileo Jupiter Operations and other unforeseen and unpredictable events during the E17 Encounter and Cruise, not all NIMS data recorded on the tape recorder or selected in real-time were returned. The previous 6 chapters nominally describe the planning and intention of the NIMS observations for this orbit, except the obstab section in chapter 4 which was updated to give the latest parameters for the data that were actually returned.

There were thirteen autonomous reloads of the NIMS RAM code from CDS during the E17 encounter, one just before each science observation. No observations in E17 were lost due to NIMS processor halts. The approach that we are taking to avoid data loss due to processor halts has proven to be very successful.

Detectors 3 and 8 are still not functioning and are expected to be lost for the rest of the mission.

The spacecraft suffered an AACS fault trip early in the encounter which put the spacecraft into cruise mode. As a result, the entire E17 encounter was executed in cruise mode. No other AACS upsets occurred during the encounter.

Spacecraft safing during the E18 encounter caused a good portion of E17 data not to be recorded over in E18. Thus, additional E17 data were returned during E18 playback.

The plots on the pages 3 and 4 show the geometry of the NIMS E17 observations using a north trajectory pole projection. The 'returned' observations are in Bold characters and the 'non-returned' in gray. The observations with an asterix were taken with the NIMS software halted.

The spreadsheets on pages 5 and 6 summarize the 'final' playback model for the 'returned' E17 data during E17 and E18 cruise.

The text on page 7 gives a 'recap' of the E17 playback events which affected which observations were returned.

A Timeline of E17 playback events is on pages 8 through 14.

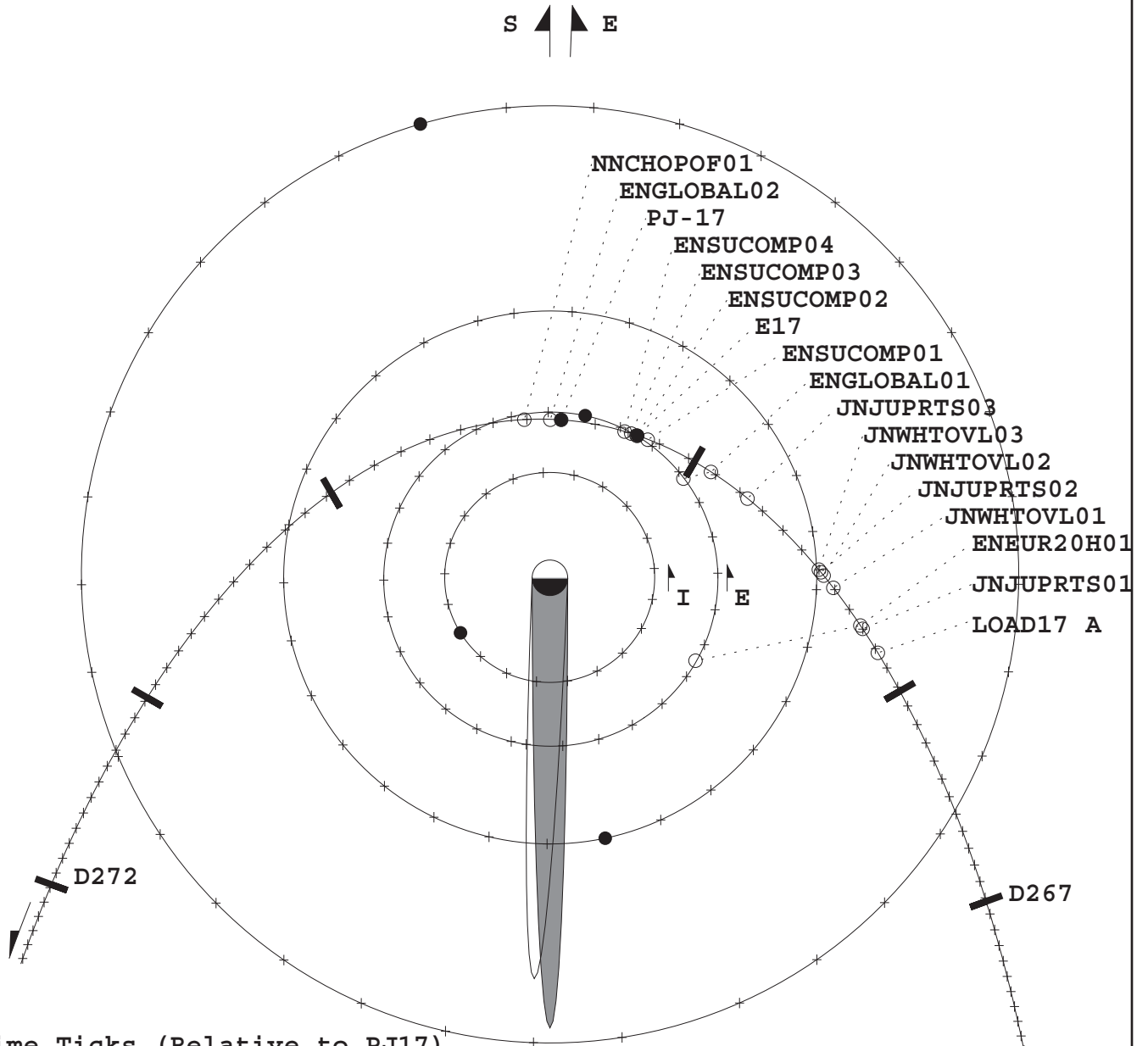
The text on page 15 describes the E17 NIMS and Spacecraft Anomalies.

The text on page 16 gives a brief discussion of the NIMS data files. Additional information about NIMS data formats, data types, data labels and data access is given on pages 17 and 18.

The text on page 19 is a guide to understanding the NIMS MASK.

# NIMS E17 OBSERVATIONS

**Bold** - Returned  
 Gray - Not Returned



Time Ticks (Relative to PJ17)

- Io - 2 Hrs
- Europa - 3 Hrs
- Ganymede - 6 Hrs
- Callisto - 12 Hrs
- Spacecraft - 2 Hrs

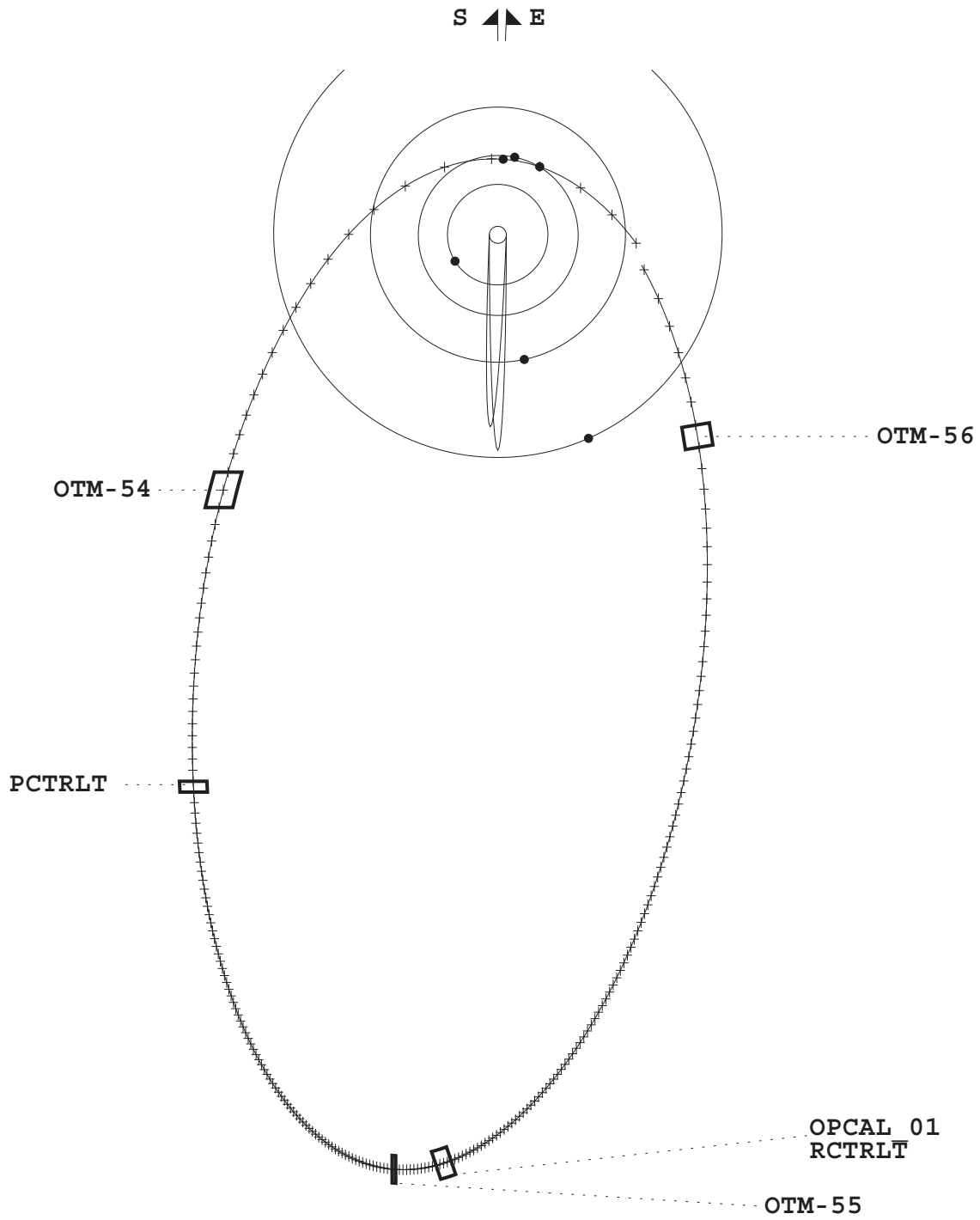
Europa Flyby (E17): 26-SEP-1998 (D269) 03:51:10 UTC  
 Perijove (PJ17): 26-SEP-1998 (D269) 08:26:11 UTC

E17 North Trajectory Pole View

# NIMS E17 CRUISE CALIBRATIONS

Europa Flyby (E17): 26-SEP-1998 (D269) 03:51:10 UTC  
Perijove (PJ17): 26-SEP-1998 (D269) 08:26:11 UTC  
Apojove (AJ17): 24-OCT-1998 (D297) 16:00:00 UTC

Time Ticks (Relative to E17)  
Spacecraft - 6 Hours



E17 North Trajectory Pole View, Perijove to Perijove

# NIMS E17 DATA RETURN

| Activity ID         | Observation Title              | NIMS Edit Table | NIMS PB Table  | Mode | Gain  | Grating | Grating Record | PSID |
|---------------------|--------------------------------|-----------------|----------------|------|-------|---------|----------------|------|
|                     |                                |                 |                |      | Start | Offset  | Format         |      |
| 17JNJUPRTS01*       | Jupiter Realtime Observation   | E17JIM408/MB    | R/T            | LM   | 2     | 0       | 4              | R/T  |
| 17ENEUR20H01        | Europa 20 Hour Map             | E17B_ELM240T    | E17B_ELM240T   | LM   | 4     | 0       | 4              | LPU  |
| 17JNWHTOVL01-       | Jupiter White Oval             | E17JSB253B      | E17JSB66B      | LM   | 4     | 0       | 4              | LPU  |
| 17JNJUPRTS02*       | Jupiter Realtime Observation   | E17JIM408/MB    | R/T            | LM   | 2     | 0       | 4              | R/T  |
| 17JNWHTOVL03-       | Jupiter White Oval             | E17JSB253B      | E17JSB253B     | LM   | 2     | 0       | 4              | LPU  |
| 17JNJUPRTS03*       | Jupiter Realtime Observation   | E17JIM408/MB    | R/T            | LM   | 2     | 0       | 4              | R/T  |
| 17ENGLOBAL01-       | Europa Global Observation      | E17ELM442       | E17B_ELM228C_1 | LM   | 3     | 0       | 4              | MPW  |
| 17ENSUCOMP02-       | Europa Surface Composition     | E17ELM442       | E17ELM360      | LS   | 4     | 0       | 4              | MPW  |
| 17ENSUCOMP04-       | Europa Surface Composition     | E17ELM442       | E17ELM360      | LM   | 4     | 0       | 4              | MPW  |
| 17ENGLOBAL02-       | Europa Global Observation      | E17ELM442       | E17ELM360      | LM   | 3     | 0       | 4              | MPW  |
| 17NNPCRLT01-        | NIMS Real-Time PCT Claibration | E17PCT252       | R/T            | LM   | 4     | 0       | 4              | R/T  |
| 17NNRCRLT01-        | NIMS RCT Real-Time Calibration | E17RCT252       | R/T            | LM   | 1     | 0       | 4              | R/T  |
| 17NNROPAL01-        | NIMS OPCAL                     | E17OPCAL48      | R/T            | LM   | 4     | 0       | 4              | R/T  |
| 17ENEUR20H01        | Europa 20 Hour Map             | E17B_ELM240V    | E17B_ELM240V   | LM   | 3     | 0       | 4              | LPU  |
| 17JNWHTOVL02-       | Jupiter White Oval             | E17JSB253B      | E17JSB66B      | LM   | 4     | 0       | 4              | LPU  |
| 17ENGLOBAL01-       | Europa Global Observation      | E17ELM442       | E17B_ELM228C_1 | LM   | 3     | 0       | 4              | MPW  |
| 17ENSUCOMP01-       | Europa Surface Composition     | E17ELM442       | E17ELM360      | LM   | 4     | 0       | 4              | MPW  |
| 17ENSUCOMP02-gf     | Europa Surface Composition     | E17ELM442       | E17ELM360      | LS   | 4     | 0       | 4              | MPW  |
| 17ENSUCOMP03-       | Europa Surface Composition     | E17ELM442       | E17ELM360      | LM   | 4     | 0       | 4              | MPW  |
| 17ENGLOBAL02-       | Europa Global Observation      | E17ELM442       | E17ELM360      | LM   | 4,3,4 | 0       | 4              | MPW  |
| gf = gap fill       |                                |                 |                |      |       |         |                |      |
| E18 Playback Period |                                |                 |                |      |       |         |                |      |
| 17ENSUCOMP01-gf     | Europa Surface Composition     | E17ELM442       | E17ELM360      | LM   | 4     | 0       | 4              | MPW  |
| 17ENSUCOMP02-gf     | Europa Surface Composition     | E17ELM442       | E17ELM360      | LS   | 4     | 0       | 4              | MPW  |
| 17ENSUCOMP03-gf     | Europa Surface Composition     | E17ELM442       | E17ELM360      | LM   | 4     | 0       | 4              | MPW  |

# NIMS E17 DATA RETURN

| Activity ID            | Mode | Record Format | Wave-lengths Returned | Record Time (sec.) | PB Time (sec.) | Selected Bits of Tape (MBITS) | Total Bits of Tape (Mbit) | Mode Cycle (sec) | Comp | Thold | Rf BTG Mbits | Total BTG Mbits    | Data Reduct Factor | Pass |
|------------------------|------|---------------|-----------------------|--------------------|----------------|-------------------------------|---------------------------|------------------|------|-------|--------------|--------------------|--------------------|------|
|                        |      |               |                       |                    |                | sBOT                          | (sBOT)                    |                  |      |       | (4% ahead)   | (sBOT/BTG)         |                    |      |
| 17JNJUPRTS01           | LM   | R/T           | 408                   |                    |                |                               |                           |                  |      |       | 0.16         |                    |                    |      |
| 17ENEUR20H01           | LM   | LPU           | 240                   | 219                | 219            | 1.35                          | 1.35                      | 8.667            | 1.65 | 0     | 0            | 0.764              | 1.77               | 1    |
| 17JNWHTOVL01           | LM   | LPU           | 66                    | 602                | 600            | 3.70                          | 3.70                      | 8.667            | 1.91 | 0     | 0            | 0.498              | 7.44               | 1    |
| 17JNJUPRTS02           | LM   | R/T           | 408                   |                    |                |                               |                           | 8.667            |      |       | 0.16         |                    |                    |      |
| 17JNWHTOVL03           | LM   | LPU           | 253                   | 602                | 600            | 3.70                          | 3.70                      | 8.667            | 2.71 | 0     | 0            | 1.344              | 2.75               | 1    |
| 17JNJUPRTS03           | LM   | R/T           | 408                   |                    |                |                               |                           | 8.667            |      |       | 0.16         |                    |                    |      |
| 17ENGLOBAL01           | LM   | MPW           | 228                   | 2700               | 1321           | 15.22                         | 15.22                     | 8.667            | 1.53 | 0     | 0            | 4.724              | 3.22               | 1    |
| 17ENSUCOMP02           | LM   | MPW           | 360                   | 1020               | 1018           | 11.73                         | 11.73                     | 8.667            | 1.46 | 0     | 0            | 6.024              | 1.95               | 1    |
| 17ENSUCOMP04           | LM   | MPW           | 360                   | 600                | 590            | 6.80                          | 6.91                      | 8.667            | 1.61 | 0     | 0            | 3.166              | 2.15               | 1    |
| 17ENGLOBAL02           | LM   | MPW           | 360                   | 1800               | 437            | 5.03                          | 20.74                     | 8.667            | 1.37 | 0     | 0            | 2.756              | 1.83               | 1    |
| 17NNPCTRLT01           | LM   | R/T           | 252                   |                    |                |                               |                           |                  |      |       | 0.2          |                    |                    |      |
| 17NNRCTRLT01           | LM   | R/T           | 252                   |                    |                |                               |                           |                  |      |       | 0.14         |                    |                    |      |
| 17NNOPCAL01-           | LM   | R/T           | 48                    |                    |                |                               |                           |                  |      |       |              |                    |                    |      |
| 17ENEUR20H01           | LM   | LPU           | 240                   | 271                | 271            | 1.67                          | 1.67                      | 8.667            | 1.63 | 0     | 0            | 0.958              | 1.75               | 2    |
| 17JNWHTOVL02           | LM   | LPU           | 66                    | 602                | 600            | 3.70                          | 3.70                      | 8.667            | 1.98 | 0     | 0            | 0.480              | 7.71               | 2    |
| 17ENGLOBAL01           | LM   | MPW           | 228                   | 2700               | 1360           | 15.67                         | 31.10                     | 8.667            | 1.98 | 0     | 0            | 3.758              | 4.17               | 2    |
| 17ENSUCOMP01           | LM   | MPW           | 360                   | 1200               | 1160           | 13.36                         | 13.82                     | 8.667            | 1.28 | 0     | 0            | 7.830              | 1.71               | 2    |
| 17ENSUCOMP02           | LM   | MPW           | 360                   | 1020               | 66             | 0.76                          | 11.75                     | 8.667            | 1.46 | 0     | 0            | 0.391              | 1.95               | 2    |
| 17ENSUCOMP03           | LM   | MPW           | 360                   | 1320               | 1313           | 15.13                         | 15.21                     | 8.667            | 1.29 | 0     | 0            | 8.794              | 1.72               | 2    |
| 17ENGLOBAL02           | LM   | MPW           | 360                   | 1800               | 1310           | 15.09                         | 20.74                     | 8.667            | 1.4  | 0     | 0            | 8.084              | 1.87               | 2    |
| <b>Total Resources</b> |      |               |                       |                    |                |                               |                           |                  |      |       |              |                    |                    |      |
|                        |      |               |                       |                    |                |                               |                           |                  |      |       |              | 49.57 Total        |                    |      |
|                        |      |               |                       |                    |                |                               |                           |                  |      |       |              | 52.91 Allocated    |                    |      |
|                        |      |               |                       |                    |                |                               |                           |                  |      |       |              | - 3.339 Over/Under |                    |      |
| 17ENSUCOMP01           | LM   | MPW           | 360                   | 1200               | 217            | 2.50                          | 13.82                     | 8.667            | 1.3  | 0     | 0            | 1.442              | 1.73               | 2    |
| 17ENSUCOMP02           | LM   | MPW           | 360                   | 1020               | 66             | 0.76                          | 11.75                     | 8.667            | 1.46 | 0     | 0            | 0.391              | 1.95               | 2    |
| 17ENSUCOMP03           | LM   | MPW           | 360                   | 1320               | 283            | 3.26                          | 15.21                     | 8.667            | 1.3  | 0     | 0            | 1.881              | 1.73               | 2    |
|                        |      |               |                       |                    |                |                               |                           |                  |      |       |              | 3.714 E18 Total    |                    |      |

## RECAP OF E17 PLAYBACK EVENTS

NIMS Data return in E17 was greater than for any other orbit of the Galileo Europa Mission (GEM). Just under 50 Megabits were brought down during the E17 cruise period, with an additional 3 Mbits coming down during E18 (see the E18 NIMS Guide).

At the beginning of the encounter sequence, a fault monitor tripped, indicating a problem with the spacecraft gyros. This caused the spacecraft to transition from inertial mode (preferred, for NIMS, since spacecraft wobble is compensated), to cruise mode. The sequence thereafter executed as planned.

Early in the sequence we received information that the NIMS software had crashed. No recorded observations were affected, as a routine software reload preceded our next observation.

We lost a significant quantity of our downlink capability late in the playback (cruise) period, as anomaly recovery activities on the Deep Space 1 and Voyager spacecraft required tracking by DSN stations during times that had been previously allocated to Galileo.

The following timeline details the most significant events of the E17 playback period. Most of the text below is excerpted from messages issued at the time.



E17 Playback Events Timeline (07-22-98: to 11-21-98:)

- 07-22-98: In light of the loss of E16 observations of Europa, SSI is considering reconfiguring some of their E17 observations to cover targets lost in E16. NIMS could do the same. There is not a great deal of time available to accomplish this, if we wish to. If you favor some particular lat/lon(s) as high priority target(s) here please let us know.
- 08-13-98: (J. Gross) NIMS playback allocation is 50.613 Mbits.
- 08-14-98: This is the first delivery of the E17 playback table. NIMS has four Europa surface composition observations and two large Europa global observations in this orbit. As a result of some brilliant negotiations by Marcia Segura we were able to add a pair of distant, leading side Europa observations, and three new observations of the newly-merged Jupiter white oval. In addition we have RCT and PCT calibrations and three Jupiter realtime observations.
- 08-20-98: The subject of the pointer designs and NIMS mode for 17ENSUCOMP02 and 03 was discussed in today's NIMS team meeting at noon. The decisions regarding pending design changes were:  
17ENSUCOMP02: Retain current pointer design (8/6/98 version) but change mode to long spectrometer.  
17ENSUCOMP03: We will NOT change from 1 scan to two scans for this observation; that is, the pointer design from 8/6/98 will be employed.  
The reasons for these decisions are intertwined. The as-is, 1-scan design for 17ENSUCOMP03 includes brighter territory at longitudes 120-150 that encompasses the area imaged by 17ENSUCOMP02 (centered at 120 W, 65 S). This makes the two observations complementary, a benefit that would be lost in the 2-scan plan.
- 09-09-98: The NIMS E17 PBT is ready to fly. We have one more update (next week) before uplink.  
A number of minor timing changes were made to complete the fine-tuning of the table, and correct playback wavelength tables were entered/verified.  
17ENGLOBAL02 will be recorded at the end of the sequence, near perijove. To get information on compression for this observation we are bringing back the second scan (of 4) in the first pass over the tape. The pointer plot for this observation shows several scans of dark sky. We are retaining these to obtain dark values.  
We presently have about 1 Mb of unused downlink allocation, after increasing playback of the visible part of 17ENEUR20HR01 to the full 240 wavelengths. The unused portion is being held to cover compression uncertainties.

E17 Playback Events Timeline (07-22-98: to 11-21-98:)

- 09-16-98: E17 playback will initiate in less than 2 weeks. The only significant change this week involved a modification to the plan for the two large Europa global observations. 17ENGLOBAL01 views longitudes we have already seen but will provide polar coverage we lack. 17ENGLOBAL02 views leading-side longitudes only seen in E15. Unfortunately 17ENGLOBAL02 will have booms (cone angles about 75 degrees) and is taken near perijove in what may be a noisy environment. Compression for both is somewhat optimistically estimated at 1.5. If either compresses poorly, significant revisions to the playback plan will be required. Logistically there is the potential problem that pass 1 17ENGLOBAL02 may not be down before decisions about pass 2 17ENGLOBAL01 have to be finalized. On the plus side, 17ENGLOBAL02 should be the last observation to be played back in pass 2, and may benefit from the release of margin bits. The current strategy is to play back the two polar scans of 17ENGLOBAL01 in pass 1 (since these have highest priority). The two equatorial scans remain in the playback plan in pass 2. For 17ENGLOBAL02, we will return a single scan in pass 1 to evaluate the data quality and get compression values. Since we have sufficient allocation, we will command 360 wavelengths (rather than the standard 228) for this scan. The balance of the observation (pass 2) is currently planned with 228 wavelengths, but this is mutable.
- 09-25-98: (R. Lineaweaver) \*\* E17 encounter activities \*\* Gyros tripped off, aborted to cruise 6 seconds after first 7SCAN command in E17A. Scan Platform safed at that time but since sequence continues, subsequent scan platform cmds executed. Commands were sent to MRO the gyro data and AACS fault max counter array, re-enable data compression for PWS, and Clear the fault code & sysfault. Unless AACS sees something obvious in the MRO's that explains the anomaly, we will not transition back to inertial mode.
- 09-25-98: (J. Erickson) Late in the evening of September 24, an AACS fault changed the spacecraft configuration from operating the scan platform in inertial mode (which allows gyro correction of any spacecraft wobble present) to a mode where the star scanner is the primary attitude reference. The cause of this anomaly is under investigation, and it is expected that the encounter will be performed with the star scanner as the primary attitude reference. The lack of gyro correction will primarily affect the Near Infrared Mapping Spectrometer's observations, degrading their resolution.

E17 Playback Events Timeline (07-22-98: to 11-21-98:)

- 09-25-98: (R. Mehlman) According to SCLK monitor data returned at 16:09 today (268/23:09 ERT) the NIMS instrument software halted at SCLK 4666170 (~268/19:00 SCET, reported to CDS at 4666390, 22:35 SCET).  
The halt is 4 hours before the beginning of the 17ENGLOBAL01 observation, which is preceded by a software reload. It is also 9 hours before Europa closest approach and 13 1/2 hours before Jupiter closest approach, which makes it perhaps the earliest halt yet, and therefore not a particularly good sign.
- 09-26-98: Europa close approach occurs at 03:51:10 UTC.
- 09-26-98: (R. Mehlman) Three samples of the NIMS SCLK monitor have been received since the observed (but harmless) halt. Two of these were between 17ENGLOBAL01 and 17ENSUCOMP01, the third was right after 17ENSUCOMP04. All that remains in the NIMS encounter is 17ENGLOBAL02, immediately following the closest approach to Jupiter.
- 09-26-98: Perijove occurs at 08:26:11 UTC, followed at 09:12:03 by 17ENGLOBAL02.
- 10-06-98: E17 playback is progressing as planned. For the next 2+ weeks only SSI data will be played back. The newest schedule shows our next observation, 17ENSUCOMP02, coming down on 22 October (Thursday). Compression has been somewhat better than predicted, suggesting a relatively low noise environment for the inbound observations. A first look at the polar scans of 17ENGLOBAL01 reveals no obvious "torque spikes". These were painfully plentiful in the global observation in E15. As anticipated we will not receive data from 17ENGLOBAL02 early enough to enable us to make changes to our pass 2 playback of 17ENGLOBAL01, should we wish to. This means that if 17ENGLOBAL02 is ratty or noisy, we cannot shift resources to the other observation. Currently we expect to get all of 17ENGLOBAL01 at 228 wavelengths (nothing wrong with that), and we should get most or all of 17ENGLOBAL02 at 360 wavelengths.
- 10-23-98: (J. Gross) After analyzing the inefficiency we've received and what we expect from here 'til Terminate, we have decided to release 4.0 MB of inefficiency margin. This leaves us 5.24 MB to cover our worst-case inefficiency the rest of the way. Since MWG has no recorded data, the 4.0 MB was divided up among remote-sensing teams. The increases by team, according to OPG percentages, are:
- |      |         |
|------|---------|
| SSI  | 2.98 MB |
| NIMS | 0.90 MB |
| PPR  | 0.06 MB |
| UVS  | 0.06 MB |

E17 Playback Events Timeline (07-22-98: to 11-21-98:)

Additionally, we are releasing the remaining office margin to the team with the last observation on the tape, NIMS. Since we only have about 3.5 weeks of PB left, and at most three updates, we decided this was the appropriate time to give NIMS these bits. Originally there 2.0 MB of office margin being held. The addition of the AACS slew-test on DOY 311 and the early Resume Playback after OTM-55 result in a net loss of 0.3 MB. That leaves 1.7 MB of office margin for NIMS. Therefore the new allocations by teams are:

| TEAM | NEW PB<br>ALLOC | OLD PB<br>ALLOC |
|------|-----------------|-----------------|
| SSSI | 173.182         | 170.202         |
| NIMS | 52.848          | 50.248          |
| PPR  | 3.442           | 3.382           |
| UVS  | 2.891           | 2.831           |

10-26-98: (J. Gross) As you're probably aware of by now, we entered a limited search yesterday morning after resuming PB following the scheduled DMS Conditioning. The total period of time for which we were without playback was 20.5 hours. The first 6.5 hours is how long it would have taken the DMS to slew from Track 1, Tinc 200 (the normal post-DMS conditioning location) to Track 3, Tinc 5636 (the location of the DMS when we paused for the conditioning). There is nothing we could do about losing this 6.5 hours. There is also no way to account for it ahead of time because it is impossible to know where the tape will be located when we pause playback. The next 14 hours is the amount of time the DMS slewed while looking for data in the active time window. We slewed to the end of track 3, all the way down track 4, transitioned back up to track 3, and slewed down to Tinc 5636 before PB resumed. The cost of this 20.5 hours of slewing is 2.75 MB. So, remember that 4.0 MB of inefficiency margin that I released on Friday? Well, I'm taking back 2.75 MB of it. The new PB allocations by team are as follows:

| TEAM | NEW<br>ALLOC | OLD<br>ALLOC |
|------|--------------|--------------|
| SSSI | 171.133      | 173.182      |
| NIMS | 52.229       | 52.848       |
| PPR  | 3.401        | 3.442        |
| UVS  | 2.850        | 2.891        |

10-28-98: Today's update affects data to be played back in the second pass over the tape. Several new developments have contributed to the changes made. First, the office decided to release margin held for slewing inefficiency. Over the weekend, however, following the DMS (tape recorder) conditioning exercise, the recorder failed to find the data it expected, and went into limited search mode. After 20.5 hours of slewing, it arrived at the proper time /observation, and began playing back data.

## E17 Playback Events Timeline (07-22-98: to 11-21-98:)

This event cost us about 2.75 Mb of capability, consuming a large part of the 4.0 Mb that had been released. We received a small increase in allocation as a result of these events. More significantly, the playback coordinator released the 1.7 Mb of margin that was being held to protect our last observation (17ENGLOBAL02) to us.

As a result we have been able to increase playback wavelengths for the remaining 3/4 of 17ENGLOBAL02 from 228 to 360.

(We had previously hoped to do so, and the first portion of the observation is presently coming down with 360 wavelengths as well).

In addition we have added commands to fill a gap in 17ENSUCOMP02. This amounts to about .25 Mb. Following these changes, we still have about 0.7 Mb of unused capability to act as insurance that all of our data will come down.

10-28-98: The cause of the limited search was a buildup of uncertainty in the tape position estimate used by CDS. An unusually large number of data "gulps" (230) were commanded on Track 3, resulting in a large accumulated error in calculated tape position.

11-04-98: E17 playback was proceeding smoothly until our second pass playback of 17ENGLOBAL01. There are 7 significant gaps in the portion that has come down this week, some on the order of 20 packets in size. This is particularly unfortunate because 17ENGLOBAL01 was obtained under relatively low noise conditions, and is one of our few global observations where we are obtaining complete pole-to-pole coverage. Two large higher-resolution Europa observations have come down with better-than-expected compression. These are 17ENSUCOMP02 and 04. Our present situation is that we have fully selected the NIMS data remaining on the tape through the end of pass 2, and we have > 1 Mbit of unused downlink allocation at the present time. This may grow a bit since we have two additional high-resolution SUCOMPs to come down soon. These may also overcompress. As a result we are proposing a third pass over the tape to retrieve the data that was lost this week (17ENGLOBAL01). This would be quite painless to implement since the start of our 17ENGLOBAL01 data is only 1500 tics from the end of our current pass 2 playback, on the same track. Thus less than 2 hours of slewing will be required to position the tape for the pass 3 playback. Changes to the playback table this week include a few changes in data reduction factors, to reflect our pass 1 knowledge of compressions, and the addition of 3 additional gap-fill singles pairs to complete our spatial and wavelength coverage of 17ENSUCOMP02. This long-spectrometer mode observation of high southern latitudes has good signal to noise. However, since we were in cruise mode while it was obtained, there is some spatial smearing of features due to the less-accurate pointing.

E17 Playback Events Timeline (07-22-98: to 11-21-98:)

- 11-08-98: (W. Currie) The AACS Slew Test to recreate E17A executed nominally, E17A was successfully recreated. A gyro high rate fault trip caused FM 28 to trip 6 seconds into the slew. Analysis of the flood mode and high rate telemetry data is underway. Playback resumed after the test as expected since data compression was re-enabled in the RBS. Several cleanup commands will need to be sent real time in the next few days.
- 11-09-98: (J. Gross) Well, we're down to the very end of playback. We have less than two weeks to go, and our final update is this Wednesday. So this seems to be the right time to give out our remaining margin. Factored into this release is the amount of inefficiency we've received since the limited search on Oct 24-25, the undercompression of UVS data, and an estimate of our remaining inefficiency. That leaves 3.0 MB to give out today. PPR indicated that they have no need for more BTG, so the 3.0 gets split among SSI, NIMS, and UVS.
- 11-11-98: This is the final update for E17. Playback will terminate next Friday. The Project graciously agreed to let us have a 3rd pass over the tape in order to best utilize our downlink bits.
- The main problem addressed in this update derives from the many hardware problems currently being experienced by the DSN. Performance has been particularly bad this week. As a result ten new sets of playback commands were added to fill the 14 gaps in pass 2 playback of 17ENSUCOMP01. In addition, as noted last week, there are also 6 significant gaps in 17ENGLOBAL01, which are being handled with 4 new sets of playback singles.
- We received an additional 0.68 Mb of downlink allocation with the release of the remaining margin. In our current model, we show about 1.0 Mb of downlink allocation remaining after we finish returning all our remaining observations and gap fills. In a perfect world we would be certain to get all our bits down. However, as of this afternoon, Deep Space 1 has taken over one of our DSN-63 passes to deal with an anomaly (reportedly with the ion engine). We do not know how much of our remaining downlink will be ceded to DS1. Thus there are no guarantees (not that there ever were).
- I neglected to mention one additional category of new playback singles added to this week's table. The Playback Coordinator, Jerod Gross, and I think that the spacecraft is currently sending down our pass 2 gap fill singles for 17ENSUCOMP02, even though the DSN is listening elsewhere. Thus, at the end of the table, you will find a duplicate set of 4 playback singles commanding return of the same data selected in pass 2. (These have new PSIDs and pass numbers).

E17 Playback Events Timeline (07-22-98: to 11-21-98:)

- 11-20-98: (J. Erickson) Playback will terminate on Friday afternoon. We have lost about 12.5 Mbits due to station reallocation to VGR2 and DS1. This represents about 5% of the total capability for this orbit. Even with these losses, we expect to just finish with Pass 2 playback by the time we terminate. Unfortunately, we will lose our Pass 3 playback to recover significant data gaps in our data. The spacecraft slew test was successful in recreating the E17A gyro high rate error. The telemetry gathered during the test is being analyzed but has not yet yielded a solution. Four seconds into the slew, the gyro rate accelerates quickly to greater than 2.5 degrees per second. The first conclusion from these data are that the problem is in the electronics and that the gyros are not physically seeing the high rates reported in the telemetry channels.
- 11-21-98: Playback terminates prior to playback of pass 3 gap fills.

## NIMS Anomaly Report - E17 Sequence

There was no NIMS processor halts detected during the E17 Encounter. Detectors 3 and 8 are still not functioning and are expected to be lost for the rest of the mission.

Also, the spacecraft suffered an AACS gyro fault trip that put the spacecraft into Cruise mode. The entire E17 encounter was executed in Cruise mode, instead of Inertial mode.

### E17 AACS Anomaly

Near the beginning of the E17 encounter, an AACS fault cause the spacecraft configuration to change from operating the scan platform in inertial mode (which compensates for spacecraft wobble) to Cruise mode where the star scanner is the primary attitude reference. Since the cause of the anomaly was unknown at the time, the project decided to let the entire E17 encounter execute in Cruise mode.

The gyros tripped off, safed the scan platform and aborted to Cruise mode 6 seconds after the first 7SCAN command in E17A. The rest of the encounter went smoothly without any more AACS upsets.

Analysis of the gryos during E17 cruise point to the gyro electronics as being the cause of the fault trip.



## NIMS Archived EDRs and CUBEs

The NIMS data are stored in EDRs (Experimental Data Records) produced by JPL-MIPS (Multi-mission Image Processing System). The NIMS Phase2 EDR is described in the NIMS EDR SIS (Software Interface Specification) Number 232-08. The same information is available in both human and machine-readable form in the PDS (Planetary Data System) structure files EDRHDR.FMT and EDRDATA.FMT in the LABEL directory of the NIMS EDR CD-ROM. Each observation has at least one EDR. The EDR file name is derived from the 12 character observation name plus a single character which allows an observation to be broken up into multiple EDRs. The EDRs have a Vicar label, followed by a PDS/ISIS label, binary header records and the data records. For archiving on CD-ROM, the Vicar labels are detached from the EDR (but kept separately on CD) and the file is renamed so as to conform to the 8.3 DOS file-naming convention. The 8.3 EDR name consists of a 2 character orbit identifier, a single character target identifier, a 3 digit counter and the suffix EDR. For example, the MIPS EDR G1GNGLOBAL01A.1 becomes G1G001.EDR. More information about NIMS EDRs can be found in the VOLINFO.TXT file on the EDR CD-ROM.

NIMS EDR data typically require considerable processing before they are readily amenable to science analysis. Normally, the EDRs are processed into spectral image cubes by one of several sets of software. MIPS systematically processes the EDRs into CUBEs (band sequential image files) and MASKs (spatial/spectral summary images) which are distributed on the NIMS CUBE CD-ROMs. Information about the structure of the NIMS CUBEs can be found in the VOLINFO.TXT file on the CUBE CD-ROM. The name of the CUBE file is derived from the input EDR filename. For archiving on CD-ROM, the CUBE files are renamed so as to conform to the 8.3 DOS file-naming convention. The 8.3 CUBE name consists of a 2 character orbit identifier, a single character target identifier, a 3 digit counter, a single character cube-type identifier, a single character data unit-type (DN, radiance or IOF) and the suffix QUB. For example, the MIPS IOF radiance cube for the observation G1GNGLOBAL01A.1 (G1G001) becomes G1G001CR.EDR. The summary MASKs on the CD-ROM have the same 6 character name as the EDR name with the suffix JPG or GIF to denote its graphics format.

Data Format

All data files have PDS labels. The raw data (EDR) file contains time-sequential, 16 bit integers. Reduced data files (TUBES and CUBES) may be viewed as images or spectra. They contain VAX real numbers, are band sequential (BSQ - the images are stacked in band order) and have geometry information appended as backplanes after the last NIMS band.

Data Types

Mask files contain summary images (3 band BSQ) and spectra of up to six selected regions that provide a quick indication of data location, data quality and spectral content. A Guide to understanding the NIMS mask is available.

Cube files contain data that have been projected and resampled. The core data are BSQ - spatial in the first two dimensions, and spectral in the third. Cubes of the satellites are projected in point-of-view, and, with few exceptions have no photometric correction applied. Cubes of Jupiter are (generally) projected as simple cylindrical. Cubes of Europa, Ganymede, and Callisto have been despiked. The cubes are available both in radiance and I/F (intensity divided by flux) form.

Tube files contain data in (almost) time order and normally have a NIMS-related 20 pixel spatial dimension (20 x n or n x 20). Projection coordinates are contained in backplanes, but the data have not been resampled. The data are in units of radiance and no despiking has been applied. All data in cubes are also available in tube form. Some data (such as spatially undersampled data) appear in tube form only.

A spike file contains a list of pixels that have been identified as spikes, but not replaced, in the tube. Spike files can be used to remove spikes from both tube and EDR files.

EDR files contain the most primitive form of the data available. They should be used only for advanced data analysis. The format is complex and the files do not form images or spectra without prior processing.

Data Labels

A data label (PDS form) is attached to the front of each file (except masks, which have an attached VICAR label and a detached PDS label). The labels are in ASCII keyword=value format and contain pointers to various data objects in the file, descriptions of the data objects and descriptions of the observation associated with the file. A history object in similar format follows and describes the processing steps that produced the file. Much of this information is necessary for understanding and viewing the cube. In particular, the label contains the offset to the cube, the dimensions of the cube, axes labels, and explicit wavelength information.

Data Access

Software for processing this data is called ISIS and is available for DEC VAX VMS, SUN Solaris, DEC Alpha Digital Unix, Silicon Graphics Unix and PC LINUX systems. The Unix versions are available from the USGS Astrogeology team. Images from NIMS cubes and tubes can be viewed with any image display program which allows an offset from the beginning of the file to the selected image. Packages tested include ISIS, VICAR, ENVI, SAO IMAGE, and NASAVIEW. ISIS and ENVI (and soon NASAVIEW) additionally display spectra. The ISIS viewer is named CV (UNIX) or QL3 (VMS).

Labels may be displayed with some editors (eg DOS edit), and with most "type" and "search" functions. Some editors do not recognize the PDS line termination conventions. The label may be listed by the ISIS function LHLIST (VMS) or LABEL (UNIX).

Software for converting EDRs to cubes exist in both ISIS (DEC VAX VMS) and VICAR (DEC Alpha VMS) versions only. A primitive list of values in an EDR may be obtained with the program EDRDMP2.

## Understanding the NIMS Mask

The NIMS mask is designed to provide a quick summary of the contents of a NIMS data cube (or tube). It displays a view of both the spatial and spectral content of the data.

The mask has four regions. Starting from the upper left and proceeding clockwise: a spatial display; six or fewer representative spectra; annotation; and a spectral histogram.

The spatial display of an observation which has been projected and resampled (a cube) has a maximum size of 600x600 pixels. This is overlaid with surface coordinates and is embedded in a 700x700 grid of pixel coordinates. It is accompanied by two 1-dimensional histograms describing the raw image and the image stretched for display. The data image can range from a simple combination of up to 3 NIMS bands displayed in the RGB planes, to complicated arithmetic functions of NIMS bands displayed in the RGB planes. (The formulas appear as annotation below the histograms.) The graphics directly below the image show the input and output data histograms for the three color planes. The "shortest" color for each bin displays in front. The image also contains from one to six numbered rectangles, which show the from which averaged spectra (displayed on the right) were taken.

The spatial display of an observation in time sequence (a tube) is a graphic showing a footprint of the observation over a grid of surface coordinates on the target body. Numerals 1-6 on the graphic mark the locations of the average spectra displayed on the right.

The spectra to the right of the image may display either BDRF or radiance (or both). If both are displayed, then a vertical "radiance fence" line will appear where the breakpoint occurs. This permits display of both atmospheric data, which have significant reflectance and thermal components, and I/F satellite surface data which have strong absorptions at longer wavelengths (such as water spectra.) The spectra are labelled with wavelength in microns and location in both pixel and latitude-longitude space.

The annotation provides information about the observation, including its name, a brief description, its geometry, instrument and projection parameters. TCA is the time from Galileo's closest approach to the target body.

The 2-dimensional spectral histogram in the lower left corner shows the number of pixels at a given radiance for each wavelength. If a surface contains spatial mixtures with significantly different spatial fractions for several components, the spectra of the components will be evident in this display.