Chapter 1 - Introduction

Contents

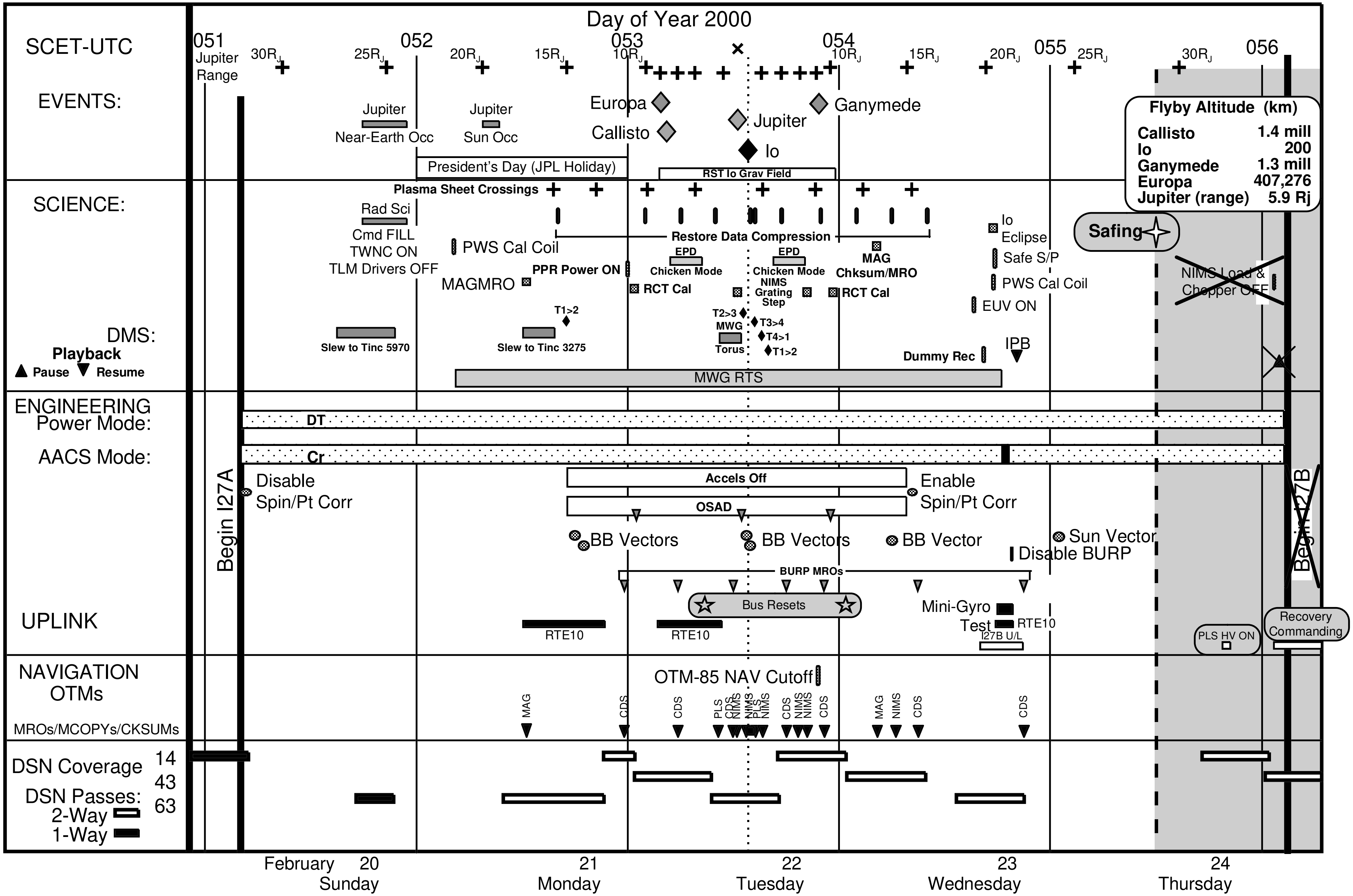
Introduction

This I27 orbit is the twenty-seventh of twenty-nine orbits in Galileo's Tour of the Jovian system and the second orbit in the Galileo Millennium Mission (GMM). I27 is the first Io Flyby of GMM. This orbit has a targetted satellite flyby of Io.

There are 12 autonomous reloads of the NIMS RAM code from CDS planned during the I27A 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 monitior the NIMS engineering telemetry data on a regular schedule to track the instrument's status.

The I27 orbit is divided into 2 sequence loads: one Encounter Load (I27A) and one Orbital Cruise Load (I27B). The I27A load begins on D051 (02/20/00) and ends on D056 (02/25/00). This load contains the flyby of Io. The Cruise Load I27B runs from D056 to D138. Playback of the recorded data takes place during the Cruise phase, I27B. A high-level overview timeline of the I27 orbit can be found on the following three pages.

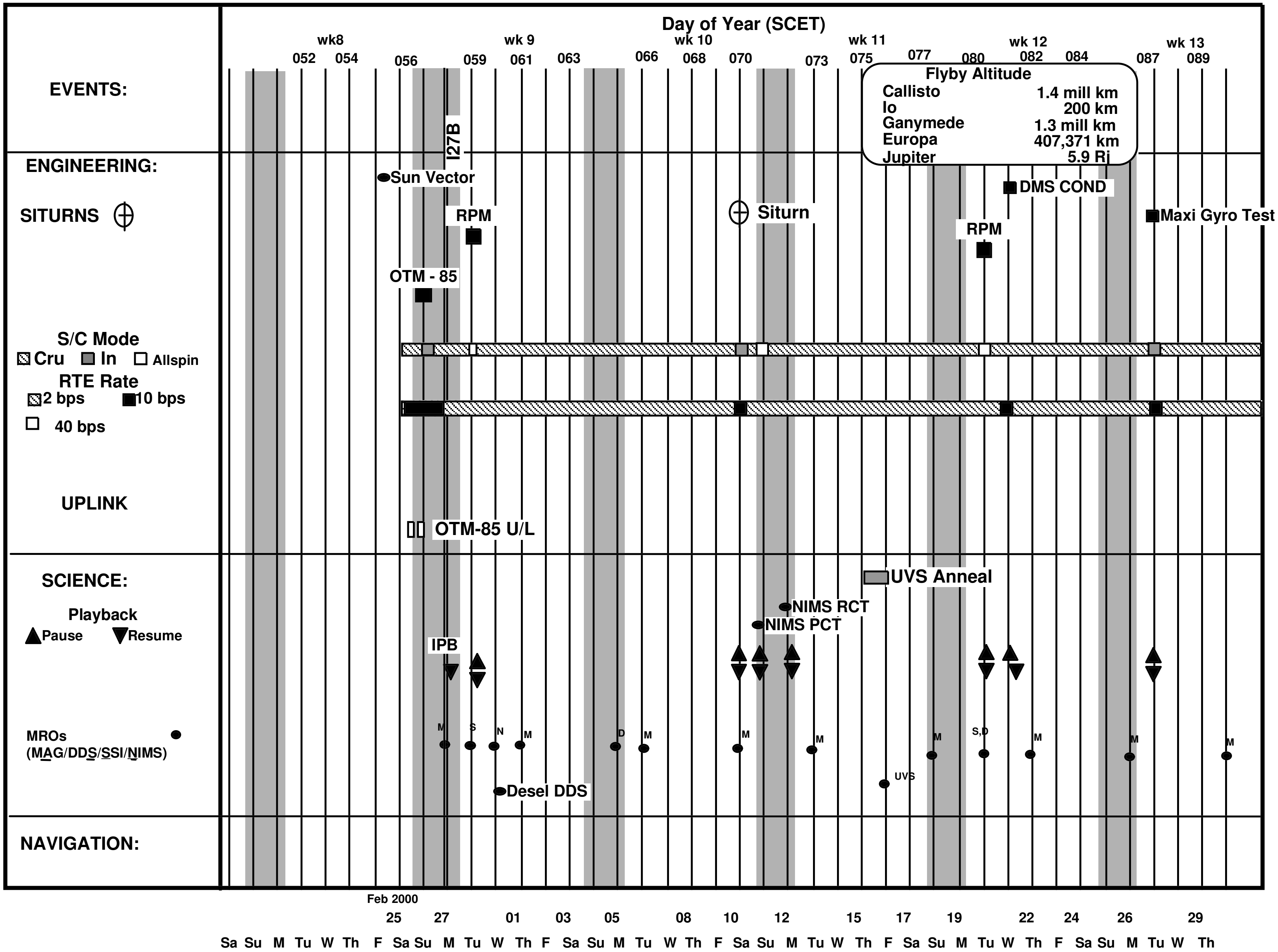
I27A Encounter Overview



Note: Two Bus Reset PORs occurred during the encounter time period, both of which were properly handled by the on-board recovery routine.
The times were: 00-053/08:53:23 SCET and 00-054/00:45-01:45 SCET (indeterminate, MRO not received).
Full safing (due to sumultaneous bus reset) occurred at 00-055/12:00:13 SCET.

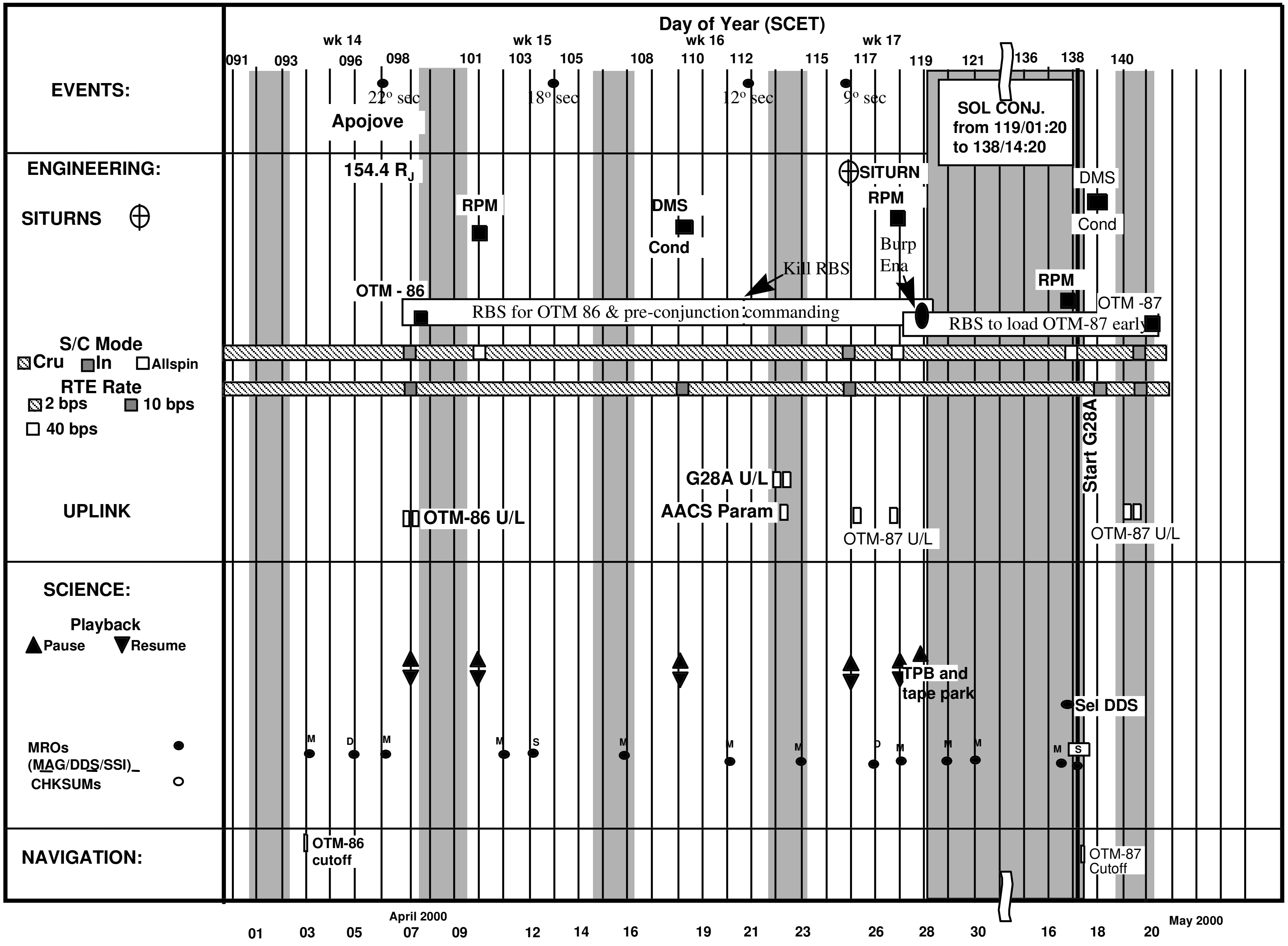
BMcL/SST
2/24/00

I27B Overview - Pt. 1



PDF - 2/3/00
BMcL - 5/4/00

I27B Overview - Pt. 2



PDF - 2/3/00
BMcL - 5/4/00

Introduction

The following table lists the major events during I27, including NIMS Real Time observations, in UTC.

02/20/00	00-051/04:00:00	I27 Encounter Start
02/22/00	00-053/12:31:28	PJ-27 Jupiter Closest Approach
02/22/00	00-053/12:35:46	NIMS RAM Reload 01
02/22/00	00-053/12:42:40	NIMS Grating Test 01
02/22/00	00-053/13:28:20	NIMS RAM Reload 02
02/22/00	00-053/13:47:26	NIMS RAM Reload 03
02/22/00	00-053/13:47:52	I27 Io Closest Approach
02/22/00	00-053/13:55:44	NIMS RAM Reload 04
02/22/00	00-053/14:13:56	NIMS RAM Reload 05
02/22/00	00-053/14:29:06	NIMS RAM Reload 06
02/22/00	00-053/14:40:00	NIMS RAM Reload 07
02/22/00	00-053/15:12:22	NIMS RAM Reload 08
02/22/00	00-053/15:18:29	NIMS RAM Reload 09
02/22/00	00-053/19:35:32	NIMS RAM Reload 10
02/22/00	00-053/20:30:52	NIMS RAM Reload 11
02/22/00	00-053/20:36:52	NIMS Grating Test 02
02/23/00	00-054/19:36:58	Start I27 Playback
02/24/00	00-055/12:45:00	S/C Safed (Bus Reset + DMS)
02/25/00	00-056/01:58:39	NIMS RAM Reload 12 (not commanded)
02/25/00	00-056/05:30:00	S/C Recovery Initiated
02/26/00	00-057/20:21:37	NIMS Power On (Phase 0)
02/28/00	00-057/20:09:48	Re-Start I27 Playback
02/28/00	00-059/20:24:03	NIMS RAM Reload 13
03/11/00	00-071/08:28:57	NIMS R/T PCT CAL
03/12/00	00-072/13:34:08	NIMS R/T RCT CAL
04/27/00	00-118/21:46:05	End I27 Playback