

870-14, Rev. AF

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**ASTRO-D**

1476943

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NOPE: R. NevarezProject Mgr: Y. Tanaka (ISAS)  
G. W. Ousley, Sr. (GSFC)  
MOM: K. Ninomiya (ISAS)Launch Date: February 1, 1993Projected SC Life/DSN Support: 2 years/2 yearsProject Responsibility: Institute of Space and Astronautical Science (ISAS)Source: TBS  
Sponsor: ISAS

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**A. MISSION DESCRIPTION**

ASTRO-D, which is to be launched by a MU-3II vehicle, is a scientific Earth orbiting satellite of the Institute of Space and Astronautical Science (ISAS) of the Ministry of Education, Science, and Culture of Japan. Its mission is TBS.

**B. FLIGHT PROFILE**

ASTRO-D will be launched on a MU-3II-5 launch vehicle from Kagoshima Space Center (KSC) in Uchinoura, Kagoshima Prefecture, Japan. Additional flight information is TBS.

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## C. COVERAGE

No DSN launch vehicle support is required. The DSN will support the Mission phase only.

## 1. Coverage Goals

The DSN will support 4 to 8 contacts per day depending on the Launch and Early Orbit phase (LEOP) and Mission phase, providing downlink telemetry recording only at all stations.

Additional coverage information is TBS.

## 2. Network Support

The support provided by the DSN is indicated in the following table:

<u>System</u>	<u>Goldstone</u>					<u>Canberra</u>				<u>Madrid</u>		
	12	14	15	16	17	42	43	45	46	61	63	66
S-band TLM				P				P				P
S-band CMD												
S-band TRK												

NOTE: P = Prime

## D. FREQUENCY ASSIGNMENTS

Frequencies are allocated according to the following table:

<u>System</u>	<u>Goldstone</u>	<u>Canberra</u>	<u>Madrid</u>
S-band TLM	N/A	TBS	RCP
S-band CMD	N/A	N/A	N/A
S-band TRK	N/A	N/A	N/A

## E. SUPPORT PARAMETERS

The support parameters for the Telemetry, Command, and Support Systems are listed below:

## (1) Telemetry

Data Streams	1
Format	PCM (NRZ-S)Bi0/PM or PCM (NRZ-S)PSK/PM
Subcarrier Frequency	524000 Hz
Bit Rates	1024, 4096, and 32768 b/s (Real-time) 131072 and 262144 b/s (Playback)
Coding	Convolutional, K=7 R=1/2
Record	Required

## (2) Command

Format	PCM (NRZ-L)/PSK/PM
Subcarrier Frequency	TBS
Bit Rate	4000 b/s

## (3) Support

Uplink Power	1 to 10 kW
Antenna Rate	Moderate
Antenna Angle Data	Required
Antenna Autotrack	Required (26-m only)
Doppler Rates	Modest
Range Formats	N/A
Recording	
o Analog	N/A
o Digital	Required

## F. TRACKING SUPPORT RESPONSIBILITY

The allocation of responsibility for tracking support is listed in the following table:

<u>Mission Phase</u>	<u>Support Responsibility</u>
Prelaunch	ISAS
Launch	ISAS
LEOP & Mission	DSN, ISAS

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