

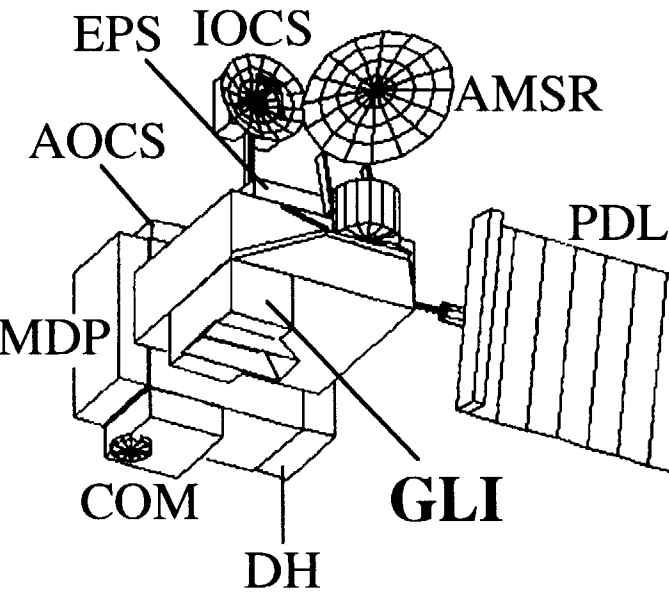


NASDA
NATIONAL SPACE DEVELOPMENT
AGENCY OF JAPAN

CURRENT STATUS OF GLOBAL IMAGER (GLI)

**Earth Observation Satellite Department
Office of Earth Observation Systems
National Space Development Agency of Japan**

ADEOS-II OUTLINE



Shape	Applx. 4 × 4 × 5 [m]
Total Weight	Approx. 3.5 ton
Mission Payload	Approx. 1.2 ton
Generate Power	5.0 kW (Applx. 1.2kW for mission instruments) at EOL
Design Life	3 years
Launch Date	February 1999
Orbit Type	Sun Synchronous Subrecurrent
Altitude	802.92 km
Inclination	98.62 deg
Period	Applx. 101 min.
Recurrent Period	4 days
Local time	AM10:30 ± 15min.

CURRENT SCHEDULE OF ADEOS-II & GLI



CY 1993 1994 1995 1996 1997 1998 1999 2000

JFY 1993 1994 1995 1996 1997 1998 1999 2000

▽PDR(▽ADEOS)▽CDR ▽Launch

Phase B/C Phase D

·Preliminary Study ·Detail Design ·Design Follow
·Basic Design

Engineering Model

Proto-Flight Model

Critical Item
Trial Manufacture(BBM)

Engineering Model

Proto-Flight Model

GLI
AMSR

▽COMETS

- **Multi Bands and High Spectral Resolution Imaging**
- **Visible and Near to Thermal Infra-Red Spectral Bands**

PRIMARY SCIENTIFIC OBJECTIVES OF GLI



- **Ocean Dynamics**
 - **sea surface temperature**

- **Ocean Biology**
 - **sea surface color**

- **Ice and Snow**
 - **Ice and snow cover**

PRIMARY SCIENTIFIC OBJECTIVES OF GLI



- **Land**
 - **global Vegetation**
 - **land surface temperature**

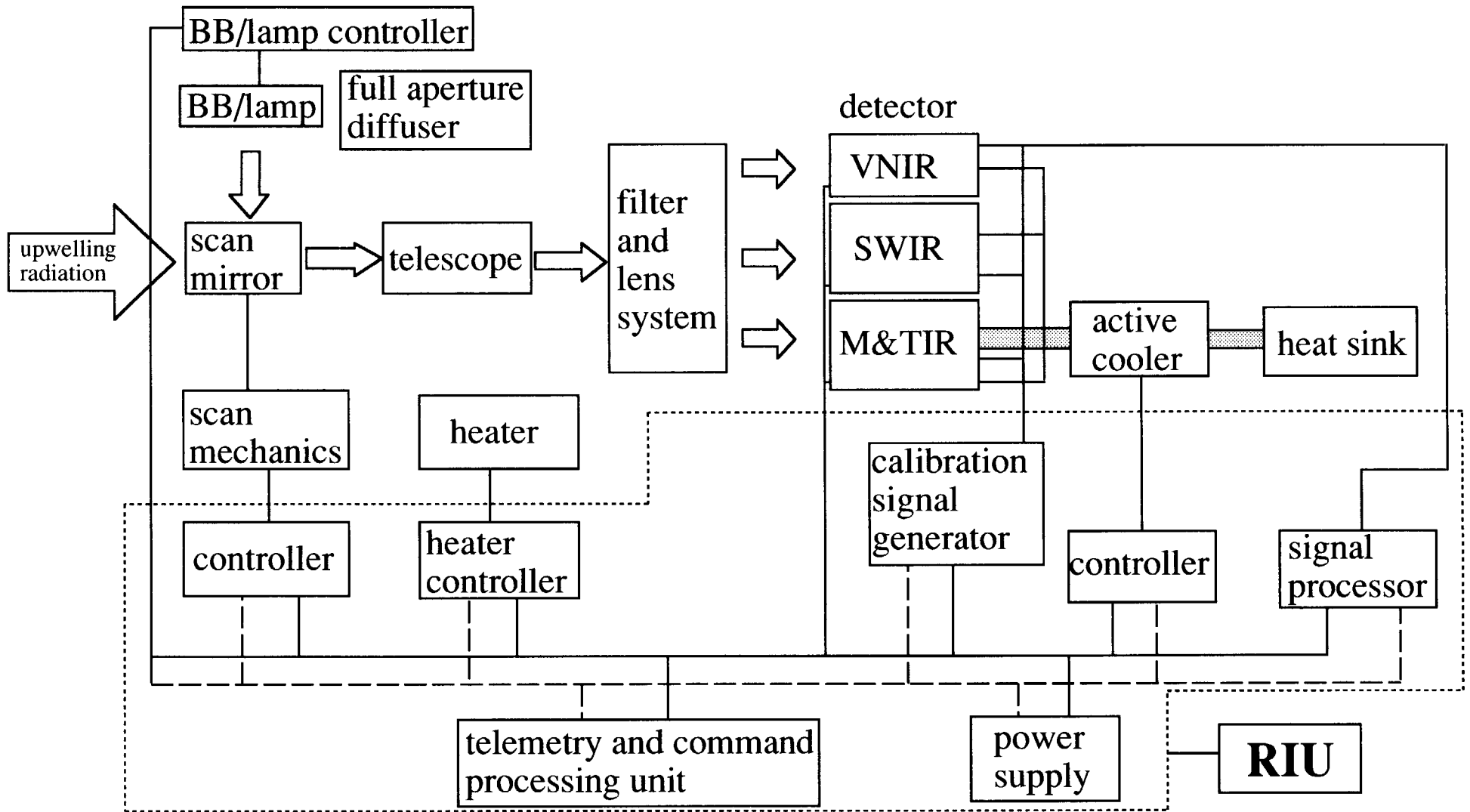
- **Atmospheric Dynamics**
 - **Atmospheric temperature**
 - **cloud distribution**

GLI CURRENT PROGRESS



- **1990:Design Study**
- **1991:Preliminary Design**
- **1992:Key Component Fabrication and Test
(Spectrometer)**
- **1993-1994:Trial manufacture of Critical
component
(Breadboard model)**
- **1994-1995:Engineering Model**
- **1995-1997:Proto-Flight Model**

BLOCK DIAGRAM OF GLI



PERFORMANCE (PROVISIONAL)



Spectral range

375nm-14.45 μ m (TBD)

**Number of
Spectral bands
(under 1 μ m / 1-3 μ m /
over 3 μ m)**

**34
(22 / 5 / 7)**

Spectral bandwidth

10nm(visible/1km)

IFOV

**312.5 μ rad/1.25mrad
(250m/1km at nadir)**

FOV

**about \pm 50 degrees
(swath=2000km)**

PERFORMANCE(PROVISIONAL)



S/N,NEΔT	800,0.1K
Quantization	12 bits/10bits
Polarization	under 2%
sensitivity	
Data rate	nominal 5Mbps (max.19.5Mbps)
Scanning method	Conical spinning flat mirror
Tilt angle	± 20 degrees
Weight	about 350 kg
Power	about 400 W



MISSION REQUIREMENT(1)

λ	$\Delta\lambda$	IFOV	S/N	A/D
OCEAN BANDS				
380 nm	10 nm	1000 m	>600	12
400	10	1000	>800	12
412	10	1000	>800	12
443	10	1000	>800	12
460	10	1000	>800	12
490	10	1000	>800	12
520	10	1000	>800	12
545	10	1000	>800	12
565	10	1000	>800	12
600	10	1000	>800	12
625	10	1000	>800	12
670	10	1000	>800	12
685	10	1000	>800	12
710	10	1000	>800	12
778	10	1000	>800	12
865	10	1000	>800	12

ATMOSPHERE/CLOUD BANDS

380 nm	10 nm	1000 m	>600	12
500	10	1000	>800	12
680	10	1000	>800	12
1050	20	1000	>800	12
1400	50	1000	>800	12
1650	200	250	>200	10
2215	270	250	>200	10



LAND COVER, VEGETATION, SOIL BANDS

λ	$\Delta\lambda$	IFOV	S/N	A/D
485 nm	70 nm	250 m	>200	10
560	80	250	>200	10
660	60	250	>200	10
830	140	250	>200	10
1050	20	1000	>800	12
1240	20	1000	>800	12
1650	200	250	>200	10
2215	270	250	>200	10

THERMAL BANDS

λ	$\Delta\lambda$	IFOV	NEAT	A/D
3.715 μm	0.33 μm	1000 m	0.1 K	12
7.3	0.5	1000	0.1	12
8.3	0.5	1000	0.1	12
10.85	1.10	1000	0.1	12
11.95	1.10	1000	0.1	12
13.7	0.3	1000	0.1	12
14.3	0.3	1000	0.1	12

MISSION REQUIREMENT(2)

PERSPECTIVE VIEW OF GLI

