FCC 312 Schedule S	FEDERAL COMMUNICATIONS COMMISSION SATELLITE SPACE STATION AUTHORIZATIONS (Technical and Operational Description)	Page 1: General, Frequency Bands, and GSO Orbit

S1. GENERAL INFORMATION Complete for all satellite applications.

a. Space Station or Satellite Network Name:		e. Estimated Date of Placement into Service:	i Will the space station(s) operate on a Common Carrier Basis:
JCSAT-1B		1/16/1998	N
b. Construction Commencement Date:		f. Estimated Lifetime of Satellite(s):	j. Number of transponders offered on a common carrier basis:
5/13/1996		12 Years	0
c. Construction Completion Date:		g. Total Number of Transponders:	k. Total Common Carrier Transponder Bandwidth:
10/27/1997		32	0 MHz
d1. Est Launch Date Begin:	d2. Est Launch Date End:	h. Total Transponder Bandwidth (no. transponders x Bandwidth)	l. Orbit Type: Mark all boxes that apply:
12/2/1997		1008 MHz	[X] GSO [ ] NGSO

S2. OPERATING FREQUENCY BANDS Identify the frequency range and transmit/receive mode for all frequency bands in which this station will oper
Also indicate the nature of service(s) for each frequency band.

Frequency Band Limits				e. T/R Mode	f. Nature of Service(s): List all that apply to this band
Lower Frequency (_Hz)		Upper Frequency (_Hz)			
a. Numeric	b. Unit (K/M/G)	c. Numeric	d. Unit (K/M/G)		
13.75	G	14.50	G	R	Fixed Satellite Service
12.00	G	12.75	G	R	Fixed Satellite Service

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

a. Nominal Orbital Longitude (Degrees E/W):	b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection:
150 E			JSAT Corporation has authorization from Ministry of Internal Affairs and Communications of Japan to operate the satellite at the 150 degrees East Lontigude orbital location.
Longitudinal Tolerance or E/W Station-Keeping: d. Toward West: 0.05 Degrees e. Toward East: 0.05 Degrees	f. Inclination Excursion or N/S Station-Keeping Tolerance: 0.05 Degrees	Range of orbital are in which adequate service can be provided (Optional): Degrees E/W g. Westernmost: E h. Easternmost: E	
i. Reason for service are selection (Optional):			

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S4. ORBITAL INFORMATION FOR NON-GEOSTATIONARY SATELLITES ONLY

S4a. Total Number of Satellites in Network or System:

S4b. Total Number of Orbital Planes in Network or System:

S4c. Celestial Reference Body (Earth, Sun, Moon, etc.):

S4d. Orbit Epoch Date:

For each Orbital Plane Provide:

(e) Orbital Plane No.	(f) No. of Satellites in Plane	(g) Inclination Angle (degrees)	(h) Orbital Period (Seconds)	(i) Apogee (km)	(j) Perigee (km)	(k) Right Ascension of the Ascending Node (Deg.)	(l) Argument of Perigee (Degrees)	Active Service Arc Range (Degrees)		
								(m) Begin Angle	(n) End Angle	(o) Other

S5. INITIAL SATELLITE PHASE ANGLE For each satellite in each orbital plane, provide the intital phase angle.

(a) Orbital Plane No.	(b) Satellite Number	(c) Initial Phase Angle (Degrees)

NO NGSO DATA FILED

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S6. SERVICE AREA CHARACTERISTICS for each service area provide:

(a) Service Area ID	(b) Type of Associated Station (Earth or Space)	(c) Service Area Diagram File Name (GXT File)	(d) Service Area Description. Provide list of geographic areas (state postal codes or ITU 3-ltr codes), satellites or Figure No. of Service Area Diagram.
HAWAII BEAM	E		US Hawaii
ASIAZONE BE	E		Asia
JAPAN BEAM	E		Japan

FEDERAL COMMUNICATIONS COMMISSION **Page 4: Antenna Beams**
SATELLITE SPACE STATION AUTHORIZATIONS
FCC Form 312 - Schedule S: (Technical and Operational Description)

S7. SPACE STATION ANTENNA BEAM CHARACTERISTICS For each antenna beam provide:

(a) Beam ID	(b) T/R Mode	Isotropic Antenna Gain		(e) Pointing Error (Degrees)	(f) Rotational Error (Degrees)	(g) Min. Cross-Polar Iso-lation (dB)	(h) Polar-ization Switch-able? (Y/N)	(i) Polarization Alignment Rel. Equatorial Plane (Degrees)	(j) Service Area ID	Transmit			Receive				
		(c) Peak (dBi)	(d) Edge (dBi)							(k) Input Losses (dB)	(l) Effective Output Power (W)	(m) Max. EIRP (dBW)	(n) System Noice Temp (k)	(o) G/T Max. Gain Pt. (db/K)	(p) Min. Saturation Flux Density (dBW/m2)	Input Attenuator (dB)	
																(q) Max. Value	(r) Step Size
HI-T	T	41.8	21.8	0.1	0.3	30	N	90	HAWAII B	3.5	90	57.9					
HI-R	R	42.7	22.7	0.1	0.3	30	N	0	HAWAII B				7944	3.7	-96	31	1
HI-R2	R	42.7	22.7	0.1	0.3	30	N	90	HAWAII B				7944	3.7	-96	31	1
AS-T	T	31.7	11.7	0.1	0.3	33	N	90	ASIAZON	1.6	90	47.9					
AS-T	T	31.7	11.7	0.1	0.3	33	N	0	ASIAZON	1.6	90	47.9					
AS-R	R	32.6	12.6	0.1	0.3	33	N	90	ASIAZON				661	4.4	-100	30	1
AS-R	R	32.6	12.6	0.1	0.3	33	N	0	ASIAZON				661	4.4	-100	30	1
JP-T	T	40.1	20.1	0.1	0.3	33	N	90	JAPAN BE	1.5	90	56.4					
JP-T	T	40.1	20.1	0.1	0.3	33	N	0	JAPAN BE	1.5	90	56.4					
JP-R	R	41	21	0.1	0.3	33	N	90	JAPAN BE				563	13.5	-100	30	1
JP-R	R	41	32	0.1	0.3	33	N	0	JAPAN BE				563	13.5	-100	30	1
TTC-	T	40.1	20.1	0.1	0.3	33	N	90	JAPAN BE	1.5	0.06	27.9					
TTC-	R	41	21	0.1	0.3	33	N	0	JAPAN BE				920	11.4	-110		

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S8. ANTENNA BEAM DIAGRAMS For each beam pattern provide the reference to the graphic image and numerical data:
Also provide the power flux density levels in each beam that result from the emission with the highest power flux density.

(a) Beam ID	(b) T/R Mode	(c) Co-or Cross Polar Mode ("C" or" X")	(d) GSO Ref. Orbital Longitude (Deg. E/W)	(e) NGSO Antenna Gain Contour Description (Figure/Table/ Exhibit)	(f) GSO Antenna Gain Contour Data (GXT File)	Max. Power Flux Density (dBW/M2/Hz) At Angle of Arrival above horizontal (for emission with highest PFD)				
						(g) 5 Deg	(h) 10 Deg	(i) 15 Deg	(j) 20 Deg	(k) 25 Deg
HI-T	T	C	150		J1B_HI_TX.gxt	-145.7	-145.5	-145.4	-145.3	-145.2
HI-R	R	C	150		J1B_HI_RX.gxt					
HI-R2	R	C	150	HI-R2.PDF						
AS-T	T	C	150	AS-T1.PDF		-156.1	-155.9	-155.8	-155.7	-155.6
AS-T	T	C	150	AS-T2.PDF		-156.1	-155.9	-155.8	-155.7	-155.6
AS-R	R	C	150	AS-R1.PDF						
AS-R	R	C	150	AS-R2.PDF						
JP-T	T	C	150	JP-T1.PDF						
JP-T	T	C	150	JP-T2.PDF						
JP-R	R	C	150	JP-R1.PDF						
JP-R	R	C	150	JP-R2.PDF						
TTC-	T	C	150	TTC-T.PDF						
TTC-	R	C	150	TTC-R.PDF						

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S9. SPACE STATION CHANNELS For each frequency channel provide:

(a) Channel No.	(B) Assigned Bandwidth (kHz)	(c) T/R Mode	(d) Center Frequency (MHz)	(e) Polarization (H, V, L, R)	(f) TTC or Comm Channel (T or C)
EKR-1	36000	R	13774	H	C
EKR-3	36000	R	13814	H	C
EKR-5	36000	R	13854	H	C
EKR-7	36000	R	13894	H	C
EKT-1	36000	T	12026	V	C
EKT-3	36000	T	12066	V	C
EKT-5	36000	T	12106	V	C
EKT-7	36000	T	12146	V	C
KR-1	36000	R	14016	H	C
KR-2	36000	R	14036	V	C
KR-3	36000	R	14056	H	C
KR-4	36000	R	14076	V	C
KR-5	36000	R	14096	H	C
KR-6	36000	R	14116	V	C
KR-7	36000	R	14136	H	C
KR-8	36000	R	14156	V	C
KR-9	36000	R	14176	H	C
KR-10	36000	R	14196	V	C
KR-11	36000	R	14216	H	C
KR-12	36000	R	14236	V	C
KR-13	27000	R	14256	H	C
KR-14	27000	R	14271	V	C
KR-15	27000	R	14286	H	C
KR-16	27000	R	14301	V	C
KR-17	27000	R	14316	H	C
KR-18	27000	R	14331	V	C
KR-19	27000	R	14346	H	C
KR-20	27000	R	14361	V	C
KR-21	27000	R	14376	H	C
KR-22	27000	R	14391	V	C

S10. SPACE STATION TRANSPONDERS For each transponder provide:

(a) Transponder ID	(b) Transponder Gain (dB)	Receive Band		Transmit Band	
		(c) Channel No.	(d) Beam ID	(e) Channel No.	(f) Beam ID
EK-1	113	EKR-1	HI-R	EKT-1	HI-T
EK-3	113	EKR-3	HI-R	EKT-3	HI-T
EK-5	113	EKR-5	HI-R	EKT-5	HI-T
EK-7	113	EKR-7	HI-R	EKT-7	HI-T
K-1	117	KR-1	HI-R	EKT-1	HI-T
K-3	117	KR-3	HI-R	EKT-3	HI-T
K-5	117	KR-5	HI-R	EKT-5	HI-T
K-7	117	KR-7	HI-R	EKT-7	HI-T
K-A1	128	KR-1	AS-R1	EKT-1	HI-T
K-A3	128	KR-3	AS-R1	EKT-3	HI-T
K-A5	128	KR-5	AS-R1	EKT-5	HI-T
K-A7	128	KR-7	AS-R1	EKT-7	HI-T
K-H1	116	EKR-1	HI-R	KT-1	AS-T1
K-H3	116	EKR-3	HI-R	KT-3	AS-T1
K-H5	116	EKR-5	HI-R	KT-5	AS-T1
K-H7	116	EKR-7	HI-R	KT-7	AS-T1

KR-23	27000	R	14406	H	C
KR-24	27000	R	14421	V	C
KR-25	27000	R	14436	H	C
KR-26	27000	R	14451	V	C
KR-27	27000	R	14466	H	C
KR-28	27000	R	14481	V	C
KT-1	36000	T	12268	V	C
KT-2	36000	T	12288	H	C
KT-3	36000	T	12308	V	C
KT-4	36000	T	12328	H	C
KT-5	36000	T	12348	V	C
KT-6	36000	T	12368	H	C
KT-7	36000	T	12388	V	C
KT-8	36000	T	12408	H	C
KT-9	36000	T	12428	V	C
KT-10	36000	T	12448	H	C
KT-11	36000	T	12468	V	C
KT-12	36000	T	12488	H	C
KT-13	27000	T	12508	V	C
KT-14	27000	T	12523	H	C
KT-15	27000	T	12538	V	C
KT-16	27000	T	12553	H	C
KT-17	27000	T	12568	V	C
KT-18	27000	T	12583	H	C
KT-19	27000	T	12598	V	C
KT-20	27000	T	12613	H	C
KT-21	27000	T	12628	V	C
KT-22	27000	T	12643	H	C
KT-23	27000	T	12658	V	C
KT-24	27000	T	12673	H	C
KT-25	27000	T	12688	V	C
KT-26	27000	T	12703	H	C
KT-27	27000	T	12718	V	C
KT-28	27000	T	12733	H	C

S11. DIGITAL MODULATION PARAMETERS For each digital emission provide:

(a) Digital Mod. ID	(b) Emission Designator	(c) Assigned Bandwidth (kHz)	(d) No. of Phases	(e)Uncoded Data Rate (kbps)	(f) FEC Error Correction Coding Rate	(g) CDMA Processing Gain (dB)	(h) Total C/N Performance Objective (dB)	(i) Single Entry C/I Objective (dB)
D2	520KG7W	520	4	512	0.75		7	16.3

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S12. ANALOG MODULATION PARAMETERS For each analog emission provide:

(a) Analog Mod. ID	(b) Emission Designator	(c) Assigned Bandwidth (kHz)	(d) Signal Type	(e) Channels per Carrier	Multi-channel Telephony				(j) Video Standard NTSC, PAL, etc.	(k) Video Noise-Weighting (dB)	(l) Video and SCPC/FM Modulation Index	(m) SCPC/FM Compander, Preemphasis, and Noise Weighting (dB)	(n) Total C/N Performance Objective (dB)	(o) Single Entry C/I Objective (dB)
					(f) Ave. Companded Talker Level (dBm0)	(g) Bottom Baseband Freq. (MHz)	(h) Top Baseband Freq. (MHz)	(i) RMS Modulation Index						

FEDERAL COMMUNICATIONS COMMISSION **Page 9: Typical Emissions**
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S13. TYPICAL EMISSIONS For each planned type of emission provide:

Associated Transponder ID Range		Modulation ID		(e) Carriers per Transponder	(f) Carrier Spacing (kHz)	(g)Noise Budget Reference (Table No.)	(h) Energy Dispersal Bandwidth (kHz)	Receive Band (Assoc. Transmit Stn)			Transmit Band (This Space Station)			
(a) Start	(b) End	(c) Digital (Table S11)	(d) Analog (Table S12)					(i)Assoc. Stn. Max. Antenna Gain (dBi)	Assoc. Station Transmit Power (dBW)		EIRP (dBW)		(n) Max. Power Flux Density (dBW/m2/Hz)	(o)Assoc. Stn Rec. G/T (dB/K)
									(j) Min.	(k) Max.	(l) Min.	(m) Max.		
K-H1	K-H7	D2		69	520	SCHEDULE S		49.1	-0.6	0.6	24.8	26	-155.8	26.3
K-H1	K-H7	D2		56	520	SCHEDULE S		49.1	0.3	1.5	24	26.9	-154.9	26.3
K-A1	K-A7	D2		51	520	SCHEDULE S		49.1	-3.3	-0.9	36.8	37.3	-144.5	26.3
K-A1	K-A7	D2		69	520	SCHEDULE S		49.1	-1.6	-0.3	33.5	34	-147.8	26.3
EK-1	EK-7	D2		69	520	SCHEDULE S		49.1	-1.9	-0.7	34.2	34.7	-147.1	26.3

S14. Is the space station(s) controlled and monitored remotely? If Yes, provide the location and telephone number of the TT and C control point(s): No

Remote Control (TT C) Location(s):

S14a: Street Address: 229-1 Miho-cho			
S14b. City: Yokohama	S14c. County: Kanagawa	S14d. State/Country	S14e. Zip Code: 226-0015
S14f. Telephone Number: +81-45-922-7111	S14g. Call Sign of Control Station (if appropriate):		

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S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

S15a: Mass of spacecraft without fuel (kg): 1300	Spacecraft Dimensions (meters)	Probability of Survival to End of Life (0.0 - 1.0)
S15b. Mass of fuel and disposables at launch (kg): 1700		
S15c. Mass of spacecraft and fuel at launch (kg): 3000	S15f. Length (m): 26	S15i. Payload: 0.95
S15d. Mass of fuel, in orbit, at beginning of life (kg): 500	S15g. Width (m): 8	S15j. Bus: 0.9
S15e. Deployed Area of Solar Array (square meters): 40	S15h. Height (m): 4	S15k. Total: 0.85

S16. SPACECRAFT ELECTRICAL CHARACTERISTICS:

Spacecraft Subsystem	Electrical Power (Watts) At Beginning of Life		Electrical Power (Watts) At End of Life	
	At Equinox	At Solstice	At Equinox	At Solstice
Payload (Watts):	(a): 3900	(f): 3900	(k): 3900	(p): 3900
Bus (Watts):	(b): 900	(g): 400	(l): 900	(q): 400
Total (Watts):	(c): 4800	(h): 4300	(m) 4800	(r): 4300
Solar Array (Watts):	(d): 5400	(i): 4800	(n): 5000	(s): 4500
Depth of Battery Discharge (%):	(e) 78 %	(j) %	(o) 78 %	(t) %

S17. CERTIFICATIONS:

a. Are the power flux density limits of § 25.208 met?:	X	**YES**		**NO**		**N/A**
b. Are the appropriate service area coverage requirements of § 25.143(b)(ii) and (iii), or § 25.145(c)(1) and (2) met?		**YES**		**NO**	X	**N/A**
c. Are the frequency tolerances of § 25.202(e) and the out-of-band emission limits of § 25.202(f)(1), (2) and (3) met?	X	**YES**		**NO**		**N/A**

In addition to the information required in this Form, the space station applicant is required to provide all the information specified in Section 25.114 of the Commission's rules, 47 C.F.R § 25.114.