

S1. GENERAL INFORMATION Complete for all satellite applications.

a. Space Station or Satellite Network Name: INTELSAT 16		e. Estimated Date of Placement into Service: 2/28/2010		i. Will the space station(s) operate on a Common Carrier Basis: N	
b. Construction Commencement Date: 11/29/2007		f. Estimated Lifetime of Satellite(s): 15 Years		j. Number of transponders offered on a common carrier basis:	
c. Construction Completion Date: 9/28/2009		g. Total Number of Transponders: 24		k. Total Common Carrier Transponder Bandwidth: MHz	
d1. Est Launch Date Begin: 10/28/2009	d2. Est Launch Date End: 12/31/2009	h. Total Transponder Bandwidth (no. transponders x Bandwidth) 864 MHz		i. Orbit Type: Mark all boxes that apply: <input checked="" type="checkbox"/> GSO <input type="checkbox"/> NGSO	

S2. OPERATING FREQUENCY BANDS Identify the frequency range and transmit/receive mode for all frequency bands in which this station will operate. 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)		
13997	M	14500	M	R	Fixed Satellite Service
11700	M	12200	M	T	Fixed Satellite Service

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

a. Nominal Orbital Longitude (Degrees E/W): 79 W		b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection: Provide optimized service at the 79.0W orbital location	
Longitudinal Tolerance or E/W Station-Keeping:		f. Inclination Excursion or N/S Station-Keeping Tolerance:		Range of orbital are in which adequate service can be provided (Optional): Degrees E/W	
d. Toward West:	0.05 Degrees	e. Toward East:		g. Westernmost:	
	0.05 Degrees			h. Easternmost:	
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:

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

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

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.
1	S		Mexico, Central America, the Caribbean, Puerto Rico, US
2	S		Global

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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				
										(k) Input Losses (dB)	(l) Effective Output Power (W)	(m) Max. EIRP (dBW)	(n) System Noise 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														
MHU	R	37.2	31.2	0.12	0.11	30	N	0	1				518	10.7	-105.6	25	1
MVU	R	37.6	31.6	0.12	0.11	30	N	90	1				518	11	-106.3	25	1
MHD	T	35.8	29.8	0.12	0.11	30	N	0	1	2.8	57.5	55.1					
MVD	T	35.5	29.5	0.12	0.11	30	N	90	1	2.8	57.5	54.5					
M2DL	T	39	33	0.12	0.11	30	N	90	1	2.8	57.5	57.5					
CMD	R	20.3	17.3	0.12	0.11	30	N	0	2				2272	-13.3	-112		
CMD	R	20.3	17.3	0.12	0.11	30	N	90	2				2272	-13.3	-112		
CMD	R	3	0	0.12	0.11		N		2				5590	-34.5	-90.8		
CMD	R	13	6	0.12	0.11		N		2				21548	-30.3	-94.9		
TLM	T	21.3	18.3	0.12	0.11		N	0	2	4.2	0.15	13.1					
TLM	T	3	0	0.12	0.11		N		2	5.9	2.2	6.4					
TLM	T	13	6	0.12	0.11		N		2	8.9	1.1	13.4					
UPC	T	21	17	0.12	0.11		N	0	2	2.2	1.1	15.6					
UPC	T	21	17	0.12	0.11		N	90	2	2.2	1.1	15.6					

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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
MHU	R	C	-79		MHUL.gxt					
MVU	R	C	-79		MVUL.gxt					
MHD	T	C	-79		mhdl.gxt					
MVD	T	C	-79		mvdI.gxt					
M2DL	T	C	-79		m2dl.gxt					
CMD	R	C	-79	CMDH.pdf						
CMD	R	C	-79	CMDV.pdf						
CMD	R	C	-79	CMDO.pdf						
CMD	R	C	-79	CMDW.pdf						
TLM	T	C	-79	TLMH.pdf						
TLM	T	C	-79	TLMO.pdf						
TLM	T	C	-79	TLMW.pdf						
UPC	T	C	-79		UPCH.gxt					
UPC	T	C	-79		UPCV.gxt					

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S9. SPACE STATION CHANNELS For each frequency channel provide: S10. SPACE STATION TRANSPONDERS For each transponder 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)
MU001	36000	R	14020	V	C
MU003	36000	R	14060	V	C
MU005	36000	R	14100	V	C
MU007	36000	R	14140	V	C
MU009	36000	R	14180	V	C
MU011	36000	R	14220	V	C
MU013	36000	R	14260	V	C
MU015	36000	R	14300	V	C
MU017	36000	R	14340	V	C
MU019	36000	R	14380	V	C
MU021	36000	R	14420	V	C
MU023	36000	R	14460	V	C
MU002	36000	R	14040	H	C
MU004	36000	R	14080	H	C
MU006	36000	R	14120	H	C
MU008	36000	R	14160	H	C
MU010	36000	R	14200	H	C
MU012	36000	R	14240	H	C
MU014	36000	R	14280	H	C
MU016	36000	R	14320	H	C
MU018	36000	R	14360	H	C
MU020	36000	R	14400	H	C
MU022	36000	R	14440	H	C
MU024	36000	R	14480	H	C
MD001	36000	T	11720	H	C
MD003	36000	T	11760	H	C
MD005	36000	T	11800	H	C
MD007	36000	T	11840	H	C
MD009	36000	T	11880	H	C
MD011	36000	T	11920	H	C

(a) Transponder ID	(b) Transponder Gain (dB)	Receive Band		Transmit Band	
		(c) Channel No.	(d) Beam ID	(e) Channel No.	(f) Beam ID
M0001	132	MU001	MVUL	MD001	MHDL
M0003	132	MU003	MVUL	MD003	MHDL
M0005	132	MU005	MVUL	MD005	MHDL
M0007	132	MU007	MVUL	MD007	MHDL
M0009	132	MU009	MVUL	MD009	MHDL
M0011	132	MU011	MVUL	MD011	MHDL
M0013	132	MU013	MVUL	MD013	MHDL
M0015	132	MU015	MVUL	MD015	MHDL
M0017	132	MU017	MVUL	MD017	MHDL
M0019	132	MU019	MVUL	MD019	MHDL
M0021	132	MU021	MVUL	MD021	MHDL
M0023	132	MU023	MVUL	MD023	MHDL
M0002	132	MU002	MHUL	MD002	MVDL
M0004	132	MU004	MHUL	MD004	MVDL
M0006	132	MU006	MHUL	MD006	MVDL
M0008	132	MU008	MHUL	MD008	MVDL
M0010	132	MU010	MHUL	MD010	MVDL
M0012	132	MU012	MHUL	MD012	MVDL
M0014	132	MU014	MHUL	MD014	MVDL
M0016	132	MU016	MHUL	MD016	MVDL
M0018	132	MU018	MHUL	MD018	MVDL
M0020	132	MU020	MHUL	MD020	MVDL
M0022	132	MU022	MHUL	MD022	MVDL
M0024	132	MU024	MHUL	MD024	MVDL
MH002	132	MU002	MHUL	MD002	M2DL
MH004	132	MU004	MHUL	MD004	M2DL
MH006	132	MU006	MHUL	MD006	M2DL
MH008	132	MU008	MHUL	MD008	M2DL
MH010	132	MU010	MHUL	MD010	M2DL
MH012	132	MU012	MHUL	MD012	M2DL

MD013	36000	T	11960	H	C
MD015	36000	T	12000	H	C
MD017	36000	T	12040	H	C
MD019	36000	T	12080	H	C
MD021	36000	T	12120	H	C
MD023	36000	T	12160	H	C
MD002	36000	T	11740	V	C
MD004	36000	T	11780	V	C
MD006	36000	T	11820	V	C
MD008	36000	T	11860	V	C
MD010	36000	T	11900	V	C
MD012	36000	T	11940	V	C
MD014	36000	T	11980	V	C
MD016	36000	T	12020	V	C
MD018	36000	T	12060	V	C
MD020	36000	T	12100	V	C
MD022	36000	T	12140	V	C
MD024	36000	T	12180	V	C
CMD1	1000	R	13997.5	H	T
CMD2	1000	R	14499.5	V	T
CMD3	1000	R	13997.5	L	T
CMD4	1000	R	14499.5	L	T
CMD5	1000	R	13997.5	L	T
CMD6	1000	R	14499.5	L	T
TLM1	500	T	12198.25	H	T
TLM2	500	T	12198.75	H	T
TLM3	500	T	12198.25	R	T
TLM4	500	T	12198.75	R	T
TLM5	500	T	12198.25	R	T
TLM6	500	T	12198.75	R	T
UPC1	25	T	11701.25	V	T
UPC2	25	T	12199.75	H	T

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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)
D1	36M0G7W	36000	4	36860	0.75		7.3	19.5
D2	8M25G7W	8250.5	4	8448	0.75		7.3	19.5
D3	1M54G7W	1541.5	4	1024	0.5		1.6	13.8
D4	239KG7W	239	4	256	0.75		4.6	16.8

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S13. TYPICAL EMISSIONS For each planned type of emission provide:

Associated Transponder ID Range (a) Start (b) End		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)			
		(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/m ² /Hz)	(o) Assoc. Stn Rec. G/T (dB/K)
						(j) Min.	(k) Max.		(l) Min.	(m) Max.				
M0001	M0024	D1		1		IS 16 Link Budg		42.6	16.2	22.2	36.6	42.6	-149.9	23.3
M0001	M0024	D2		4	8250.5	IS 16 Link Budg		42.6	11	17	30.4	36.4	-157.9	23.3
M0001	M0024	D3		23	1541.5	IS 16 Link Budg		42.6	4	10	23.4	29.4	-158	19.8
M0001	M0024	D4		151	239	IS 16 Link Budg		42.6	-4.5	1.5	14.8	20.8	-158	19.8
MH002	MH012	D1		1		IS 16 Link Budg		42.6	16.1	22.1	36.5	42.5	-150	23.3
MH002	MH012	D2		4	8250.5	IS 16 Link Budg		46.2	11.9	17.9	30	36	-158.3	23.3
MH002	MH012	D3		23	1541.5	IS 16 Link Budg		46.2	4.9	10.9	23	29	-158.3	19.8
MH002	MH012	D4		151	239	IS 16 Link Budg		48.7	-5.8	0.2	14.8	20.8	-157.9	19.8

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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): Yes

Remote Control (TT C) Location(s):

S14a: Street Address: 7900 Tysons One Place			
S14b. City: McLean	S14c. County: Fairfax	S14d. State/Country VA	S14e. Zip Code: 22102
S14f. Telephone Number: 703-559-7701		S14g. Call Sign of Control Station (if appropriate):	

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Characteristics and
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S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

S15a. Mass of spacecraft without fuel (kg): 1238	Spacecraft Dimensions (meters)	Probability of Survival to End of Life (0.0 - 1.0)
S15b. Mass of fuel and disposables at launch (kg): 1287		
S15c. Mass of spacecraft and fuel at launch (kg): 2525	S15f. Length (m): 22.4	S15i. Payload: 0.947
S15d. Mass of fuel, in orbit, at beginning of life (kg): 507	S15g. Width (m): 5.1	S15j. Bus: 0.85
S15e. Deployed Area of Solar Array (square meters): 13	S15h. Height (m): 7.4	S15k. Total: 0.805

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): 4665	(f): 4665	(k): 4665	(p): 4665
Bus (Watts):	(b): 1389	(g): 945	(l): 1389	(q): 945
Total (Watts):	(c): 6054	(h): 5610	(m): 6054	(r): 5610
Solar Array (Watts):	(d): 6935	(i): 6221	(n): 6733	(s): 6011
Depth of Battery Discharge (%):	(e) 69.3 %	(j) %	(o) 70.1 %	(t) %

S17. CERTIFICATIONS:

a. Are the power flux density limits of § 25.208 met?	<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input checked="" type="checkbox"/> 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?	<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input checked="" type="checkbox"/> 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?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	<input type="checkbox"/> 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.