

S1. GENERAL INFORMATION Complete for all satellite applications.

a. Space Station or Satellite Network Name: DIRECTV 11	e. Estimated Date of Placement into Service: 3/30/2007	i. Will the space station(s) operate on a Common Carrier Basis: N
b. Construction Commencement Date: 9/1/2004	f. Estimated Lifetime of Satellite(s): 15 Years	j. Number of transponders offered on a common carrier basis: 0
c. Construction Completion Date: 11/30/2006	g. Total Number of Transponders: 24	k. Total Common Carrier Transponder Bandwidth: 0 MHz
d. Estimated Launch Date: 12/20/2006	h. Total Transponder Bandwidth (no. transponders x Bandwidth) 960 MHz	i. Orbit Type: Mark all boxes that apply: <input 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 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)		
18.3	G	18.8	G	T	Direct to Home in the Fixed Fixed Satellite Service
28.35	G	28.6	G	R	Fixed Satellite Service
29.25	G	29.5	G	R	Fixed Satellite Service
18.3	G	18.8	G	T	Fixed Satellite Service

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

a. Nominal Orbital Longitude (Degrees E/W): 99.05 W	b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection:
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): <u> Degrees </u> <u> E/W </u>	
d. Toward West: 0.05 Degrees e. Toward East: 0.05 Degrees	0.05 Degrees	g. Westernmost: h. Easternmost:	
i. Reason for service are selection (Optional):			

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SATELLITE SPACE STATION AUTHORIZATIONS
FCC Form 312 - Schedule S: (Technical and Operational Description)**

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 initial phase angle.

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

NO NGSO DATA FILED

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 SATELLITE SPACE STATION AUTHORIZATIONS
 FCC Form 312 - Schedule S: (Technical and Operational Description)**

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.
CONUS+	S		CONUS + Alaska
LABC	S		Uplink beam centered on Los Angeles, CA
CRBC	S		Uplink beam centered on Castle Rock, CO
SPOT1	S		Downlink beam centered on New York, NY
SPOT2	S		Downlink beam centered on Minneapolis, MN
SPOT3	S		Downlink beam centered on Colorado Springs, CO
CMD	S		Colorado Springs, CO

FEDERAL COMMUNICATIONS COMMISSION
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				
										(k) Input Losses (dB)	(l) Effective Output Power (W)	(m) Max. EIRP (dBW)	(n) System Noise Temp (k)	(o) G/T Max. Gain Pt.	(p) Min. Saturation Flux Density (dBW/m2)	Input Attenuator (dB)	
		(q) Max. Value	(r) Step Size														
UL1	R	47.5	46.5	0.1		27	N		LABC				891	18	-105	19	1
UL2	R	46.5	46.5	0.1		27	N		CRBC				891	18	-105	19	1
DL1	T	36.1	30.1	0.1		27	N		CONUS+	2	260	58.3					
A1B1	T	48.1	45.1	0.1		27	N		SPOT1	2.9	26.9	59.5					
A1B7	T	48.1	45.1	0.1		27	N		SPOT2	2.9	26.9	59.5					
A1B9	T	48.1	45.1	0.1		27	N		SPOT3	2.9	26.9	59.5					
CMD	R	38.5	37.5	0.1		27	N		CMD				17783	-4			

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SATELLITE SPACE STATION AUTHORIZATIONS
FCC Form 312 - Schedule S: (Technical and Operational Description)**

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
UL1	R	C	-99		JL-LA (99.0W)_R1.gx					
UL2	R	C	-99		JL-CR (99.0W)_R1.gx					
DL1	T	C	-99		CONUS(99.0W)_R2.gx	-126	-126	-126	-128	-127
A1B1	T	C	-99		A1B1(99.0W)_R1.gxt	-126	-126	-126	-128	-127
A1B7	T	C	-99		A1B7(99.0W)_R1.gxt	-126	-126	-126	-128	-127
A1B9	T	C	-99		A1B9(99.0W).gxt	-126	-126	-126	-128	-127
CMD	R	C	-99		CMD_Beam 99W.gxt					

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SATELLITE SPACE STATION AUTHORIZATIONS
FCC Form 312 - Schedule S: (Technical and Operational Description)**

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)
T0013	36000	T	18564	R	C
T0015	36000	T	18604	R	C
T0013	36000	T	18564	R	C
T0015	36000	T	18604	R	C
T0017	36000	T	18648	R	C
T0019	36000	T	18692	R	C
T0021	36000	T	18732	R	C
T0023	36000	T	18776	R	C
T0002	36000	T	18324	L	C
T0004	36000	T	18364	L	C
T0006	36000	T	18404	L	C
T0008	36000	T	18444	L	C
T0010	36000	T	18484	L	C
T0012	36000	T	18524	L	C
T0014	36000	T	18564	L	C
T0016	36000	T	18604	L	C
T0018	36000	T	18648	L	C
T0020	36000	T	18692	L	C
T0022	36000	T	18732	L	C
T0024	36000	T	18776	L	C
CMD1	1300	R	29493	L	T
CMD1B	1300	R	29251	L	T
CMD2	1300	R	29495	L	T
CMD2B	1300	R	29253	L	T
CMD3	1300	R	29497	L	T
CMD3B	1300	R	29255	L	T
TLM1	106	T	18300.25	L	T
TLM1B	106	T	18300.75	L	T
TLM2	106	T	18301.25	L	T
TLM2B	106	T	18301.75	L	T

(a) Transponder ID	(b) Transponder Gain (dB)	Receive Band		Transmit Band	
		(c) Channel No.	(d) Beam ID	(e) Channel No.	(f) Beam ID
NAT1	121	R0001	UL1	T0001	DL1
NAT2	121	R0002	UL1	T0002	DL1
NAT3	121	R0003	UL1	T0003	DL1
NAT4	121	R0004	UL1	T0004	DL1
NAT5	121	R0005	UL1	T0005	DL1
NAT6	121	R0006	UL1	T0006	DL1
NAT7	121	R0007	UL1	T0007	DL1
NAT8	121	R0008	UL1	T0008	DL1
NAT9	121	R0009	UL1	T0009	DL1
NAT10	121	R0010	UL1	T0010	DL1
NAT11	121	R0011	UL1	T0011	DL1
NAT12	121	R0012	UL1	T0012	DL1
NAT13	121	R0013	UL1	T0013	DL1
NAT14	121	R0014	UL1	T0014	DL1
LIL1	113	R016L		T0016	A1B1
LIL2	113	R019L		T0019	A1B1
LIL3	113	R020L		T0020	A1B1
LIL4	113	R016U		T0016	A1B7
LIL5	113	R019U		T0019	A1B7
LIL6	113	R020U		T0020	A1B7
LIL7	113	R016U		T0016	A1B9
LIL8	113	R019U		T0019	A1B9
CMD1		CMD1	CMD		
CMD1B		CMD1B	CMD		
CMD2		CMD2	CMD		
CMD2B		CMD2B	CMD		
CMD3		CMD3	CMD		
CMD3B		CMD3B	CMD		
TLM1				TLM1	DL1
TLM1B				TLM1B	DL1

TLM3	106	T	18302.25	L	T
TLM3B	106	T	18302.75	L	T
R0001	36000	R	28375	R	C
R0003	36000	R	28415	R	C
R0005	36000	R	28455	R	C
R0007	36000	R	28495	R	C
R0009	36000	R	28535	R	C
R0011	36000	R	28575	R	C
R0002	36000	R	28375	L	C
R0004	36000	R	28415	L	C
R0006	36000	R	28455	L	C
R0008	36000	R	28495	L	C
R0010	36000	R	28535	L	C
R0012	36000	R	28575	L	C
R0013	36000	R	29269	R	C
R0014	36000	R	29269	L	C
R0015	36000	R	29309	R	C
R0016	36000	R	29309	L	C
R0017	36000	R	29353	R	C
R0018	36000	R	29353	L	C
R0019	36000	R	29397	R	C
R0020	36000	R	29397	L	C
R0021	36000	R	29437	R	C
R0022	36000	R	29437	L	C
R0023	36000	R	29481	R	C
R0024	36000	R	29481	L	C
R015L	36000	R	28389	R	C
R016L	36000	R	28389	L	C
R017L	36000	R	28433	R	C
R018L	36000	R	28433	L	C
R019L	36000	R	28477	R	C
R020L	36000	R	28477	L	C
R021L	36000	R	28517	R	C
R022L	36000	R	28517	L	C
R023L	36000	R	28561	R	C
R024L	36000	R	28561	L	C
R015U	36000	R	29285	R	C
R016U	36000	R	29285	L	C
R017U	36000	R	29329	R	C

TLM2				TLM2	DL1
TLM2B				TLM2B	DL1
TLM3				TLM3	DL1
TLM3B				TLM3B	DL1

R018U	36000	R	29329	L	C
R019U	36000	R	29373	R	C
R020U	36000	R	29373	L	C
R021U	36000	R	29413	R	C
R022U	36000	R	29413	L	C
R023U	36000	R	29457	R	C
R024U	36000	R	29457	L	C
T0001	36000	T	18324	R	C
T0003	36000	T	18364	R	C
T0005	36000	T	18404	R	C
T0007	36000	T	18444	R	C
T0009	36000	T	18484	R	C
T0011	36000	T	18524	R	C

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

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)
M2	36M0G7W	36000	4	35640	0.594		4.4	17
M3	36M0G7W	36000	4	39675	0.6613		5.2	14.8

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

Page 8: Analog Modulation

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						
C1	1M30F9D	1300		1								15	40.4	
T1	106KG9D	106		1								14	11.7	

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

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) (j) Min. (k) Max.		EIRP (dBW) (l) Min. (m) Max.		(n) Max. Power Flux Density (dBW/m ² /Hz)	(o) Assoc. Stn Rec. G/T (dB/K)
NAT1	NAT14	M3		1				64.3	7.6	12.6	52.2	58.2	-119.3	18.4
LIL1	LIL8	M2		1				64.3	7.6	12.6	56.5	59.5	-118	18.4
CMD1	CMD3B		C1	1				66	21.6	21.6				
TLM1	TLM3B		T1	1							10	10	-152	31

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

Page 10: TT and C

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

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

S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

S15a. Mass of spacecraft without fuel (kg): 3556	Spacecraft Dimensions (meters)	Probability of Survival to End of Life (0.0 - 1.0)
S15b. Mass of fuel and disposables at launch (kg): 2440		
S15c. Mass of spacecraft and fuel at launch (kg): 5996	S15f. Length (m): 47.9	S15i. Payload: 0.6
S15d. Mass of fuel, in orbit, at beginning of life (kg): 266	S15g. Width (m): 8.2	S15j. Bus: 0.85
S15e. Deployed Area of Solar Array (square meters): 77	S15h. Height (m): 7.3	S15k. Total: 0.51

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): 14330	(f): 14330	(k): 14330	(p): 14330
Bus (Watts):	(b): 1800	(g): 700	(l): 1800	(q): 700
Total (Watts):	(c): 16130	(h): 15030	(m): 16130	(r): 15030
Solar Array (Watts):	(d): 20050	(i): 17900	(n): 16900	(s): 15700
Depth of Battery Discharge (%):	(e) 79.5 %	(j) 0 %	(o) 79.5 %	(t) 0 %

S17. CERTIFICATIONS:

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