Approved by OMB 3060–0678

Date & Time Filed: May 20 2008 3:02:50:276PM File Number: SES-MOD-INTR2008-01210

FCC APPLICATION FOR SPACE AND EARTH STATION:MOD OR AMD – MAIN FORM	FCC Use Only
FCC 312 MAIN FORM FOR OFFICIAL USE ONLY	

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu: Modification of Ku–band VSAT Network License E030077

Name:	Helmerich & Payne, Inc.	Phone Number:	918-742-5531
DBA Name:		Fax Number:	918-588-5844
Street:	1437 S Boulder Ave	E-Mail:	philip.goodson@hpinc.com
City:	Tulsa	State:	ОК
Country:	USA	Zipcode:	74119 –
Attention:	Mr Philip M Goodson		

9–16. Nam	e of Contact	Representative			
	Name:	Helmerich & Payn	e, Inc.	Phone Number:	918-742-5531
	Company:			Fax Number:	918-588-5844
	Street:	1437 S Boulder Av	ve	E-Mail:	philip.goodson@hpinc.com
	City:	Tulsa		State:	ОК
	Country:	USA		Zipcode:	74119-
	Attention:	Mr Philip M Good	son	Relationship:	
CLASSIF	ICATION O	F FILING	-		
classificati both questi for 17a and a1.1	· ·	es to this filing for Choose only one r 17b.	 (N/A) b2. App. b3. Amence b4. Modified b5. Assignmene b6. Transfer of b7. Notifice (N/A) b8. App. Satellite (N/A) b9. Lette States (N/A) b10. Oth (N/A) b11. A to Provide the I 	Iment to a Pending Application of License or Registre to of License or Registre Control of License or cation of Minor Modifi lication for License of er of Intent to Use Non her (Please specify) Application for Earth St	on of New Domestic Receive–Only Station plication registration ration Registration ication New Receive–Only Station Using Non–U.S. Licensed n–U.S. Licensed Satellite to Provide Service in the United tation to Access a Non–U.S.satellite Not Currently Authorized e Proposed Frequencies in the United States

• b13. Amendment to a Pending Database Entry Application

O b14. Modification of Database Entry

17c. Is a fee submitted with this applicat		
● If Yes, complete and attach FCC Form	159. If No, indicate reason for fee exemption	n (see 47 C.F.R.Section 1.1114).
Governmental Entity O Noncomm	ercial educational licensee	
• Other(please explain):		
17d.		
Fee Classification CGV – Fixed Satellite	VSAT System	
18. If this filing is in reference to an existing station, enter:	19. If this filing is an amendment to a pendir modification please enter only the file number	ng application enter both fields, if this filing is a er:
(a) Call sign of station:	(a) Date pending application was filed:	(b) File number:
E030077		
		SESMOD2005101301402

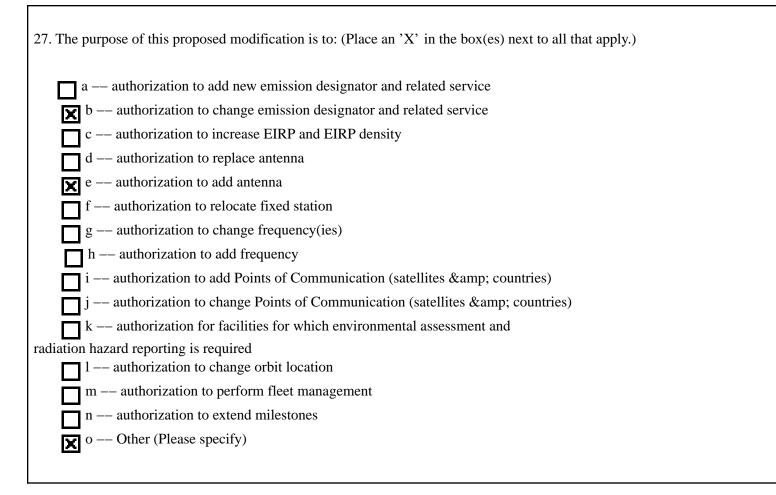
TYPE OF SERVICE

20. NATURE OF SERVICE: This filing is for an authorization to provid	e or use the following type(s) of service(s): Select all that apply:
a. Fixed Satellite	
b. Mobile Satellite	
c. Radiodetermination Satellite	
d. Earth Exploration Satellite	
e. Direct to Home Fixed Satellite	
f. Digital Audio Radio Service	
g. Other (please specify)	
21. STATUS: Choose the button next to the applicable status. Choose	22. If earth station applicant, check all that apply.
only one.	Using U.S. licensed satellites
Common Carrier Non–Common Carrier	Using Non–U.S. licensed satellites
23. If applicant is providing INTERNATIONAL COMMON CARRIER facilities:	service, see instructions regarding Sec. 214 filings. Choose one. Are these
• Connected to a Public Switched Network • Not connected to a	Public Switched Network 💿 N/A
24. FREQUENCY BAND(S): Place an 'X' in the box(es) next to all a	applicable frequency band(s).
a. C–Band (4/6 GHz) b. Ku–Band (12/14 GHz)	
c.Other (Please specify upper and lower frequencies in MHz.)	
Frequency Lower: Frequency Upper: (Please specify addition	onal frequencies in an attachment)

TYPE OF STATION

25. CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.
o a. Fixed Earth Station
• b. Temporary–Fixed Earth Station
● c. 12/14 GHz VSAT Network
O d. Mobile Earth Station
• e. Geostationary Space Station
• f. Non–Geostationary Space Station
• g. Other (please specify)
26. TYPE OF EARTH STATION FACILITY:
Transmit/Receive Transmit-Only Receive-Only N/A
"For Space Station applications, select N/A."

PURPOSE OF MODIFICATION



ENVIRONMENTAL POLICY

28. Would a Commission grant of any proposal in this application or amendment have a significant environmental impact as defined by 47 CFR 1.1307? If YES, submit the statement as required by Sections 1.1308 and 1.1311 of the Commission's rules, 47 C.F.R. 1.1308 and 1.1311, as an exhibit to this application. A Radiation Hazard Study must accompany all applications for new transmitting facilities, major modifications, or major amendments.	-	Yes Exhil	-			
ALIEN OWNERSHIP Earth station applicants not proposing to provide broadcast, common carrier, aerona aeronautical fixed radio station services are not required to respond to Items 30–34.	autic	al en	rou	te or	•	
29. Is the applicant a foreign government or the representative of any foreign government?	0	Yes	۲	No		
30. Is the applicant an alien or the representative of an alien?	0	Yes	۲	No	0	N/A
31. Is the applicant a corporation organized under the laws of any foreign government?	0	Yes	۲	No	0	N/A
32. Is the applicant a corporation of which more than one–fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	0	Yes	۲	No	0	N/A

33. Is the applicant a corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?

34. If any answer to questions 29, 30, 31, 32 and/or 33 is Yes, attach as an exhibit an identification of the aliens or foreign entities, their nationality, their relationship to the applicant, and the percentage of stock they own or vote.

BASIC QUALIFICATIONS

35. Does the Applicant request any waivers or exemptions from any of the Commission's Rules? If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.	O Yes	le No
36. Has the applicant or any party to this application or amendment had any FCC station authorization or license revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission? If Yes, attach as an exhibit, an explination of circumstances.	O Yes	No

37. Has the applicant, or any party to this application or amendment, or any party directly or indirectly controlling the applicant ever been convicted of a felony by any state or federal court? If Yes, attach as an exhibit, an explination of circumstances.	O Yes	● No
38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement or any other means or unfair methods of competition? If Yes, attach as an exhibit, an explanation of circumstances	O Yes	● No
39. Is the applicant, or any person directly or indirectly controlling the applicant, currently a party in any pending matter referred to in the preceding two items? If yes, attach as an exhinit, an explanation of the circumstances.	• Yes	O No
40. If the applicant is a corporation and is applying for a space station license, attach as an exhibit the names, address, and citizenship of those stockholders owning a record and/or voting 10 percent or more of the Filer's voting stock and the percentages so held. In the case of fiduciary control, indicate the beneficiary(ies) or class of beneficiaries. Also list the names and addresses of the officers and directors of the Filer.		

41. By checking Yes, the undersigned certifies, that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti–Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application" for these purposes.

42a. Does the applicant intend to use a non–U.S. licensed satellite to provide service in the United States? If Yes, answer 42b and attach an exhibit providing the information specified in 47 C.F.R. 25.137, as appropriate. If No, proceed to question 43.



Yes

O No

42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, what administration has coordinated or is in the process of coordinating the space station?

43. Description. (Summarize the nature of the application and the services to be provided). (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

Helmerich and Payne, Inc. seeks to modify their existing VSAT network (E030077). It is the intention of the applicant to add two new hub antennas to their license and to replace the transmit and receive emissions being used by the hub and remote antennas, and to increase the transmit power of the hub antennas.

43a. Geographic Service Rule Certification By selecting A, the undersigned certifies that the applicant is not subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25.	● A
By selecting B, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will comply with such requirements.	О ^В
By selecting C, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will not comply with such requirements because it is not feasible as a technical matter to do so, or that, while technically feasible, such services would require so many compromises in satellite design and operation as to make it economically unreasonable. A narrative description and technical analysis demonstrating this claim are attached.	O C

CERTIFICATION

The Applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application. The applicant certifies that grant of this application would not cause the applicant to be in violation of the spectrum aggregation limit in 47 CFR Part 20. All statements made in exhibits are a material part hereof and are incorporated herein as if set out in full in this application. The undersigned, individually and for the applicant, hereby certifies that all statements made in this application and in all attached exhibits are true, complete and correct to the best of his or her knowledge and belief, and are made in good faith.

44. Applicant is a (an): (Choose the button next to applicable response.)	
O Individual	
Unincorporated Association	
Partnership	
• Corporation	
• Governmental Entity	
Other (please specify)	
45. Name of Person Signing	46. Title of Person Signing
Chuck Clark	Telecommunications Manager
>	·
	ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT EVOCATION OF ANY STATION AUTHORIZATION FORFEITURE (U.S. Code, Title 47, Section 503).

SATELLITE EARTH STATION AUTHORIZATIONS FCC Form 312 – Schedule B:(Technical and Operational Description) FOR OFFICIAL USE ONLY

r				
Location of Earth S	tation Site			
E1: Site Identifier:	Hub 1	E5. Call Sign:	#030077	
E2: Contact Name	Philip Goodson	E6. Phone Number:	918-742-5531	
E3. Street:	6711 E. 41st Street	E7. City:	Tulsa	
		E8. County:	Tulsa	
E4. State	ОК	E9. Zip Code	74145	
E10. Area of Opera	tion:	CONUS, Alaska, ar	nd Hawaii	
E11. Latitude:	36 °6 '15.0 "N			
E12. Longitude:	95 °54 '8.0 "W			
E13. Lat/Lon Coord	dinates are:	O NAD−27	● NAD-83	O N/A
E14. Site Elevation	(AMSL):	220.1 meters		

E15. If the proposed antenna(s) operate in the Fixed Satellite Service (FSS) with geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurement? If NO, provide as a technical analysis showing compliance with two–degree spacing policy.	• Yes	O ^{No}	O ^{N/A}
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E16. If the proposed antenna(s) do not operate in the Fixed Satellite Service (FSS), or if they operate in the Fixed Satellite Service (FSS) with non–geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a2) and (b) as demonstrated by the manufacturer's qualification measurements?	O ^{Yes}	O ^{No}	● ^{N/A}
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	O Yes	۲	No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	0	Yes	۲	No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	0	Yes	۲	No
E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.113(c)) Where FAA notification is required, have you attached a copy of a completed FCC Form 854 and/or the FAA's study regarding the potential hazard of the structure to aviation?Exhibit B FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	0	Yes	۲	No

POINTS OF COMMUNICATION

Satellite Name: ALSAT ALL AUTHORIZED U.S. ALSAT If you se	lected OTHER, please enter the following:
E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:
POINTS OF COMMUNICATION (Destination Points)	
E25. Site Identifier:	

E26. Common Name:	E27. Country:

ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi at GHz)
Hub 1	AND 1	1	Andrew Corporation	ESA37	3.7	51.6 dBi at 11.950
Hub 1	AND 1	1	Andrew Corporation	ESA37	3.7	52.8 dBi at 14.250

Id	Diameter		· · · ·	Height Above	Input Power at	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
AND 1	0.0/0.0	4.6	224.7	0.0	100.0	0.0	72.8

FREQUENCY

	E43/44. Frequency Bands (MHz)			Designator	EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
AND 1	11700.0 12200.0	R	Horizontal and Vertical	1M00G7D	0.0	0.0

E50. Modulation entirety.)	and Services (If the	ne complete descripti	on does not appear in	this box, please go t	o the end of the form	to view it in its
Digital Da	ata					
AND 1	11700.0 12200.0	R	Horizontal and Vertical	20K0G7D –	0.0	0.0
E50. Modulation entirety.)	and Services (If the	ne complete descripti	on does not appear in	this box, please go t	o the end of the form	to view it in its
Digital Da	ata					
AND 1	14000.0 14500.0	Т	Horizontal and Vertical	4M00G7D	68.8	38.8
E50. Modulation entirety.)	and Services (If the	ne complete descripti	on does not appear in	this box, please go t	o the end of the form	to view it in its
Digital Da	ita					
AND 1	14000.0 14500.0	Т	Horizontal and Vertical	20K0G7D -	45.8	38.8

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

Digital Data

FREQUENCY COORDINATION

E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	Range of Satellite Arc	Station Azimuth Angle	E57. Antenna Elevation Angle Eastern Limit	E58. Earth Station Azimuth Angle Western Limit	E59. Antenna Elevation Angle Western Limit	E60. Maximum EIRP Density toward the Horizon (dBW/4kHz)
AND 1	Geostationary	11700.0 12200.0	30.0/156.0	104.7	10.7	251.2	15.4	0.0
	Geostationary	14000.0 14500.0	30.0/156.0	104.7	10.7	251.2	15.4	-7.43

REMOTE CONTROL POINT LOCATION

E61. Call Sign		E66. Phone Number		
NOTE: Please enter the callsign of the contro callsign for which this application is being filed.				
E62. Street Address				
E63. City	E68. County		E67/68. State/Country /	E64. Zip Code

SATELLITE EARTH STATION AUTHORIZATIONS FCC Form 312 – Schedule B:(Technical and Operational Description) FOR OFFICIAL USE ONLY

Location of Earth S	tation Site			
E1: Site Identifier:	Hub 2	E5. Call Sign:	E030077	
E2: Contact Name	Philip Goodson	E6. Phone Number:	918-742-5531	
E3. Street:	1437 S. Boulder Avenue	E7. City:	Tulsa	
		E8. County:	Tulsa	
E4. State	ОК	E9. Zip Code	74114	
E10. Area of Opera	tion:	Conus, Alaska and	Hawaii	
E11. Latitude:	36 °8 '29.9 "N			
E12. Longitude:	95 ° 59 ' 18.2 "W			
E13. Lat/Lon Coord	dinates are:	ONAD-27	● NAD-83	O N/A
E14. Site Elevation	(AMSL):	217.0 meters		

E15. If the proposed antenna(s) operate in the Fixed Satellite Service (FSS) with geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurement? If NO, provide as a technical analysis showing compliance with two–degree spacing policy.	• Yes	O ^{No}	O ^{N/A}
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E16. If the proposed antenna(s) do not operate in the Fixed Satellite Service (FSS), or if they operate in the Fixed Satellite Service (FSS) with non–geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a2) and (b) as demonstrated by the manufacturer's qualification measurements?	O ^{Yes}	O ^{No}	● ^{N/A}
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	O Yes	۲	No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	0	Yes	۲	No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	0	Yes	۲	No
E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.113(c)) Where FAA notification is required, have you attached a copy of a completed FCC Form 854 and/or the FAA's study regarding the potential hazard of the structure to aviation? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	0	Yes	۲	No

POINTS OF COMMUNICATION

Satellite Name: ALSAT ALL AUTHORIZED U.S. ALSAT If you se	lected OTHER, please enter the following:
E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:
POINTS OF COMMUNICATION (Destination Points)	
E25. Site Identifier:	

E26. Common Name:	E27. Country:

ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi at GHz)
Hub 2	AND 2	1	Andrew Corporation	ESA37	3.7	51.6 dBi at 11.950
Hub 2	AND 2	1	Andrew Corporation	ESA37	3.7	52.8 dBi at 14.250

Id	Diameter		· · · ·	Height Above	Input Power at	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
AND 2	0.0/0.0	9.2	226.2	4.6	100.0	4.6	72.8

FREQUENCY

E28. Antenna Id	E43/44. Frequency Bands (MHz)				E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
AND 2	11700.0 12200.0	R	Horizontal and Vertical	1M00G7D	0.0	0.0

E50. Modulation entirety.)	n and Services (If the services) (If the service	ne complete descripti	on does not appear in	n this box, please go t	o the end of the form	to view it in its
Digital Da	ata					
AND 2	11700.0 12200.0	R	Horizontal and Vertical	20K0G7D -	0.0	0.0
E50. Modulation entirety.)	n and Services (If the services) (If the service	ne complete descripti	on does not appear in	this box, please go t	o the end of the form	to view it in its
Digital Da	ata					
AND 2	14000.0 14500.0	Т	Horizontal and Vertical	4M00G7D	68.8	38.8
E50. Modulatior entirety.)	n and Services (If the services) (If the service	ne complete descripti	on does not appear in	this box, please go t	o the end of the form	to view it in its
Digital Da	ata					
AND 2	14000.0 14500.0	Т	Horizontal and Vertical	20K0G7D -	45.8	38.8

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

Digital Data

FREQUENCY COORDINATION

E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	Range of Satellite Arc	Station Azimuth Angle	E57. Antenna Elevation Angle Eastern Limit	E58. Earth Station Azimuth Angle Western Limit	E59. Antenna Elevation Angle Western Limit	E60. Maximum EIRP Density toward the Horizon (dBW/4kHz)
AND 2	Geostationary	11700.0 12200.0	30.0/156.0	104.7	10.6	251.2	15.4	0.0
	Geostationary	14000.0 14500.0	30.0/156.0	104.7	10.6	251.2	15.4	-7.46

REMOTE CONTROL POINT LOCATION

E61. Call Sign		E66. Phone Number		
NOTE: Please enter the callsign of the contro callsign for which this application is being filed.				
E62. Street Address	•			
E63. City	E68. County		E67/68. State/Country /	E64. Zip Code

SATELLITE EARTH STATION AUTHORIZATIONS FCC Form 312 – Schedule B:(Technical and Operational Description) FOR OFFICIAL USE ONLY

Location of Earth S	tation Site				
E1: Site Identifier:	Hub 3	E5. Call Sign:	E030077		
E2: Contact Name	Philip Goodson	E6. Phone Number:	918-742-5531		
E3. Street:	6711 E. 41st Street	E7. City:	Tulsa		
		E8. County:	Tulsa		
E4. State	ОК	E9. Zip Code	74145		
E10. Area of Opera	tion:	CONUS, Alaska, and Hawaii			
E11. Latitude:	36 °6 '15.0 "N				
E12. Longitude:	95 °54 '8.0 "W				
E13. Lat/Lon Coord	dinates are:	O NAD−27	O NAD-83	O N/A	
E14. Site Elevation (AMSL):		220.1 meters			

E15. If the proposed antenna(s) operate in the Fixed Satellite Service (FSS) with geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurement? If NO, provide as a technical analysis showing compliance with two–degree spacing policy.	• Yes	O ^{No}	O ^{N/A}
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E16. If the proposed antenna(s) do not operate in the Fixed Satellite Service (FSS), or if they operate in the Fixed Satellite Service (FSS) with non–geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a2) and (b) as demonstrated by the manufacturer's qualification measurements?	O Yes	O ^{No}	● N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	o Yes	۲	No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	0	Yes	۲	No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	0	Yes	۲	No
E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.113(c)) Where FAA notification is required, have you attached a copy of a completed FCC Form 854 and/or the FAA's study regarding the potential hazard of the structure to aviation? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	0	Yes	۲	No

POINTS OF COMMUNICATION

Satellite Name: ALSAT ALL AUTHORIZED U.S. ALSAT If you se	lected OTHER, please enter the following:
E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:
POINTS OF COMMUNICATION (Destination Points)	
E25. Site Identifier:	

E26. Common Name:	E27. Country:
	5

ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi at GHz)
Hub 3	AND 3	1	Andrew Corporation	ESA37	3.7	51.6 dBi at 11.950
Hub 3	AND 3	1	Andrew Corporation	ESA37	3.7	52.8 dBi at 14.250

Id			· · · · ·	Height Above	Input Power at	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
AND 3	0.0/0.0	4.6	224.7	0.0	100.0	0.0	72.8

FREQUENCY

	E43/44. Frequency Bands (MHz)	E45. T/R Mode			E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
AND 3	11700.0 12200.0	R	Horizontal and Vertical	1M00G7D	0.0	0.0

E50. Modulation entirety.)	n and Services (If t	he complete descripti	on does not appear in	n this box, please go	to the end of the form	to view it in its
Digital D	ata					
AND 3	11700.0 12200.0	R	Horizontal and Vertical	20K0G7D -	0.0	0.0
E50. Modulatio entirety.)	n and Services (If t	he complete descripti	on does not appear in	n this box, please go	to the end of the form	to view it in its
Digital D	ata					
AND 3	14000.0 14500.0	Т	Horizontal and Vertical	4M00G7D	68.8	38.8
E50. Modulatio entirety.)	n and Services (If t	he complete descripti	on does not appear in	n this box, please go	to the end of the form	to view it in its
Digital D	ata					
AND 3	14000.0 14500.0	Т	Horizontal and Vertical	20K0G7D -	45.8	38.8

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

Digital Data

FREQUENCY COORDINATION

E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	Range of Satellite Arc	Station Azimuth Angle	E57. Antenna Elevation Angle Eastern Limit	E58. Earth Station Azimuth Angle Western Limit	E59. Antenna Elevation Angle Western Limit	E60. Maximum EIRP Density toward the Horizon (dBW/4kHz)
AND 3	Geostationary	11700.0 12200.0	30.0/156.0	104.7	10.7	251.2	15.4	0.0
	Geostationary	14000.0 14500.0	30.0/156.0	104.7	10.7	251.2	15.4	-7.43

REMOTE CONTROL POINT LOCATION

E61. Call Sign		E66. Phone Number		
NOTE: Please enter the callsign of the contro callsign for which this application is being filed.				
E62. Street Address	•			
E63. City	E68. County		E67/68. State/Country /	E64. Zip Code

SATELLITE EARTH STATION AUTHORIZATIONS FCC Form 312 – Schedule B:(Technical and Operational Description) FOR OFFICIAL USE ONLY

Location of Earth St	tation Site				
E1: Site Identifier:	Hub 4	E5. Call Sign:	E030077		
E2: Contact Name	Philip Goodson	E6. Phone Number:	918-742-5531		
E3. Street:	1437 S. Boulder Avenue	E7. City:	Tulsa		
		E8. County:	Tulsa		
E4. State	OK	E9. Zip Code	74114		
E10. Area of Opera	tion:	Conus, Alaska and	Hawaii		
E11. Latitude:	36 °8 '29.9 "N				
E12. Longitude:	95 ° 59 ' 18.2 "W				
E13. Lat/Lon Coord	linates are:	ONAD-27	● NAD-83	O N/A	
E14. Site Elevation	(AMSL):	217.0 meters			

E15. If the proposed antenna(s) operate in the Fixed Satellite Service (FSS) with geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurement? If NO, provide as a technical analysis showing compliance with two–degree spacing policy.	y Yes	O ^{No}	O ^{N/A}
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E16. If the proposed antenna(s) do not operate in the Fixed Satellite Service (FSS), or if they operate in the Fixed Satellite Service (FSS) with non–geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a2) and (b) as demonstrated by the manufacturer's qualification measurements?	O ^{Yes}	O ^{No}	● ^{N/A}
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	O Yes	۲	No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	0	Yes	۲	No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	0	Yes	۲	No
E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.113(c)) Where FAA notification is required, have you attached a copy of a completed FCC Form 854 and/or the FAA's study regarding the potential hazard of the structure to aviation? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	0	Yes	۲	No

POINTS OF COMMUNICATION

Satellite Name: ALSAT ALL AUTHORIZED U.S. ALSAT If you selected OTHER, please enter the following:						
E21. Common Name:	E22. ITU Name:					
E23. Orbit Location:	E24. Country:					
POINTS OF COMMUNICATION (Destination Points)						
E25. Site Identifier:						

E26. Common Name:	E27. Country:
	5

ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi at GHz)
Hub 4	AND 4	1	Andrew Corporation	ESA37	3.7	51.6 dBi at 11.950
Hub 4	AND 4	1	Andrew Corporation	ESA37	3.7	52.8 dBi at 14.250

Id	Diameter		· · · ·	Height Above	Input Power at	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
AND 4	0.0/0.0	9.2	226.2	4.6	100.0	4.6	72.8

FREQUENCY

E28. Antenna Id	E43/44. Frequency Bands (MHz)			Designator	E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
AND 4	11700.0 12200.0	R	Horizontal and Vertical	1M00G7D	0.0	0.0

E50. Modulation entirety.)	and Services (If the	ne complete descripti	on does not appear in	this box, please go t	o the end of the form	to view it in its
Digital Da	ata					
AND 4	11700.0 12200.0	R	Horizontal and Vertical	20K0G7D -	0.0	0.0
E50. Modulation entirety.)	and Services (If the	ne complete descripti	on does not appear in	this box, please go t	o the end of the form	to view it in its
Digital Da	ata					
AND 4	14000.0 14500.0	Т	Horizontal and Vertical	4M00G7D	68.8	38.8
E50. Modulation entirety.)	and Services (If the	ne complete descripti	on does not appear in	this box, please go t	o the end of the form	to view it in its
Digital Da	ata					
AND 4	14000.0 14500.0	Т	Horizontal and Vertical	20K0G7D -	45.8	38.8

E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

Digital Data

FREQUENCY COORDINATION

E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	Range of Satellite Arc	Station Azimuth Angle	E57. Antenna Elevation Angle Eastern Limit	E58. Earth Station Azimuth Angle Western Limit	E59. Antenna Elevation Angle Western Limit	E60. Maximum EIRP Density toward the Horizon (dBW/4kHz)
AND 4	Geostationary	11700.0 12200.0	30.0/156.0	104.7	10.6	251.2	15.4	0.0
	Geostationary	14000.0 14500.0	30.0/156.0	104.7	10.6	251.2	15.4	-7.46

REMOTE CONTROL POINT LOCATION

E61. Call Sign	E66. Phone Number			
NOTE: Please enter the callsign of the contro callsign for which this application is being filed.				
E62. Street Address	•			
E63. City	E68. County		E67/68. State/Country /	E64. Zip Code

SATELLITE EARTH STATION AUTHORIZATIONS FCC Form 312 – Schedule B:(Technical and Operational Description) FOR OFFICIAL USE ONLY

Location of Earth St	tation Site				
E1: Site Identifier:	Remote 1	E5. Call Sign:	E030077		
E2: Contact Name	Philip Goodson	E6. Phone Number:	918–742–5531		
E3. Street:	Various locations in North, South, and	E7. City:			
	Central America and Caribbean Region	E8. County:			
E4. State		E9. Zip Code			
E10. Area of Opera	tion:	CONUS, North, So	outh, Central Americ	ca and Caribbean Region	
E11. Latitude:	0 °0 '0.0 "				
E12. Longitude:	0 °0 '0.0 "				
E13. Lat/Lon Coord	linates are:	ONAD-27	O NAD-83	● N/A	
E14. Site Elevation	(AMSL):	0.0 meters			

E15. If the proposed antenna(s) operate in the Fixed Satellite Service (FSS) with geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurement? If NO, provide as a technical analysis showing compliance with two-degree spacing policy.	• Yes	O ^{No}	O ^{N/A}
E16. If the proposed antenna(s) do not operate in the Fixed Satellite Service (FSS), or if they operate in the Fixed Satellite Service (FSS) with non–geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a2) and (b) as demonstrated by the manufacturer's qualification measurements?	O Yes	O ^{No}	● ^{N/A}
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	O Yes	۲	No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	0	Yes	● No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	0	Yes	O No
E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.113(c)) Where FAA notification is required, have you attached a copy of a completed FCC Form 854 and/or the FAA's study regarding the potential hazard of the structure to aviation? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	0	Yes	No

POINTS OF COMMUNICATION

Satellite Name: ALSAT | ALL AUTHORIZED U.S. | ALSAT If you selected OTHER, please enter the following:

E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:
POINTS OF COMMUNICATION (Destination Points)	
E25. Site Identifier:	
E26. Common Name:	E27. Country:

ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi at GHz)
Remote 1	CM 1	400	Channel Master	1.8M	1.8	45.4 dBi at 11.950
Remote 1	CM 1	400	Channel Master	1.8M	1.8	47.0 dBi at 14.250

Id		E35. Above Ground Level (meters)	· · · ·	Height Above	Input Power at	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
CM 1	0.0/0.0	2.7	0.0	0.0	4.0	0.0	53.0

FREQUENCY

E28. Antenna Id	E43/44.	E45.	E46. Antenna	E47. Emission	E48. Maximum	E49. Maximum
	Frequency Bands	T/R Mode	Polarization(H,V,	Designator	EIRP per Carrier	ERIP Density per
	(MHz)		L,R)		(dBW)	Carrier
						(dBW/4kHz)
		1		1		

СМ 1	11700.0 12200.0	R	Horizontal and Vertical	4M00G7D	0.0	0.0
E50. Modulation entirety.)	and Services (If	the complete des	cription does not appear	in this box, please	go to the end of t	he form to view it in its
Digital Da	ita					
CM 1	11700.0 12200.0	R	Horizontal and Vertical	20K0G7D -	0.0	0.0
Digital Da	ıta					
CM 1	14000.0 14500.0	Т	Horizontal and Vertical	1M00G7D	53.0	29.0
E50. Modulation entirety.)	and Services (If	the complete des	cription does not appear	in this box, please	go to the end of t	he form to view it in its
Digital Da	ıta					

СМ	1	14000.0 14500.0	Т	Horizontal and Vertical	20K0G7D -	40.0	33.0		
	E50. Modulation and Services (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)								
	Digital Da	ta							

FREQUENCY COORDINATION

E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	E54/55. Range of Satellite Arc Eastern/West ern Limit	E56. Earth Station Azimuth Angle Eastern Limit	E57. Antenna Elevation Angle Eastern Limit	E58. Earth Station Azimuth Angle Western Limit	E59. Antenna Elevation Angle Western Limit	E60. Maximum EIRP Density toward the Horizon (dBW/4kHz)
CM 1	Geostationary	11700.0 12200.0	30.0/156.0	0.0	5.0	0.0	5.0	0.0
	Geostationary	14000.0 14500.0	30.0/156.0	0.0	5.0	0.0	5.0	-0.35

REMOTE CONTROL POINT LOCATION

E61. Call Sign	E66. Phone Number
NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.	
E62. Street Address	
E62. Street Address	

E63. City	E68. County	E67/68.	E64. Zip Code
		State/Country	_
		/	

SATELLITE EARTH STATION AUTHORIZATIONS FCC Form 312 – Schedule B:(Technical and Operational Description) FOR OFFICIAL USE ONLY

Location of Earth St	tation Site					
E1: Site Identifier:	Remote 2	E5. Call Sign:	E030077			
E2: Contact Name	Philip Goodson	E6. Phone Number:	918-742-5531			
E3. Street:	Various Locations in North, South,	E7. City:				
	Central America and Caribbean Region	E8. County:				
E4. State		E9. Zip Code				
E10. Area of Opera	tion:	CONUS, North, South and Central America and Caribbean Region				
E11. Latitude:	0 °0 '0.0 "					
E12. Longitude:	0 °0 '0.0 "					
E13. Lat/Lon Coordinates are:		● NAD-27	ONAD-83	● N/A		
E14. Site Elevation (AMSL):		0.0 meters				

E15. If the proposed antenna(s) operate in the Fixed Satellite Service (FSS) with geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurement? If NO, provide as a technical analysis showing compliance with two-degree spacing policy.	• Yes	O ^{No}	O ^{N/A}
E16. If the proposed antenna(s) do not operate in the Fixed Satellite Service (FSS), or if they operate in the Fixed Satellite Service (FSS) with non–geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a2) and (b) as demonstrated by the manufacturer's qualification measurements?	O Yes	O ^{No}	● ^{N/A}
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	O Yes	۲	No

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	0	Yes	O No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	0	Yes	● No
E20. FAA Notification – (See 47 CFR Part 17 and 47 CFR part 25.113(c)) Where FAA notification is required, have you attached a copy of a completed FCC Form 854 and/or the FAA's study regarding the potential hazard of the structure to aviation? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	0	Yes	No

POINTS OF COMMUNICATION

Satellite Name: ALSAT | ALL AUTHORIZED U.S. | ALSAT If you selected OTHER, please enter the following:

E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:
POINTS OF COMMUNICATION (Destination Points)	
E25. Site Identifier:	
E26. Common Name:	E27. Country:

ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size <meters></meters>	E41/42. Antenna Gain Transmint and/or Recieve (dBi at GHz)
Remote 2	P1.2M	400	Prodelin Corporation	120TX	1.2	41.8 dBi at 11.950
Remote 2	P1.2M	400	Prodelin Corporation	120TX	1.2	43.3 dBi at 14.250

Id		E35. Above Ground Level (meters)	· · · ·	Height Above	Input Power at	E39. Maximum Antenna Height Above Rooftop (meters)	EIRP for al
P1.2M	0.0/0.0	2.0	0.0	0.0	4.0	0.0	49.3
FREQUENCY					•		

E28. Antenna Id E43/44. E45. E46. Antenna E47. Emission E48. Maximum E49. Maximum Frequency Bands (MHz) ERIP Density per Carrier T/R
Mode Polarization(H,V, Designator EIRP per Carrier (dBW) L,R) (dBW/4kHz)

P1.2M	11700.0 12200.0	R	Horizontal and Vertical	4M00G7D	0.0	0.0
E50. Modulation entirety.)	and Services (If t	he complete descrip	ption does not appear	in this box, please §	go to the end of t	he form to view it in its
Digital Da	ta					
P1.2M	11700.0 12200.0	R	Horizontal and Vertical	20K0G7D -	0.0	0.0
Digital Da	ta					
P1.2M	14000.0 14500.0	Т	Horizontal and Vertical	1M00G7D	49.3	25.3
E50. Modulation entirety.)	and Services (If t	he complete descrip	otion does not appear	in this box, please §	go to the end of the	he form to view it in its
Digital Da	ta					

P1.2M	14000.0 14500.0	Т	Horizontal and Vertical	20K0G7D -	36.3	29.3
E50. Modulation	and Services (If th	ne complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
entirety.) Digital Da	ta					

FREQUENCY COORDINATION

E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	E54/55. Range of Satellite Arc Eastern/West ern Limit	E56. Earth Station Azimuth Angle Eastern Limit	E57. Antenna Elevation Angle Eastern Limit	E58. Earth Station Azimuth Angle Western Limit	E59. Antenna Elevation Angle Western Limit	E60. Maximum EIRP Density toward the Horizon (dBW/4kHz)
P1.2M	Geostationary	11700.0 12200.0	30.0/156.0	0.0	5.0	0.0	5.0	0.0
	Geostationary	14000.0 14500.0	30.0/156.0	0.0	5.0	0.0	5.0	-0.35

REMOTE CONTROL POINT LOCATION

E61. Call Sign	E66. Phone Number
NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.	
E62. Street Address	
E62. Street Address	

untry	
	untry

FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT

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