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Callsign/Satellite ID:

APPLICATION FOR EARTH STATION AUTHORIZATIONS

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:

The Boeing Company

Herndon 3.8M Vertex

1–8. Legal Name of Applicant

Name:

Phone Number: 866–248–1493

DBA Fax Number: 206–662–0701

Name:

Street: Attn E-Mail: bob.douglass@boeing.com

PO Box 3707

City: Seattle State: WA

Country: USA **Zipcode:** 98124 –2207

Attention: Mr Robert B Douglass

9–16. Name of Contact Representative

Name: Ron Center Phone Number: 866–248–1493

Company: The Boeing Company **Fax Number:** 206–662–0701

Street: PO Box 3707 E–Mail: ronald.e.center@boeing.com

City: Seattle State: WA

Country: USA **Zipcode:** 98124–2207

Attention: Attn Relationship:

CLASSIFICATION OF FILING

17. Choose the button next to the	b.
classification that applies to this filing for	b1. Application for License of New Station
both questions a. and b. Choose only one	b2. Application for Registration of New Domestic Receive–Only Station
for 17a and only one for 17b.	
	(N/A) b3. Amendment to a Pending Application (N/A) b4. Modification of License or Registration
a.	(N/A) b5. Assignment of License or Registration
a1. Earth Station	(N/A) b6. Transfer of Control of License or Registration
(N/A) a2. Space Station	(N/A) b7. Notification of Minor Modification
	(N/A) b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed
	Satellite
	(N/A) b9. Letter of Intent to Use Non–U.S. Licensed Satellite to Provide Service in the United
	States h 10. Other (Please specify)
	o b10. Other (Please specify)
	▶ b11. Application for Earth Station to Access a Non–U.S.satellite Not Currently Authorized to
	Provide the Proposed Service in the Proposed Frequencies in the United States.
	(N/A) b13. Amendment to a Pending Database Entry Application
	(N/A) b14. Modifiction of Database Entry
17c. Is a fee submitted with this applicati	on?
If Yes, complete and attach FCC Form	159. If No, indicate reason for fee exemption (see 47 C.F.R.Section 1.1114).
Governmental Entity Noncomme	ercial educational licensee
Other(please explain):	
17d.	
Fee Classification BAX – Fixed Satellite T	ransmit/Receive Earth
Station	

18. If this filing is in reference to an existing station, enter: (a) Call sign of station: Not Applicable 19. If this filing is an amendment to a pending application enter: (a) Date pending application was filed: (b) File number of pending application: Not Applicable Not Applicable
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TYPE OF SERVICE	
20. NATURE OF SERVICE: This filing is for an authorization to provide	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
O Common Carrier Non–Common Carrier	Using Non–U.S. licensed satellites
23. If applicant is providing INTERNATIONAL COMMON CARRIER sefacilities:	ervice, see instructions regarding Sec. 214 filings. Choose one. Are these
O Connected to a Public Switched Network Not connected to	o a Public Switched Network

24. FREQUENCY BAND(S): Place an "X" in the box(es) next to all 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:
TYPE OF STATION
25. CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.
a. Fixed Earth Station
b. Temporary–Fixed Earth Station
c. 12/14 GHz VSAT Network
d. Mobile Earth Station
(N/A) e. Geostationary Space Station
(N/A) f. Non-Geostationary Space Station
g. Other (please specify)
26. TYPE OF EARTH STATION FACILITY: Choose only one.
Transmit/Receive Transmit-Only Receive-Only N/A
PURPOSE OF MODIFICATION
27. The purpose of this proposed modification is to: (Place an 'X' in the box(es) next to all that apply.)
Not Applicable

ENVIRONMENTAL POLICY

28. Would a Commission grant of any proposal in this application or amendment

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.	RADHAZ
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.	utical en route or
29. Is the applicant a foreign government or the representative of any foreign government?	O Yes No
30. Is the applicant an alien or the representative of an alien?	O Yes ⊗ No O N/A
31. Is the applicant a corporation organized under the laws of any foreign government?	O Yes O No 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?	O Yes O No O N/A

have a significant

O No

Yes

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?	O Yes ● N	To O N/A
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.	○ Yes	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.	○ 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.	Yes	O No
	Felony Disclos	ure
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.	o Yes	⊚ 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.	Yes	O No
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.	O Yes	⊚ No
42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, coordinated or is in the process of coordinating the space station?	what administ	ration has
43. Description. (Summarize the nature of the application and the services to be provided). (If the not appear in this box, please go to the end of the form to view it in its entirety.)	complete desc	cription does
This application is a request for authority to operate two Vertex RSI 3.8M	satellite	earth

stations from the Boeing Facility located in Herndon VA.

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.	O 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.	● B
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.

Individual				
O Unincorporated Association				
Partnership				
Corporation				
Governmental Entity				
Other (please specify)				
45. Name of Person Signing Robert B Douglass		46. Title of Person Signing Manager, Spectrum Manager	ement	
47. Please supply any need attachn	nents.			
47. Please supply any need attachn Attachment 1:	Attachment 2:	At	tachment 3:	
		At	tachment 3:	

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

Location of Earth Station Site

E1: Site Identifier: Herndon 3.8M RSI E5. Call Sign:

E2: Contact Name Douglas Cook E6. Phone 703–467–7257

Number:

E3. Street: 460 Herndon Pkwy E7. City: Herndon

E8. County: Fairfax

E4. State VA E9. Zip Code 20170

E10. Area of Operation: Herndon

E11. Latitude: 38 °57 '32.0 "N

E12. Longitude: 77 °22 '32.0 "W

E13. Lat/Lon Coordinates are: NAD-27 NAD-83 N/A

E14. Site Elevation (AMSL): 107.0 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	es	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 Y	es	O No	● N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	0 7	Yes	•	No
E18. Is frequency coordination required? If YES, attach a frequency coordination report as	0 7	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	•	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.		Yes	•	No
POINTS OF COMMUNICATION				
Satellite Name: PERMITTED LIST PERMITTED LIST If you selected OTHER, please enter the following	<u>;:</u>			

E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

POINTS OF COMMUNICATION (Destination Points)

E25. Site Identifier: Herndon 3.8M RSI	
E26. Common Name:	E27. Country: USA

POINTS OF COMMUNICATION (Destination Points)

E25. Site Identifier: Herndon 3.8M RSI	
E26. Common Name:	E27. Country: USA

ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer		Size <meters></meters>	E41/42. Antenna GainTransmint and/or Recieve (dBi atGHz)
Herndon 3.8M RSI	3.8M RSI	2	General Dynamics	Vertex RSI	3.8	51.7 dBi at 11.95
						53.0 dBi at 14.25

Id	E33/34. Diameter Minor/Major (meters)		(meters)	Height Above Ground Level 	Input Power at antenna flange 	Maximum Antenna Height	E40. Total EIRP for al carriers (dBW)
3.8M RSI	3.8/3.8	13.9	120.9	9.1	16.0	4.8	65.04

FREQUENCY

E28. Antenna Id	E43/44. Frequency Bands (MHz)	E45. T/R Mode	E46. Antenna Polarization(H,V, L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier (dBW)	E49. Maximum ERIP Density per Carrier (dBW/4kHz)
3.8M RSI	11700 12200	R	Linear and Circular	128KG7W	0.0	0.0
E50. Modulation entirety.) Digital Da	and Services (If the state of t	ne complete descript	ion does not appear in	tnis box, piease go	to the end of the form	to view it in its
3.8M RSI	11700 12200	R	Linear and Circular	1M00G7W	0.0	0.0
E50. Modulation entirety.) Digital Da	and Services (If the	ne complete descript	ion does not appear in	this box, please go	to the end of the form	to view it in its
3.8M RSI	11700 12200	R	Linear and Circular	1M50G7W	0.0	0.0

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.)	and services (if the	te complete description	on does not appear in	tins oon, preuse go to	o une end of the form	
Digital Da	ta Carrier					
3.8M RSI	11700 12200	R	Linear and Circular	256KG7W	0.0	0.0
E50. Modulation entirety.)		ne complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its
Digital Da	ta Carrier					
3.8M RSI	11700 12200	R	Linear and Circular	2M00G7W	0.0	0.0
E50. Modulation entirety.)	and Services (If the	e complete description	on does not appear in	this box, please go to	the end of the form	to view it in its
Digital Da	ta Carrier					
3.8M RSI	11700 12200	R	Linear and Circular	32K0G7W	0.0	0.0

E50. Modulation entirety.)	and Services (If the	e complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its	
Digital Da	ta Carrier						
3.8M RSI	11700 12200	R	Linear and Circular	3M00G7W	0.0	0.0	
entirety.)	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 Carrier						
3.8M RSI	11700 12200	R	Linear and Circular	4M00G7W	0.0	0.0	
E50. Modulation entirety.) Digital Da	`	ne complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its	
3.8M RSI	11700 12200	R	Linear and Circular	512KG7W	0.0	0.0	

E50. Modulation entirety.)	and Services (If the	e complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its	
Digital Da	ta Carrier						
3.8M RSI	11700 12200	R	Linear and Circular	5M00G7W	0.0	0.0	
entirety.)	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 Carrier						
3.8M RSI	11700 12200	R	Linear and Circular	64K0G7W	0.0	0.0	
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 Data Carrier							
3.8M RSI	11700 12200	R	Linear and Circular	6M00G7W	0.0	0.0	

E50. Modulation entirety.)	and Services (If the	ne complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its	
Digital Da	ta Carrier						
3.8M RSI	11700 12200	R	Linear and Circular	768KG7W	0.0	0.0	
entirety.)	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 Carrier						
3.8M RSI	11700 12200	R	Linear and Circular	7M00G7W	0.0	0.0	
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 Data Carrier							
3.8M RSI	11700 12200	R	Linear and Circular	8M00G7W	0.0	0.0	

E50. Modulation entirety.)	and Services (If the	ne complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its	
Digital Da	ta Carrier						
3.8M RSI	14000 14500	Т	Linear and Circular	128KG7W	54.0	38.95	
E50. Modulation entirety.) Digital Da	<u> </u>	,	on does not appear in				
3.8M RSI	14000 14500	Т	Linear and Circular	1M00G7W	62.0	38.02	
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 Carrier							
3.8M RSI	14000 14500	Т	Linear and Circular	1M50G7W	64.0	38.26	

E50. Modulation entirety.)	and Services (If the	e complete description	on does not appear in	this box, please go to	the end of the form	to view it in its	
Digital Da	ta Carrier						
3.8M RSI	14000 14500	Т	Linear and Circular	256KG7W	57.0	38.94	
entirety.)	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 Carrier						
3.8M RSI	14000 14500	Т	Linear and Circular	2M00G7W	65.04	38.05	
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 Carrier							
3.8M RSI	14000 14500	Т	Linear and Circular	32K0G7W	48.0	38.97	

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.)			on does not appear in	ums som, prouse go u	, 01 101111	10 710 11 11 110	
Digital Da	ta Carrier						
3.8M RSI	14000 14500	Т	Linear and Circular	3M00G7W	65.04	36.29	
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 Carrier							
3.8M RSI	14000 14500	Т	Linear and Circular	4M00G7W	65.04	35.04	
E50. Modulation entirety.)	and Services (If the	e complete description	on does not appear in	this box, please go to	the end of the form	to view it in its	
Digital Da	ta Carrier						
3.8M RSI	14000 14500	Т	Linear and Circular	512KG7W	60.0	38.93	

E50. Modulation entirety.)	and Services (If the	ne complete description	on does not appear in	this box, please go to	o the end of the form	to view it in its	
Digital Da	ta Carrier						
3.8M RSI	14000 14500	Т	Linear and Circular	5M00G7W	65.04	34.07	
E50. Modulation entirety.) Digital Da	<u> </u>			ting con, proude go w	o the end of the form		
3.8M RSI	14000 14500	Т	Linear and Circular	64K0G7W	51.0	38.96	
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 Carrier							
3.8M RSI	14000 14500	Т	Linear and Circular	6M00G7W	65.04	33.28	

E50. Modulation	and Services (If the	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 Carrier						
3.8M RSI	14000 14500	Т	Linear and Circular	768KG7W	61.0	38.17	
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 Carrier							
3.8M RSI	14000 14500	Т	Linear and Circular	7M00G7W	65.04	32.61	
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 Carrier						
3.8M RSI	14000 14500	Т	Linear and Circular	8M00G7W	65.04	32.03	

	l Data Carr							
E28. Antenna Id	Y COORDINA E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	E54/55. Range of Satellite Arc E/W 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)
3.8M RSI	Geostationary	11700 12200	15.0/ 142.0	108.2	12.7	264.2	10.9	0.0
	Geostationary	14000 14500	15.0/ 142.0	108.2	12.7	264.2	10.9	-10.97
REMOTE CO	NTROL POIN	T LOCATION		-1	<u>!</u>	!	<u>!</u>	
	ign ase enter the calls ich this applicati				. Phone Number			
E62. Street	Address							
E63. City			E67. Count	у		E64/68. State/Country		E66. Zip Code

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