

FOR  
 FCC  
 USE  
 ONLY

FCC 493 - APPLICATION FOR EARTH STATION AUTHORIZATION OR FOR MODIFICATION  
 OF STATION LICENSE  
 READ INSTRUCTIONS BEFORE COMPLETING

SECTION I (FEE PORTION)

PART I

APPLICANT NAME (Last, first, middle initial)

MAILING ADDRESS (Line 1) (Maximum 85 characters - refer to Instructions for Completing Section I, no. 2)

MAILING ADDRESS (Line 2) (if required) (Maximum 85 characters)

CITY

STATE OR COUNTRY (if foreign address)      ZIP CODE      CALL SIGN      OTHER FCC IDENTIFIER

Enter in Column (A) the correct Fee Type Code for the service you are applying for. Fee Type Codes may be found in the Common Carrier Services Fee Filing Guide. Enter in Column (B) the Fee Multiple, if applicable. Enter in Column (C) the result obtained from multiplying the value of the Fee Type Code in Column (A) by the number entered in Column (B), if any.

|     | (A)                  | (B)                           | (C)  |                      |
|-----|----------------------|-------------------------------|--|----------------------|
|     | FEE TYPE CODE        | FEE MULTIPLE<br>(if required) | FEE DUE FOR FEE TYPE<br>CODE IN COLUMN (A) | FOR FCC USE ONLY     |
| (1) | <input type="text"/> | <input type="text"/>          | \$ <input type="text"/>                    | <input type="text"/> |

PART II - To be used only when you are requesting concurrent actions which result in a requirement to list more than one Fee Type Code.

|     | (A)                  | (B)                           | (C)  |                      |
|-----|----------------------|-------------------------------|--|----------------------|
|     | FEE TYPE CODE        | FEE MULTIPLE<br>(if required) | FEE DUE FOR FEE TYPE<br>CODE IN COLUMN (A) | FOR FCC USE ONLY     |
| (2) | <input type="text"/> | <input type="text"/>          | \$ <input type="text"/>                    | <input type="text"/> |
| (3) | <input type="text"/> | <input type="text"/>          | \$ <input type="text"/>                    | <input type="text"/> |
| (4) | <input type="text"/> | <input type="text"/>          | \$ <input type="text"/>                    | <input type="text"/> |
| (5) | <input type="text"/> | <input type="text"/>          | \$ <input type="text"/>                    | <input type="text"/> |

ADD ALL AMOUNTS SHOWN IN COLUMN C, LINES (1) THROUGH (5), AND ENTER THE TOTAL HERE. THIS AMOUNT SHOULD EQUAL YOUR ENCLOSED REMITTANCE.

|   |                      |
|---|----------------------|
| TOTAL AMOUNT REMITTED WITH THIS APPLICATION OR FILING | FOR FCC USE ONLY     |
| \$ <input type="text"/>                               | <input type="text"/> |

MIDDLETON ISLAND - PRIMARY PAID  
**SPECTRUM ENGINEERING REQUEST**  
EQUIPMENT/ANTENNA/RELOCATION

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06 MAY 94

To be completed by the Spectrum Management Office Only

GMP S/N \_\_\_\_\_ AAL S/N \_\_\_\_\_  
ALASKA S/N \_\_\_\_\_ EMISSION \_\_\_\_\_  
FREQUENCY \_\_\_\_\_ DATE ENTERED SYSTEM \_\_\_\_\_  
STATION CLASS \_\_\_\_\_

Submit to AAL-483

Detailed Instructions on Reverse Side

NEW FACILITY     RELOCATION     CHANGE     DELETE

REQUEST DATE: 1/29/94    REQUIRED DATE: 8/1/94  
ORIGINATOR: Walter R. Koenig, 439 W Elmwood, Palmer    PHONE: (907)-746-7570  
ROUTING SYMBOL: N/A    PROJECT/JOB: DCA200-93-D-0004 (ANICS)

**FACILITY:**

Type of Facility ANICS (SAT COMM) ID MDO  
Location MIDDLETON ISLAND, ALASKA    Control Station ARTCC Anchorage/ZAN  
Hours of Operation 24 hr/day    Service Area Radius in Miles N/A  
Generic Location VOR/RCAG, MIDDLETON ISLAND, ALASKA

**TRANSMITTER:**

Manufacturer AYDIN CORP    Model Number V7100-20  
Co-located with VOR/RCAG, MIDDLETON ISLAND, ALASKA  
 NDB     HF     VHF     UHF     MICROWAVE     RADAR  
Type of Emission: 357K3G7WDT(QPSK), 74K7G7WDT(QPSK)  
 AM     FM     PULSE    Pulse Rate \_\_\_\_\_ Width \_\_\_\_\_  
Number of Channels 2 Carriers    Bandwidth/Deviation 357 kHz, 75 kHz/QPSK  
Power Output 8.02 Watts, 1.68 Watts (20 Watts at saturation)

**ANTENNA:**

Manufacturer SCIENTIFIC ATLANTA    Model 8136    Type 3.6 M PARABOLIC  
 Non-Directional     Directional    Polarization V\*\*    Azimuth 171.5°  
Latitude 59° 25' 47" N    Longitude 146° 20' 18" W  
Site Elevation (MSL) 110.0 ft    Antenna Height 16 (Center) ft    Gain 45.5 DB

**RECEIVER:**

Manufacturer VITACOM CORP    Model Number V7100-20  
Receiver Location MIDDLETON ISLAND, AK    Co-located with VOR/RCAG, MIDDLETON ISLAND, ALASKA

**ANTENNA:**

Manufacturer SCIENTIFIC ATLANTA    Model 8136    Type 3.6 M PARABOLIC  
 Non-Directional     Directional    Polarization H\*\*    Azimuth 171.5°  
Latitude 59° 25' 47" N    Longitude 146° 20' 18" W  
Site Elevation (MSL) 110.0 ft    Antenna Height 16 (Center) ft    Gain 41.8 DB

\*\*During life of program, polarization could change.

SATELLITE EARTH STATION  
 FREQUENCY COORDINATION DATA  
 11/01/93

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APPLICANT: HARRIS CORPORATION ATCSD

EARTH STATION NAME, STATE MIDDLETON ISLAND (MDO) AL

LATITUDE (DMS): 59 25 47.0

LONGITUDE (DMS): 146 20 18.0

GROUND ELEVATION AMSL (FEET/METERS) 100.0 / 30.5

ANTENNA CENTERLINE AGL (FEET/METERS) 12.0 / 3.7

RECEIVE ANTENNA TYPE: 36

4.0 GHZ GAIN (DBI)/DIAMETER (METERS): 41.8/ 3.6  
 3 DB/15 DB HALF BEAMWIDTH (DEG.): 0.15/0.30

TRANSMIT ANTENNA TYPE : 36

6.0 GHZ GAIN (DBI)/DIAMETER (METERS): 45.5/ 3.6  
 3 DB/15 DB HALF BEAMWIDTH (DEG.): 0.15/0.30

OPERATING MODE: TRANSMIT AND RECEIVE

RECEIVE BAND (MHZ): 3700 - 4200

TRANSMIT BAND (MHZ): 5925 - 6425

EMISSION DESIGNATOR 217KG7W & 173KG7W

MODULATION: DIGITAL

MAX. AVAILABLE RF POWER (dBW/4KHZ): -12.5 -12.5  
 (dBW/MHZ): 11.5 11.5

MAX. EIRP (dBW/4KHZ): 33.0 33.0  
 (dBW/MHZ): 57.0 57.0  
 (dBW): 50.4 49.4

MAX. PERMISSIBLE INTERFERENCE POWER

4.0 GHZ, 20% (dBW/1 MHZ) -156.0

4.0 GHZ, 0.0100% (dBW/1 MHZ) -146.0

6.0 GHZ, 20% (dBW/4KHZ) -154.0

6.0 GHZ, 0.0025% (dBW/4KHZ) -131.0

RANGE OF SATELLITE ARC IN DEGREES (MIN/MAX): 87.0/ 143.0

AZIMUTH RANGE (MIN/MAX): 117.0/ 176.1

CORRESPONDING ELEVATION ANGLES: 6.4/ 22.5

RADIO CLIMATE: B

RAIN ZONE: 3

MAX. GREAT CIRCLE COORDINATION DISTANCE (MI/KM)

4.0 GHZ: 499.5 / 803.8

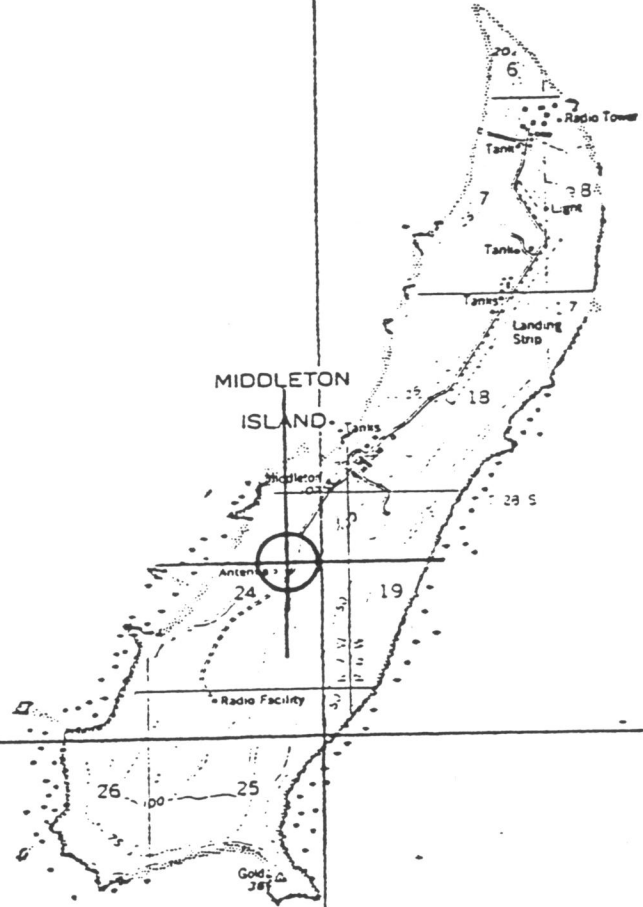
6.0 GHZ: 243.4 / 391.7

PRECIPITATION SCATTER CONTOUR RADIUS (MI/KM)

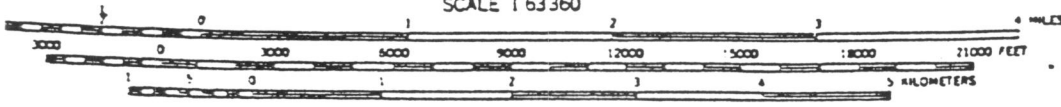
4.0 GHZ: 244.5 / 393.4

6.0 GHZ: 62.1 / 100.0

NOTE: HORIZON IS LESS THAN 0.2 DEGREES AT ALL AZIMUTHS



SCALE 1:63360



1 INCH EQUALS 1 MILE



(703) 620-6300

# SPECTRUM ENGINEERING REQUEST

## EQUIPMENT/ANTENNA/RELOCATION

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Type of Emission: 346K7G7WDT(QPSK), 64K0G7WDT(QPSK)  
 AM     FM     PULSE    Pulse Rate \_\_\_\_\_ Width \_\_\_\_\_  
Number of Channels 2 Carriers    Bandwidth/Deviation 347 kHz, 64 kHz/QPSK  
Power Output 9.1 Watts, 1.9 Watts (20 Watts at saturation)

### ANTENNA:

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