

**APPLICATION FOR NEW OR MODIFIED RADIO STATION AUTHORIZATION UNDER PART 5  
OF FCC RULES - EXPERIMENTAL RADIO SERVICE (OTHER THAN BROADCAST)**

<p>1. Applicant's Name and Post Office address (Street address, city, state, and ZIP Code. See instruction No. 4)</p> <p>HUGHES AIRCRAFT COMPANY PO BOX 92426 LOS ANGELES, CA 90009 ATTN: RADIO FREQUENCY COORDINATOR R2/V530</p>	<p style="text-align: center;"><b>DO NOT WRITE IN THIS BLOCK</b></p> <p>File No.</p> <p style="font-size: 1.5em; text-align: center;">4689-EX-R-95</p>
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<p>2(a). Application for (check only one box)  <input type="radio"/> Reinstatement, <input checked="" type="radio"/> Modification  <input type="radio"/> New station <input checked="" type="radio"/> Modification of existing authorization</p>	<p>2(b). For Modification indicate below:          File No: 0450-EX-MR-87      Call Sign: KA2XAG</p>
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3. Application for modification indicate whether change is an addition or replacement of (check all that apply)

FREQUENCY       EMISSION       POWER       LOCATION  
 OTHER PARTICULARS (describe below or in attached EXHIBIT No. 1 )

4. Particulars of Operation (see instruction below)

Frequency (state whether kHz or MHz) (A)	POWER			EMISSION (E)	MODULATING SIGNAL (F)	NECESSARY BANDWIDTH (kHz) (G)
	(B)	(C)	(D)			
150-500	50 Watts	25,000 W	Peak	PO	1-100 KHz	10,000
500-1000	1 Watt	500 W	Peak	PO	PRF .1-.3	10,000
1000-2000	10 Watts	10,000 W	Peak	PO	microsec	10,000
2000-18000	50 Watts	50,000 W	Peak	PO	pulsed for	10,000
00-38000	10 Watts	10,000 W	Peak	PO	all bands	10,000

- (A) List each frequency or frequency band separately. (If more space is required, attach as EXHIBIT No. \_\_\_\_\_ )
- (B) Insert maximum R.F. output power at the transmitter terminals. Specify units.
- (C) Insert maximum effective radiated power from the antenna (If pulsed emission, specify peak power).
- (D) Insert "MEAN" or "PEAK" (See definitions in Part 5).
- (E) List each type of emission separately for each frequency. (See Section 2.201 of FCC Rules.)
- (F) Insert as appropriate for the type of modulation:
- (1) the maximum speed of keying in bauds;
  - (2) maximum audio modulating frequency;
  - (3) frequency deviation of carrier;
  - (4) pulse duration and repetition rate.
- For complex emissions, describe in detail in the space provided below.
- (G) Describe how the necessary bandwidth was determined in space provided below.
- Bandwidth = 1 / pulse duration
- Note: Used minimum pulse duration (0.1 microseconds) for max bandwidth

5(a). Proposed location of transmitter and transmitting antenna (check only one box)

FIXED/BASE                       MOBILE                       BASE AND MOBILE

5(b). If permanently located at a fixed location, give below:

State	County	City or Town
CA	SAN DIEGO	POWAY

Number and street (or other indication of location)  
ELECTROCOM, INC. Sycamore Canyon Site A

5(d). If mobile, describe the exact area of operation

5(c). Enter geographical coordinates exact to the nearest second

North Latitude	West Longitude
32° 55' 31"	117° 01' 13"

5(e). Enter geographical coordinates of the approximate center of proposed area of operation (mobile applications)

North Latitude	West Longitude
0       '       "	0       '       "

6. Is a directional antenna (other than radar) used?

If "YES", give the following information:                       YES                       NO

(a) Width of beam in degrees at the half-power point \_\_\_\_\_  
(b) Orientation in horizontal plane \_\_\_\_\_ (c) Orientation in vertical plane \_\_\_\_\_

7. Is this authorization to be used for fulfilling the requirement of a government contract with an agency of the United States Government?                       YES                       NO

If "YES", attach as EXHIBIT No. 2 a narrative statement describing the government project, agency and contact number.

8. Is this authorization to be used for the exclusive purpose of developing radio equipment for export to be employed by stations under the jurisdiction of a foreign government?

YES                       NO

If "YES", attach as EXHIBIT No. \_\_\_\_\_ the following information: Provide the contract number and the name of the foreign government concerned.

9. Is this authorization to be used for providing communications essential to a research project? (The radio communication is not the objective of the research project).

YES                       NO

If "YES", attach as EXHIBIT No. \_\_\_\_\_ a narrative statement providing the following information:

- (a) A description of the nature of the research project being conducted.  
(b) A showing that the communications facilities requested are necessary for the research project involved.  
(c) A showing that existing communications facilities are inadequate.

If all the answers to Items 7, 8, and 9, are "NO", attach as EXHIBIT No. \_\_\_\_\_ a narrative statement describing in detail the following:

- (a) The complete program of research and experimentation proposed including description of equipment and theory of operation.  
(b) The specific objectives sought to be accomplished.  
(c) How the program of experimentation has a reasonable promise of contribution to the development, extension, expansion, or utilization of the radio art, or is along line not already investigated.

11(a). Give an estimate of the length of time that will be required to complete the program of experimentation proposed in this application.      2 years

(b) If less than 2 years, give the length of time in months that the authorization requested in this application will be required.

12. Would a Commission grant of this application come within Section 1.1307 of the FCC Rules, such that it may have a significant environmental impact?                       YES                       NO

If you answer "YES", submit an Environmental Assessment required by Section 1.1311.

13. List below transmitting equipment to be installed (if experimental, so state):

MANUFACTURER	TYPE	NO. OF UNITS
ENI	SOLID STATE AMP 550L	1
ENI	SOLID STATE AMP 601L	1
HUGHES	TRAVELING WAVE TUBE AMP 8000H SERIES	6
VARIAN	TRAVELING WAVE TUBE AMP 6900G SERIES	4

14. Is the equipment listed in Item 13 capable of station identification pursuant to Section 5.152?  YES  NO
15. Will the antenna extend more than 6 meters above the ground, or if mounted on an existing building, will it extend more than 6 meters above the building, or will the proposed antenna be mounted on an existing structure other than a building?  YES  NO

If "YES", give the following (see instruction 9):

- (a) Overall height above ground to tip of antenna is 15 meters.
- (b) Elevation of ground at antenna site above mean sea level is 304 meters.
- (c) Distance to nearest aircraft landing area is 11.5 kilometers.
- (d) List any natural formations of existing man-made structures (hills, trees, water tanks, towers, etc.) which, in the opinion of the applicant, would tend to shield the antenna from aircraft and thereby minimize the aeronautical hazard of the antenna.  
 13 meter high water tank at 350 meter elevation, 400 meters southeast of antenna location

(e) Submit as EXHIBIT No. 3 a vertical profile sketch of total structure including supporting building, if any, giving heights in meters above ground for all significant features. Clearly indicate existing portion, noting particulars of aviation obstruction lighting already available.

16. Applicant is: (Check only one box)

- INDIVIDUAL  ASSOCIATION  PARTNERSHIP  CORPORATION
- OTHER (describe below)

17. Is applicant a foreign government or a representative of a foreign government?  YES  NO

18. Has applicant or any party to this application had any FCC station license or permit revoked or had any application for permit, license or renewal denied by this Commission?  YES  NO

If "YES", attach as EXHIBIT No. \_\_\_\_\_ a statement giving call sign of license or permit revoked and relate circumstances.

Will applicant be owner and operator of the station?  YES  NO

20. Give name, title, and telephone number (include area code) of person who can best handle inquiries pertaining to this application.

DENNIS B. PAGE, RADIO FREQUENCY COORDINATOR (310) 334-8245

21. APPLICANT ANTI-DRUG ABUSE CERTIFICATION:

By checking "YES", the applicant certifies that, in the case of an individual applicant, he or she is not subject to denial of federal benefits, that includes FCC benefits, pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 862, or, in the case of a non-individual applicant (e.g., corporation, partnership, or other unincorporated association), no party to the applicant is subject to a denial of federal benefits, that includes FCC benefits, pursuant to that section. For the definition of "party" for these purposes, see 47 CFR 1.2002(b).  YES  NO

22. List below all exhibits in numerical sequence and the item number of form requiring the exhibit identified.

EXHIBIT NUMBER	ITEM NO. OF FORM	EXHIBIT NUMBER	ITEM NO. OF FORM	EXHIBIT NUMBER	ITEM NO. OF FORM
1	3				
2	7				
3	15				

23. CERTIFICATION:

Attention: Read this certification carefully before signing this application.

THE APPLICANT CERTIFIES THAT:

- (a) Copies of FCC Rule Parts 2 and 5 are on hand; and
- (b) Adequate financial appropriations have been made to carry on the program of experimentation which will be conducted by qualified personnel; and
- (c) All operations will be on an experimental basis in accordance with Part 5 and other applicable rules, and will be conducted in such a manner and at such a time as to preclude harmful interference to any authorized station; and
- (d) Grant of the authorization requested herein will not be construed as a finding on the part of the Commission:
  - (1) that the frequencies and other technical parameters specified in the authorization are the best suited for the proposed program of experimentation, and
  - (2) that the applicant will be authorized to operate on any basis other than experimental, and
  - (3) that the Commission is obligated by the results of the experimental program to make provision in its rules including its table of frequency allocations for applicant's type of operation on a regularly licensed basis.

APPLICANT CERTIFIES FURTHER THAT:

- (e) All the statements in the application and attached exhibits are true, complete and correct to the best of the applicant's knowledge; and
- (f) The applicant is willing to finance and conduct the experimental program with full knowledge and understanding of the above limitations; and
- (g) The applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the USA.

Signed and dated this 24 day of February, 19 95

Name of Applicant Hughes Aircraft Company  
(must correspond with name given on page 1)

By DENNIS B. PAGE Dennis B. Page  
(print) (signature)

Title RADIO FREQUENCY COORDINATOR

Check appropriate classification:

- Individual applicant
- Member of applicant partnership
- Authorized employee
- Office of applicant corporation or association

**WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. Code, Title 18 Section 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. Code, Title 47, Section 312(a)(1), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).**

NOTIFICATION TO INDIVIDUALS UNDER PRIVACY ACT OF 1974 AND THE PAPERWORK REDUCTION ACT OF 1980

Information requested through this form is authorized by the Communications Act of 1934, as amended, and specifically by Section 908 therein. The information will be used by Federal Communications Commission staff to determine eligibility for issuing authorizations in the use of the frequency spectrum and to effect the provisions of regulatory responsibilities rendered the Commission by the Act. Information requested by this form will be available to the public unless otherwise requested pursuant to 47 CFR 0.459 of the FCC Rules and Regulations. Your response is required to obtain this authorization.

THE FOREGOING NOTICE IS REQUIRED BY THE PRIVACY ACT OF 1974, P.L. 93-579, DECEMBER 31, 1974, 5 U.S.C. 552a(e)(3), AND THE PAPERWORK REDUCTION ACT OF 1980, P.L. 96-511, DECEMBER 11, 1980, 44 U.S.C. 3507.