

United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
RADIO STATION CONSTRUCTION PERMIT
AND LICENSE

EXPERIMENTAL
(Nature of Service)

K O 2 X A E
(Call Sign)

XD MO
(Class of station)

3971-EX-MR-93
(File number)

NAME BELL COMMUNICATIONS RESEARCH, INC.

Mobile: Within Continental United States
(Location of station)

Subject to the provisions of the Communications Act of 1934, subsequent acts, and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions and requirements set forth in this license, the licensee hereof is hereby authorized to use and operate the radio transmitting facilities hereinafter described for radio communications.

Frequency	Authorized Power (watts)	Emission Designator
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See Page 2 attached

Frequency Tolerance: .01% Below 50 MHz; .005% from 50 to 450 MHz;
.05% above 450 MHz

Operation: In accordance with Sec. 5.202(a) of the Commission's Rules.

Special Conditions:

1. The station identification requirements of Section 5.152 of the Commission's rules are waived.
2. Transmissions in the 3700-4200 MHz band shall be based on prior coordination with existing earth station licensees located within the coordination distance contours.
3. All operation on Common Carrier frequencies is subject to prior coordination with authorized independent or MCC users in operational area.
4. Operation on 454.375-454.45 and 459.375-459.45 MHz is limited to an output power of 250 watts.
5. Subject to coordination with the Area Frequency Coordinator located at White Sands Missile Range, New Mexico, prior to use in the State of NM or other US Territory within a 150 mile radius of WSMR plus the area of Utah and Colorado that lies South of 41 degrees North and between 108 degrees and 111 degrees West.

This authorization effective December 1, 1993 and
will expire 3:00 A.M. EST December 1, 1995

FEDERAL
COMMUNICATIONS
COMMISSION

Frequency (MHz)	Emission Designator	Authorized Power (watts)
35.16, 43.16	20K0F3E	100
35.22-35.66	N0N/8K00A2B/A3E/R3E/B3E/36K0F3E	500
43.22-43.66	N0N/8K00A2B/A3E/R3E/B3E/36K0F3E	500
152.51-152.81	N0N/8K00A2B/A3E/40K0F2B/F3E	600
157.77-158.07	N0N/8K00A2B/A3E/40K0F2B/F3E	600
152.486, 152.834	10K2F2B/15K0F2B/16K0F3E	20
152.84, 157.746	10K2F2B/15K0F2B/16K0F3E	20
158.094, 158.10	10K2F2B/15K0F2B/16K0F3E	20
454.375-454.45	N0N/8K0A2B/A3E/80K0F2B/F3E	600
454.45-454.975	N0N/8K0A2B/A3E/80K0F2B/F3E	600
459.375-459.45	N0N/8K0A2B/A3E/80K0F2B/F3E	600
459.45-459.975	N0N/8K0A2B/A3E/80K0F2B/F3E	600
806-890	N0N/30K0F2B/F3E/F7W/8K00R3E/J3E/A7W	300
806-890	80M0A7W	10
890-902	N0N/150KF3E/F3F/F8W	20
928-940	N0N/150KF3E/F3F/F8W	20
1850-1990	N0N/10M0F1B/F2B/F3E/F7B/80M0A7W	10
2110-2130	N0N/10MF1B/F2B/F3E/F7B	4000
2160-2180	N0N/10MF1B/F2B/F3E/F7B	4000
3700-4200	N0N/20MF2B/F3E/F8W/F7B	20
3700-4200	20M0B2B/B8W	250
3700-4200	80M0A7W	10
5925-6575	N0N/30MF2B/F3E/F3F/F8W/F7W	20
5925-6575	30M0B2B/B8W	250
10550-10680	N0N/5M00F8W	10
10700-11700	N0N/40MF2B/F3E/F3F/F8W/F7W	50
11700-12200	N0N/5M00F8W	10
17700-19300	N0N/220MF1B/F2B/F3E/F7W/F8W	20
17700-19300	N0N/700MF1B/F2B/F3E/F7B/F8W	20
19400-19700	N0N/700MF1B/F2B/F3E/F7B/F8W	20
19400-19700	N0N/220MF1B/F2B/F3E/F7W/F8W	20
21800-23200	N0N/16M0A8W	10
27500-29500	N0N/60M0F3E/4M00F9W/60M0F9W/220MD9W/20M0F3E	300
38600-40000	N0N/50M0F3E/4M00F9W/50M0F9W/20M0F3E	300

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

1. Applicant's Name and Post Office address (Street address, city, state, and ZIP Code. See instruction No. 4) Bell Communications Research, Inc. 290 W. Mt. Pleasant Avenue Livingston, NJ 07039 Attn: K. M. Falkenthal, Rm-2B-250	DO NOT WRITE IN THIS BLOCK File No. 3971-EX MR-93
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2(a). Application for (check only one box)

- ☐ New station ☒ Modification of existing authorization

2(b). For Modification indicate below:

File No: 9318 EX-MR-91 Call Sign: K02XAE

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. _____)

4. Particulars of Operation (see instruction below)

Frequency (state whether kHz or MHz)	POWER			EMISSION	MODULATING SIGNAL	NECESSARY BANDWIDTH kHz MHz
(A)	(B)	(C)	(D)	(E)	(F)	(G)
27500-29500		300	MEAN	20M0F3E		20
38600-40000		300	MEAN	20M0F3E		20

- (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.

Carsons' Rule for 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

Number and street (or other indication of location)

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

Within Continental United States

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

North Latitude

0

West Longitude

0

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

North Latitude

0

West Longitude

0

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

If "YES", give the following information:

☐ YES

☐ NO

Base stations will be both directional and non directional pattern

(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. _____ 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.

10. 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. See addendum as filed October 29, 1983, with original application

(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

Experimental and composit

14. Is the equipment listed in Item 13 capable of station identification pursuant to Section 5.152? ☐ YES ☐ NO
 Waiver of identification requirement of Section 5.752 requested all operational use be pre-coordinated
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 _____ meters.
- (b) Elevation of ground at antenna site above mean sea level is _____ meters.
- (c) Distance to nearest aircraft landing area is _____ 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.

- (e) Submit as EXHIBIT No. _____ 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.

19. 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.

K. M. Falkenthal (201) 740-4510

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

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 12th day of October, 1993

Name of Applicant Bell Communications Research, Inc.

(best correspond with name given on page 1)

By R.A. Meese

(print)

(signature)

Title VP Human Resources & External Affairs

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 308 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.

Belcore

 Bell Communications Research

Robert A. Messe
Vice President
Human Resources and External Affairs

290 West Mt. Pleasant Avenue
Post Office Box 486
Livingston, New Jersey 07039-0486
201-740-6700

October 12, 1993

Federal Communications Commission
Experimental Radio Service
P. O. Box 358320
Pittsburgh, PA 15251-5320

Gentlemen:

Attached for your consideration is an FCC Form 442 modifying Bellcore's Experimental License K02XAE to add emission designators, not presently authorized on our license for the frequency bands 27500-29500 MHz and 38600-40000 MHz.

If additional information is required, we will be glad to provide it. Please forward any correspondence to the attention of K. M. Falkenthal at 290 W. Mt. Pleasant Avenue, Room 2B-250, Livingston, NJ 07039.



Attachments:

FCC FORM 442

FOR
FCC
USE
ONLY

10-14-93 8320285 006

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

SECTION I

APPLICANT NAME (Last, first, middle initial)

BELL COMMUNICATIONS RESEARCH, INC.

MAILING ADDRESS (Line 1) (Maximum 85 characters - refer to instruction (2) on reverse of form)

@() W. Mt. Pleasant Avenue - Rm 2B-250

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

CITY
Livingston

STATE OR COUNTRY (if foreign address)

NJ

ZIP CODE

07039

CALL SIGN OR OTHER FCC IDENTIFIER (if applicable)

K02XAE

Enter in Column (A) the correct Fee Type Code for the service you are applying for. Fee Type Codes may be found in FCC Fee Filing Guides. 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) FEE TYPE CODE	(B) FEE MULTIPLE (if required)	(C) FEE DUE FOR FEE TYPE CODE IN COLUMN (A)	FOR FCC USE ONLY									
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SECTION 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) FEE TYPE CODE	(B) FEE MULTIPLE (if required)	(C) FEE DUE FOR FEE TYPE CODE IN COLUMN (A)	FOR FCC USE ONLY									
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