

Crawfords Corner Road, Holmdel, New Jersey 07733-1988  
 United States of America  
 FEDERAL COMMUNICATIONS COMMISSION  
 EXPERIMENTAL  
 SPECIAL TEMPORARY AUTHORIZATION

<u>EXPERIMENTAL</u> (Nature of Service)	<u>KE2XGF</u> (Call Sign)
<u>XR FX</u> (Class of station)	<u>S-0302-EX-90</u> (File number)
<u>NAME AT &amp; T BELL LABORATORIES</u>	
<u>Vicinity of Holmdel and Murray Hill, New Jersey</u> (Location of station)	

Special Temporary Authority is hereby granted to operate the radio transmitting apparatus described below:

Frequency MHz	Authorized Power (watts)	Emission Designator
19000	1 (ERP)	1G00W7D
22000	1 (ERP)	1G00W7D

This special temporary authorization is granted upon the express condition that it may be terminated by the Commission at any time without advance notice or hearing if in its discretion the need for such action arises. Nothing contained herein shall be construed as a finding by the Commission that the authority herein granted is or will be in the public interest beyond the express terms hereof.

This special temporary authorization shall not vest in the grantee any right to operate the station nor any right in the use of the frequencies designated in the authorization beyond the term hereof, nor in any other manner than authorized herein. Neither the authorization nor the right granted hereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934. This authorization is subject to the right of use of control by the Government of the United States conferred by Section 706 of the Communications Act of 1934.

This authorization effective August 17, 1990 and December 31, 1990  
 will expire 3:00 A.M. EST. December 31, 1990

FEDERAL  
 COMMUNICATIONS  
 COMMISSION

S-030-EX-90



AT&T Bell Laboratories

Crawfords Corner Road  
Holmdel, New Jersey 07733-1988  
201 949-3000

August 15, 1990

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

Gentlemen:

This is to request a Special Temporary Authority (STA) for our radio station license KE2XGF File 1361-EX-R-87 for a period of five months from August 1, 1990 to December 31, 1990. Previous testing at microwave frequencies has been successful, but we now need to study the characteristics of high data rate channels at millimeter wave frequencies to determine the effects of multipath and cross-polarization coupling on digital signals.

The attachment to this request gives all the pertinent technical information relative to these additional tests. We also request that the station identification requirements of Sec. 5.152 of the commissions Rules again be waived.

We are aware that commercial use of the previously reserved channels is now authorized and we will coordinate our use of the reserved frequencies to avoid interference.

We thank you for your previous assistance, and we trust that the information furnished is sufficient for the commission's purposes. should any additional information be required we will be glad to accommodate you.

yours truly,

A handwritten signature in cursive script that reads "Fred Koehler".

F. J. Koehler  
Telecommunications  
Services Analyst

Copy to:  
M.D. Lempert  
M.J. Gans  
S. Gardner

S-0201?  
*[Handwritten signature]*

**EQUIPMENT:**

Experimental - AT&T Bell Laboratories

**FREQUENCIES:**

1 Duplex channel in the reserve bands 17.7 to 19.7 GHz and 21.2 to 23.6 GHz  
Mobile XMIT 19.000 GHz (Cell Site Receive)  $\pm 1.0$ ppm  
Cell Site XMT 22.000 GHz (Mobile Receive)  $\pm 1.0$ ppm

**Power:**

Not to exceed  
Cell Site Station - 1 watt ERP  
Mobile Station - 1 watt ERP

**EMISSIONS:**

19.000 GHz 1GOW7D  
22.000 GHz 1G0w7d

**Experimental Spectrum**

4 Quadrature phase Modulation  
Bit rate fixed for any test but can vary from 40 Mb/s - 1 Gb/s

**ANTENNA & LOCATION:**

Mobile and Call Site Consistent with the requirements of Antennas class a. US FCC Part 21 and 94  
47.9db gain parabolic Andrew HPX6-180 or  
49.7db gain parabolic Andrew HPX6-220  
0.65 degrees vertical and horizontal beamwidths.  
Antennas may be mounted on 80 ft. tower at Murray Hill or 20 ft. tower at Crawford Hill.  
These towers are presently used at lower frequencies and conform to FCC requirements.  
Antennas may also be mounted on the existing Holmdel Building and do not extend more than 6 meters above the building.

**TRANSMISSION LOCATIONS:**

**Latitude 40° 21' 52" North AT&T Bell Laboratories  
Longitude 74° 10' 28" West Crawford Corners Road  
Holmdel, New Jersey 07733-1988**

**Latitude 40° 23' 38" North AT&T Bell Laboratories  
Longitude 74° 11' 06" West Keyport Holmdel Road  
Crawford Hill Laboratory  
Holmdel, N.J. 07733-0400**

**Latitude 40° 40' 55" North AT&T Bell Laboratories  
Longitude 74° 23' 41" West 600 Mountain Avenue  
Murray Hill, New Jersey 07974-2070**

**POINT OF CONTACT:**

**M.J.Gans  
Room HOH R-215  
201-888-7142**

Approved by OMB  
3080-0440  
Expires 12/31/90

FEDERAL COMMUNICATIONS COMMISSION  
FEE PROCESSING FORM

FCC  
FEE  
TYPE  
CODE  
08-31-90 8320078 003  
FCC/MELLON AUG 30 1990

Please read instructions on back of this form before completing it. Section I MUST be completed for concurrent actions which require you to list more than one Fee Type Code, you must also complete Section II. This form must accompany all payments. Only one Fee Processing Form may be submitted per application or filing. Please type or print legibly. All required blocks must be completed or application/filing will be returned without action.

SECTION I

APPLICANT NAME (Last, first, middle initial) FRED KOEHLER 610 AMERICAN TELEPHONE AND TELEGRAPH BELL LABORATORIES.

MAILING ADDRESS (Line 1) (Maximum 35 characters - refer to instruction (2) on reverse of form)  
CRAWFORDS CORNER, RD,

MAILING ADDRESS (Line 2) (if required) (Maximum 35 characters)  
ROOM 1F-320

CITY  
HOLMDEL

STATE OR COUNTRY (if foreign address) NEW JERSEY ZP CODE 07733 CALL SIGN OR OTHER FCC IDENTIFIER (if applicable)

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)	(B)	(C)	
FEE TYPE CODE	FEE MULTIPLE (if required)	FEE DUE FOR FEE TYPE CODE IN COLUMN (A)	FOR FCC USE ONLY
(1) E A E	1	\$ 35.00	

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)	(B)	(C)	
FEE TYPE CODE	FEE MULTIPLE (if required)	FEE DUE FOR FEE TYPE CODE IN COLUMN (A)	FOR FCC USE ONLY
(2) [ ] [ ] [ ]	[ ] [ ] [ ] [ ]	\$ [ ] [ ] [ ] [ ]	
(3) [ ] [ ] [ ]	[ ] [ ] [ ] [ ]	\$ [ ] [ ] [ ] [ ]	
(4) [ ] [ ] [ ]	[ ] [ ] [ ] [ ]	\$ [ ] [ ] [ ] [ ]	
(5) [ ] [ ] [ ]	[ ] [ ] [ ] [ ]	\$ [ ] [ ] [ ] [ ]	

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
\$ 35.00	35.00