

READ INSTRUCTIONS CAREFULLY
BEFORE PROCEEDING

FEDERAL COMMUNICATIONS COMMISSION
REMITTANCE ADVICE

APPROVED BY OMB 3060-0580

(1) LOCKBOX # 358320

PAGE NO. 1 OF 1

SECTION A - PAYER INFORMATION

(2) PAYER NAME (if paying by credit card, enter name exactly as it appears on your card)
Satellite CD Radio, Inc.

(3) TOTAL AMOUNT PAID (dollars and cents)
\$ 45.00

(4) STREET ADDRESS LINE NO. 1
1221 Avenue of the Americas

(5) STREET ADDRESS LINE NO. 2
37th Floor

(6) CITY
New York

(7) STATE
NY

(8) ZIP CODE
10020

(9) DAYTIME TELEPHONE NUMBER (include area code)
212-584-5204

(10) COUNTRY CODE (if not in U.S.A.)

IF PAYER NAME AND THE APPLICANT NAME ARE DIFFERENT, COMPLETE SECTION B.
IF MORE THAN ONE APPLICANT, USE CONTINUATION SHEETS (FORM 750-C)

SECTION B - APPLICANT INFORMATION

(11) APPLICANT NAME (if paying by credit card, enter name exactly as it appears on your card)

(12) STREET ADDRESS LINE NO. 1

(13) STREET ADDRESS LINE NO. 2

(14) CITY

(15) STATE

(16) ZIP CODE

(17) DAYTIME TELEPHONE NUMBER (include area code)

(18) COUNTRY CODE (if not in U.S.A.)

SECTION C - PAYMENT INFORMATION

(19A) FCC CALL SIGN/OTHER ID
New

(20A) PAYMENT TYPE CODE (PTC)
E A E

(21A) QUANTITY
1

(22A) FEE DUE FOR (PTC) IN BLOCK 20A
\$ 45.00

(23A) FCC CODE 1

(24A) FCC CODE 2

(19B) FCC CALL SIGN/OTHER ID

(20B) PAYMENT TYPE CODE (PTC)

(21B) QUANTITY

(22B) FEE DUE FOR (PTC) IN BLOCK 20B

(23B) FCC CODE 1

(24B) FCC CODE 2

(19C) FCC CALL SIGN/OTHER ID

(20C) PAYMENT TYPE CODE (PTC)

(21C) QUANTITY

(22C) FEE DUE FOR (PTC) IN BLOCK 20C

(23C) FCC CODE 1

(24C) FCC CODE 2

(19D) FCC CALL SIGN/OTHER ID

(20D) PAYMENT TYPE CODE (PTC)

(21D) QUANTITY

(22D) FEE DUE FOR (PTC) IN BLOCK 20D

(23D) FCC CODE 1

(24D) FCC CODE 2

SECTION D - IDENTIFICATION INFORMATION REQUIRED

(25) PAYER TIN
5 2 1 7 0 0 2 0 7

APPLICANT TIN

SECTION E - CERTIFICATION

(27) CERTIFICATION STATEMENT

I, Mark Gaudino, Certify under penalty of perjury that the foregoing and supporting information
(PRINT NAME)
are true and correct to the best of my knowledge, information and belief. SIGNATURE *Mark Gaudino*

SECTION F - CREDIT CARD PAYMENT INFORMATION

(28) MASTERCARD/OTHER ACCOUNT NUMBER
MASTERCARD

EXPIRATION DATE
MONTH YEAR

(29) VISA
I hereby authorize the FCC to charge my VISA or MASTERCARD
for the services/fees/charges herein specified.

AUTHORIZED SIGNATURE DATE

FCC FORM 442

FOR
FCC
USE
ONLY

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)
SATELLITE CD RADIO, INC.

MAILING ADDRESS (Line 1) (Maximum 96 characters - refer to Instruction (2) on reverse of form)
1221 AVENUE OF THE AMERICAS

MAILING ADDRESS (Line 2) (if required) (Maximum 96 characters)
37TH FLOOR

CITY
NEW YORK

STATE OR COUNTRY (if foreign address)
NEW YORK

ZIP CODE
10020

CALL SIGN OR FILE NUMBER
NEW

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)	FOR FCC USE ONLY
FEE TYPE CODE	FEE MULTIPLE (if required)	FEE DUE FOR FEE TYPE CODE IN COLUMN (A)	
(1) E A E	1	\$ 45.00	

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)	FOR FCC USE ONLY
FEE TYPE CODE	FEE MULTIPLE (if required)	FEE DUE FOR FEE TYPE CODE IN COLUMN (A)	
(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
\$ 45.00	

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) SATELLITE CD RADIO, INC 1221 Avenue of the Americas 37th Floor New York, NY 10020	DO NOT WRITE IN THIS BLOCK File No.
---	--

2(a). Application for (check only one box) <input checked="" type="checkbox"/> New station <input type="checkbox"/> Modification of existing authorization	2(b). For Modification indicate below: File No: _____ Call Sign: _____
---	--

3. Application for Modification: Check the box beside all particulars to be modified. Check either addition or replacement to indicate whether the change is an addition or a replacement of parameters in the current authorization.

FREQUENCY - EMISSION - POWER - LOCATION -
 addition or replacement? addition or replacement? addition or replacement? addition or replacement?

OTHER PARTICULARS - addition or replacement? (Describe below or in attached EXHIBIT No. _____)

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)			
2326.25 MHz	20W	640W	PEAK	A-1	NONE	50 KHZ

- (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). Specify units.
- (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.

12. Is the equipment listed in Item 18 capable of station identification pursuant to Section 5152? YES NO
13. 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 62 meters (average)
- (b) Elevation of ground at antenna site above mean sea level is various meters.
- (c) Distance to nearest aircraft landing area is various 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.

None

(e) Submit as EXHIBIT No. Two & Three 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.

13. Applicant is (check only one box)
- INDIVIDUAL ASSOCIATION PARTNERSHIP CORPORATION
- OTHER (describe in space provided 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), and Internet e-mail address (if applicable) of person who can best handle inquiries pertaining to this application.

Mark Gaudino, Vice President, Terrestrial Network, 212-584-5230, mgaudino@cdradio.com

21. APPLICANT ANTI-DRUG ABUSE CERTIFICATION:
- By checking "YES", the individual applicant certifies that he or she is eligible for this license. This requires that he or she is not subject to a denial of federal benefits, including FCC benefits, as a result of a drug offense conviction pursuant to Section 6001 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 802. A non-individual applicant, e.g., corporation, partnership or other unincorporated association, certifies that no party to the application is subject to a denial of federal benefits, pursuant to that section. For definition of a "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	10				
2	15				
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.

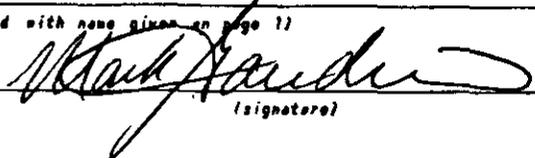
APPLICANT CERTIFIES FURTHER THAT:

- (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 20 day of September, 19 99

Name of Applicant SATELLITE CD RADIO, INC.

(not correspond with name given on page 1)

By Mark Gaudino 
(print) *(signature)*

Title Vice President, Terrestrial Network

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 specified by Section 808 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 by the Commission by the Act. Information requested by this form will be available to the public unless otherwise requested pursuant to 47 CFR 0.469 of the FCC Rules and Regulations. Your response is required to obtain this authorization.

Public reporting burden for this collection of information is estimated to average four (4) hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden to the Federal Communications Commission, Records Management Branch, Paperwork Reduction Project (3080-0085), Washington, DC 20554. DO NOT send completed applications to this address. Individuals are not required to respond to this collection unless it displays a currently valid OMB control number.

THE FOREGOING NOTICE IS REQUIRED BY THE PRIVACY ACT OF 1974, P.L. 93-579, DECEMBER 31, 1974, 5 U.S.C. 552a(e)(6), AND THE PAPERWORK REDUCTION ACT OF 1980, P.L. 96-511, DECEMBER 11, 1980, 44 U.S.C. 3607.

Description of Experiment (Item 10)

By this application, CD Radio, Inc. ("CD Radio"), will begin drive testing selected locations utilizing S-Band portable test transmitters as part of its Satellite Digital Audio Radio Service ("SDARS") nationwide buildout. The overall purpose of the requested nationwide STA (Special Temporary Authority) is to locate, verify and evaluate predicted coverage areas for desired CD Radio terrestrial repeater locations in the major urban cities across the country. CD Radio expects that this effort will yield significant information regarding receive signal characteristics in those urban areas.

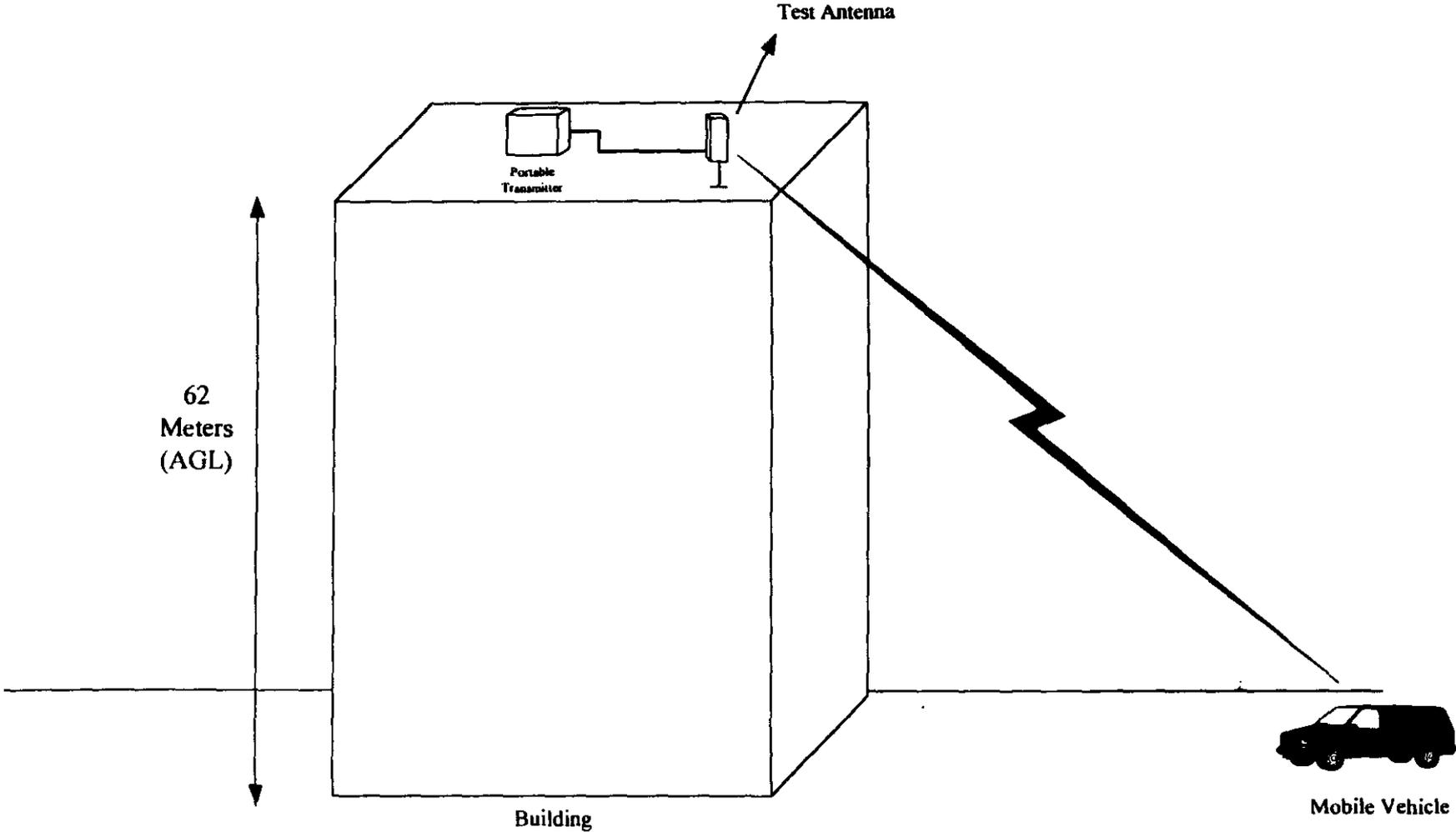
The equipment that CD Radio plans to install at these temporary locations is not the same as the terrestrial repeater equipment configurations that we are designing as part of our nationwide commercial service. This equipment will only be used to assist CD Radio in identifying and selecting appropriate site locations. Test equipment site installations in each city will be only temporary and will be de-installed upon completion of testing. All temporary site installations in each city will be operational for less than (1) one week.

Specifically, CD Radio plans:

1. To set up and activate portable type accepted test transmitters (dimensions 18" x 16" x 7") at selected locations. This includes temporary installation of one antenna (either omni or directional) on a roof top or tower location. Also, this installation utilizes a single 20-foot coaxial jumper cable connection with standard power (110V/220V) hook up.
2. To select transmission parameters and configurations:
 - a) Various transmit power levels to a maximum of 20 watts

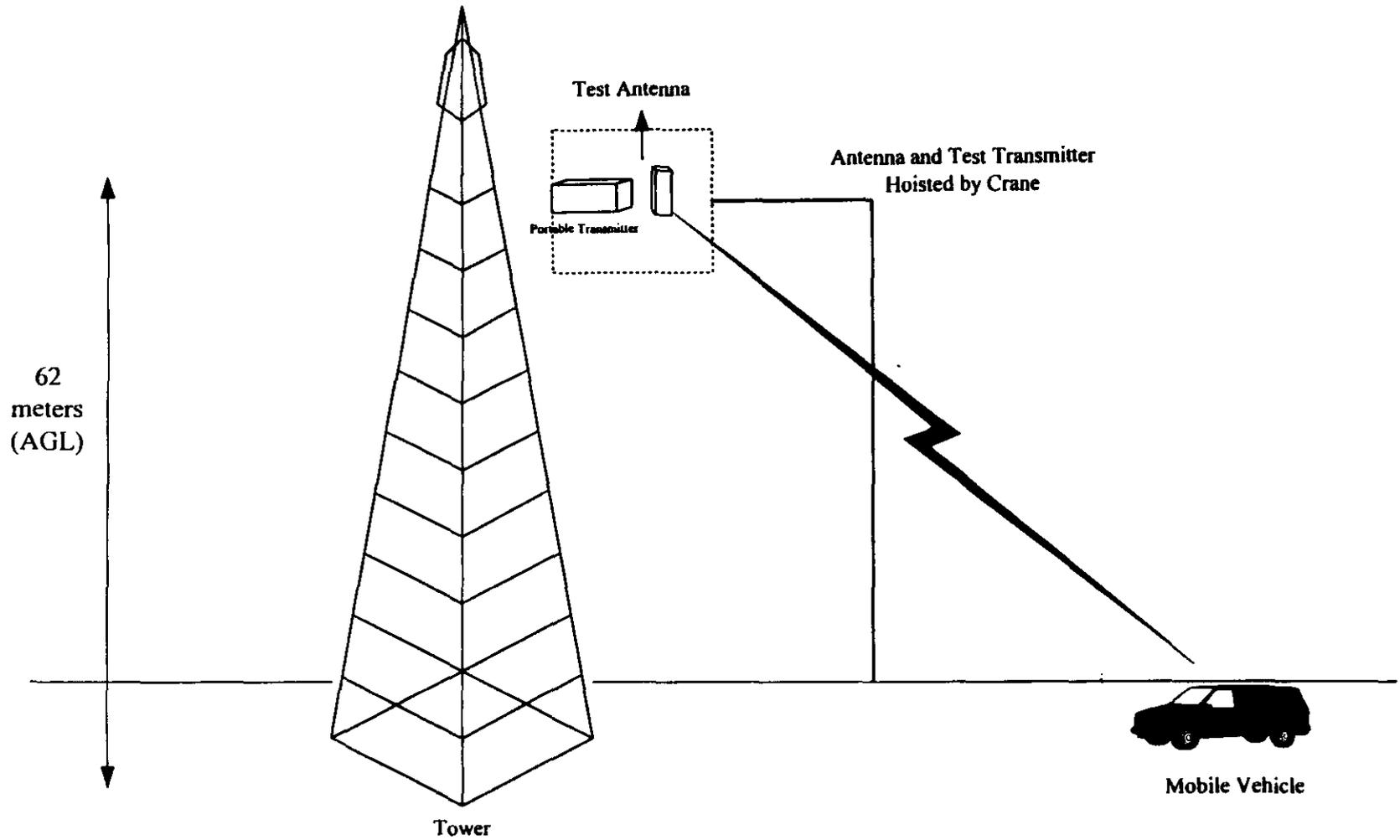
- b) Choose either omni (360°) antenna or directional (beamwidth 45°, 60°, 90°, 120° or 160°) antenna configurations
 - c) Center Antenna transmit line approximately 200 feet AGL (Above Ground Level)
 - d) Transmit center frequency set at 2326.25 MHz
 - e) Corresponding antenna gain to 15 dBi with respect to beamwidth selection
3. To perform drive tests and measurements at various coordinates in the vicinity of potential repeater locations to properly characterize receive signal strength. This involves the collection of measurements using portable type accepted test receivers (dimensions 9" x 7.5" x 4.5") with laptop computer interface in a mobile vehicle. Also, a magnetic mount antenna is used in conjunction with the test receiver.
 4. To perform test and measurements in the major urban cities across the country. CD Radio anticipates 3 – 4 days of testing and data collection per city.
 5. Upon completion of tests and measurements in each city, the test equipment will be de-installed, packed and shipped to another city for use in that city.

**Description of Temporary Rooftop Test Installation
(Item 15)**



**Description of Temporary Tower Test Installation
(Item 15)**

FCC FORM 442
EXHIBIT THREE
SEPTEMBER 1999





75704-1
2000 Pleading

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

EXPERIMENTAL
(Nature of Service)

WA2XXE
(Call Sign)

XD FX
(Class of Station)

0252-EX-ML-1999
(File Number)

NAME Satellite CD Radio, Inc.

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 in accordance with the program of experimentation described by the licensee in its application for license.

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

Station Locations

(1) US

Frequency Information

US

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2320-2345 MHz	FX	XXX	50 kW (ERP)	

Special Conditions:

(1) The station identification requirements of Section 5.152 of the Commission's Rules are waived.

This authorization effective OCT 14, 1999 and
will expire 3:00 A.M. EST OCT 01, 2001

FEDERAL
COMMUNICATIONS
COMMISSION



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>SATELLITE CD RADIO, INC 1221 Avenue of the Americas 37th Floor New York, NY 10020</p>	<p style="text-align: center;">DO NOT WRITE IN THIS BLOCK</p> <p>File No.</p> <p style="font-size: 2em; text-align: center;">0252-EX-PL-1999</p>
--	--

<p>2(a). Application for (check only one box)</p> <p><input checked="" type="checkbox"/> New station <input type="checkbox"/> Modification of existing authorization</p>	<p>2(b). For Modification Indicate below:</p> <p>File No: _____ Call Sign: _____</p>
---	---

3. Application for Modification: Check the box beside all particulars to be modified. Check either addition or replacement to indicate whether the change is an addition or a replacement of parameters in the current authorization.

- | | | | |
|--|--|--|--|
| <input type="checkbox"/> FREQUENCY - | <input type="checkbox"/> EMISSION - | <input type="checkbox"/> POWER - | <input type="checkbox"/> LOCATION - |
| <input type="checkbox"/> addition or <input type="checkbox"/> replacement? |
- OTHER PARTICULARS - addition or replacement? Describe below or in attached EXHIBIT No. _____)

4. Particulars of Operation (see instruction below)

Frequency (state whether MHz or kHz)	POWER			EMISSION	MODULATING SIGNAL	NECESSARY BANDWIDTH (kHz)
	(B)	(C)	(D)			
2326.25 MHz	20W	640W	PEAK	A-1	NONE	50 KHZ

- (A) List each frequency or frequency band separately. (If more space is required, attach as EXHIBIT No. _____)
- (B) Insert maximum R.P. output power at the transmitter terminals. Specify units.
- (C) Insert maximum effective radiated power from the antenna (if pulsed emission, specify peak power). Specify units.
- (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.

5(a). Proposed location of transmitter and transmitting antenna (check only one box to indicate type of operation):
 FIXED/BASE Temporary 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)		
Nationwide		

5(c). If mobile, describe the exact area of operation
 Receive only - vehicular
 Nationwide

5(d)(1). Enter geographical coordinates exact to the nearest second (see instruction 10)

North Latitude (DD-MM-SS)	West Longitude (DD-MM-SS)	North Latitude	West Longitude
N/A	N/A	N/A	N/A

5(d). Datum (see instruction 10): .. N/A..... NAD 27 NAD 83

6. Is a directional antenna (other than radar) used? YES NO
 If "YES", give the following information:
 (a) Width of beam in degrees at the half-power point 45, 60, 90, 120 or 160 degrees
 (b) Orientation in horizontal plane 0, 90, 180, 270 degrees (c) Orientation in vertical plane 0, 0, 0, 0

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. One _____ 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: 1 year
 (b) If less than 2 years, give the length of time in months that the authorization requested in this application will be required: 6 months to 12 months

12. Would a Commission grant of this application come within Section 11807 of the FCC Rules, such that it may have a significant environmental impact (see instruction 10)? YES NO
 If "YES", attach as EXHIBIT No. _____ an Environmental Assessment as required by Section 11811.

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

MANUFACTURER	MODEL NUMBER	NO. OF UNITS
Berkeley Vartronic	0040-20A-W	8

12. Is the equipment listed in Item 18 capable of station identification pursuant to Section 5.152? YES NO
13. 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 62 meters (average)
- (b) Elevation of ground at antenna site above mean sea level is various meters.
- (c) Distance to nearest aircraft landing area is various 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.

None

(e) Submit as EXHIBIT No. Two & Three 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.

13. Applicant is (check only one box)
- INDIVIDUAL ASSOCIATION PARTNERSHIP CORPORATION
- OTHER (describe in space provided below)

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

15. 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.

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

17. Give name, title, and telephone number (include area code), and Internet e-mail address (if applicable) of person who can best handle inquiries pertaining to this application.

Mark Gaudino, Vice President, Terrestrial Network, 212-584-5230, mgaudino@cdradio.com

18. APPLICANT ANTI-DRUG ABUSE CERTIFICATION:

By checking "YES", the individual applicant certifies that he or she is eligible for this license. This requires that he or she is not subject to a denial of federal benefits, including FCC benefits, as a result of a drug offense conviction pursuant to Section 5601 of the Anti- Drug Abuse Act of 1988, 21 U.S.C. 882. A non- individual applicant, e.g., corporation, partnership or other unincorporated association, certifies that no party to the application is subject to a denial of federal benefits, pursuant to that section. For definition of a "party" for these purposes, see 47 CFR 1.2002(b).

YES NO

19. 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	10				
2	15				
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.

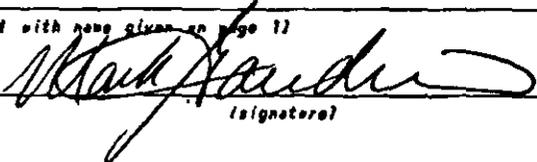
APPLICANT CERTIFIES FURTHER THAT:

- (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 20 day of September, 19 99

Name of Applicant SATELLITE CD RADIO, INC.

(best correspond with name given on page 1)

By Mark Gaudino 
(print) *(signature)*

Title Vice President, Terrestrial Network

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 specified by Section 808 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 by 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.

Public reporting burden for this collection of information is estimated to average four (4) hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden to the Federal Communications Commission, Records Management Branch, Paperwork Reduction Project (3080-0085), Washington, DC 20554. DO NOT send completed applications to this address. Individuals are not required to respond to this collection unless it displays a currently valid OMB control number.

THE FOREGOING NOTICE IS REQUIRED BY THE PRIVACY ACT OF 1974, P.L. 93-579, DECEMBER 31, 1974, 5 U.S.C. 552a(e)(6), AND THE PAPERWORK REDUCTION ACT OF 1980, P.L. 96-511, DECEMBER 11, 1980, 44 U.S.C. 3507.

Description of Experiment (Item 10)

By this application, CD Radio, Inc. ("CD Radio"), will begin drive testing selected locations utilizing S-Band portable test transmitters as part of its Satellite Digital Audio Radio Service ("SDARS") nationwide buildout. The overall purpose of the requested nationwide STA (Special Temporary Authority) is to locate, verify and evaluate predicted coverage areas for desired CD Radio terrestrial repeater locations in the major urban cities across the country. CD Radio expects that this effort will yield significant information regarding receive signal characteristics in those urban areas.

The equipment that CD Radio plans to install at these temporary locations is not the same as the terrestrial repeater equipment configurations that we are designing as part of our nationwide commercial service. This equipment will only be used to assist CD Radio in identifying and selecting appropriate site locations. Test equipment site installations in each city will be only temporary and will be de-installed upon completion of testing. All temporary site installations in each city will be operational for less than (1) one week.

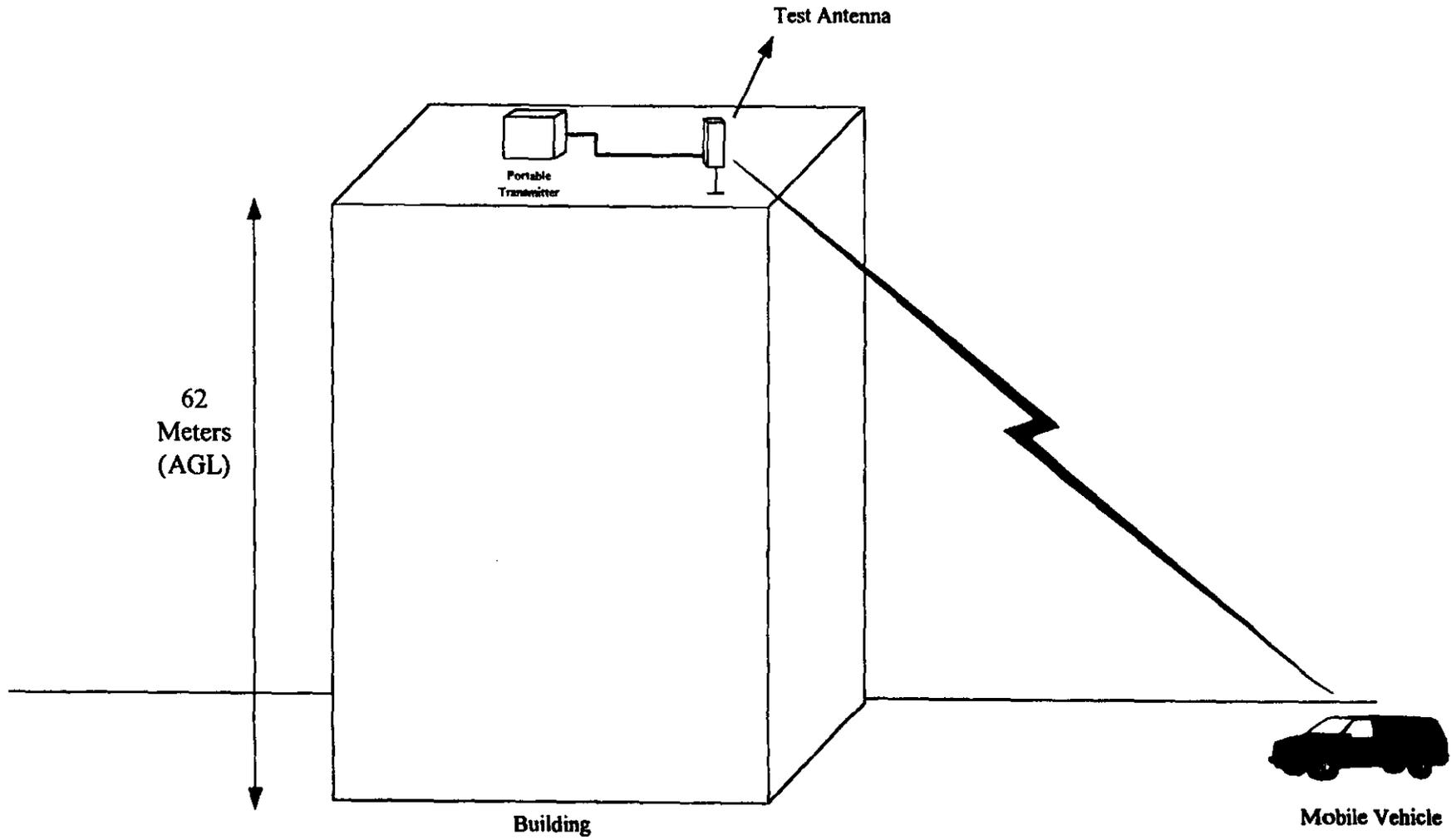
Specifically, CD Radio plans:

1. To set up and activate portable type accepted test transmitters (dimensions 18" x 16" x 7") at selected locations. This includes temporary installation of one antenna (either omni or directional) on a roof top or tower location. Also, this installation utilizes a single 20-foot coaxial jumper cable connection with standard power (110V/220V) hook up.
2. To select transmission parameters and configurations:
 - a) Various transmit power levels to a maximum of 20 watts

- b) Choose either omni (360°) antenna or directional (beamwidth 45°, 60°, 90°, 120° or 160°) antenna configurations
 - c) Center Antenna transmit line approximately 200 feet AGL (Above Ground Level)
 - d) Transmit center frequency set at 2326.25 MHz
 - e) Corresponding antenna gain to 15 dBi with respect to beamwidth selection
3. To perform drive tests and measurements at various coordinates in the vicinity of potential repeater locations to properly characterize receive signal strength. This involves the collection of measurements using portable type accepted test receivers (dimensions 9" x 7.5" x 4.5") with laptop computer interface in a mobile vehicle. Also, a magnetic mount antenna is used in conjunction with the test receiver.
 4. To perform test and measurements in the major urban cities across the country. CD Radio anticipates 3 – 4 days of testing and data collection per city.
 5. Upon completion of tests and measurements in each city, the test equipment will be de-installed, packed and shipped to another city for use in that city.

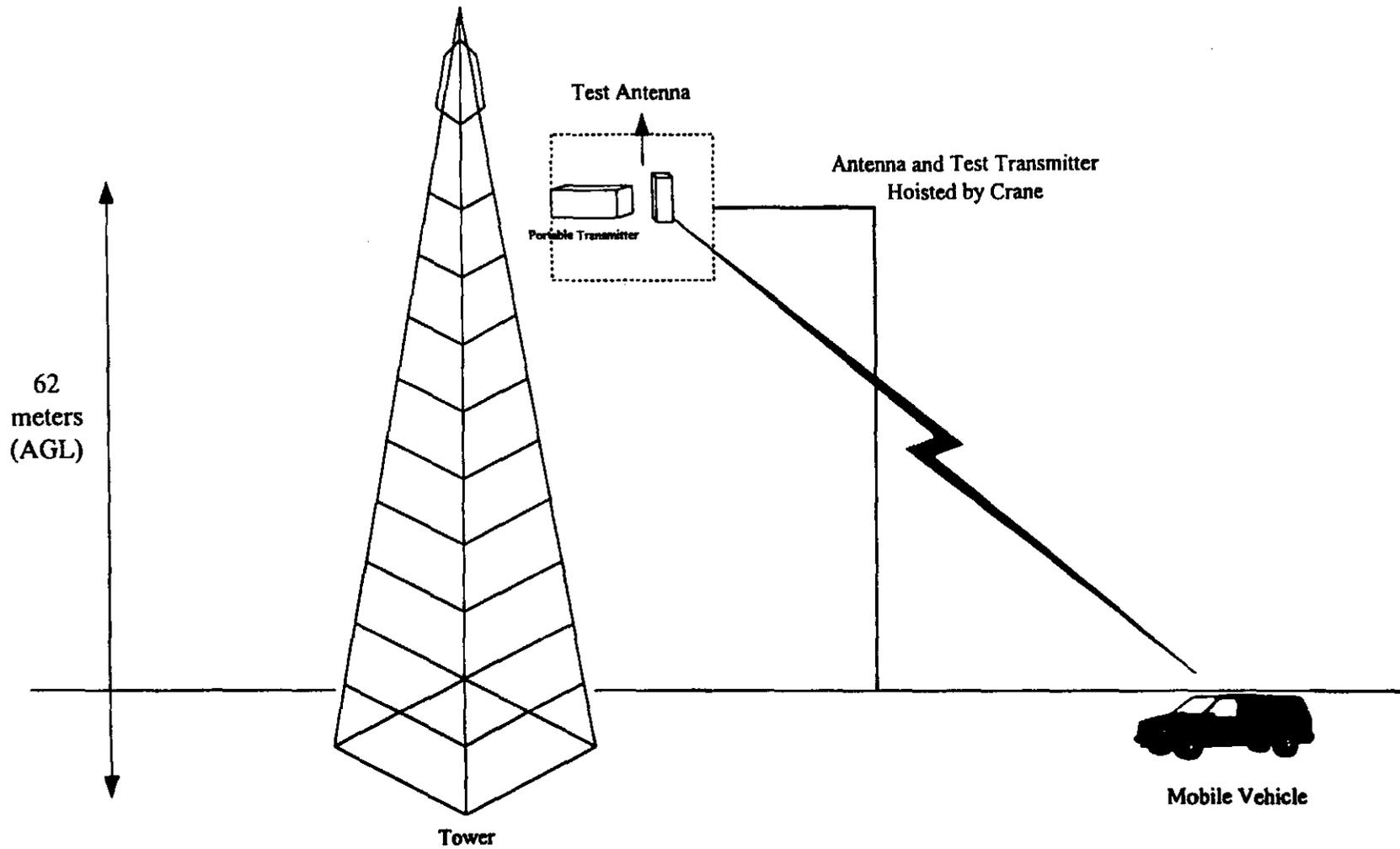
**Description of Temporary Rooftop Test Installation
(Item 15)**

FCC FORM 442
EXHIBIT TWO
SEPTEMBER 1999



**Description of Temporary Tower Test Installation
(Item 15)**

FCC FORM 442
EXHIBIT THREE
SEPTEMBER 1999





Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of:
Establishment of Rules and Policies for the
Digital Audio Radio Satellite Service in the
2310-2360 MHz Frequency Band

IB Docket No. 95-91
GEN Docket No. 90-357

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JAN 18 2000
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Supplemental Comments of Sirius Satellite Radio

Sirius Satellite Radio Inc. ("Sirius"; formerly CD Radio Inc.) files these supplemental comments to confirm the lack of harmful interference to other licensed radio services from the terrestrial repeater component of its satellite digital audio radio service ("satellite DARS") system and to urge the FCC to adopt promptly terrestrial repeater licensing rules.¹ Adopting licensing rules for terrestrial repeaters is the Commission's sole remaining task in this proceeding.²

Almost a decade has passed since the FCC initiated its inquiry on satellite DARS.³ During that time, the Commission has taken nearly every substantive and procedural step

¹ Satellite DARS systems require limited use of terrestrial repeater stations to provide signal coverage to areas where satellite transmissions are blocked or subject to severe multipath interference, particularly in so-called "urban canyons" between tall buildings.

² See *Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band*, 12 F.C.C. Rcd 5754, 5810-12 (1997) (Report and Order, Memorandum Opinion and Order and Further Notice of Proposed Rulemaking) ("*DARS Licensing Order and Further NPRM*").

³ *Amendment of the Commission's Rules with Regard to the Establishment and Regulation of New Digital Audio Radio Services*, 5 F.C.C. Rcd 5237 (1990) (Notice of Inquiry).

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required for the initiation of service. Notably, the agency has allocated spectrum to satellite DARS,⁴ assigned the spectrum in two equal shares through a competitive bidding process,⁵ adopted satellite DARS service rules,⁶ and proposed licensing rules for terrestrial repeaters.⁷ As part of these actions, the Commission decided that terrestrial repeaters are essential to fulfill the public interest of satellite DARS systems,⁸ and expressly defined the satellite DARS service to include terrestrial augmentation.⁹ The FCC also adopted the suggestion, originally proposed by

⁴ *Amendment of the Commission's Rules with Regard to the Establishment and Regulation of New Digital Audio Radio Services*, 10 F.C.C. Rcd 2310 (1995) (Report and Order).

⁵ *See FCC Announces Auction Winners for Digital Audio Radio Service*, 12 F.C.C. Rcd 18727 (1997) (Public Notice); *Satellite CD Radio, Inc., Application for Authority to Construct, Launch and Operate Two Satellites in the Satellite Digital Audio Radio Service*, 13 F.C.C. Rcd 7971 (1997) (Order and Authorization); *American Mobile Radio Corporation, Application for Authority to Construct, Launch, and Operate Two Satellites in the Satellite Digital Audio Radio Service*, 13 F.C.C. Rcd 8829 (1997) (Order and Authorization).

⁶ *DARS Licensing Order and Further NPRM*, 12 F.C.C. Rcd at 5787-805, and Appendix A.

⁷ *Id.* at 5810-12. Sirius suggested revisions to the agency's proposed terrestrial repeater licensing rules in its initial comments. Comments of CD Radio at 4-5 and Attachment (filed June 13, 1997). Sirius continues to believe that its suggested revisions better fulfill the FCC's stated conclusion that satellite DARS licensees should be exempt from "seek[ing] separate authorization for each terrestrial repeater." *DARS Licensing Order and Further NPRM*, 12 F.C.C. Rcd at 5812. Accordingly, Sirius submits, as Exhibit 3, revisions to the terrestrial repeater licensing rules proposed as Section 25.144(e) in Appendix C of the *DARS Licensing Order and Further NPRM*. These proposed revisions contain slight improvements to the revisions suggested in 1997.

⁸ *DARS Licensing Order and Further NPRM*, 12 F.C.C. Rcd at 5812 (proposing "to permit deployment of satellite DARS gap-fillers, on an as-needed basis by satellite DARS licensees to meet their service requirements"). *See also id.*, proposed rule 47 CFR § 25.201 (definition of "satellite DARS").

⁹ *Id.* at 5770 ("It has been widely known and discussed in the record that DARS providers will need to rely on terrestrial repeaters and gap fillers").

Sirius, that repeaters broadcast the same programming that is on the satellite,¹⁰ thereby confirming that terrestrial-only systems may not be implemented in the licensed spectrum.

The *DARS Licensing Order and Further NPRM* in the present proceeding merely addresses procedural rules for how repeaters would be authorized. The Commission needs to finalize these rules in a fashion sufficiently timely to ensure repeaters are constructed when satellite DARS service commences.

Sirius has made use of the time elapsed from the start of this proceeding to improve its satellite DARS system, including its terrestrial repeater technology. Sirius is FCC-licensed to provide satellite DARS to the continental United States from two Geostationary platforms, and has applied to the Commission to modify its constellation to three satellites in geosynchronous orbit.¹¹ Sirius's satellite construction is nearly complete and its first launch is scheduled early this year. As its spacecraft become operational, Sirius plans to install terrestrial repeaters by year-end 2000 as needed to ensure the public's uninterrupted access to this promising new service. Sirius initially will need repeaters operating up to 46 dBW EIRP (i.e., 40 KW EIRP) at approximately 105 sites in the urban cores of 46 cities.¹² In addition, Sirius will employ

¹⁰ *Id.* at 5812 (reaching the "tentative conclusion to prohibit the use of terrestrial repeaters to transmit locally originated programming").

¹¹ Satellite CD Radio, Inc., Application to Modify Authorization to Launch and Operate a Digital Audio Radio Satellite Service in the 2320.0 - 2332.5 MHz Frequency Band (filed Dec. 11, 1998); See *Satellite Policy Branch Information Applications Accepted for Filing*, Report No. SAT-00009 (Jan. 7, 1999) (Public Notice) (accepting Satellite CD Radio, Inc.'s application for filing and assigning file number SAT-MOD-19981211-00099). Sirius anticipates that this pending request will be granted soon.

¹² Although Sirius anticipates deploying some low power sites and additional very low power coverage extenders, this analysis herein assumes the worst case scenario of 46 dBW EIRP.

additional very low power radiators to overcome other local obstructions, such as tunnels, long underpasses, and ravines. In light of this fast approaching service date, Sirius respectfully requests that the FCC issue without delay a Report and Order establishing blanket licensing rules for terrestrial repeaters.

Sirius terrestrial repeaters will not cause harmful interference to other radio services. Sirius has already shown that its satellite and terrestrial transmissions meet the out of band emissions requirements of 25.202(f). Attached hereto, for inclusion in this rulemaking record, are interference studies that demonstrate that terrestrial repeaters in Sirius's system will not cause harmful interference to adjacent and near-adjacent band radio services, including the wireless communications service ("WCS"), the multipoint distribution service ("MDS"), the multichannel multipoint distribution service ("MMDS"), and the instructional fixed television service ("ITFS"). As shown in the Exhibits, the sophisticated spectral shaping and extensive filtering achieve very low out of band emissions.

As shown in Table 1, the FCC licensed two satellite DARS systems, Sirius and XM Satellite Radio Inc. ("XM"), for the 2320-2332.5 MHz and 2332.5-2345 MHz bands, respectively. The Commission also allocated the bands 2305-2320 MHz and 2345-2360 MHz to WCS and the bands 2150-2162 MHz and 2500-2690 MHz to the MDS (including MMDS and ITFS).¹³ Sirius's terrestrial repeaters will operate in the sub-band 2324.25-2328.25 MHz, which is in the middle of Sirius's assigned frequency band. This design configuration increases the frequency separation between Sirius's repeaters and other terrestrial radio services in adjacent and near-adjacent bands and, accordingly, significantly reduces interference potential.

¹³ For simplicity, the abbreviation MDS is used throughout this filing to refer to all three services.