DOCKET FILE COPY ORIGINAL

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

RECEIVED
AUG 1 8 2005
Federal Communications Commission
Office of Secretary

In the Matter of	)	
	)	
Amendment of Section 90.219 of the Commission's Rules With Regard to the Routine Use of Signal Boosters	)))	RM-

To: The Commission

PETITION FOR RULE MAKING

Bird Technologies Group ("Bird"), through counsel and pursuant to Section 1.401 of the Commission's Rules, 47 C.F.R. §1.401, hereby respectfully requests that the Commission amend Section 90.219 of the Commission's Rules, and clarify the use of and more specifically regulate the use of signal boosters for frequencies assigned pursuant to Part 90 of the Commission's Rules. In support thereof, the following is shown:

I. BACKGROUND

A. Bird Technologies

Bird Technologies Group, consisting of TX RX Systems Inc. ("TX RX") and Bird® Electronic Corporation, is a global innovative supplier of RF products, systems, services and educational solutions, which enable our customers' success. Bird specializes in management and measurement of radio spectrum. For its part, TX RX has established itself as the leader in the design and manufacture of signal boosters, transmitter and receiver multicoupler systems, duplexers, cavity filters, and a vast range of RF components.

This success is a result of extensive industry experience, including:

- Numerous years of collective experience in RF systems analysis and design

No. of Copies rec'd 0+4
List ABCDE
WTB 05-88

- An unparalleled dedication to improving public safety and industrial wireless systems
- Innovative product design, manufacturing skills and quality control

TX RX is committed to providing effective, reliable solutions for RF applications that serve the Public Safety, Critical Infrastructure and Government markets. With over 25 years of experience in serving critical Public Safety needs, TX RX has earned an unrivaled reputation for delivering high quality, reliable systems that enhance and extend the range of radio communications to basements, subways, high-rise buildings and other locations where obstacles challenge life saving communications.

TX RX Systems is the supplier of choice to major radio system OEM's in North America as well as to private system managers and end-users for RF infrastructure equipment that includes transmitter combiners, tower top amplifiers, receiver multicouplers and receive preselectors. TX RX's equipment serves as the standard for interference mitigation and high-performance in many small, medium and large enterprise communication systems as well as mission-critical, agency-wide, county, city and statewide communication systems. TX RX's resume of projects includes the New York City Transit System, Department of Homeland Security, State of Pennsylvania, Washington MTA, Los Angeles MTA, Disney, Lawrence Livermore, Kern County, City of Glendale, Cook County, Coors Brewery, and many more.

TX RX is a leader in the specialized, multi-disciplinary field of signal booster system design and manufacturing and have the distinction of being the first American manufacturer that offered complete, fully integrated signal booster systems. Since its deployment in 1980, TX RX first signal booster system has provided uninterrupted radio service deep inside a coal mine in the Midwest. Thousands of units are in use around the world as a vital part of two-way radio, paging, data

transmission, telemetry and control systems operating on frequencies from 132 to 960 MHz. Applications include communication systems for major international airports, high-rise buildings, subway systems, copper and coal mines, aircraft carriers, nuclear reactor containment buildings, and the tunnel under the English Channel.

For more than two decades, TX RX has designed and manufactured one-way and two-way (bi-directional) signal boosters to meet a variety of system requirements, in formats ranging from single-frequency, low-level systems to very complex, multi-band high power models intended for operation in mission-critical public safety and nuclear plant environments.

B. Signal Boosters

A signal booster is a device that receives an incoming signal, amplifies it, and retransmits it on the same frequency. It is used to improve communications in locations within the normal coverage area of a radio system where the signal is blocked or shielded due to natural terrain or man-made obstacles (e.g. to provide fill-in coverage but not increase the normal coverage area). For instance, signal boosters may be used to fill in "dead spots" in locations such as tunnels, below-ground parking facilities, or inside cargo vessels and aircraft hangers. Signal boosters may be designed for either one-way or two-way operation.[1]

There are two general types of signal boosters, narrowband boosters and broadband boosters. A narrowband booster is designed to amplify only those discrete frequencies intended to be transmitted. A broadband booster amplifies all frequencies that are received within the booster's

---

[1] *Amendment of Parts 22, 90, and 94 of the Commission's Rules to Permit Routine Use of Signal Boosters*, Notice of Proposed Rule Making, 10 FCC Rcd 6681 (1995)("NPRM").

passband. The passband of a signal booster may range from 50 kilohertz to 20 megahertz, but is typically between 2 and 10 megahertz.[2]

Prior to 1996, under Part 90 Private Land Mobile Radio Services rules, signal booster use was only permitted for ten Business Radio Service frequency pairs in the 450-470 MHz band for communications related to the servicing and supplying of aircraft at certain specified airports. Under Part 22 Public Mobile Service rules, a form of signal booster, generally called a cellular repeater, could be employed by cellular licensees without separate licensing provided that the repeater did not extend the licensee's signal beyond the authorized cellular service area.[3]

In 1995, TX RX filed a Petition for Rule Making, which sought to amend the Commission's Rules to permit the expanded use of signal boosters in the common carrier, private and multiple address radio services. It was TX RX's position that the use of such devices could greatly enhance coverage in certain areas, such as buildings and underground facilities, and could be implemented without the need for a separate authorization, or a modification of an existing license.

In response, the Commission issued a Notice of Proposed Rule Making,[4] and received numerous comments in support of the proposal. Consistent with those comments, the Commission elected to permit the routine use of signal boosters, without a licensing requirement, in several services.[5]

---

[2] Id.

[3] Id.

[4] Id.

[5] *Amendment of Parts 22, 90, and 94 of the Commission's Rules to Permit Routine Use of Signal Boosters*, Report and Order, 11 FCC Rcd 16621 (1996)("Report and Order").

The Commission elected to authorize two different types of signal boosters. Class A boosters amplify only those discrete frequencies intended for amplification, while Class B boosters are broadband, and amplify signals across a portion of spectrum.[6]

C. The Use Of Signal Boosters Today

The Commission's relaxation of the signal booster rules has had a significant benefit. Signal boosters are now common place in large buildings nationwide, and in some areas are required by local law in certain types of buildings in order to ensure sufficient communications by public safety personnel.[7]

The signal booster rule for Part 90 frequencies adopted by the Commission specifies that *Licensees* may employ signal boosters at fixed locations. What TX RX (and apparently the Commission) did not realize in 1995 was that signal boosters would become consumer devices, operated without the knowledge of the licensee and operated in moving vehicles. Because broadband signal boosters are now being implemented by consumers nationwide, interference is being caused to authorized licensees. Specifically, in today's 800 MHz band, many consumers are using signal boosters to amplify Nextel or Southern Linc's signals. However, these entities have spectrum interleaved with non-cellular licensees, particularly public safety licensees. As a result, broadband signal boosters amplify these signals, too.

Broadband signal boosters have proven to be the most practical solution to amplify the signals of licensees who have been authorized to operate on multiple channels in the same band.

---

[6] 47 C.F.R. §90.7.

[7] For a sample listing of signal booster ordinances, see: http://www.rfsolutions.com/fcc.htm.

However, interference is being caused by (among other things) improper installation and optimization of these devices by untrained consumers. It is the inherent nature of both Class A and Class B signal boosters to oscillate and emit high noise levels when the RF path losses between the outside antenna and the inside radiators is less than the set gain of the signal booster. When installed or adjusted improperly, the resulting oscillation interference impacts other licensees in the same spectrum band severely. Public safety licensees in particular are experiencing a dramatic increase of such interference causing long term degradation or blockage of critical and potentially life saving communications on their wireless systems.

Some signal booster products do not have user adjustable gain settings and rely on the consumer to:

a. follow minimal instructions, if any, to optimize a system for interference;

b. have access to suitable test equipment to validate proper installation of antennas and amplifier gain adjustments.

This is usually beyond the typical capabilities of the average consumer.

Some manufacturers attempt to control oscillation solely with an automatic gain circuit (AGC). However, for AGC to work properly, the circuit must first detect oscillations. This can make these devices unstable and output intermittent, high level noise bursts. In some installations, consumers set gain levels close to the point of oscillation at the time of initial installation, and the drift of consumer grade components over time and temperature results in intermittent oscillation interference.

Since there are few records of where consumers have installed signal boosters, it is extremely difficult for licensees to locate oscillating signal boosters or to identify or contact the party responsible for correcting the problem. Intermittent signal booster interference may take many days

or weeks to resolve. For mission critical licensees, such as first responders, this can create a dangerous situation.

Recently, promotion of using signal boosters in vehicles is compounding the interference problem. It is difficult to achieve adequate RF isolation between an antenna on the roof and an antenna inside the same vehicle, especially in vehicles with fiberglass roofs.[8]

In some instances entire public safety radio site services have been interrupted over a weekend from signals radiating from recreational vehicles which have left the area before the source of interference can be located. A similar situation existed with amplified TV antennas on recreational vehicles until the Commission induced the manufacturer to take corrective action.[9]

While no rule can prevent all improper installations and mis-adjustment of signal boosters, TX RX proposes rule changes that will result in better education of the installer and less uncontrolled consumer activity.[10] Further, TX RX proposes a new bandwidth limitation that will reduce future amplification of excessive bandwidths.

Section 90.219 of the Commission's Rules provides that signal boosters may be employed at fixed locations. However, as can clearly be seen by the Wilson and CellAntenna advertisements included as Exhibit 1, mobile boosters are readily sold. As a result, a situation has been created where mobile bands of roving interference pass around and through cities on a constant basis. This

---

[8] See, for example, the installation instructions that accompany the Wilson boosters.

[9] See Exhibit 2.

[10] While it may be assumed that the problem will be reduced or be eliminated upon the completion of 800 MHz rebanding pursuant to WT Docket No. 02-55 (as cellularized operations will be removed from non-cellularized operations), the fact is that most consumer signal boosters cover the entire band that will encompass both cellularized and non-cellularized operation.

creates moving areas of interference, preventing public safety agencies from ever having any idea where their communications will be effective, and where interference will be encountered.

D. Efforts To Reinforce Non-Licensee Consumer Compliance With The FCC's Rules

TX RX and others have attempted to educate the user public that signal boosters are intended to be implemented by *licensees*, and use by consumers must be with the permission of the licensee. In addition, TX RX, through its sister operation, Global Educational Systems, has developed a signal booster integrator certification program with the express objective of teaching proper installation and alignment of signal boosters and compliance with FCC and OSHA rules.

However, because there is no labeling requirement to this effect for the equipment, and because there are some sellers and users specifically informing consumers that no permission is required, the problem is growing. For example, attached hereto as Exhibit 3 are copies of chat group messages from several forums. As can be seen from these forums, the Commission's pronouncement that "no licensing is required" is confused with who may implement the devices (i.e. the licensee).

In March of 2004, TX RX brought this problem to the attention of the Commission's Enforcement Bureau.[11] The Commission responded correctly that "... these devices may only be installed and operated by licensees."[12] However, the Commission refused to take any action with regard to the sale of the devices to non-licensees. Because the problem continues to grow, it is TX RX's opinion that the rule itself should be changed, in order to eliminate interference from signal boosters in the band.

---

[11] See Exhibit 4 attached hereto.

[12] See Exhibit 5 attached hereto.

II. PETITION FOR RULE MAKING

On this basis, TX RX respectfully requests that the Commission amend Section 90.219 of its Rules to ensure: (1) signal booster use on Part 90 frequencies is with the full knowledge of the licensee; and (2) consumers are aware of the requirement to obtain licensee permission. TX RX believes that the Commission's efforts to eliminate interference in the 800 MHz band by segregating Nextel and similar systems results in only a partial solution. The Commission must take this opportunity to comprehensively prevent the growth of interference for first responders. Therefore, TX RX recommends the following amendments to Section 90.219:

(e) The licensee is given authority to operate signal boosters without separate authorization from the Commission. Non-licensee customers of commercial mobile radio service providers (CMRS) may only deploy signal boosters with the express written permission of the licensee. Such permission shall include the specific location(s) of the signal booster equipment. Certificated equipment must be employed and the licensee must ensure that all applicable rule requirements are met.

(g) The passband of Class B signal boosters shall be reduced to the minimum necessary to amplify the frequencies that of the authorized licensee. In no case shall the 3 dB passband bandwidth exceed the minimum passband of such channels by 1 MHz.

(h) All signal boosters shall have a warning label affixed in a location on the signal booster that will be readily obvious to the purchaser and installer similar to that in 90.219(e) and a warning about RF exposure (recommended example follows):

WARNINGS: Non-licensees may only deploy signal boosters with the express written permission of the licensee. Such permission shall include the specific location(s) of the signal booster equipment. Certified equipment must be employed and the licensee must ensure that all applicable rule requirements have been met.

Antennas, power levels and antenna locations must comply with RF Exposure limits as specified by the FCC's regulations. Failure to comply with Section 90.219 of the FCC's Rules may result in a fine pursuant to U.S. Code, Title 18, Section 1001.

(i) Licensees shall maintain a list of all signal boosters in use by the provider, as well as signal boosters which the licensee has authorized by non-licensees. The list shall include the geographic location of all such signal boosters, and shall be readily available upon request by the Commission.

(j) The sale, manufacture or use of mobile signal boosters to be operated routinely in consumer vehicles, such as autos, trucks and recreational vehicles is prohibited.

(i) Licensees shall maintain a list of all signal boosters in use by the provider, as well as signal boosters which the licensee has authorized by non-licensees. The list shall include the geographic location of all such signal boosters, and shall be readily available upon request by the Commission.

(j) The sale, manufacture or use of mobile signal boosters to be operated routinely in consumer vehicles, such as autos, trucks and recreational vehicles is prohibited.

(k) The licensee, system designer and system installer shall take the necessary steps to ensure that the noise and/or intermodulation product power of the uplink component of any signal booster shall be limited to a level that will provide no unacceptable signal degradation to any other licensee.

III. CONCLUSION

WHEREFORE, the premises considered, it is respectfully requested that the Commission initiate a rule making proceeding which would propose to AMEND Section 90.219 of the Commission's Rules, consistent with the views expressed herein.

Respectfully submitted,

BIRD TECHNOLOGIES GROUP

By: _____
Alan S. Tilles, Esquire

Its Attorney

Shulman Rogers, Gandal, Pordy & Ecker, P.A.
11921 Rockville Pike, Third Floor
Rockville, Maryland 20852
(301) 230-5200

Date: August 18, 2005

EXHIBIT 1

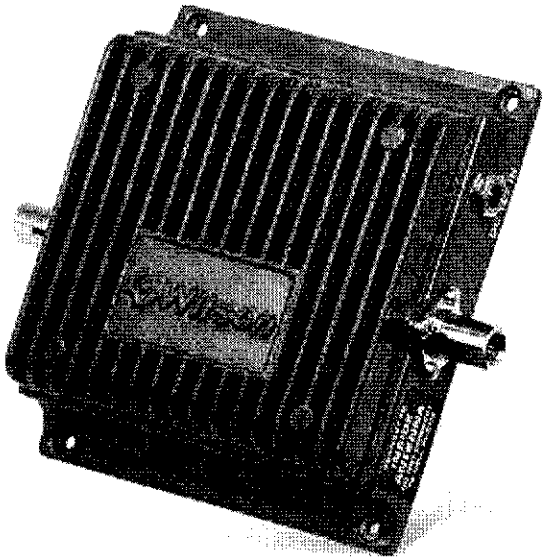
WPSANTENNAS.COM

(877) 5-WILSON
(877) 594-5766
M-F 8AM-4PM CT

We accept Purchase Orders

Wilson Cellular
Wilson Electronics, Inc.

Wilson Cellular / Wilson Electronics



Email this to a friend

804002 - Wilson Cellular 37dB In-Vehicle Wireless Bi-Directional Amplifier for (Nextel, Southern LINC, Mike)

Cellular Amp/BDA for providing wireless in-vehicle coverage

In Stock	Your Price	Qty
Y	$379.95	1

Detailed Description

Wilson Cellular In-Vehicle Amplifiers extend cellular services in poor coverage areas by amplifying both trans signals. The amplifier reduces problems with signal fades and dropped calls while improving voice quality, se access. Wilson Cellular amplifiers are network-compatible and enhance the cellular phone user's satisfaction compromising the operation of the cellular system.

Features:

- Allows multiple phones to be used simultaneously
- Allows cellular phone to operate properly with all types of modulations
- Maximum 3 Watts output power
- Automatic Gain Control

- Overload Protection Circuit - Protects cell system from overload
- Automatic Reset - If Overload Occurs
- Designed for iDEN (Nextel, Southern LINC, Mike) Systems
- Automatic Gain Control
- FCC Type Accepted

Includes:

- Interior stealth antenna
- Cigarette lighter power plug (12V Hardwire Harness Available)

Requires Exterior Antenna:

- Recommend Wilson Cellular Magnetic Mount Antenna for Nextel/iDEN or NMO (through-the-roof) Mou Nextel/iDEN
- Wilson Cellular Glass Mount Antenna for Nextel/iDEN not recommended.

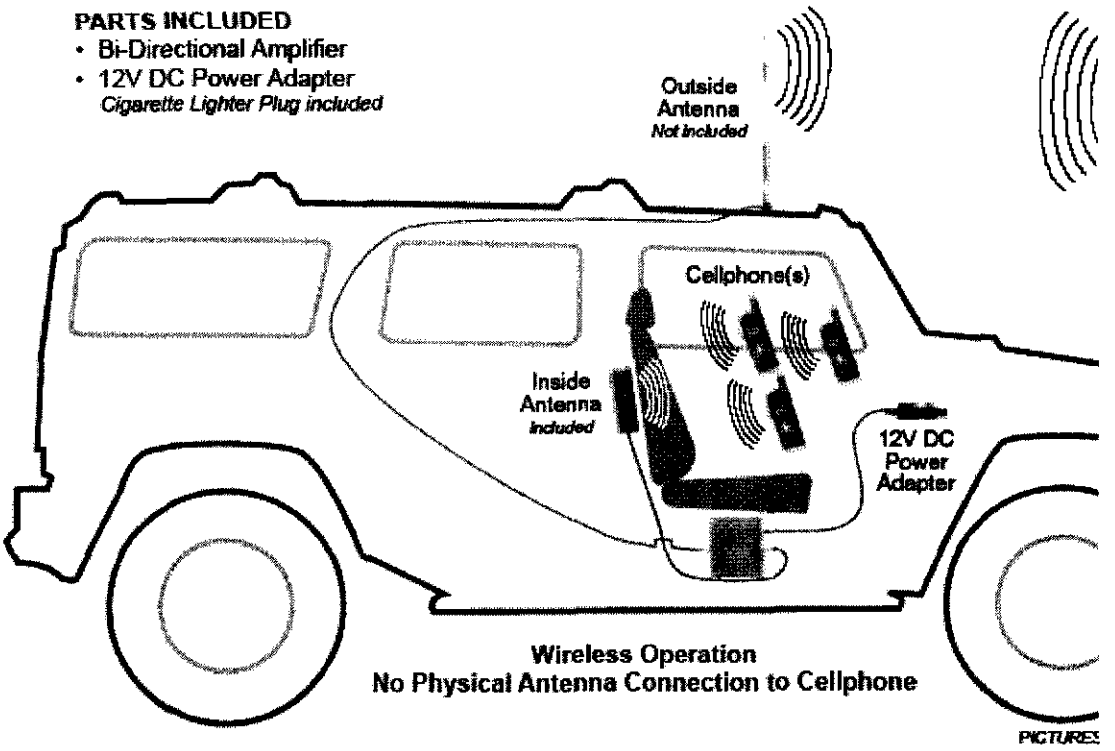
Notes:

- Interior Cellular signal range is 3' to 4' away from the interior antenna. This is because if the interior signals interfere with each other the system will not work. This is the reason that the glass mount ant recommended.

Compatibility:

- Compatible with iDEN (Nextel, Southern LINC, Mike) - both cellular calls and Direct Connect
- Not compatible with 800MHz Cellular providers (most Verizon, AT&T TDMA, US Cellualr, analog, etc) c (AT&T GSM, Sprint PCS, T-Mobile, Qwest)

Catalog Page (PDF)
Interior Antenna Placement Tips (PDF)

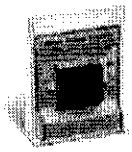


Specifications

Part Number	804002
Frequency	806-821MHz Uplink 851-866MHz Downlink
Gain (up/down)	37dB / 37dB
Linear Output Power	+30dBm
Max Output Power	3 Watts
Max RF (up/down)	+35dBm / +10dBm
Noise Figure (down)	4dB Nominal
Flatness	+/- 4dB
Isolation	> 90dB
Power Consumption	12V, 1.5A
Connectors	FME Male, 50 Ohms
Dimensions	5.5 * 4.3 * 1.4 (inch)
Weight	1.32 lbs

Related Products

Wilson Cellular / Wilson Electronics



Click To Enlarge

814001 - Wilson Cellular Nextel/iDEN 3 Watt Direct Connection Amplifier
Compatible with iDEN Carriers (Nextel, Southern LINC, Mike)
Your Price $199.95

Qty
1

Click To Enlarge

859909 - Carry Case for Wilson Cellular Mobile Amplifiers
Convenient carry case to help protect your amplifier
Your Price $19.95

Qty
1

Amplifiers > Repeaters (Wireless) > 800MHz Cellular >

E-Mail

Copyright 2001-2005 wpsantennas.com
7389 Airport View Dr SW Ste 200, Rochester,
MN 55902

(877) 5-WILSON
(877) 594-5766
M-F 8AM-4PM CT

Order Online 24 Hrs/7 Days a Week
or Call Us Monday-Friday 9 am - 5 pm EST
Toll Free: 877-869-6009 or 954-340-7053
International Customers Please Call
Europe & UK Office click here

VIEW CART CHECKOUT

HOLA!

Click Here For LIVE HELP

Main Page
In-Building Repeaters
General Information
Select By Model Name
Select By Coverage Area
Mobile Signal Boosters
Engineering Services
Cellular / PCS Antennas
Specialty Antennas
Fixed Wireless Terminals
Cellphone Docking Stations
In-Building Components
External Antenna Adapters
Accessories
Replacement Antennas
Cellular Jamming

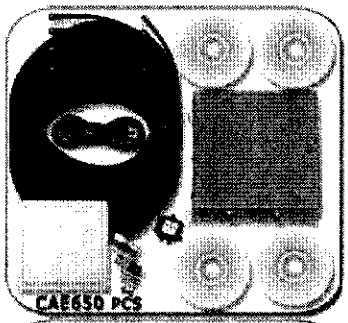
Question & Answer Forum
Expected Shipping Times
Career Opportunities
PR Corner
Para Español
United Kingdom
FAQ'S & Reference
Affiliate Program
Customer Service
Contact Us

Powered by LivePerson

CAE-650 Building Repeater Package

Recommended for Buildings up to 50,000 Square feet
From $3,999.00 + Shipping

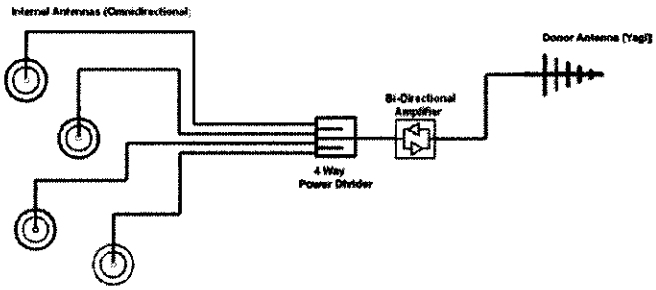
All CAE-650 Package comes with all you need to get the system working. Parts include:



- 60 dB Gain In-Building Amplifier
- 10 dB Yagi Directional Antenna (Panel antenna for PCS)
- 4 Ceiling Mounted 'Stealth' style Omni Directional Antennas
- Broadband Power 4-Way Combiner
- 4 Cables of 100' LMR-400 from Combiner to Internal Antennas.
- 1 cables of 3' type LMR-400 with "N" connectors from amplifier to combiner
- 1 Cable of 50' LMR 400 TNC / N connectors from antenna to amplifier
- Instructions

The interior antennas can be placed on different floors.

Connect together the system as follows:



Typical Installation Instructions

1. Install Yagi on Roof
2. Install Amplifier inside at convenient location. Make sure 120V available to connect power (do not power up)
3. Run 50' LMR-400 cable from Yagi to Amplifier
4. Locate Combiner no more than 50' from Amplifier and connect with LMR-400 Cable
5. Locate each of the Internal Antennas, install on ceiling (or wall) and connect LMR-400 cable from each antenna to Combiner.
6. Check all cables and power up amplifier
7. Rotate Yagi until maximum signal strength on phone inside the building in the area covered by the internal antennas is achieved.
8. Securely Fasten Yagi Antenna.

PLEASE ALLOW 1 WEEK FOR DELIVERY

ALSO AVAILABLE : SMR PUBLIC SERVICE AND NPSPAC
Email us at engineering@cellantenna.com

CAE-650 Cellular Repeater Packages

CAE-650CEL	**Cellular 824-896 Mhz** (Cellular A/B bands Analog and Digital Services)	**$3999.99**	ADD TO CART
CAE-650NXT	**Nextel / iDen 806-866 Mhz** (SMR)	**$3999.99**	ADD TO CART
CAE-650BLK	**BLACKBERRY AND PAGING SYSTEMS** (For Blackberry and Paging Systems)	**$3999.99**	ADD TO CART
CAE-650PCS	**PCS FULL BAND - ALL PROVIDERS A/B/C/D/E/F Blocks** Comes with omni directional 5 dB gain Fiberglass antenna instead of Panel	**$4999.99**	ADD TO CART
CAE-650GSM900	**GSM 900 MHZ Repeater Package** (For GSM 900 Europe)	**by special order only email: engineering@cellantenna.com**	
CAE-650GSM1800	**GSM 1800 MHZ Repeater Package** (For GSM 1800 Europe)	**by special order only email: engineering@cellantenna.com**	

Join the **CellAntenna Corporation** mailing list

Email: Go

This website and its contents are Copyright 2001-2005, CellAntenna Corporation. All rights reserved.

EXHIBIT 2

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	File No.: EB-05-PO-070
	)	
Mr. Bill Burnham	)	Citation No.: C20053292002
	)	
Portland, Oregon	)	

CITATION

Released: March 30, 2005

By the Resident Agent, Portland Office, Western Region, Enforcement Bureau:

1. This is an Official Citation issued pursuant to Section 503(b)(5) of the Communications Act of 1934, as amended (``Act"),[1] to Mr. Bill Burnham for violation of Section 15.5(b) of the Commission's rules (``Rules").[2]

2. Investigation by the FCC's Portland Office revealed that on March 18, 2005, a Part 15 device[3] at the residence of Mr. Bill Burnham in Portland, Oregon was causing interference to amateur radio frequency 447.325 MHz.

3. Section 15.5(b) of the Rules states ``[o]peration of an intentional, unintentional, or incidental radiator is subject to the conditions that no harmful interference is caused . . . . "[4]

4. On March 16, 2005, the FCC's Portland Office received a complaint of interference to amateur radio frequency 447.325 MHz. On March 18, 2005, an agent from the Portland Office investigated the allegation and located the interfering signal emanating from a motor home owned by Mr. Burnham. Further investigation revealed that the source of the interfering signal was a Winegard amplified television antenna, installed on the roof of the referenced motor home owned by Mr. Burnham.

5. These Winegard antenna amplifiers have been the source of radio frequency interference in a number of cases. As a result of this interference, Winegard has agreed to replace the

---

[1] 47 U.S.C. § 503(b)(5).

[2] 47 C.F.R. §§ 15.5(b).

[3] 47 C.F.R. § 15.1 et seq.

[4] 47 C.F.R. § 15.5(b).

defective units at no charge (see Winegard Internet site www.winegard.com). Mr. Burnham will need to contact Winegard at (319) 754-0600 or 800- 856-4350 in Burlington, Iowa to make arrangements for them to replace the defective unit. Due to the continuing radio communications interference caused by the Winegard amplified television antennas, we request that Mr. Burnham return the defective Winegard antenna to the FCC at the address indicated below for testing after it is replaced.

6. Violations of the Act or the Commission's Rules may subject the violator to substantial monetary forfeitures,[5] seizure of equipment through in rem forfeiture action, and criminal sanctions, including imprisonment.[6]

7. Mr. Burnham may request an interview at the closest FCC Office, which is Federal Communications Commission, 11410 NE 122nd Way, Suite 312, Kirkland, Washington 98034.[7] You may contact this office by telephone, (360) 696-6707, to schedule this interview, which must take place within 14 days of this Citation. Mr. Burnham may also submit a written statement to the above address within 14 days of the date of this Citation. Any written statements should specify what actions have been taken to correct the violations outlined above. Please reference file number EB-05-PO- 070 when corresponding with the Commission.

8. Any statement or information provided by you may be used by the Commission to determine if further enforcement action is required.[8] Any knowingly or willfully false statement made in reply to this Citation is punishable by fine or imprisonment.[9]

9. IT IS ORDERED that copies of this Citation shall be sent by First Class U.S. Mail and Certified Mail, Return Receipt Requested to Mr. Bill Burnham at his address of record.

FEDERAL COMMUNICATIONS COMMISSION
Binh Nguyen
Resident Agent, Portland Office
Western Region Enforcement Bureau

---

[5] 47 C.F.R. § 1.80(b)(3).

[6] 47 U.S.C. §§ 401, 501, 503, 510.

[7] 47 U.S.C. § 503(b)(5).

[8] See, Privacy Act of 1974, 5 U.S.C. § 552a(e)(3).

[9] See, 18 U.S.C. § 1001 et seq.

EXHIBIT 3

Free Verizon Cell Phones
with new service activation. Free 2 Day shipping and cash back.

Used Nextel Cell Phones
Shop for Cellular Phones! Compare & Bu from 1000's of Stores

Ads by G

Want to create your own REAL Music Ringtones on your phone without using a Data Cable?

12-04-2003, 04:40 PM

John Navas
Guest

Posts: n/a | CPF $: 0.00
(Donate)

Cellular Repeaters (in the USA)

If you can get a usable cellular signal outside your building, but not inside your building, a "cellular repeater" (sometimes called a "cellular booster") may be able to solve the indoor coverage problem.

* Andrew Corporation (EAC-50 Repeater Kit, Model ASPM1850-50, <http://www.antenna.com/repeaters/eac50_pcs.html>, 440-349-8647) (Andrew is a near billion dollar S&P500 communications company.)

* CellAntenna Corporation (CAE50 SOHO Repeater Package, <http://www.cellantenna.com/repeater/CAE50new.htm>, 877-998-2628)

* Wilson Electronics (BD800AM-B / BD800AM-B50, <http://www.wilsonelectronics.com/amps/wcamps.htm>, 800-204-4104)

These companies have all assured me that their bidirectional amps are FCC Approved/Type Accepted. I called the FCC, and was assured by a spokesperson at the Commercial Wireless Division that the FCC does not regulate the use of these FCC Type Accepted devices, and thus no license is required to install and operate them. (If you created interference, you would be obligated to correct it.)

Cost is in the range of $500-700 for a complete system (outdoor antenna, bi-directional amplifier, indoor antenna, and cables, not including installation). Typical indoor coverage is in the range of 500-1000 sq ft or so, depending on indoor antenna type, placement, walls, etc. Units with greater indoor coverage are also on the market, but are generally much more expensive.

Be sure to get a system that supports the frequency band you need.

So-called "passive repeaters" do not work.

A less expensive alternative that can work is an external antenna that connects to your cellular phone with a cable.

--
Best regards, HELP FOR CINGULAR GSM & SONY ERICSSON PHONES:
John Navas <http://navasgrp.home.att.net/#Cingular>

Quo

12-04-2003, 07:44 PM

Larry W4CSC
Guest

Posts: n/a | CPF $: 0.00
(Donate)

Re: Cellular Repeaters (in the USA)

We all know about them, John. Verizon uses them in their mall stores, here, so customers think they have a great signal in the mall when they're looking at the demo phones in the store.....(c; I call 'em the "Cheater Repeaters"....

Larry W4CSC

NNNN

Quo

12-05-2003, 07:30 AM

John Smith
Guest

Posts: n/a | CPF $: 0.00
(Donate)

Re: Cellular Repeaters (in the USA)

Don't buy from CellAntenna Corp since they won't talk to you once they get your money. I was burned that way when I bought a repeater and it didn't work as advertised. The frequency range is not as wide as they make you believe on the web page. They claim is "FOR ALL PCS , ALL CELLULAR CARRIERS AND NEXTEL!! " and it's just not so.

I returned it but the kept a 15% restocking fee (which was about $60), and they refused to talk to me insturcting me to do everything via email.

>
> * CellAntenna Corporation (CAE50 SOHO Repeater Package,
> <http://www.cellantenna.com/repeater/CAE50new.htm>, 877-998-2628)
>

-----= Posted via Newsfeeds.Com, Uncensored Usenet News =-----

http://www.newsfeeds.com - The #1 Newsgroup Service in the World!
-----== Over 100,000 Newsgroups - 19 Different Servers! =-----

12-05-2003, 12:06 PM

MarkF
Guest

Posts: n/a | CPF $: 0.00
(Donate)

Re: Cellular Repeaters (in the USA)

John Navas <spamfilter0@navasgroup.com> wrote in message news:<EBPzb.786
$XF6.20096@typhoon.sonic.net>...
> If you can get a usable cellular signal outside your building, but not inside
> your building, a "cellular repeater" (sometimes called a "cellular booster")
> may be able to solve the indoor coverage problem.
>
> These companies have all assured me that their bidirectional amps are FCC
> Approved/Type Accepted. I called the FCC, and was assured by a spokesperson
> at the Commercial Wireless Division that the FCC does not regulate the use of
> these FCC Type Accepted devices, and thus no license is required to install
> and operate them. (If you created interference, you would be obligated to
> correct it.)

In rebuttal to this posting I have to clarify that no one except the licensee is legally permitted to amplify or boost cellular signals and the posting shown above is incorrect. Two months ago I contacted the FCC by e-mail to get a clarification on the FCC Rule and below is my origional query and their response back to me that clearly states that the "licensee", hence the person holding the valid FCC license, is the only one that can legally operate such a device.

I have the origional e-mail and I believe it can be forwarded (as it hasn't been archived yet) if your interested. E-mail me directly if your so inclined to see it.

> Subject: FCC Consumer Center response from representative TSR17
> Date: Mon, 6 Oct 2003 12:40:30 -0400 (EDT)
> From: FCCInfo <FCCInfo@fcc.gov>
> Organization: FCC
> To: Mark Filla
>
> You are receiving this email in response to your inquiry to the FCC on 10/6/2003
12:39:56 PM.
>
> Thank you for contacting the FCC.
>
> 47 CFR 90.219 and 47 CFR 22.283 both include the same term to identify who is
eligible to utilize these devices, the licensee.
>
> Dear FCC Representative,
>
> I am in search of the clarification of the FCC rule stated above on
the ability of a private, non-FCC licensed individual, to install a
signal booster (aka Bi-Directional Amplifier) to amplify signals above
150 MHz (specificially 800 and 1.9 GHz) inside of a private building.

In my interpretation of the FCC rule as I tried to explain to an individual that the said installation of such a system can only be authorized and/or installed by a "licensee" holding a Part 90 or Part 22 license (or their
>
> This individual is under the impression that because the signal booster (BDA) is an un-regulated device he has the ability to install these units without the concurrence of the Cellular/PCS providers without their knowledge. Of course we are at a blockage here as the manufacturers of these devices (specificially Andrew Corp.) have also advised him that he doesn't need any type of authorization to install such a device to amplify someone else's licensed channels.
>
> For your convenience I have cut and pasted the rule below.
>
> Thank you in advance for your time and assistance.
>
> Mark Filla
>
> Sec. 90.219 Use of signal boosters.
>
> Licensees authorized to operate radio systems in the frequency bands
> above 150 MHz may employ signal boosters at fixed locations in
> accordance with the following criteria:
> (a) The amplified signal is retransmitted only on the exact
> frequency(ies) of the originating base, fixed, mobile, or portable
> station(s). The booster will fill in only weak signal areas and cannot
> extend the system's normal signal coverage area.
> (b) Class A narrowband signal boosters must be equipped with
> automatic gain control circuitry which will limit the total effective
> radiated power (ERP) of the unit to a maximum of 5 watts under all
> conditions. Class B broadband signal boosters are limited to 5 watts ERP
> for each authorized frequency that the booster is designed to amplify.
> (c) Class A narrowband boosters must meet the out-of-band emission
> limits of Sec. 90.209 for each narrowband channel that the booster is
> designed to amplify. Class B broadband signal boosters must meet the
> emission limits of Sec. 90.209 for frequencies outside of the booster's
> design passband.
> (d) Class B broadband signal boosters are permitted to be used only
> in confined or indoor areas such as buildings, tunnels, underground
> areas, etc., or in remote areas, i.e., areas where there is little or no
> risk of interference to other users.
> (e) The licensee is given authority to operate signal boosters
> without separate authorization from the Commission. Certificated
> equipment must be employed and the licensee must ensure that all
> applicable rule requirements are met.
> (f) Licensees employing either Class A narrowband or Class B
> broadband signal boosters as defined in Sec. 90.7 are responsible for
> correcting any harmful interference that the equipment may cause to
> other systems. Normal co-channel transmissions will not be considered as
> harmful interference. Licensees will be required to resolve interference
> problems pursuant to Sec. 90.173(b).
>
> [61 FR 31052, June 19, 1996, as amended at 63 FR 36610, July 7, 1998]