

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

In the Matter of)
)
Use of Signal Boosters and Other Signal) WT Docket No. 10-4
Amplification Techniques Used With)
Wireless Services)

COMMENTS

Bird Technology Group (“BTG”), through counsel and pursuant to the Commission’s Public Notice of January 6, 2010,¹ hereby respectfully submits its comment in the above-referenced proceeding.

I. BACKGROUND

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. Bird specializes in developing and manufacturing products that serve both the management and measurement of radio frequency signals. TX RX has established itself as a leader in the design and manufacture of signal boosters, tower top amplifiers, transmitter and receiver multicoupler systems, duplexers, cavity filters, and a vast range of RF components primarily serving the public safety market where reliable, mission critical systems provide life saving communication.

TX RX, with more than 30 years experience serving critical Public Safety needs, 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 building and other

¹ DA 10-14, released January 6, 2010.

locations where obstacles challenge life saving communications. TX RX Systems is the supplier of choice to major radio system OEM's in North America. The equipment designed and manufactured by TX RX is the standard for interference mitigation and high-performance in many small, medium and large enterprise communications 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, Hoover Dam, Department of Homeland Security, State of Pennsylvania, Washington MTA, University Health Care System (NC), Los Angeles MTA, Los Angeles Detention Center and Harbor, Disney, Cook County, Coors Brewery and many others.

TX RX is a leader in the specialized field of signal booster design and manufacturing and has the distinction of being the first American manufacturer that offered complete, fully integrated signal booster systems. Since its deployment in 1980, the first TX RX signal booster system has provided uninterrupted radio service deep inside a coal mine in the Midwest. Today, TX RX has thousands of units 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, hydroelectric dams, copper and coal mines, aircraft carriers, nuclear reactor containment buildings and the tunnel under the English Channel.

II. THE PETITIONS

The five petitions referenced in the Docket were submitted over a time span of nearly 5 years and all, to one extent or another, commented on the unlimited availability to the general public of certified devices that are placed in service on licensed systems without the knowledge or approval of the licensee. These devices are certified under the Part 2 of the Commission's

Rules as “Amplifiers” or “Non-Broadcast Transmitters,” depending upon their technical architecture, and then sold as “Signal Boosters”, “Cell site Extenders”, “Cellular Repeaters”, “BDA’s”, “Handset Amplifiers” and many other nomenclatures. Some of these nomenclatures are supported in the FCC Rules such as Signal Booster and Cellular Repeater. These devices, when improperly applied or installed, may cause serious degradation to licensed systems, especially mission-critical public safety systems.

The Commission, in several rule parts, has standardized the term Signal Booster to define the above devices and, within those rules, has stated that they operate from fixed locations under control of the (system) licensee. In Part 90, the Commission has gone even further and defined Class A and Class B (narrowband and broadband) signal boosters with specific technical requirements. However, Part 2 of the Commission’s Rules were never updated to add a section devoted to signal boosters and the Commission’s Labs never recognized them as a separate equipment class. The only indication that the device is to be used as a signal booster is only placed on the equipment certification as a comment. Furthermore, there has never been an indication on a Part 90 certification as to whether the equipment is Class A or Class B.

III. COMMENTS

Bird Technologies Group continues to support its position dated August 18, 2005 and believes that all products classified as signal boosters (i.e. signal boosters, cell site extenders, cellular repeaters, BDA’s, handset amplifiers, and any other nomenclature) should be used only with the full knowledge and written approval of the entity holding the license (i.e. the licensee). It is the signal booster operator’s responsibility to obtain the written approval of the licensee.

Additionally, BTG supports the position that all signal booster devices need to be type certified by a qualified testing lab. This would help to reduce the incidence of interfering

signals, consistent with BTG's contention (backed by more than 25 years of design and manufacturing experience) that a well designed signal booster that is properly installed by a qualified professional will rarely cause interference. In the event that the installed signal booster creates an interfering signal with the licensee's signal, under current FCC Rules, it is the operator's responsibility to eliminate the interference.² BTG supports the continued enforcement of this section of the rules and regulations. BTG believes that the sale and use of the signal boosting device should be controlled under FCC Rules and that the use without the appropriate certification and approval/authorization should be illegal.

BTG also recommends that Section 90.219 be changed to remove the language specific to Class A narrowband boosters, therefore making the sections that now pertain to Class B Broadband boosters apply to all signal boosters. The original intent of a narrowband channelized booster was to protect other licensee's signals from being boosted or interfered with in locations with crowded spectrum. Due to their expense and complexity, narrowband boosters have never gained much popularity in the land mobile industry. Where they were tried (e.g., NYC Subway System) they never gained acceptance due to the long group delay inherent within the narrowband filtering. This group delay caused simulcast distortion where booster and direct coverage overlapped that was unacceptable to the users. With the advent of P25 and other digital systems, this excessive group delay became intolerable.

Major equipment manufacturers' narrowband signal booster system designs required excess booster power to move any overlap with the direct signal outside of the building or the area being covered. This design did not eliminate the overlap interference; it simply moved it outside the building or required coverage area. Newer "Channelized" booster designs using

² 47. C.F.R. §90.173(b). See also, *Midnight Sun Broadcasting Co. v. FCC*, 11 FCC 1119 (1947); *Sudbrink Broadcasting of Georgia, Inc. v. FCC*, 65 FCC 2d 691 (1977); *Athens Broadcasting Co.*, 68 FCC 2d 920 (1978); *B & W Truck Service*, 15 FCC 2d 769 (1986).

digital signal processing (“DSP”) are actually hybrids of channelized and broadband boosters, where individual signals or groups of signals are amplified linearly. The FCC’s certification process does not presently discriminate between class A and class B boosters. Additionally, DSP-based signal booster designs can be configured with wide windows, effectively converting them from narrowband to wideband boosters. Given this and the fact that Part 90 licensees using broadband signal boosters have been able to comply with Section 90.219(f) and co-exist in major metropolitan areas for over 20 years by utilizing good engineering practice and design, BTG recommends that the class A/B discrimination be eliminated.

BTG recommends that all rules pertaining to signal boosters, handheld amplifiers, in-building radiation systems, etc. be worded identically among the various Parts (20, 22, 24 and 90). This would eliminate potential confusion and provide consistent application of the rules across all applications within the appropriate radio spectrum. While this recommendation would not eliminate the multiple certifications required for equipment operating within the same band (i.e. trunking systems in the 450-470 MHz spectrum that utilize both Part 90 and Part 22 frequencies) it would provide clarity and consistent rules application for equipment certification regardless of which rule Part the frequencies are contained under.

IV. CONCLUSION

WHEREFORE, the premises considered, it is respectfully requested that the Commission act in accordance with the views expressed herein.

Respectfully submitted,

BIRD TECHNOLOGY GROUP

By: Alan S. Tilles, Esquire

It's Attorney

Shulman Rogers Gandal Pordy & Ecker, P.A.
12505 Park Potomac Ave., Sixth Floor
Potomac, Maryland 20854
(301) 230-5200

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