

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

In the Matter of)	
)	
Review of the Commission's Part 95 Personal Radio Services Rules)	WT Docket No. 10-119
)	
1998 Biennial Regulatory Review - 47 CFR Part 90 - Private Land Mobile Radio Services)	WT Docket No. 98-182 RM-9222
)	
Petition for Rulemaking of Garmin International, Inc.)	RM-10762
)	
Petition for Rulemaking of Omnitronics, L.L.C.)	RM-10844
)	

COMMENTS OF GARMIN INTERNATIONAL, INC.

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SUMMARY

Garmin International, Inc. (“Garmin”) generally supports the Commission’s efforts to streamline, simplify, and improve its personal radio services rules. In particular, Garmin supports the Commission’s proposal to amend its rules to permit General Mobile Radio Service (“GMRS”) radios to transmit GPS and text message data over GMRS channels. Garmin has been providing devices with GPS capability for nearly six years pursuant to a waiver granted by the Commission in recognition that this functionality greatly enhances the safety of individual GMRS users and significantly aids the efforts of public safety and search and rescue personnel. Based on the experience of the more than 500,000 users who have purchased such devices to date, these public interest benefits are achievable without any danger of interference to other services or any public interest harm.

Garmin strongly opposes, however, two of the Commission’s proposals that would significantly degrade the quality of GMRS service. First, the Commission should not limit the power level for portable and handheld GMRS radios to two watts effective radiated power. The proposed limit would substantially reduce the quality and range of GMRS service, compared to that provided by the five-watt devices that are being marketed and demanded by users today. This marked reduction would seriously compromise users’ ability to reliably transmit voice and data communications over reasonable distances and throughout those areas where their search and rescue and other activities currently take them. Communications made at two watts would be considerably less clear and reliable -- an important consideration when those transmissions often include information that could save a life. As shown in these comments, public safety users of Garmin’s RINO® series have told the company that a two-watt power limit would render those devices far less useful for the critical public safety functions they perform. Garmin

disputes the Commission's completely unsubstantiated concerns regarding RF radiation exposure for users of five-watt radios and opposes limiting the life-saving range and reliability of these devices based on such speculation.

For similar reasons, Garmin opposes the Commission's proposal to introduce narrowbanding to the GMRS channels. The proposal would result in significantly diminished transmission quality compared to the clear and robust transmissions attainable with the current 25 kHz spacing and its associated 20 kHz authorized bandwidth. Given the importance of the many emergency transmissions made over GMRS, maintaining the quality of GMRS communications is essential to maximizing public safety. Indeed, to ensure that these transmissions get through, Garmin proposes that the Commission clarify that the 20 kHz authorized bandwidth apply to both voice and data GMRS transmissions. Here again, Garmin's experience is that use of 20 kHz bandwidth does not result in interference to other services, and, absent any documented interference, the Commission lacks a basis to risk impairing GMRS transmissions. If the Commission, nonetheless, decides to move forward with its narrowbanding proposal, Garmin alternatively proposes that the FCC provide manufacturers a period of twelve months following finality of adoption of any new narrowbanding rule to incorporate 12.5 kHz technology in new GMRS radios.

Garmin also urges the Commission to clarify two points in its proposed rules. First, the Commission should establish that FRS/GMRS combination radios continue to be permitted. While the *NPRM* alleges that some types of combination radios raise the possibility of licensing eligibility violations and/or harmful interference among multiple services, FRS/GMRS combinations raise neither of these concerns. If particular combination radios in other services present eligibility issues or unwarranted risks of interference, Garmin encourages the

Commission to identify and ban those specific combinations alone, but not FRS/GMRS combination radios. Second, the Commission needs to address the confusion surrounding use of analog voice scrambling in personal radio service devices, which recent FCC staff pronouncements have flagged as akin to prohibited “coding.” As discussed in these comments, analog voice scrambling, simple voice inversion, does not accomplish the same exclusivity of communications achievable by coding. Analog voice scrambling is not at all secure; anyone with a voice inversion enabled radio can listen in on the transmissions. Moreover, previous full Commission statements in the complex administrative history of the GMRS rules suggest that the full Commission never intended to prohibit analog voice scrambling. Given this confusion in the administrative history, if the Commission determines after notice and comment rulemaking to prohibit analog voice inversion, Garmin requests that any such determination not become effective until twelve months following finality of adoption of new rules and that consumers possessing existing devices with such features be allowed to continue to use them on a “grandfathered” basis.

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COMMENTS OF GARMIN INTERNATIONAL, INC.

By its attorneys and pursuant to 1.415 of the Commission's rules, 47 C.F.R. § 1.415 (2009), Garmin International, Inc ("Garmin") offers these comments in response to the Commission's *Notice of Proposed Rulemaking* in the above-captioned proceeding.¹

I. INTRODUCTION

Garmin is a leading, worldwide provider of navigation, communications, and information devices, most of which are equipped with Global Positioning System ("GPS") technology. Garmin designs, develops, manufactures, and markets a diverse family of handheld, portable, and fixed-mount GPS-enabled products for automotive/mobile, outdoor/fitness, marine, and

¹ Review of the Commission's Part 95 Personal Radio Services Rules; 1998 Biennial Regulatory Review – 47 C.F.R. Part 90 – Private Land Mobile Radio Services; Petition for Rulemaking of Garmin International, Inc.; Petition for Rulemaking of Omnitronics, L.L.C., *Notice of Proposed Rule Making and Memorandum Opinion and Order on Reconsideration*,

general aviation markets. With particular relevance to this proceeding, Garmin is the leading manufacturer of combination two-way radio/GPS navigation devices that offer users the ability to operate in both the General Mobile Radio Service (“GMRS”) and Family Radio Service (“FRS”). Garmin’s GMRS/FRS Rino® devices enable users to stay in touch through two-way, push-to-talk voice and text communication and track each other’s location using GPS. The Commission has recognized on multiple occasions that Garmin’s devices serve the public interest by providing users with functionality that significantly enhances their personal safety and security.² By allowing their users to stay connected, Garmin’s Rino® devices have proven invaluable for search and rescue operations during emergencies and, equally important, have doubtless prevented many dangerous situations -- *e.g.*, lost or separated children -- from developing into emergencies at all.

As a manufacturer of personal radio service devices, Garmin supports the Commission’s efforts to streamline, simplify, and modernize its Part 95 Rules governing the GMRS, FRS, and Multi-Use Radio Service (“MURS”). Garmin has been selling hybrid GMRS/FRS GPS-enabled radios, such as the Rino® series, pursuant to a waiver granted by the Commission in 2004 and extended in 2006 and 2008.³ During this period, Garmin has sold well over one half million Rino® devices to consumers worldwide. As discussed more fully below, the Commission should adopt its proposed rules permitting the transmission of user-generated text messages and GPS data on GMRS frequencies, which would obviate the need for Garmin’s continued waivers

25 FCC Rcd 7651 (2010) (the “NPRM”). *See also* Revision of Personal Radio Services Rules, 75 Fed. Reg. 47142 (Aug. 4, 2010).

² *See* Garmin International, *Order*, 23 FCC Rcd 18325, 18328-29 ¶¶ 8-9 (2008) (“2008 Waiver Order”); Garmin International, *Order*, 21 FCC Rcd 15072, 15075-76 ¶¶ 6-7 (2006) (“2006 Waiver Order”); Garmin International, *Order*, 20 FCC Rcd 982, 985-86 ¶¶ 12-13 (2004) (“2004 Waiver Order”).

³ *See id.*

and make these benefits more widely available. The record developed in connection with Garmin's waiver filings and its 2003 rulemaking petition to codify these benefits supports allowing this enhanced functionality on GMRS channels.⁴

At the same time, however, Garmin questions the need for several of the Commission's proposed changes to the Part 95 rules. As discussed in detail below, the Commission's proposals to restrict the output power limits for portable and handheld GMRS devices to two watts effective radiated power ("ERP") and to narrowband GMRS channels both seriously threaten to limit users' ability to receive robust signals over a wide area, degrading the quality of transmissions and greatly impairing the effectiveness of GMRS service, particularly as it is used in search and rescue functions. As the Commission acts to open up Part 95 frequencies to additional users and services by codifying changes such as those suggested in Garmin's Rulemaking Petition, the agency should not simultaneously degrade service through technical limitations that reduce functionality.

In addition, the Commission should clarify its rules regarding combination FRS/GMRS radios and address its staff's recent pronouncements regarding voice scrambling. FRS/GMRS combination radios are permitted under the Commission's current rules, but the *NPRM* asks whether it should adopt a ban on all combination devices in the personal radio services. As discussed more fully below, FRS/GMRS combinations have been sold for many years without raising eligibility issues or causing interference to other services. The Commission should not prohibit these convenient and highly useful combination radios merely because some other combination devices in unrelated services may raise potential eligibility or interference issues.

⁴ See *2008 Waiver Order*; *2006 Waiver Order*; *2004 Waiver Order*; Garmin International, Inc. Petition for Rulemaking, RM-10762 (filed July 22, 2003) ("Garmin's Rulemaking Petition"); Public Notice, Report No. 2619 (rel. Aug. 6, 2003).

The Commission likewise should clarify that its rules do not prohibit voice scrambling on GMRS and FRS channels. Contrary to several recent FCC staff determinations, long-standing precedent from the full Commission has endorsed analog voice scrambling on GMRS channels. The Commission's current rules, by their explicit terms, ban only coded voice transmissions and voice transmissions that contain hidden messages -- descriptions that cannot fairly be applied to analog voice scrambling. If the full Commission determines to change position, however, and adopt rules prohibiting analog voice scrambling technologies, such prohibition should not become effective until twelve months following finality of any new rule.

II. THE COMMISSION SHOULD CODIFY ITS PROPOSAL TO PERMIT GPS DATA AND TEXT TRANSMISSIONS ON GMRS CHANNELS.

As suggested in Garmin's Rulemaking Petition, the *NPRM* proposes to codify allowing the transmission of GPS data and user-generated text messages over GMRS channels.⁵ Such transmissions utilize emission type F2D and have a digital data burst of less than one second.

Since Garmin obtained a rule waiver in 2004, it has been manufacturing GPS-enabled combination FRS/GMRS radios that transmit data on the non-repeater or "simplex" 462 MHz frequencies.⁶ In extending the waiver in 2006 and 2008, the Commission noted the substantial public interest benefits that accrue from this greater functionality.⁷ In particular, the Commission recognized that permitting GPS and text transmissions would enhance the usefulness and public safety benefits of the GMRS by permitting groups to locate lost members and facilitating emergency services.⁸ Due to changes adopted in 2003, the rules governing FRS

⁵ *NPRM* at ¶¶ 39-42 & Appendix B, proposed rule § 93.105(d).

⁶ *See* 47 C.F.R. § 95.29(f) (2009).

⁷ *2008 Waiver Order*, 23 FCC Rcd at 18328-29 ¶¶ 8-9; *2006 Waiver Order*, 21 FCC Rcd at 15075-76 ¶¶ 6-7; *2004 Waiver Order*, 20 FCC Rcd at 984, 986 ¶¶ 9, 13.

⁸ *2008 Waiver Order*, 23 FCC Rcd at 18329 ¶ 9; *2006 Waiver Order*, 21 FCC Rcd at 15075-76 ¶ 7; *2004 Waiver Order*, 20 FCC Rcd at 986 ¶ 13.

radios already allow the transmission of GPS data and text messages in that service.⁹ Rules permitting such transmissions on higher-powered GMRS channels will ensure that the benefits are available over a greater range and make those transmissions even more reliable.¹⁰ FRS users have now had nearly ten years of experience in using FRS frequencies for GPS data transmissions, and Garmin and its customers have likewise had almost six years doing the same on the non-repeater GMRS frequencies. These experiences along with the extensive record on this issue developed through the notice and comment process associated with Garmin's waiver and its extensions provide substantial evidence clearly supporting a new rule allowing GPS transmissions over GMRS frequencies, as Garmin and the Commission have now proposed.

Since Garmin began marketing GPS-enabled GMRS/FRS combination radios, the company has received numerous testimonials about the life-saving benefits of these devices. Its devices have helped preserve the lives of U.S. soldiers in Iraq and Kosovo.¹¹ They have helped keep lost children safe here at home.¹² Garmin also routinely works with law enforcement and search and rescue groups that use Garmin Rino® devices in their daily work; these entities

⁹ See Garmin International, Inc., Amendment of Sections 95.193(a), 95.193(b) and 95.631(d) of the Commission's Rules in the Family Radio Service, *Report and Order*, 18 FCC Rcd 2349, 2360 ¶ 26 (2003); see also 47 C.F.R. §§ 95.193(a) & (b) (2009). Prior to this change in the rules, Garmin had been permitted by waiver to produce FRS radios with GPS capability since 2000. See Garmin International, Inc., *Order*, 15 FCC Rcd 19143 (2000), *modified on reconsideration*, 16 FCC Rcd 7753 (2001); Garmin International, Inc., *Order*, 17 FCC Rcd 16108 (2002).

¹⁰ As described in Section III, below, much of this advantage would be sacrificed if the Commission adopts its proposal to limit power levels for GMRS portable/handheld units to two watts ERP. As noted in Section III, Garmin strongly opposes this proposal because it would greatly reduce the effectiveness of communication on GMRS channels and significantly diminish the benefits of permitting GPS data and text message transmissions on GMRS frequencies.

¹¹ See attached Exhibits A-1 through A-6, representative emails and testimonials Garmin has received from servicemen documenting how Garmin products have kept them out of harm's way.

¹² See attached Exhibits A-7 through A-9, representative emails and testimonials about locating lost children.

consistently report that the GPS functions help them coordinate surveillance and search and rescue missions.¹³ Adopting Garmin's proposal would permit even more two-way radio users to experience the safety-enhancing and life-saving benefits that Garmin Rino® users already enjoy.

Some parties speculated at the time Garmin filed its Petition for Rulemaking that allowing GPS data and text message transmissions in the GMRS service could increase interference,¹⁴ but those claims must be rejected. Each of the waivers Garmin has received for GPS-enhanced operation on GMRS channels has included a condition that such operation must not cause harmful interference.¹⁵ To date, Garmin has received no complaints that its devices have caused such interference, nor is Garmin aware that the Commission has received any such complaints. This is unsurprising because the data burst associated with GPS and text message transmissions is less than one second in duration and is subject to the same power level and frequency tolerance limitations that apply to voice communications. In fact, as Garmin pointed out in 2003 in responding to the alleged interference concerns noted in the *NPRM*, Garmin's proposal actually would serve to alleviate some GMRS congestion and interference because users would not have to describe, discuss, question, and provide detailed directions to their location. Rather than a lengthy verbal inquiry and a verbal response, GPS transmissions allow accurate location information to be sent in a data burst of less than one second, which is hardly

¹³ See *id.* and attached Exhibit A-10, documenting examples of the critical role Garmin products have played in domestic search and rescue efforts.

¹⁴ *NPRM* at ¶ 41 & nn.92-96 (citing comments filed in opposition to Garmin's Petition for Rulemaking by Tony Drake, Personal Radio Steering Group, Popular Wireless Magazines, Northern California GMRS Users Group, F.E. Brody, Ralph J. Pellegrini, David Wehrwein, and Thomas H. Adler).

¹⁵ *2008 Waiver Order*, 23 FCC Rcd at 18329 ¶ 9; *2006 Waiver Order*, 21 FCC Rcd at 15075-76 ¶ 7; *2004 Waiver Order*, 20 FCC Rcd at 986 ¶ 13.

perceptible to another GMRS user and should assist in actually reducing traffic.¹⁶ The lack of any documented claims of harmful interference since 2004 during users' almost six years of operation with devices manufactured pursuant to Garmin's waiver is itself strong evidence that the Commission's proposal will not create harmful interference.

The considerable public safety benefits that will flow from the Commission's proposed codification to allow GPS and text message transmissions over GMRS frequencies will far outweigh any speculative and undocumented fears of interference. The Commission should adopt rules permitting such transmissions in the GMRS band. In Section VI, *infra*, Garmin submits several amendments to the text of specific proposed rules associated with implementation of the Commission's proposal.¹⁷

¹⁶ See Reply Comments of Garmin International, Inc., Docket No. RM-10762, at 2, filed Sept. 22, 2003. As Garmin also pointed out in 2003 in responding to the interference allegations cited in the *NPRM*, those concerns actually related to alleged interference from operations under the FCC's then-existing rules and not specifically traceable to Garmin's proposal to amend the rules to allow GPS. *Id.*

¹⁷ See Sections VI.4 - VI.6, *infra*. As noted above, Garmin's waiver request sought, and the Commission's orders granting and extending the waiver have allowed, transmission of GPS data on the non-repeater frequencies set forth in current FCC rule § 95.29(f). See Letter dated May 15, 2003 from Garmin International, Inc. to D'Wana Terry, Chief, Public Safety and Private Wireless Division, Wireless Telecommunications Bureau, Federal Communications Commission; see also *2008 Waiver Order*, 23 FCC Rcd at 18329 ¶ 7; *2004 Waiver Order*, 20 FCC Rcd at 986 ¶ 13.

The Commission's proposal to allow GPS transmissions is set forth in Appendix B of the *NPRM* as § 95.105(d), which would apply to all GMRS frequencies. Yet, as set forth in Appendix B to the *NPRM*, another proposed revision to the rules -- specifically, proposed rule § 95.103(a), footnote 2 -- would restrict any transmission over non-repeater frequencies to voice-only. To correct this inconsistency with the proposed codification of Garmin's waiver in proposed rule § 95.105(d), Garmin proposes to add a specific exception to footnote 2 of proposed rule Section 95.103(a) that references such language concerning data transmissions allowed by proposed rule § 95.105(d). See Section VI.6., *infra*.

III. THE OUTPUT POWER LIMIT FOR PORTABLE GMRS DEVICES SHOULD BE NO LESS THAN FIVE WATTS, AND THE COMMISSION SHOULD NOT ADOPT ITS PROPOSAL TO “NARROWBAND” THE GMRS CHANNELS.

While the Commission’s proposal to open up the GMRS bands to GPS data and user-generated text messaging promises to bring great advantages to users, two of its proposed technical changes would greatly diminish those benefits. First, the Commission proposes to set the maximum output power level for portable GMRS radios at two watts ERP. Second, the Commission proposes to reduce the bandwidth of GMRS channels from 25 kHz to 12.5 kHz. Garmin opposes both of these changes because they would degrade the quality of GMRS transmissions, and each should be rejected.

A. The Commission Should Not Restrict the Power Level of Portable GMRS Devices to Less Than Five Watts ERP.

Garmin strongly opposes the Commission’s proposal to set a two-watt power limit on GMRS portable radios.¹⁸ As the *NPRM* notes, there are no power limits specifically addressing portable GMRS radios, and current models certified by the Commission operate between one and five watts ERP.¹⁹ The *NPRM* describes absolutely no instances in which portable GMRS radios operating at power levels above two watts have caused any interference, nor does it provide any other documented reason to restrict the power level as it now proposes. In Garmin’s view, it is essential that the Commission’s power limit on portable devices should be no lower than five watts to ensure that current levels of service are preserved.

Garmin’s experience demonstrates the strong desirability of permitting portable devices that operate at up to five watts of output power. Its initial line of RINO® products operated at one-watt ERP. While that power level has served Garmin’s customers well in many

¹⁸ *NPRM* at ¶ 32.

¹⁹ *Id.* at ¶ 31.

environments, users often take their devices into remote locales beyond the reach of cell phone coverage, where their portable two-way radio is the only communications option. In those situations, users, particularly those in the public safety sector, need to be able to rely on a robust signal to ensure failsafe communications. To make certain that its devices can fulfill the reliability and safety needs of its customers, Garmin now produces RINO® products that operate at five watts ERP -- the RINO® 500-series models. The stronger, more reliable, and higher quality signal produced by these devices ensures that Garmin users can maintain contact with each other in even the most isolated environments. Limiting the device's power levels to two watts in the future would reduce their transmission range by up to 30 percent.

The need for reliable, high quality communications is particularly acute for Garmin customers who use their devices in search and rescue and military operations.²⁰ In those situations, losing the ability to communicate, even for a few seconds, can cause grave danger. In life-threatening situations, a low quality signal can mean the difference between intelligibly relaying the instructions required to save a life or locate a comrade and a useless, garbled transmission. The higher output power of a five-watt device makes it significantly more likely that those instructions will get through and that precious time will not be wasted.²¹

Among Garmin's customers for its five-watt Rino® devices are local, state, and federal law enforcement agencies, including the Drug Enforcement Agency; Bureau of Alcohol, Tobacco, and Firearms; United States Border Patrol; United States Immigration and Customs

²⁰ Garmin's marketing department estimates that 25 to 30 percent of the RINO® 520 and 530 units sold each year are acquired by individuals engaging in search and rescue operations. To date, Garmin estimates that roughly 50,000 RINO® 520/530 devices have been sold to such individuals.

²¹ The testimonials attached as Exhibits A-1, A-9, and A-10 all attest to the important life-saving features of the higher power level.

Enforcement; and various state patrols. In the wake of the Commission's proposal to reduce the maximum permitted power for these devices from five to two watts, customers who rely on Garmin products for security purposes have told Garmin that the proposed power decrease will put lives in danger. These customers have stressed that, for GMRS radios to have value, they must allow officers to maintain the maximum communications distance.

For example, an official with the United States Secret Service in Omaha, Nebraska, has told Garmin that decreasing power from five to two watts will seriously interfere with surveillance and undercover missions.²² He explains that with five watts of power, surveillance teams are able to stay in contact while positioning themselves farther from the target, making detection less likely and increasing each team-member's safety. If surveillance teams are required to transmit at a lower output power, they will need to cluster around a target, making it much more difficult to retain their cover. Maintaining a safe surveillance distance is critical while performing drug interdiction investigations and enforcement actions. In these instances, the terrain, foliage, and remoteness of the surveillance locations demand maximum power if law enforcement authorities are to retain the capability of conducting safe, private communications in coordinating their activities.²³

The Commission's only apparent -- and unsubstantiated -- reason for proposing the two-watt power limit seems to be related to RF exposure.²⁴ The Commission hypothesizes that limiting portable GMRS devices to two watts ERP "should be adequate to ensure the devices meet the RF exposure limit for the general public."²⁵ The Commission, however, never cites any

²² See attached Exhibit A-11.

²³ See attached Exhibits A-12 and A-13 for emails from other experts in security operations who are concerned about the proposed power limit.

²⁴ *NPRM* at ¶ 32.

²⁵ *Id.*

evidence that five-watt devices have exceeded that limit or caused documented RF exposure problems.

To the extent the Commission is concerned about RF exposure for individual radio users, the Commission's current case-by-case specific absorption rate (SAR) testing should identify any problems.²⁶ Garmin's own SAR tests on its five-watt Rino® products have not shown unacceptable radiation levels for at least two reasons. First, the devices only emit radiation during the short intervals when a user presses a button to speak or relays GPS data or text messages. Second, GMRS channels occupy a relatively low frequency, which leads to less effect on body tissue. In any case, GMRS users, given the way the devices operate and are used, experience much less average RF radiation than a cell phone user.

Although Garmin does not believe five-watt devices will pose any RF radiation danger to users, Garmin does not oppose a Commission rule that would apply in the future to require SAR testing of new devices. Given the overwhelming public interest benefits of permitting five-watt operation, requiring SAR testing would be a far preferable alternative to restricting portable GMRS radios to two watts ERP.²⁷

B. The Commission Should Not “Narrowband” GMRS Channels.

The Commission's proposal to narrowband the GMRS channels also would lead to diminished service quality without any accompanying public interest benefit.²⁸ The current GMRS channel configuration provides for 25 kHz spacing with each channel having 20 kHz of authorized bandwidth.²⁹ These channels are currently used for voice-only transmissions in the

²⁶ *Id.* at ¶ 33.

²⁷ *See* Section VI.2, *infra*, for the specific text of Garmin's proposed rule relating to power level.

²⁸ *NPRM* at ¶¶ 36-37.

²⁹ 47 C.F.R. § 95.633(a) (2009).

GMRS except in radios authorized under Garmin's waiver. The GPS data transmissions allowable over Garmin radios under the waiver occupy 12.5 kHz of bandwidth.

The current channel configuration permits clear transmissions over the areas covered by GMRS users. The Commission's proposal to move to 12.5 kHz technology will obviously lead to much narrower channels, significantly diminishing the transmission quality. As discussed above, transmission quality is a critical component of GMRS communications both for emergency and recreational users of GMRS devices. To avoid any diminution in quality, Garmin strongly urges the Commission to retain the current 25 kHz channel spacing and the attendant 20 kHz authorized bandwidth limit. Given narrowbanding's potential to compromise service quality, the Commission should only introduce such a drastic change if the agency has evidence that the current channel arrangement cannot handle existing and foreseeable traffic levels or is leading to harmful interference. The *NPRM* presents no such evidence.

The Commission speculates that narrowbanding could reduce potential interference between GMRS and FRS users, in particular.³⁰ Here again, users of these two services have been coexisting for a long time, and Garmin users have not complained of any interference between the services. The current rules are designed to control interference through the use of emission masks that define the amount of interference that can bleed over onto other frequencies. The frequency tolerance rules also ensure that equipment is designed to operate on the intended channel with strict limitations to protect operations on nearby channels.³¹ If interference

³⁰ *NPRM* at ¶ 36.

³¹ *See* 47 C.F.R. § 95.621(b) (2009); Appendix B, proposed rule § 95.37. Garmin proposes a slight revision to proposed § 95.37 in Section VI.3, *infra*.

problems can be proven, the better course would be to examine those rules rather than introduce a narrowbanding scheme that will seriously degrade transmission quality.³²

The Commission also notes that GMRS radio equipment (base/mobile) is “essentially the same” as PLMRS and FRS equipment “both of which already employ 12.5 kHz technology.”³³ Based on this statement alone, the Commission then speculates that “it does not appear that narrowbanding GMRS would impose an undue burden on GMRS manufacturers, and could even reduce manufacturing costs.”³⁴ Garmin strongly disagrees with this speculation. Garmin is frankly at a loss to determine what nonexistent problem the Commission is trying to correct with the narrowbanding proposal. Not only will GMRS radios be less useful, but the change would in no way reduce manufacturing costs, as the *NPRM* wrongly guesses might be the case.³⁵ The Commission should avoid making this proposed change that lacks any documented need. The current 25 kHz channel spacing and attendant 20 kHz bandwidth make GMRS a stronger, more robust service than it would be under the narrowbanding proposal.³⁶

To preserve this quality of service, Garmin proposes not only that narrowbanding be rejected but that the Commission clarify that data transmissions using the F2D emissions type

³² Instead of its proposed rule specifying frequency tolerances, the Commission alternatively asks whether it would be desirable to replace frequency tolerances with a rule that simply requires manufacturers to ensure frequency stability such as, the Commission suggests, the rule that applies to manufacturers of wireless medical telemetry devices. *NPRM* at ¶ 14 (citing 47 C.F.R. § 95.1115(e) (2009)). Garmin opposes this suggestion. Both the current and proposed frequency tolerance rules assign clear and specific obligations to manufacturers that can be objectively measured and satisfied. Garmin submits that this approach is preferable to the more general, less specific approach taken in the medical telemetry context.

³³ *NPRM* at ¶ 36.

³⁴ *Id.*

³⁵ *Id.*

³⁶ In accordance with its request that the Commission refrain entirely from implementing its narrowbanding proposal, Garmin proposes in Section VI.1, *infra*, that the Commission eliminate its proposed rule § 95.33(e)(3).

have an authorized bandwidth of 20 kHz, just as voice transmissions already do.³⁷ Garmin's waiver authorizes F2D type data transmissions on GMRS channels to occupy 12.5 kHz of bandwidth, a level which Garmin had simply specified seven years ago in its waiver request because that was the bandwidth that the FCC had then recently authorized for GPS transmissions in the FRS.³⁸ No justification exists any longer, however, for limiting data transmissions to a narrower bandwidth than that permitted for voice. Voice transmissions have occupied 20 kHz bandwidth on GMRS channels for years without interference, and there are no special characteristics of data transmissions that would make them any more likely than voice calls to cause such interference. As with voice communications, GPS and text transmissions utilize emissions masks to protect against interference to nearby channels. Also as with voice communications, users transmitting GPS and text data would benefit greatly from the increased signal quality and reliability that results from the wider bandwidth Garmin proposes for data transmissions. The public would reap substantial benefits from a uniform 20 kHz authorized bandwidth for both voice and data transmissions in the GMRS.

If the Commission nonetheless decides to move forward with its narrowbanding proposal, Garmin alternatively proposes that the FCC provide manufacturers with sufficient time to design and manufacture narrowband equipment. The January 1, 2011 narrowbanding deadline the Commission has set for Part 90 PLMRS equipment, which is mentioned in the *NPRM*, obviously does not provide GMRS manufacturers with sufficient time to accomplish that task, as the FCC correctly recognizes.³⁹ That date was established for PLMRS equipment in 2004, giving

³⁷ See requested amendment to proposed rule § 95.39(a), Section VI.4, *infra*.

³⁸ *2004 Waiver Order*, 20 FCC Rcd at 982 ¶ 1.

³⁹ *NPRM* at ¶ 37.

manufacturers more than six years to comply.⁴⁰ As the Commission notes, a pending waiver request now seeks even further deferral of the PLMRS deadline until 2013.⁴¹

GMRS manufacturers should not require that long -- as much as nine years -- to transition to 12.5 kHz technology, but they should be given sufficient time to ensure that devices will function properly and service will not be disrupted. Garmin suggests that a period of twelve months following finality of any new narrowbanding rule would allow sufficient time and be appropriate in this case. If the FCC chooses to adopt a new narrowbanding limitation even though no evidence requires or justifies it, such a period would provide GMRS device manufacturers with adequate time to redesign their products to accommodate 12.5 kHz operation without placing undue economic burdens on them or their customers.⁴²

IV. COMBINATION FRS/GMRS RADIOS DO NOT CREATE THE RISK OF INTERFERENCE TO OTHER LICENSED SERVICES, AND THE COMMISSION SHOULD CLARIFY THAT SUCH DEVICES ARE PERMISSIBLE UNDER THE RULES.

The Commission should clarify its proposed rules to ensure that FRS/GMRS combination radios continue to be permitted. As the rules currently operate, combination FRS/GMRS radios like those Garmin produces are permitted. FRS/GMRS combination radios make sense not only because the two services share a number of frequencies but also because there is considerable overlap in the intended use of the two services. These radios have proven to be highly

⁴⁰ See Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended; Promotion of Spectrum Efficient Technologies on Certain Part 90 Frequencies, *Third Memorandum Opinion and Order and Third Notice of Proposed Rulemaking and Order*, 19 FCC Rcd 25045, 25046-47 ¶ 2 (2004); see also 47 C.F.R. § 90.203(j)(10) (2009).

⁴¹ *NPRM* at n.77 (citing Wireless Telecommunications Bureau and Public Safety and Homeland Security Bureau Seek Comment on National Public Safety Telecommunications Council Petition for Stay of Interim Narrowband Implementation Dates, Public Notice, DA 09-2364 (rel. Nov. 2, 2009)).

⁴² See Section VI.1, *infra*.

convenient for, and popular with, consumers since they provide added flexibility and eliminate the cost and inconveniences of having to utilize separate radios to access each service.

The *NPRM* notes that some types of combination radios raise the possibility of eligibility violations since some of the services, which the FCC has found accessible on currently marketed combination radios, restrict the issuance of licenses to aliens and other groups, while services like the FRS have essentially no eligibility limits.⁴³ The FCC also expresses concern that combination radios might cause harmful interference to other licensed services and asks for comment on whether it should ban some or all personal radio service combination devices.⁴⁴

FRS/GMRS radios do not present any of the risks of eligibility violations and possible interference to other services that the Commission notes as the reasons behind a possible rule change. Given these circumstances, the Commission should clarify that combination FRS/GMRS radios will remain permissible under its new rules.⁴⁵ If particular combination radios present specific eligibility issues or unwarranted risks of interference, Garmin encourages the Commission to identify and ban only those, but not all, combinations.

V. THE COMMISSION SHOULD DELAY THE EFFECTIVE DATE OF ANY CODIFIED RESTRICTION ON VOICE SCRAMBLING THAT IT MAY ADOPT.

The *NPRM* also seeks comment on a proposal to clarify that the FCC's rules prohibit FRS and GMRS providers from marketing devices with analog voice scrambling.⁴⁶ The

⁴³ Compare § 80.15(d) (2009), specifying that the alien ownership restrictions found in 47 U.S.C. § 310(b) apply to the Marine Service, *with* § 95.191(c) (2009), restricting FRS use to only representatives of foreign governments.

⁴⁴ *NPRM* at ¶¶ 45-47.

⁴⁵ See Section VI.1, *infra*.

⁴⁶ *NPRM* at ¶¶ 19-20.

Commission notes that several devices with optional scrambling have been certified for sale⁴⁷ but suggests that the rules' current prohibition on "coded" messages and messages with "hidden meanings" should be interpreted to ban voice scrambling.⁴⁸ The *NPRM* also cites the rules against "non-voice communications" and "digital modulation or emissions" in the GMRS band as support for prohibiting scrambling.⁴⁹ The Commission further states its concern that scrambled transmissions could disrupt channel sharing protocols and interfere with emergency communications.⁵⁰

Analog voice scrambling utilizes voice inversion, which is an encoding/decoding circuit technology that mixes a voice signal with a high frequency tone. In the process, upper and lower sidebands are added to a transmission. When the transmission is sent, one of the sidebands is removed. When a receiver equipped with the appropriate descrambling feature receives the transmission, the device restores the missing sideband, and the full voice transmission is audible. This feature does not allow a sender to encrypt a message blocking all but the intended recipient from receiving it. Rather, anyone owning a radio with this analog voice scrambling feature can listen to the transmission and understand it simply by activating the same feature, regardless of whether the sender intends for that person to listen to the transmission or not.

The principal rules that the Commission states are relevant to this feature provide as follows:

⁴⁷ *Id.* at ¶ 20 & n.35 (citing "Two-Way Radios," at http://www.consumersearch.com/www/electronics/two_way_radios/types-of-two-way-radios (site last visited May 24, 2010)).

⁴⁸ *NPRM* at ¶ 19 (citing 47 C.F.R. §§ 95.181(e) (2009) and 95.183(a)(4) (2009)).

⁴⁹ *See NPRM* at ¶ 19 (citing 47 C.F.R. §§ 95.181 (2009) and 95.631(a), (c) (2009)). The Commission also notes that the prohibition on non-voice communications applies to the FRS band. *See NPRM* at ¶ 19 (citing 47 C.F.R. § 95.193 (2009)).

⁵⁰ *NPRM* at ¶ 20.

§ 95.181 Permissible Communications (e) All messages must be in *plain language* (without codes or hidden meanings).

§ 95.183 Prohibited Communications (a) A station operator must not communicate (4) Coded messages or messages with hidden meanings (“10 codes” are permissible.).⁵¹

Neither the prohibition nor its administrative history defines what is meant by “coded” or “hidden meaning.” Clearly, in the case of analog voice scrambling, a message that everyone with such a radio can receive does not include a “hidden meaning” in the plain context of those words. Similarly, the transmission is not “coded” since no letters or words are arbitrarily assigned in lieu of other letters or words or given substitute meanings. Analog voice scrambling does not literally qualify as “coding” or the communication of “hidden meanings” as those terms are used in current FCC rules.

Garmin is aware of several recent instances in which FCC staff members, acting on delegated authority, have interpreted an analog scrambling feature as constituting “coding.”⁵² Given the complex administrative history of the development of the GMRS rules and pronouncements by the full Commission during the course of that history, Garmin can see how confusion over the issue may have arisen.

In the 1960s, 1970s, and early 1980s, with minor, nonsubstantive variations, the FCC’s rules governing GMRS included a provision stating that such radios should not be used as follows: “for transmitting messages in other than plain language. Abbreviations including

⁵¹ 47 C.F.R. §§ 95.181(e) (2009) and 95.183(a)(4) (2009).

⁵² See Office of Engineering and Technology KDB Publication numbers 791760 at <http://fjallfoss.fcc.gov/oetcf/kdb/forms/FTSSearchResultPage.cfm?id=27695&switch=P> (Apr. 16, 2007) and 711889 (May 17, 2010) at <http://fjallfoss.fcc.gov/oetcf/kdb/forms/FTSSearchResultPage.cfm?id=45157&switch=P>; *Uniden America Corporation*, 24 FCC Rcd 13538 (2009) (order adopting notice of apparent liability); *Midland Radio Corporation*, 24 FCC Rcd 8392 (2009) (same); *Midland Radio Corporation*, 24 FCC Rcd 12602 (2009) (order adopting consent decree).

nationally or internationally recognized operating signals, may be used only if a list of all such abbreviations and their meaning is kept in the station records and made available to any Commission representative on demand.”⁵³ During this period, the rule was not interpreted to prohibit analog voice scrambling as demonstrated by the following comments by the full Commission on the subject.

In 1978, after notice and comment rulemaking, the full Commission amended its rules to permit digital voice modulation in transmissions by the Police Radio Service.⁵⁴ In discussing the comments received in the proceeding, the full Commission acknowledged the existence of analog voice scrambling in the GMRS and its use in fostering privacy and stated that it saw no reason to act contrary to the practice. The Commission explicitly stated as follows:

Representatives of the General Mobile and the various Industrial Radio Services indicated that analog scrambling techniques were sufficient for their privacy requirements and expressed concern that the use of digital voice modulation on heavily shared frequencies could result in some confusion as to the availability of a frequency for use at any given time and could increase the probability of inadvertent co-channel interference.

We see no reason to act in any way contrary to these sentiments.⁵⁵

In the *NPRM* leading up to the rule permitting digital voice modulation in the Police Radio Service, the full Commission had proposed such a change to Part 89 governing that service. At the same time, it noted that “[s]imilar rules will be adopted for Parts 91, 93, and 95 contingent

⁵³ See, e.g., 47 C.F.R. § 95.83(a)(16) (1964); 47 C.F.R. § 95.83(c)(10) (1977); § 95.101(a)(10) (1982).

⁵⁴ Amendment of Parts 89, 91, 93 and 95 (General Mobile Radio Service) of the Commission’s Rules and Regulations To Provide for the Use of F3Y Emission (Digital Voice Modulation) in Secure Communications Systems and To Eliminate the Low-Pass Filtering Requirements in Digital Voice, Automatic Vehicle Monitoring (AVM) and Other High Bit Rate Digital Applications, *First Report and Order*, 42 Rad. Reg. 2d (P&F) 355, 356 (1978).

⁵⁵ See *id.*

upon the showing of need requested in the notice of proposed rulemaking.”⁵⁶ In that *NPRM*, the Commission, referring to analog voice scrambling, recognized that “[t]he use of scrambled transmission techniques by licensees in the private land mobile radio services has been permitted by the Commission as a matter of policy for some time [T]heir use has been authorized on the same basis as voice communications, except that the required transmission of the station call sign has had to be in clear voice.”⁵⁷ Far from demonstrating opposition to analog voice scrambling for GMRS, these statements underscore the full Commission’s acceptance of the practice and possible receptivity to allowing even digital voice modulation in GMRS in the future.

In its 1983 recodification of the GMRS rules, the Commission refined its permitted transmissions rule to prohibit messages that contain “codes or hidden meanings,” but the order adopting the recodified rules did not discuss the change at all, let alone alter the Commission’s prior expression of acceptance of analog voice scrambling.⁵⁸ The rule against transmissions

⁵⁶ Amendment of Parts 89, 91, 93 and 95 (General Mobile Radio Service) of the Commission’s Rules and Regulations To Provide for the Use of F3Y Emission (Digital Voice Modulation) in Secure Communications Systems and To Eliminate the Low-Pass Filtering Requirements in Digital Voice, Automatic Vehicle Monitoring (AVM) and Other High Bit Rate Digital Applications, *Notice of Proposed Rulemaking*, 42 Fed. Reg. 15930, 15932 (Mar. 24, 1977).

⁵⁷ *Id.* at 15930.

⁵⁸ Update and Codification of the General Mobile Radio Service (GMRS) Rules, *Report and Order*, 54 Rad. Reg. 2d (P&F) 753 (1983) (codified rule published at 48 Fed. Reg. 35234, 35245 (Aug. 3, 1983)). The prohibition adopted in 1983 remains unchanged today, although in 1998, the Commission moved it to new § 95.183, which collected all prohibited transmissions in GMRS. Biennial Regulatory Review -- Amendment of Parts 0, 1, 13, 22, 24, 26, 27, 80, 87, 90, 95, 97 and 101 of the Commission's Rules to Facilitate the Development and Use of the Universal Licensing Service in the Wireless Telecommunications Services, *Report and Order*, 13 FCC Rcd 21027 (1998) (new rule published at 63 Fed. Reg. 68904, 68976 (Dec. 14, 1998)). Again, that order did not discuss the meaning of the rule or its relationship (if any) to analog voice scrambling.

containing coded messages or hidden meanings has not changed since 1983, and the full Commission never has stated that analog voice scrambling falls within this prohibition.

While Garmin fully supports the KDBI process as an informal means of addressing industry questions, Garmin respectfully submits that this well-intentioned service may have overlooked prior full Commission pronouncements from notice and comment rulemaking that expressed acceptance of analog voice scrambling and have not been retracted in subsequent notice and comment precedents. In light of this complex administrative law history, Garmin can understand how confusion may have developed in the industry leading, as the *NPRM* cites, to the certification of several GMRS and FRS radios with optional analog voice scrambling features.⁵⁹

Garmin submits that the Commission should utilize the current rulemaking to acknowledge this confusion. If, after the opportunity to review comments and reply comments, the Commission nonetheless decides that analog voice scrambling should be prohibited, Garmin suggests that the rules must be clarified in a manner that gives fair notice to consumers and manufacturers and a reasonable time for ensuring compliance by new devices. To accommodate current users and typical design cycles, the new rule changes should allow consumers to continue to use analog voice scrambling features on existing or “grandfathered” units and, at the same time, provide manufacturers a period of twelve months following finality of any new clarified rule to stop marketing GMRS and FRS radios with analog voice scrambling features. Such an approach is reasonable and fair in a situation in which long-established full Commission precedent has implied the feature is allowed.

The *NPRM* does not set forth any evidence demonstrating that such a “phased-in” approach would be inimical to the public interest. The *NPRM* does not cite any examples in

⁵⁹ *NPRM* at ¶ 20.

which analog voice scrambling has caused harm or has interfered with the intended functionality of GMRS radios. Such transmissions do not occupy any more bandwidth than unscrambled transmissions and do not interfere with the channel-sharing protocols established for GMRS and FRS. As noted above, analog voice scrambling does not make communications “secret” or unavailable to all but the sender and receiver; such transmissions are fully available to anyone with similar equipment. The analog voice scrambling feature is user-activated, and those sending emergency messages and seeking help from any available quarter would obviously have no interest in activating the feature when sending emergency messages. As a result, there is no danger of users failing to cease transmissions to make room for voice scrambled emergency transmissions. As a practical matter, those seeking emergency help simply would not send distress calls in a scrambled mode in the first place. Concerns over hindering emergency communications just would not come into play in an emergency transmission.

In short, Garmin suggests that any codification of a prohibition on analog voice scrambling become effective twelve months following finality of the new rules and that consumers with existing devices with such features be allowed to continue to use them on a “grandfathered” basis. Given the confusion in the industry that has resulted from imprecision in the rules and the Commission’s expressions of acceptance of the feature over decades of administrative history, such an approach would be reasonable and not at all harmful to the public interest.

VI. SPECIFIC REQUESTS FOR CHANGES TO THE COMMISSION’S PROPOSED RULES.

To implement the Commission’s proposals and Garmin’s additional suggestions discussed above, Garmin suggests the following amendments to the rules set forth in the *NPRM*.

In cases where Garmin has made alternative proposals, it suggests revisions to correspond to those alternative proposals.

1. **Proposed New Rule § 95.33.** As described in Section III.B, *supra*, Garmin strongly believes that the Commission should not introduce narrowbanding for GMRS channels. Accordingly, Garmin requests that the Commission delete new proposed rules **§ 95.33(e)(3) and (e)(4)**. In the event, however, that the Commission does adopt its narrowbanding proposal, Garmin alternatively suggests that the Commission's decision in this docket establish an implementation timetable requiring manufacturers to include narrowband technology in devices submitted for certification twelve months following the date the new rules become final. This timing proposal is reflected in the modifications to proposed §§ **95.33(e)(3) and (e)(4)** below. In addition, Garmin proposes, in accordance with Section IV above, that new **§ 95.33(e)(8)** read as follows to clarify that combination FRS/GMRS radios are permissible:

§ 95.33 Equipment certification requirements.

(e) Specific equipment certification requirements.

~~(3) applications for certification of GMRS transmitters received on or after [the effective date of these rules] will be granted only for equipment with a 12.5 kHz bandwidth.~~

~~(4) GMRS transmitters that are designed with a maximum channel bandwidth greater than 12.5 kHz shall not be manufactured in, imported into or marketed in the United States after [a specified date].~~

or

(3) applications for certification of GMRS transmitters received on or after **twelve months following the date these rules become final** ~~the effective date of these rules]~~ will be granted only for equipment with a 12.5 kHz bandwidth.

(4) GMRS transmitters that are designed with a maximum channel bandwidth greater than 12.5 kHz shall not be manufactured in, imported into or marketed in the United States after **twelve months following the date these rules become final** ~~[a specified date].~~

(8) No transmitter will be certificated for use in the GMRS if it is equipped with a frequency capability not listed in section 95.103 of this part, unless such transmitter is also certificated for use in another radio service for which the frequency capability is authorized and for which certification is also required (transmitters with frequency capability for the Amateur Radio Services and Military Affiliate Radio System will not be certificated). **GMRS transmitters will not be denied certification based on inclusion in a combination two-way radio that also operates on FRS frequencies.**

2. **Proposed New Rule § 95.35.** Consistent with its strong support for allowing a five-watt power limit for GMRS portable and handheld devices, Garmin requests that the Commission modify the proposed text of § 95.35(b)(v) to specify a maximum ERP of five watts for those units. Garmin also requests that new § 95.35(h) be amended to reflect that the power output of devices in the *MURS* service be measured by transmitter power output (TPO) rather than effective radiated power (ERP). The text of the new rule would read as follows in relevant part:

§ 95.35 Power.

(b) *GMRS*:

(v) GMRS portable/handheld units – ~~2~~ **5** watts ERP

(h) *MURS*. Regardless of modulation, the power shall not exceed 2 watts ~~ERP~~
Transmitter Power Output.

3. **Proposed New Rule § 95.37.** Garmin requests that handheld and portable GMRS devices be added to the list of devices to which the frequency tolerance rules apply. The new rule should be modified to read as follows:

§ 95.37 Frequency Tolerance.

(a) GMRS. Each GMRS transmitter for mobile station, small base station, ~~and~~ control station, **and portable or handheld** operation must be maintained within a frequency tolerance of 5 parts-per-million. Each GMRS transmitter for base station (except small base), mobile relay station or fixed station operation must be maintained within a frequency tolerance of 2.5 parts-per-million.

4. **Proposed New Rule § 95.39.** Garmin requests that the Commission amend its proposed rule §95.39(a) to confirm that the authorized bandwidth for both voice transmissions and data transmissions on GMRS channels will be 20 kHz. This clarification will ensure high quality, robust, and reliable data transmissions without creating any risk of interference. The new rule should be modified to read as follows:

§ 95.39 Bandwidth limitations.

(a) *Authorized bandwidths (except as noted below).* The authorized bandwidth (maximum permissible bandwidth of a transmission) for emission type H1D, J1D, R1D, H3E, J3E or R3E is 4 kHz. The authorized bandwidth for emission type A1D or A3E is 8 kHz. The authorized bandwidth for emission type F1D, G1D, **F2D**, F3E or G3E is 20 kHz.

For the FRS, Garmin also requests that the Commission correct the bandwidth limit for F3E or F2D emissions in proposed new § 95.39(c) to read as follows.

(c) *FRS bandwidths.* The authorized bandwidth for emission type F3E or F2D transmitted by a FRS unit is ~~12.25~~ **12.5** kHz. Additional bandwidths for FRS are listed in (a) above.

5. **Proposed New Rule § 95.41.** Garmin requests that the Commission amend proposed rule § 95.41(a) to include emission type F2D to its chart reflecting acceptable emissions types in the GMRS band. As described above, the Commission approved use of the F2D emissions type for transmission of GPS data and text transmissions on GMRS frequencies

when it granted Garmin a waiver of the current rules. *See 2004 Waiver Order, 2006 Waiver Order, and 2008 Waiver Order.* The new rule should be modified to read as follows:

§ 95.41 Unwanted Emissions.

(a) *Emission masks.* Emission masks applicable to transmitting equipment in the Personal Radio Services are defined by the requirements in the following table. The numbers in the attenuation requirements column refer to rule paragraph numbers under paragraph (b).

Radio Service (conditions)	Emission Types Filter	Attenuation Requirements
GMRS	A1D, A3E, F1D, G1D, F2D , F3E, G3E With audio filter	(1), (3), (7)
GMRS	A1D, A3E, F1D, G1D, F2D , F3E, G3E without audio filter	(5), (6), (7)
GMRS	H1D, J1D, R1D, H3E, J3E, R3E	(2), (4), (7)
FRS	F2D, F3E with filter	(1), (3), (7)
R/C (27 MHz)	Any permitted emission	(1), (3), (7)
R/C (72-76 MHz)	Any permitted emission	(1), (10), (11), (12)
CB	A1D, A3E	(1), (3), (8), (9)
CB	H1D, J1D, R1D, H3E, J3E, R3E	(2), (4), (8), (9)
MURS (151.820, 151.880, 151.940 MHz)	Any permitted emission type	(21), (22)
MURS (154.570 & 154.600 MHz)	Any permitted emission type, with filter	(1), (3), (7)
MURS (154.570 & 154.600 MHz)	Any permitted emission type, without filter	(5), (23), (7)
LPRS (narrow 5 kHz)	Any permitted emission type	(13), (14)
LPRS (standard 25 kHz)	Any permitted emission type	(15), (16)
LPRS (extra 50 kHz)	Any permitted emission type	(17), (18)
LPRS (AMTS 250 kHz)	Any permitted emission type	(19), (20)
MedRadio (402-405 MHz)	Any permitted emission type	(24), (25)
MedRadio (401-402 MHz and 405-406 MHz)	Any permitted emission type	(26), (27)

6. **Proposed New Rule § 95.103.** In Appendix B to the *NPRM*, the Commission, in response to Garmin’s request and consistent with Garmin’s waiver, has proposed new rule

§ 95.105(d), which allows GPS transmissions over GMRS frequencies. Proposed rule

§ 95.103(a), footnote 2, however, continues to restrict transmissions over GMRS non-repeater or simplex channels (those at issue in Garmin’s waiver) to “[o]nly voice type emissions.” Garmin submits that, for clarity, proposed rule § 95.105(d) should be referenced as shown below in proposed rule § 95.103(a):

§ 95.103 Channels available.

(a) GMRS channels listed below in this section are available to GMRS licensees only on a shared basis and will not be assigned for the exclusive use of any licensee. All GMRS licensees must cooperate in the selection and use of channels, including limiting communications to the minimum practical time, to reduce interference and to make the most effective use of the facilities.

Channel No.	Center frequency (MHz)	Station class	Channel No.	Center frequency (MHz)	Station class
1	462.5500	Base or mobile	16	467.5500	Mobile ¹
2	462.5625	Sm Base or mobile ²	17		
3	462.5750	Base or mobile	18	467.5750	Mobile ¹
4	462.5875	Sm Base or mobile ²	19		
5	462.6000	Base or mobile	20	467.6000	Mobile ¹
6	462.6125	Sm Base or mobile ²	21		
7	462.6250	Base or mobile	22	467.6250	Mobile ¹
8	462.6375	Sm Base or mobile ²	23		
9	462.6500	Base or mobile	24	467.6500	Mobile ¹
10	462.6625	Sm Base or mobile ²	25		
11	462.6750	Base or mobile	26	467.6750	Mobile ¹
12	462.6875	Sm Base or mobile ²	27		
13	462.7000	Base or mobile	28	467.7000	Mobile ¹
14	462.7125	Sm Base or mobile ²	29		
15	462.7250	Base or mobile	30	467.7250	Mobile ¹

¹ These channels may be used for fixed stations for controlling a repeater station.

² Except for a GMRS system licensed to a non-individual, a mobile station or a small base station operating in the simplex mode may transmit on these channels only under the following conditions: (a) **Except as noted in 95.105(d)**, only voice type emissions may be transmitted; (b) The station does not transmit one-way pages; and (c) The station transmits with no more than 5 watts output power.

VII. CONCLUSION

For the foregoing reasons, Garmin requests that the Commission amend its proposed rules for the personal radio services to include the points set forth above. Such amendments

would improve the effectiveness of communications in the personal radio services, particularly in the areas of public and personal safety, and thereby serve the public interest.

Respectfully submitted,

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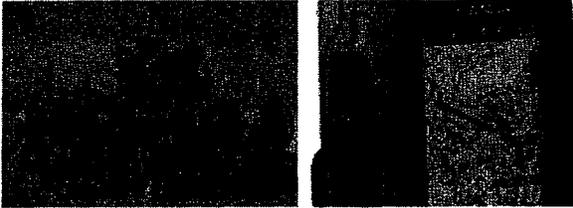
September 3, 2010

ATTACHMENTS

From: http://garmin.blogs.com/my_weblog/2008/01/rino-to-the-res.html

Rino to the rescue in Iraq

Jan 16, 2008 1:04:28 PM | in [Garmin News](#) , [Onto Fitness](#) , [Testimonials](#)



A note from Sgt. Anthony Slate landed in our inbox:

I am writing you today not only to thank you for making an incredible product as the Garmin Rino 530, but also to tell you how the capabilities of this GPS used in our everyday situations have saved and will save more Marines' lives.

There are remarkable differences between this GPS and those issued to our battalion. The Rino is able to download, in color, accurate military map data in the area of our operation, peer-to-peer positioning, sun and moon data, and the extensive tracking memory. Now, I am not going to go on about what you already know about your product, but I will tell you about a particular instance and how your product was used efficiently to link up with another reconnaissance team that was receiving fire in the hours of darkness.



On one particular night in the Al Anbar province of Iraq, my platoon was out conducting standard counter insurgency operations. We had sent a team of six men out on a routine recon and security patrol to get eyes on enemy activity in the vicinity of our location. My team was collocated with another team as a quick reaction force to support the patrol team if contact with the enemy was made. Being a team leader of a small reconnaissance team, fire superiority takes precedence over relaying your position to your higher. Seconds count in these situations.

This team out on patrol did take contact and the team leader did have his Garmin Rino 530 on and tracking. Within the matter of seconds after shots rang out I was able to pull up the patrol

leader's position and find the quickest and safest route for link up. It was while we were already in route before the team had called in their location.

I stand by your product, especially in a job that I do. We, in small recon teams are unable to have the capabilities of your product with the gear that is issued to us. I hope someday our US Military will be able to provide these products to the armed forces conducting similar operations....

Once more thank you for this great product.

Sincerely,

Sgt Anthony Slate, Team Leader, 2nd Reconnaissance Bn

From: <http://www8.garmin.com/products/rino/testimonial.html>

"Rino enables lieutenant to find troops in sand storm"

My name is Lt. R. P. and I just wanted to take some time to let you all know what great products you put out. I returned to the United States on July 4th, 2003, from service in Iraq and Kuwait with the 226th EN CO based in Augusta, KS. Many of my soldiers purchased Garmin products from the PX in Ft. Riley (Kansas) with their own hard-earned money prior to our deployment, knowing that, in the desert, these products would possibly come in handy. Turns out it was good preparation.

On March 21st, about two days before the land war with Iraq began, my soldiers and I were out on a pipeline project in northern Kuwait. Around 2300 hrs, as we were finishing our assigned section of the project, a hellacious sandstorm hit. Words cannot describe how brutal the winds were, and the sand being blown around was blinding. I ordered all of my soldiers into the vehicles for cover. We were missing three of our soldiers. I was able to communicate with them with our handheld radios, but I wasn't able to find them in the blinding conditions to give them shelter from the sandstorm. They were without a vehicle, not far from our position. Problem was, given the conditions, I could not locate them. We drove around in circles. One of my soldiers, who owns a Rino GPS, was communicating with one of my soldiers, who also had a Rino. The lost soldiers transmitted their grid to our vehicle, and he relayed those coordinates to me up in front of the vehicle. I punched them into my eTrex and discovered my three soldiers were only about 500 meters to the east of us. We drove toward the coordinates and came right upon them.

This story may not sound like much, but your products allowed my three soldiers to have shelter in the brutal sandstorm that turned out to last about 90 minutes. I am grateful. In addition, I know the next Garmin purchase I will make is the Rino.

Thanks,

Lt. R. M. P.
Augusta, KS

From: <http://www8.garmin.com/products/rino120/testimonial.html>

"Army journalist and his Rino were good company to 101st Airborne in Iraq"

As an embedded journalist with the 101st Airborne in Iraq, my Rino 120 came in handy a few times. The first time we were out for a few hours before dark looking for another unit. Having no luck, we turned around to head back to our base. With the sun going down fast, darkness surrounded us and swallowed up the few meager landmarks the driver used for navigation. I was actually in the back of the truck, sitting in total darkness without a window, watching our progress on the backlit screen of my Rino. I had marked our camp as a waypoint and hollered when we had gone past it. The driver had no idea we had gone off track and kept going for a while before he heard my yelling over the noise of the rattling vehicle. We turned around and navigated back, with me yelling directions!

The second time was during the battle of Karbala. For some reason, the "pluggers" (military handheld GPS) that the fire support team was using couldn't get a signal while they were trying to send a fire mission back to the artillery. They tried two different units before I offered a 10-digit grid from my Rino; to which they replied (and I echo), "Thank God for that unit."

Rob Curtis
Senior Photographer
Army Times Publishing Co.

From: <http://www8.garmin.com/products/rino120/testimonial.html>

"Making it home safely with the Rino 120"

I would like to take the time to express to Garmin how completely pleased I am with the quality product made by your company. In this time of war, we send loved ones off to fight and cannot help but worry for their safe return.

My best friend and former teammate from the U.S. Marines has recently returned safely from Iraq. Nothing was harder for me than to watch him leave and not be able to go and assist him and my friends. Prior to departing the country, he and a couple of other operators in the unit decided to invest in your Rino 120. Despite the issued communication gear, they opted to include this in their personal gear list. I asked him upon his arrival home how he liked the Rino and all he could say was "this is the best piece of equipment that I should have been issued." He began to explain to me the features that were the most handy: the exchange of individual positions when sent, distances to and directions from waypoints, durability, ease of use...well, you get the point.

I know that the use of this GPS played a fundamental role in the safe return of not only my friends, but also all 65 who deployed in the unit. I hope that your company realizes what a profound impact this has had on so many levels: to the service members who risk their lives and to the friends and family who sit and await a safe return. On behalf of all the friends and family of these fine Marines, thank you and God bless!

Sincerely,
D. A. F.

From: <http://www8.garmin.com/products/rino120/testimonial.html>

"120s on the move in Kosovo"

I thought I should add in my own two cents regarding your company's innovation after reading some of the comments by other service members.



While in Kosovo, where I served as a platoon leader, I bought a Rino 120. This little piece of equipment quickly became the "cool thing to have" in my platoon. Since most of the leadership in the platoon purchased one, I had a complete view of where most of my squads were located and could talk to them over some hilly terrain.

During an operation to capture weapons' smugglers, we used Rinos to move between observation posts, create cache points, and even record the coordinates of some Serbian fox holes that were found. The Rino quickly became our communications equipment of choice while on foot since it was reliable, updated the map on its own, and saved almost 30 pounds of gear compared to the SINCGAR's radio.

Thanks for the innovation. It made our operations go a lot smoother.

1st Lt. E. M.
"Ice" Platoon

From: <http://www8.garmin.com/products/rino120/testimonial.html>

"Rino 120 and Army sergeant led missions in Iraq"

I'm a truck driver with the U.S. Army, and I have recently returned from Kuwait/Iraq. I gotta tell you and the rest of the world, your Rino 120 is a lifesaver and an indispensable tool to have.

On our first mission, we had to go from Baghdad to southern Iraq and look for Army equipment (mostly engineering equipment) left behind. Because of the 3rd ID's rapid movement through Iraq to the north, equipment that broke down and could not be repaired quickly was simply left behind. The equipment we were to recover consisted mostly of Army bridging trucks. They are about 14 feet tall and weigh about 60 tons. They use the same hull as a tank. So our unit, which is a Super HET unit, (a Super HET is a M1070 Heavy Equipment Transporter - a 126,000-pound, 80-foot-long, 12-foot-wide, 14-foot-high, truck with 48 tires) was tasked to recover this equipment. Armed with three days of food and water, a 1st lieutenant, a map, and the finest in American technology - the army's Precision Lightweight GPS Receivers (PLGR, pronounced "plugger"), we set off on a two-day mission. We got to southern Iraq, and the Lt. fired up his GPS (the PLGR, a new way to spell "lost"). We were off on our geocaching mission from hell.

On the first day, we found nothing and spent all day driving in circles (easy to do in the desert with no landmarks). Everyone was convinced we were going in a relatively straight line, but the track log on my Rino is telling my co-driver and me something else. You see, the Army GPS only tells you to go left or right to get to the waypoint you entered. Hence you zigzag to your objective. Well, being a squad leader and a sergeant, I could no longer stand for this, as we only had food and water for two more days. With much coercion and a few choice words, I was able to obtain the grid coordinates for the lost equipment and put them into my Rino. We recovered three vehicles that day and three more the next. We even came across a previously unmarked mine field and were able to save it as a waypoint and send this info back to headquarters. We did this using a laptop, with the PC cord and the Rino 120 (the PLGR battery died on the evening of day one). The built-in radio was a big help too, because our convoys, even if they were just a few vehicles, could stretch quite a ways. And on our first mission, we had no radios provided to us by the Army, only the FRS/GMRS radios that we had brought from home. While in Iraq, the Rino 120 and I led several missions with success. Because of your technology, we were on time and on target.

Thank you, Garmin, from a sergeant back from Iraq.

From: <http://www8.garmin.com/products/rino120/testimonial.html>

"Seven-year-old Rino® user (with a little help from grandpa)"

My story is not hair-raising, exciting, or about life saving. It's just a test of the Rinos.

I took my 7-year-old grandson to our cabin and 80 acres. This was his first time there and he also had the company of my buddy's 7-year-old grandson. The boys asked if they could go for a walk in the woods. The other boy is familiar with the property. It is fenced and all the trails eventually loop back to the cabin, so we let them go.

I gave my grandson my Rino 110 and showed him how to work the radio. The location reporting feature was on, and I told him if he ever felt he was lost, to let me know and I would find him. They both had radios and we could hear them talking back and forth. Every time my grandson keyed the radio, I had an updated position and could keep track of him on my Rino 120.

They split up and we could hear them talking about deer tracks and squirrel sightings. Sure enough, my grandson called me and said he was lost. I took my quad runner out and drove right to him. Another bonus is the position polling. If I don't hear from him for awhile, I can poll his radio and find him.

I have a number of different Garmin® GPS units and the MapSource program on my computer. I use them for traveling, quad running and hunting. As far as I am concerned, if it is not a Garmin, it's not a GPS!

D. N.
Michigan

From: Ashton, Scott
Sent: Monday, August 09, 2010 9:20 PM
To: Yalowitz, Bryan
Subject: Rino Help

From: Ed Gorny [mailto:egorny@gis2gps.com]
Sent: Monday, August 09, 2010 7:45 PM
To: Ashton, Scott
Subject: Re: FW: Rino support needed

Hi Scott,

We teach GPS and GIS mostly to educators. But we have gotten into other groups. One group I did teach got the Rhino's for search and Rescue. As I remember about a week after they got them, a boy got lost in the woods and in using them they could cover a larger areas as well as seeing where each other was located. Yes they found the boy and they felt using GPS helped to speed up the search.

Ed

*Sincerely,
Scott Ashton*

Garmin International
Regional Sales Manager
Mid-Atlantic North
Scott.Ashton@garmin.com
862-763-2276



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Thank you for your cooperation.

From: Bryan P Bennett [mailto:BRYANPB@ahern.com]
Sent: Sunday, January 28, 2007 8:35 PM
To: stories@garmin.com
Subject: Rino 530 for Search and Rescue.

My name is Bryan Bennett and I am the Snowmobile Team Commander for the Weber County Sheriff's Search and Rescue in Ogden, Utah. We are a group of volunteers that provide our own time and equipment to help the citizens and visitors to Weber County, Utah that become lost and in need of our help.

A few of our team members purchased the 530's when they first came out and the value of the unit spread throughout the team to the point where around 40% of us own them now.

In my opinion, the 530 is one of the best innovations to become available to Search and Rescue Teams in recent years. This tool has become invaluable to us and the people we are looking for.

For example, since our winter rescue season has begun this year, we have had two searches where the 530 played an iatrical roll in the safe recovery of our victims. In the first, the weather so bad, that visibility was less than 50'. After we located the victim, we could not quickly find our way back to command. We were on snowmobiles and our victim was hypothermic. Although the "Go To" was helpful, it doesn't show the holes in the trees and we didn't have time to search for the best route back. Our Command personnel were polling us on the 530 which gave them our location, they sent this to our other teams and they came in with a snow cat and picked the victim up and we able to follow their tracks back out.

The second was two girls, 12 and 14 years of age. They took a wrong turn and ended up way off of the ski resort. They had a Talk About radio and were on channel 19. We had one of team member radios on this channel and were checking it often. We made contact with the girls and were able to send our location to command that relayed it to the helicopter. The girls were talking to us on the radio and we relaying directions for the helicopter back to command. Using the directions the girls were giving us, the helicopter quickly located them. The helicopter was unable to land because of the terrain but another of our teams was listening in and made their way to were the helicopter was hovering. They picked the girls up and took them to where the helicopter was waiting.

The 530 has vastly improved our communication problems. The ability to "Poll" team members, transmit and send locations to team members, color screen and battery life, make the 530 a "Must Have" tool for our team members.

The only question I have is, can you suggest a way for our team members to acquire these units? We are all volunteers and the expense of these units and all of the other gear we have to purchase makes it difficult for all of our team members to purchase this valuable tool. We have a large and experienced team and we are the best around. We train regularly and the features and use of the 530 has become part of our training schedule. I understand that there are less expensive models like the 110, 120, 130 and 520, but what we do is important and the additional features of the 530 are very valuable. We are just looking for a break of some kind so we don't have to pay retail.

If someone can contact me at 801-589-6888 or at bryanpb@ahern.com I would appreciate it.

Thanks again for such an awesome product,

Bryan Bennett

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Volunteer firefighter recounts Rino's role in successful rescue

December 26, 2009 - posted in [On the Trail](#), [Testimonials](#)



We spend a lot of time having fun with Garmin products and [sharing people's adventures here on the blog](#). But often a note will come to the [Garmin inbox](#) that illustrates how [our GPS technology](#) is relied upon daily for much more serious matters. Jay's comments, posted here, remind us all once again to tip our hats to the men and women who bring out the best in our products every day.

I am a volunteer firefighter with the Hedgesville volunteer fire and rescue company in Berkeley County West Virginia. On Saturday, December 19, 2009, at 1600 hours, Company 30 (Hedgesville) Medic 98 (Berkeley County ambulance authority) were dispatched for a subject with back pain in the Sleepy Creek Wildlife Management Area. This area covers 23,000 acres in both Berkeley and Morgan counties in West Virginia. Due to the amount of snow we were getting we ran additional units to assist our ambulance. The dispatch center had a general idea where the patient was located, but it was in a remote area of Sleepy Creek. At this time we had almost 18" of snow on the ground and 2 male subjects cold and injured from an ATV accident. We called in numerous resources to try to gain access to the area. Our dispatch center managed to get a GPS coordinate off of the cell phone that they were calling from. Using that coordinate, my [Garmin Rino 530HCx](#) and the Berkeley County sheriff department's Chevy Blazer, we managed to get within 250 yards of the subjects, which were almost 2 miles off the nearest hard surface road at 2200 hours. By this time both patients were very hypothermic on top of the injuries sustained in the ATV accident. Both of these men owe their lives to the modern technology that is available to dispatchers and emergency responders today. Thanks Garmin for making such an awesome piece of technology.

Thanks for sharing this amazing note, Jay. [Click here to read the news story and watch video here.](#)

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Comments:



Well done! Thanks for volunteering and thanks to Garmin for a good product!
Fairfield, VT Firefighter
Posted by: Casey | December 28, 2009 at 07:01 PM

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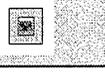
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Father, son rescued from Sleepy Creek Wildlife Management Area

By Edward Marshall / Journal Staff Writer

POSTED: December 21, 2009

MARTINSBURG - A father and son who were stranded for hours, freezing and on the verge of losing all hope after an all-terrain vehicle accident were successfully rescued Saturday from the Sleepy Creek Wildlife Management Area after what officials described as a treacherous search-and-rescue operation.

The 49-year-old father and 29-year-old son, who both appeared to be suffering from hypothermia, were taken to City Hospital Saturday after their rescue, police said. Their names were not yet released on Sunday.

The successful rescue effort, which lasted more than three hours, was headed up by the Hedgesville Volunteer Fire Department with the assistance of the Baker Heights Volunteer Fire Department, the Berkeley County Emergency Ambulance Authority, the Berkeley County Sheriff's Department and the 167th Air National Guard.

"This was the most rewarding and treacherous endeavor that I had ever encountered with the Sheriff's Office," said Deputy Scott Myers, one of the rescuers who found the victims.

On Saturday night, fire and rescue units responded to the Sleepy Creek Wildlife Management Area located off Lodge Road in Hedgesville. Units arrived on the scene and learned that two men had been riding an ATV in the wildlife management area when it overturned. One of the riders was able to call 911 in attempt to get help. However, he didn't know where they were located in the 22,000-acre state forest, police said.

Berkeley County Central Dispatch was able to get an approximate location by tracking the cell phone's GPS signal.

Rescue units then attempted to traverse the rough terrain and heavily wooded area, although efforts were hampered by the heavy snow. Several ATV gator-type vehicles tried to reach the victims' location, but were unsuccessful, police said.

Running out of options and time, the command post set up by Hedgesville fire and rescue units then contacted the 167th Air National Guard to request the use of one its military Hummers as a result of the state of emergency declared by West Virginia Gov. Joe Manchin. The Hummer, however, was unable to be used due to the steep and rugged terrain, police said.

Berkeley County Sheriff Kenneth "Kenny" Lemaster Jr., who was monitoring radio traffic of the rescue operation, then made available a military-style, four-wheel drive Blazer with chains on all four tires. Myers arrived at the scene a short time later and was briefed on the rescue attempt, which by then had lasted three hours with no success.

Myers was told that the two stranded victims seemed to be giving up hope on being rescued.

"We will get to them, just hang tight," Myers told the command post.

Myers, along with a member of the 167th Air National Guard's fire department, Mark Longerbeam, a paramedic with the Berkeley County Ambulance Authority and two other members of the Hedgesville Fire Department then loaded up the Blazer with rescue equipment and headed up the mountain. After close to a three-mile dangerous ride in unknown terrain and limited visibility, the rescuers reached the victims' location.

"With the conditions, from what I understand, it was actually very dangerous for those who made the final trek back there. They could have become victims themselves ...," Lemaster said. "I want to make sure everybody gets recognized. From what I understand it was team effort."

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----- Forwarded Message

From: JOHN GUTSMIEDL <John.Gutsmiedl@usss.dhs.gov>

Date: Mon, 9 Aug 2010 14:07:26 -0500

To: "Evans, Rick" <Rick.Evans@garmin.com>

Subject: Use of the Rino 530

Mr. Evans,

It has recently come to my attention that there may be plans in the works to reduce the transmitting power of the RINO 530 Radio/GPS units from 5 watts down to 2 watts. I just wanted you to be aware that this change may lead to officer safety issues for my agency personnel in Omaha, NE.

I am the Resident Agent in Charge of the US Secret Service (USSS) Office in Omaha, NE. I have USSS jurisdiction over all of Nebraska and all of Iowa. As the head of the USSS in these two states, I routinely look for new technologies for my Agents that will help them complete their mission better, more efficiently and most of all, more safely.

We routinely use our Rino 530 Radio/GPS units while on surveillances and undercover operations. The communication and location functions that the Rino's provide allow all personnel to quickly communicate with and locate the other members of the team. If the output power is reduced, this may prevent us from being able to locate our personnel unless we are much closer to the operational area. With the current 5 watts of power, we are able to stand-off further with our surveillance teams that lowers the possibility of being detected, thus improving the success of our mission and the safety of our personnel.

Additionally, I am an Assistant Scoutmaster for my son's Boy Scout troop. While on camping trips, we utilize our Rino 530's to keep track of our Boy Scouts by providing a single Rino for each group of scouts (4-6 scouts) while they are away from camp. The 5 watts that the Rino's currently transmit allows us to better communicate and locate our scouts while they are away from camp. Reducing the power on these units would severely impact our ability to keep our Boy Scouts safe.

If you have any questions, or if I can provide any additional information, please don't hesitate to contact me. Thank you for your time.

John G. Gutsmiedl
Resident Agent in Charge
US Secret Service
Omaha, NE
(402) 965-9670

----- Forwarded Message

From: "Joe Strohman LtCol, USMC (Ret)" <joestrohman@gmail.com>

Date: Sat, 7 Aug 2010 12:43:09 -0500

To: "Evans, Rick" <Rick.Evans@garmin.com>

Subject: Rino power issue

Dear Mr. Evans, it has come to my attention that the FCC is considering a rule change that would negatively affect the Rinos and reduce the reduce max transmit power from 5W to 2W.

I currently supply Local, State and Federal Law Enforcement agencies with the Rino 530/520 HCx. DEA ATF, Georgia State Patrol, Border Patrol, ICE, Search and Rescue and multiple fire departments and local departments. This year I have order for or have sold over 130 units.

Any reduction in power could greatly compromise officer/agent safety. I have called all of my LE customers, each has said that a reduction would reduce the transmission range and could potentially cause officers to lose contact which would put them in harms way. DEA and Georgia State Patrol additionally stated that they would expect a full refund for all of their current units. Their reason is that when they add new members to their counter drug units they purchase additional Rino units to support them.

Our agencies must have the ability to get the maximum communications distance. My LE agencies use these primarily during marijuana eradication season. The terrain, foliage and distances require the full 5W limit.

Thanks,
Joe

Joe Strohman, LtCol USMC (Ret)
Garmin GPS and Aimpoint Sights
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From: "mobiustraining@aol.com"
To: "Evans, Rick"
CC:

To Whom It May Concern:
From: Clent Schoonover
Director / Advanced Tactics Division
Mobius Training Solutions, LLC

Subject: 2w verses 5w Transmit Power

A little about me: I have over twenty years experience in my career covering Military, Law Enforcement, and Intelligence. I have operated in almost every area of conflict in the world for the past 20 years along with being a lead instructor for Tactics and Tactical Tracking for DHS/FLETC, Artesia. I know hold the position of Director of the Advanced Tactics Division, Mobius Training Solutions, LLC.

It has been brought to my attention that the FCC is looking to restrict Hand Held Transmitting Devices to only 2w. I feel this is doing our Military, Law Enforcement, and Intelligence a great disservice. Many of the common hand held communication devices, such as Garmin produces are used throughout these areas as a redundant emergency communication devices These types of devises are widely used in the Search and Rescue, Fire, and Emergency Medical Services also as a primary mode of communication. I have personally made my teams carry such devices for just those purposes.

In an operational environment some of the best communications systems have failed but my teams were able to use these common devices under emergency situations to communicate. This ability would be drastically reduced if the use of the 5w devices were made unavailable.

Please take careful consideration on these decisions because I strongly feel that the reduction to 2w would not only hinder this usage but in doing so endanger lives that may depend on that communication ability. Is 3w truly worth the lives it can save.

Thank you for the time and effort in this matter.

Clent