

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

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FCC Mail Room

In the Matter of

Amendment of Part 97 of the)
Commission's Rules to Amend)
Section 97.317 by Removing)
Reference to the 15 dB)
Gain Limitation)

RM- _____

DOCKET FILE COPY ORIGINAL

To: The Commission

PETITION FOR RULEMAKING

Expert Linears America, LLC ("Expert"), by its counsel and pursuant to Section 1.401 of the Commission's rules, 47 C.F.R. § 1.401, requests that the Commission issue a Notice of Proposed Rulemaking to eliminate the 15 dB gain limitation on amplifiers currently embodied in Section 97.317(a)(2) of the rules, 47 C.F.R. § 97.317(a)(2), governing the Amateur Radio Service.

I. Background

The Commission promulgated Section 97.317 of the rules at a time when the Citizens Band ("CB") Radio Service was the primary service that individuals used to satisfy their personal communication needs. More specifically, the Commission adopted this rule in 1978 to prevent commercial manufacturers from marketing to CB Radio Service users RF power amplifiers that had been approved for use at amateur stations. But in its 2004 Notice of Proposed Rulemaking in the Amateur Radio Service, the Commission noted that Section 95.411 of its rules, 47 C.F.R. § 95.411, already satisfies the policy objectives sought by Section 97.317 with

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regard to CB operations.¹ Specifically, Section 95.411 prohibits, under any circumstances, an individual from attaching an external RF power amplifier or any device capable of amplifying the signal to a CB transmitter operating in the 26-28 MHz band. Thus, the Commission concluded, an individual who uses an amplifier at a CB Radio Service station would violate a CB Radio Service rule and not an amateur service rule.² In order to eliminate redundancy and provide clarity in its rules, the Commission proposed to amend Section 97.317 and to eliminate the disparate restrictions imposed on manufacturers as compared to the restrictions imposed on Amateur Radio Service licensees. It also proposed to allow manufacturers to market equipment in the United States that they may market overseas, and to delete the requirement (then in the rules) that a manufacturer must design an amplifier to use a minimum of 50 watts drive power.³

In its 2006 Report and Order in that Docket, the Commission completed its proposed rule revisions.⁴ It recognized that methods of preventing RF equipment from transmitting on frequencies other than those intended had been developed, and it amended Sections 97.315 and 97.317 to permit linear amplifiers that are not readily capable of operating in the 26-28 MHz band to be marketed by amateur radio manufacturers.⁵ But it did not further discuss the 15 dB amplification limitation, presumably because at that time the typical amateur transmitter emitted

¹ See *Amendment of Part 97 of the Commission's Rules Governing the Amateur Radio Services, Notice of Proposed Rulemaking and Order*, WT Docket No. 04-140, 19 FCC Rcd 7293, ¶¶ 83-85 (2004) ("NPRM").

² *Ibid.*

³ *Ibid.*

⁴ See *Amendment of Part 97 of the Commission's Rules Governing the Amateur Radio Services, Report and Order*, WT Docket No. 04-140, 21 FCC Rcd 11643, ¶¶ 42-43 (2006).

⁵ *Ibid.*

at least 50 watts, the power level referred to in the NPRM, so that more than 15 dB of amplification would not be needed to attain the maximum permitted power for an Amateur Radio Service licensee (1500 watts). Although no party advocated retention of the 15 dB limit, it remains in place today. In the intervening years, advancements in amateur radio transmitter technology have led to the availability of highly compact, sophisticated low-power transmitters that require more than 15 dB of amplification to achieve maximum legal power output. Therefore, Expert seeks to remove the 15 dB limit from Section 97.317 so that amateur radio manufacturers and distributors will not be forced to needlessly cripple their amplifiers for sale in the United States and can be viable in an evolving and vibrant international amplifier market.

II. Justification for Change

Expert is a distributor of Amateur Radio amplifiers manufactured by S.P.E. s.r.l. in Italy. The situation Expert faces is illustrative of the need to amend Section 97.317(a)(2) in response to the advent of state-of-the-art solid state amplifiers that are efficient, cost effective and compact. Expert's Model 1.3K FA amplifier is a good example. It carries FCC identifier 2ADK5GC324809. This amplifier has developed a modest following in the amateur radio market in the United States because it is imported with an internal modification that brings it into compliance with Section 97.317(a)(2), *i.e.*, it is capable of only 15 dB of amplification. As currently modified, it is handicapped in its appeal to a large portion of the domestic market because many users own low-power transmitters that cannot drive the amplifier to full legal power. No one outside the United States would want the needlessly impaired version of an amplifier when the fully functioning model is available.

This Model 1.3K FA amplifier is inherently capable of considerably more than 15 dB of amplification, which would make it a perfect match for the Elecraft KX3 or other low-power

transmitters that are now commonly manufactured in the United States and sold internationally. Such transmitters put out 10 watts or less and would be a good match for the unmodified Model 1.3K FA. However, with the hamstrung U.S. version of the Expert amplifier, less than half the potential output power of 1500 watts of the unmodified version of the amplifier is available. This full legal power level is necessary in many circumstances for meaningful communication given current propagation on the HF bands.⁶

It is cumbersome and costly to manufacture, distribute, and market two versions of a product. If unmodified versions of amplifiers were available from United States sellers, those sellers could compete on an equal footing throughout the world with overseas competitors.⁷ In short, Expert and other similarly situated U.S.-based amplifier manufacturers and distributors are at a disadvantage because of the unnecessary 15 dB restriction in Section 97.317(a)(2).

Today's solid state amplifiers are small and lighter than their predecessors, allowing them to be transported and used in emergency situations. As an example, the Expert Model 1.3K FA weighs only 22 pounds and thus can be transported easily with the Elecraft KX3 or similar transceiver for use in portable operations. Under the current rule, this combination produces less than half the power output authorized for an amateur station. That reduced power can cause

⁶ As is the case with most modern amateur amplifiers, the licensee is responsible for limiting output power to the legal limit by reducing drive power or inserting attenuation at the input of the amplifier. See Section 97.313 of the rules, 47 C.F.R. § 97.313. Moreover, the Model 1.3K FA has proprietary software that makes it incapable of transmitting between 26 and 28 MHz, thus satisfying the Commission's requirement regarding CB radios. That software will remain in place following the proposed amendment of Section 97.317.

⁷ Drop-shipped amplifiers from an overseas manufacturer in Europe or Asia are not necessarily cheaper than the same amplifier shipped through a United States supplier, for reasons of service availability, warranty features and even shipping costs (to Canada, Mexico, South America, for example).

operational degradation and diminish communications reliability, both critical at times when portable stations are used in national, regional or local emergencies.

From a commercial perspective, the domestic market is not being adequately served because newly designed, efficient amplifiers, currently restricted to 15 dB of gain, do not provide the maximum power permitted under Section 97.313 when used with modern portable transmitters such as the Elecraft KX3 or Elecraft KX1.⁸ Substantial increases in demand would occur were these amplifiers permitted to operate at lawful power levels in conjunction with low-powered transmitters.

Put simply, there should be no gain limitation at all imposed on amplifiers sold or used in the Amateur Radio Service, especially in view of the concomitant certification requirements elsewhere in the Commission's rules and the power limit of Section 97.313. There is no technical or regulatory reason an amplifier capable of being driven to full legal output by even a fraction of a watt should not be available to amateur radio operators in the United States.

III. Conclusion

Given the foregoing and in support of the public interest, Expert respectfully requests that the Commission issue a Notice of Proposed Rulemaking to amend Section 97.317 of the

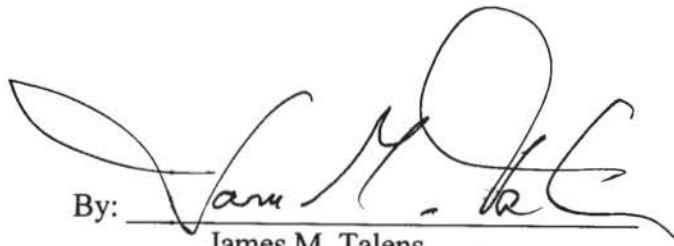
⁸ An intervening amplifier stage theoretically could be inserted to raise the output of the exciter but that is both inefficient and unnecessarily costly.

Commission's rules by removing the 15 dB limitation on amplifier gain currently embodied in Section 97.317(a)(2).⁹ Expeditious grant of this petition for rulemaking is requested.¹⁰

Respectfully submitted,

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⁹ The proposed rule as amended is shown in the Appendix attached hereto.

¹⁰ Expert asks that its Request for Waiver on this issue filed March 11, 2016 be considered for grant with appearance of this Petition on public notice, subject to the outcome of this proceeding.

Appendix

47 C.F.R. Part 97 is amended to read as follows:

Section 97.317, Standards for Certification of External RF Power Amplifiers, is amended to read, in pertinent part, as follows:

(a) To receive a grant of certification, the amplifier must:

(1) Satisfy the spurious emission standards of § 97.307(d) or (3) of this part, as applicable, when the amplifier is operated at the lesser of 1.5 kW PEP or its full output power and when the amplifier is placed in the "standby" or "off" positions while connected to the transmitter.

~~(2) Not be capable of amplifying the input RF power (driving signal) by more than 15 dB gain. Gain is defined as the ratio of the input RF power to the output RF power of the amplifier where both power measurements are expressed in peak envelope power or mean power.~~

~~(3)~~ (2) Exhibit no amplification (0 dB gain) between 26 MHz and 28 MHz.