

MFJ Engineering
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April 15, 2013
Attestation Statement

This certification is for production quantities of an amateur radio service linear amplifier. Maximum power permitted by FCC rules is 1500 watts PEP on all modes licensed for the Amateur Radio service under part 97. This amplifier has a 1200-watt PEP maximum rated output amplifier.

Ameritron division of MFJ Enterprises will be the sole manufacturer of this product. Ameriton, of Starkville, MS, is a division of MFJ Enterprises, Inc.

This amplifier meets or exceeds all requirements of CFR 47 part 97.317 as of April 15, 2013:

§ 97.317 Standards for certification of external RF power amplifiers.

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

(1) Satisfy the spurious emission standards of § 97.307 (d) or (e) 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) Exhibit no amplification (0 dB gain) between 26 MHz and 28 MHz.

(b) Certification shall be denied when:

(1) The Commission determines the amplifier can be used in services other than the Amateur Radio Service, or

(2) The amplifier can be easily modified to operate on frequencies between 26 MHz and 28 MHz.

[71 FR 66465, Nov. 15, 2006]

Section 97.317 (a) (1) This amplifier exceeds spurious and harmonic emission suppression requirements outlined below in 97.307 (d) and (e), both at full rated output of 1200 watts PEP and at any power level below full rated output. In addition, when on standby, this amplifier is directly bypassed by a mechanical relay. Since non-linear devices of any kind are present, it does not alter any signal applied to radio frequency ports.

Section 97.317 (a) (2) This amplifier has less than 15 dB gain on all frequencies.

Section 97.317 (a) (3) This amplifier is inoperable between 25 MHz and 28 MHz. Application of any signal greater than 50 milliwatts between 25 and 28 MHz automatically forces this amplifier into lockout, where gain reverts to 0 dB.

Section 97.317 (b) (1) and (2) Because the lockout feature is embedded in the control PIC, the out-of-band lockout feature cannot be removed. There are no jumpers, diodes, or programming steps to defeat the lockout. If the control board is removed or disabled, the amplifier will stop functioning.

This amplifier meets all sections of 97.307 Emission Standards applicable to external RF power amplifiers, as of April 15, 2013:

§ 97.307 Emission standards.

(d) For transmitters installed after January 1, 2003, the mean power of any spurious emission from a station transmitter or *external RF power amplifier* transmitting on a frequency below 30 MHz must be at least 43 dB below the mean power of the fundamental emission. For transmitters installed on or before January 1, 2003, the mean power of any spurious emission from a station transmitter or *external RF power amplifier* transmitting on a frequency below 30 MHz must not exceed 50 mW and must be at least 40 dB below the mean power of the fundamental emission. For a transmitter of mean power less than 5 W installed on or before January 1, 2003, the attenuation must be at least 30 dB. A transmitter built before April 15, 1977, or first marketed before January 1, 1978, is exempt from this requirement.

(e) The mean power of any spurious emission from a station transmitter or *external RF power amplifier* transmitting on a frequency between 30-225 MHz must be at least 60 dB below the mean power of the fundamental. For a transmitter having a mean power of 25 W or less, the mean power of any spurious emission supplied to the antenna transmission line must not exceed 25 μ W and must be at least 40 dB below the mean power of the fundamental emission, but need not be reduced below the power of 10 μ W. A transmitter built before April 15, 1977, or first marketed before January 1, 1978, is exempt from this requirement.

97.307d specifies harmonic and spurious levels at least 43 dB below fundamental, and not to exceed 50 mW, for operation below 30 MHz. With 1200 watts, the harmonic and spurious limit is -43.8 dB.

97.307e specifies harmonic and spurious levels at least 60 dB below fundamental for operation between 30 MHz and 225 MHz.

This amplifier exceeds 97.307 requirements.

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