

### AM 500A - Technical Specifications : Technical Specifications

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#### RF SPECS

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**Output Power:****Range:**

5 W to 500 W

**Accuracy:**

2% full scale

**Efficiency:**

60% or better, 100% sinusoidal modulation of 500 W carrier into 50 Ohm load

**VSWR:**

Nominal 1.3:1 at full carrier power; will operate into higher VSWR with automatic power reduction, open and short circuit protected

**Impedance:**

50 Ohm

**Frequency:****Range:**

522 kHz to 1700 kHz, supplied on one frequency (synthesized), as ordered; accommodates 9 kHz or 10 kHz channel spacing

**Stability:**

±3ppm, 0 to 50° C

**RF Harmonics Suppression:**

Meets or exceeds FCC, DOC, and CCIR requirements, when preceded by external NRSC-1 compatible audio low pass filter(s)

**Modulation:****Type:**

Pulse width modulation of L+R envelope with optional integrated C-QUAM AM stereo; an RF input connector (BNC) is also provided for an external RF or stereo exciter

**Capabilities:**

>145% peak positive capability at rated nominal output power into 50 Ohm load

**Carrier Shift:**

<1% at 95% negative modulation at 1 kHz

**Regulatory:**

Meets or exceeds FCC and DOC technical requirements, meets ENG0215 safety requirements

#### AM AUDIO SPECS

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**Modes:**

Stereo (with optional stereo card), Mono L+R, Mono L, Mono R, HD with external ASi 10; not compatible with analog stereo

**Stereo (with optional stereo card):****Connector Type:**

3 position terminal block (2)

**Input Level:**

10 dBm, ±1 dB, L+R (or mono) to produce 100% L+R envelope modulation; other input levels accommodated by internal resistor selection

**Impedance:**

600 Ohm; inputs are balanced, transformerless, and resistive with passive RFI filtering; other impedances can be accommodated.

**Amplitude Response:**

±1 dB, 20 Hz to 10 kHz

**THD + Noise:**

<2.0% at 50% single channel modulation, 50 Hz to 10 kHz at rated power

**S/N Radio:**

>55 dB below a reference level equivalent to 100% negative modulation of either left or right channel in a 22 Hz to 30 kHz bandwidth, unweighted

**Separation:**

-25dB or better, 50 Hz to 10 kHz, at 50% single channel modulation into a 50 Ohm resistive load, at rated power

**Squarewave Overshoot:**

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1% or less at 400 Hz, 50% single channel modulation with high frequency boost disabled

**Squarewave Tilt:**

1% or less at 40 Hz, 1.5% or less at 20 Hz, measured with 90% negative modulation

**Incidental Phase Modulation:**

Less than 2° (0.035 radians) average, or 30 dB (typical 40 dB) below equivalent 100% L-R C-QUAM modulation 50 Hz to 10 kHz, at rated power; measured with an audio input level which generates 95% negative L+R envelope modulation at 1 kHz (9.5 dBm)

**Mono:**

**Connector Type:**

3 position terminal block

**Input Level:**

10 dBm,  $\pm 1$  dB, L=R (or mono) to produce 100% L+R envelope modulation; other input levels accommodated by internal resistor selection

**Impedance:**

600 Ohm; inputs are balanced, transformerless, and resistive with passive RFI filtering; other impedances can be accommodated

**Amplitude Response:**

$\pm 1$  dB, 20 Hz to 10 kHz at 90% negative modulation (linear phase mode); +0.1 dB -3 dB, 20 Hz to 10 kHz at 90% negative modulation, standard configuration

**THD + Noise:**

<1.2%, 20 Hz to 10 kHz at rated power

**Intermod Dist:**

1.2% or less 1:1 ratio, 1.7% or less 4:1 ratio. 60/7000 hz SMPTE standards with 85% modulation at rated power

**S/N Ratio:**

>65 dB below a reference level equivalent to 100% negative modulation in a 22 Hz to 30 kHz bandwidth, unweighted

**Squarewave Overshoot:**

0.1% or less at 400 Hz, 90% modulation (linear phase mode)

**Squarewave Tilt:**

1% or less at 40 Hz, less than 1.5% at 20 Hz, 90% negative modulation

## MECHANICAL/PHYSICAL

**Size:**

**Unpacked:**

**ECU:**

19" W x 14.4" D x 10.5" H (48.0 x 36.6 x 26.7cm)

**Output Network:**

19" W x 27.1" D x 14" H (48.3 x 68.8 x 35.6cm)

**Weight:**

**Unpacked:**

90.6 lbs (41.1 kg)

**Airflow:**

**Outlet Size:**

**ECU:**

9.5" x 14" (24.1 x 35.6cm)

**Output Network:**

6.5" x 4.0" (16.5 x 10.2cm)

**RF Output Connector:**

Type N Female

## ENVIRONMENTAL

**Temperature:**

0° to 50° C

**Altitude:**

10,000 ft (3,048 M) at 60 Hz; 7,500 ft (2,286 M) at 50 Hz



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**Humidity:**

0% to 95% (non-condensing)

**ELECTRICAL**

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**AC Input Voltage:**

196-252 VAC, 50/60Hz, single phase

**Disconnect Size:**

20 A

**AC Wire Size:**

#12 Copper AWG, THHN

**Current Draw:**

9.5 A max

**Power Consumption:**

1.25 kW at 125% sinusoidal modulation of 500 Watt carrier

**Cooling Air Requirements:**

250 CFM (7.08 M3/min)

**Heat Dissipation:**

600 Watts maximum for 500W RF output at 125% audio tone modulation

**BTU:**

2,000 BTU/H for 500 W RF Output at 125% audio tone modulation

**Power Factor:**

> 0.75 at full load

**Surge Protection:**

275 V MOV

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**ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE**

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