

FM 4C - Technical Specifications : Technical Specifications

RF SPECS

Output Power:**Range:**

2 kW to 4 kW

Accuracy:

10%

Resolution:

10 W

PA Efficiency:

81% typical at 4 kW (actual dependent on line voltage and carrier frequency)

Overall AC Efficiency:

64% typical at 4 kW (actual dependent on line voltage and carrier frequency)

VSWR:

Rated power into 1.35:1 maximum, capable of operating into higher VSWR with automatic power reduction, open and short circuit protected at all phase angles

Impedance:

50 Ohm

Frequency:**Range:**

87.5 MHz to 108 MHz, tuned to specific operating frequency, exciter programmable in 10 kHz steps

Stability:

±300 Hz, 0° to 50° C

RF Harmonics Suppression:

Suppression meets all FCC/DOC requirements and CCIR recommendations

Modulation:**Type:**

Direct frequency modulation of carrier frequency

Capabilities:

Greater than ±350 kHz

Regulatory:

Meets IEC 215 safety requirements

STXE 500 EXCITER AUDIO SPECIFICATIONS

General**RF Power Output:**

25-550W

Output Impedance:

50 ohms nominal

VSWR:

Rated power into 1.5:1 VSWR. Open and short circuit protected at all phase angles

Frequency Range:

87.5MHz to 108MHz; 10kHz increments

Frequency Stability:

Internal TCXO: +/-100Hz factory calibration, +/-4ppm agin/temp, -10 degrees C to +50 degrees C; External Input: +/- accuracy of reference source

Audio Inputs:

AES, L&R analog, Unbalanced composite, SCA audio inputs, RDS input

Modulation Type:

Direct-to-channel digitally generated FM (no analog up-conversion); FM only

Modulation Capability:

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Up to 300kHz

Asynchronous AM S/N Ratio:

64dB 75dB below rated power reference carrier with 100% AM modulation at 400Hz, with no FM modulation present.

Synchronous AM S/N Ratio:

60dB below rated power reference carrier with 100% AM modulation at 400Hz, with FM modulation +/- 75kHz at 400Hz

Spurious and Harmonic:

: 85dB or better typical, low pass filter standard

AC Input:

90 to 264VAC; 47-63Hz

Power Factor:

0.95 typical at 220VAC

AC Inputs Testing:

Tested to EN 301 489-1, including Voltage Dips and Dropouts (Section 9.7B), Voltage Surges (Section 9.8), and conducted immunity and conducted radiation.

Regulatory:

FCC; IC; CE; BETS-6; IEC 215 Safety

Operational Modes:

Stereo, mono (L+R), L only, R only

Stereo:

Connector Type:

AES:

Wire – XLR

L&R:

XLR

Input Level:

AES:

-2 dBfs for 100% modulation; 16-24 bits (32, 44.1, 48 or 96 kHz typical rates for AES/EBU devices)

L&R:

+10 dBm for 100% modulation into 600 ohms

Impedance:

AES:

110 ohm balanced

L&R:

600 ohms or 10 k selectable; balanced

Amplitude Response:

AES:

±0.25 dB, 20 Hz to 15 kHz

L&R:

±0.25 dB, 20 Hz to 15 kHz

THD + Noise:

AES:

0.03 or better @400Hz measured 10 Hz-22Khz, 75 uS deemphasis

L&R:

0.005 typical @400Hz, measured 10 Hz-22Khz, 75 uS deemphasis

S/N Ratio:

AES:

95dB typical below 100% modulation @ 400Hz, 10Hz-22Khz bandwidth, A-weighted filter 100dB typical below 100% modulation @ 400 Hz, 10Hz-22Khz bandwidth, CCIR-468 filter

L&R:

86dB or better below 100% modulation @ 400Hz, 10 Hz-22Khz bandwidth, unweighted

Analog:

93dB typical below 100% modulation @ 400Hz, 10Hz-22Khz bandwidth, A-weighted filter 98dB typical below 100% modulation @ 400 Hz, 10Hz-22Khz bandwidth, CCIR-468 filter

S/N Ratio Stereo::



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80dB or better below 100% modulation @ 400Hz, unweighted

Stereo Separation::

70dB or better, 20Hz to 15kHz

AES:

80 dB, 20 Hz to 15 kHz

L&R:

70 dB, 20 Hz to 15 kHz

Pilot Stability:

± 0.3 Hz, 0° C to +50° C

Audio Overshoot::

150% peak deviation max.

Composite Performance:

Connector Type:

BNC Unbalanced: BNC

Input Level:

3.5 V p-p for 100% modulation into 10 kOhms

Impedance:

Balanced: 10 kOhm or 50 ohm selectable, Unbalanced: 10 kOhm

Amplitude Response:

± 0.03 dB 20 Hz to 53 kHz; 0.1 dB 53 kHz to 99 kHz

Phase Response:

$\pm 0.1^\circ$ from linear phase; 53 kHz to 100 kHz

THD + Noise:

0.005% or less @ 400Hz, 10-22Khz bandwidth, 75 us deemphasis

Intermod Dist:

SMPTE: 0.01% or less (60/7000 Hz, 1:1 ratio) DIM-B: 0.005% typical (14Khz)

FM S/N Radio:

88 dB below 100% modulation @ 400 Hz, 10Hz-22Khz bandwidth, unweighted

FM S/N Ratio:

95dB typical below 100% modulation @ 400Hz, 10Hz-22Khz bandwidth, A-weighted filter

FM S/N Ratio:

100dB typical below 100% modulation @ 400 Hz, 10Hz-22Khz bandwidth, CCIR-468 filter

SCA/SCA2/RDS:

Air Conditioning Sizing:

5.41 ton A/C

Impedance:

10k ohms unbalanced

Amplitude Response:

+/- 0.1dB; 53Hz to 100kHz

19kHz Output:

19kHz synchronization clock for external RBDS/RDS operation 1V pp into high impedance

Physical:

Height:

3.5 inches (2 RU)

Width:

19" EIA rack mountable

Depth:

STXe 60 19.5 inches

Weight:

STXe 60 20lbs. unpacked

MECHANICAL/PHYSICAL



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Size:**Unpacked:**

30.64" W x 64" H x 30" D (77.83cm W x 162.56cm H x 76.2cm D)

Weight:**Unpacked:**

525 lbs (238 kg)

Airflow:**Outlet Size:**

672 square inches (4362 square cm); top, back and front of unit

RF Output Connector:

1-5/8" EIA flange

ENVIRONMENTAL

Temperature Range:

0 degrees C to +50 degrees C

Altitude:

10,000 ft. (3048 M) @ 60 Hz. 7500 ft. (2286 M) @ 50 Hz

Humidity:

0-95% Non-Condensing

ELECTRICAL

AC Input Voltage**3 Phase, Closed Delta::**

196-252 VAC, 50/60 Hz

3 Phase, 4 wire, WYE::

339-437 VAC, 50/60 Hz

Single Phase::

196-252 VAC, 50/60 Hz

Disconnect Size:

70 A Single Phase; 50 A Three Phase

AC Wire Size:

#4 Copper AWG Type THHN Single Phase; #6 Copper AWG Type THHN Three Phase

Current Draw:

50 A Max Single Phase; 30 A Max Three Phase

Power Consumption:

8 kW at 4 kW RF Output into 50 Ohm load

Cooling Air Requirements:

2200 CFM (62.3 M3/min) filter required

Heat Dissipation:

4 kW at 4 kW RF output into 50 Ohm load

BTU:

13680 BTU/H at 4 kW RF output into 50 Ohm load

Power Factor:

0.99 at full load

Surge Protection:

275 V MOV

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

