

FM 1C1 - Technical Specifications : Technical Specifications

RF SPECS

Output Power:**Range:**

250 W to 1000 W

Accuracy:

10%

Resolution:

1 W

Efficiency:

46% at 230 VAC 1 kW into 50 Ohm, 48% typical

VSWR:

Rated power into 1.5:1 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

FM AUDIO SPECIFICATIONS WITH FXI 60 EXCITER

Modes:

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

Stereo:**Connector Type:****AES:**

Wire – XLR, Optical – Toshiba (TosLink)

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 Ohm

Impedance:**AES:**

110 Ohm balanced

L&R:

600 Ohm or 10 k Ohm selectable; balanced

Amplitude Response:**AES:**

±0.5 dB, 20 Hz to 15 kHz

L&R:

±0.5 dB, 20 Hz to 15 kHz

THD + Noise:**AES:**

0.05% or better

L&R:

0.05% or better

Intermod Dist:**AES:**

0.05% or better

L&R:

0.05% or better

S/N Radio:**AES:**

82 dB or better below 100% modulation @ 400 Hz

L&R:

82 dB or better below 100% modulation @ 400 Hz

Separation:**AES:**

50 dB, 20 Hz to 15 kHz

L&R:

50 dB, 20 Hz to 15 kHz

Linear Crosstalk:

45 dB below 100% modulation; 20 Hz to 15 kHz; main to sub and sub to main

Pilot Stability:

±0.3 Hz, 0° C to 50° C

38, 57, 76, 95 kHz Suppression:

80 dB below 100% modulation

Asynchronous AM S/N Ratio:

55 dB below rated power reference carrier with 100% AM modulation at 400 Hz, 75 µs de-emphasis with no FM modulation present

Synchronous AM S/N Ratio:

50 dB below rated power reference carrier with 100% AM modulation at 400 Hz, 75 µs de-emphasis with FM modulation ±75 kHz at 400 Hz

Pre-emphasis:

None, 50 µs, or 75 µs; software programmable

Composite:**Connector Type:**

BNC (2); unbalanced, balanced

Input Level:

3.5 V p-p for 100% modulation into 10 k Ohm

Impedance:

Balanced: 10 k Ohm or 50 Ohm selectable, Unbalanced: 10 k Ohm

Amplitude Response:

±0.01 dB 20 Hz to 53 kHz; 0.1 dB 53 kHz to 99 kHz

Phase Response:

±0.1° from linear phase; 53 kHz to 100 kHz

THD + Noise:

0.02% or less

Intermod Dist:

0.02% or less

S/N Radio:

Tomorrow's Radio Today

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Technical Specifications

85 dB below 100% modulation @ 400 Hz

Asynchronous AM S/N Ratio:

55 dB below rated power reference carrier with 100% AM modulation at 400 Hz, 75 μ s de-emphasis with no FM modulation present

Synchronous AM S/N Ratio:

50 dB below rated power reference carrier with 100% AM modulation at 400 Hz, 75 μ s de-emphasis with FM modulation \pm 75 kHz at 400 Hz

Mono:

Connector Type:

XLR

Input Level:

3.5 V p-p for 100% modulation into 600 Ohm

Impedance:

600 Ohm or 10 k Ohm selectable

Amplitude Response:

\pm 0.5 dB; 20 Hz to 15 kHz

THD + Noise:

0.02% or less; 20 Hz to 15 kHz

Intermod Dist:

0.02% or less, 20 Hz to 15 kHz

S/N Radio:

85 dB below 100% modulation @ 400 Hz

Asynchronous AM S/N Ratio:

55 dB below rated power reference carrier with 100% AM modulation at 400 Hz, 75 μ s de-emphasis with no FM modulation present

Synchronous AM S/N Ratio:

50 dB below rated power reference carrier with 100% AM modulation at 400 Hz, 75 μ s de-emphasis with FM modulation \pm 75 kHz at 400 Hz

SCA:

Internal:

Input Level:

+10 dB for 10% modulation into 600 Ohm

Impedance:

600 Ohm or 10 k Ohm selectable

Amplitude Response:

\pm 0.5 dB; 20 Hz to 7 kHz

S/N Ratio:

60 dB or better

Frequency:

20 kHz to 99 kHz; software programmable

Deviation:

2.5 to 10 kHz; software programmable

Injection Level:

2% to 15%; software programmable

External:

Connector Type:

BNC

Input Level:

3.5 V p-p for 10% deviation

Impedance:

10 k Ohm unbalanced

Amplitude Response:

\pm 0.5 dB; 20 Hz to 100 kHz

RDS:

Internal:

Frequency:

57 kHz



Injection Level:

2% to 15%; software programmable

External:**Connector Type:**

BNC

Input Level:

3.5 V p-p for 10% deviation

Impedance:

10 k Ohm unbalanced

Amplitude Response:

±0.5 dB; 20 Hz to 100 kHz

19 kHz:

19 kHz synchronization clock for external RBDS/RDS operation 2.5 V p-p into 50 Ohm

FM AUDIO SPECIFICATIONS WITH FX 50 EXCITER

Composite:**Connector Type:**

BNC (3); un-balanced, balanced, front panel test

Input Level:

3.5 V p-p nominal, for ±75 kHz deviation

Impedance:

Unbalanced: 10 k Ohm, nominal, resistive. Balanced: 10 k Ohm or 50 Ohm, programmable, jumper selected

Amplitude Response:

±0.025 dB, 30 Hz to 53 kHz

Phase Response:

±0.1 degree from linear phase, 30 Hz to 53 kHz

THD + Noise:

0.02% or less

Intermod Dist:

0.02% or less

S/N Radio:

85 dB below 100% modulation @ 400 Hz

Asynchronous AM S/N Ratio:

55 dB below rated power reference carrier with 100% AM modulation at 400 Hz, 75 µs de-emphasis with no FM modulation present

Synchronous AM S/N Ratio:

50 dB below rated power reference carrier with 100% AM modulation at 400 Hz, 75 µs de-emphasis with FM modulation ±75 kHz at 400 Hz

Mono:**Connector Type:**

Terminal Block

Input Level:

+10 dBm nominal for ±75 kHz deviation @ 400 Hz, adaptable to other levels

Impedance:

600 Ohm balanced, resistive, adaptable to other impedances, 60 dB common mode suppression

Amplitude Response:

±0.5 dB, 30 Hz to 15 kHz; selectable flat, 25, 50, or 75 µs pre-emphasis

THD + Noise:

0.02% or less

Intermod Dist:

0.02% or less

S/N Radio:

85 dB below 100% modulation @ 400 Hz

Asynchronous AM S/N Ratio:

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55 dB below rated power reference carrier with 100% AM modulation at 400 Hz, 75 μ s de-emphasis with no FM modulation present

Synchronous AM S/N Ratio:

50 dB below rated power reference carrier with 100% AM modulation at 400 Hz, 75 μ s de-emphasis with FM modulation \pm 75 kHz at 400 Hz

SCA:

External:

Connector Type:

BNC (3); un-balanced

Input Level:

3.5 V p-p nominal for 7.5 kHz deviation

Impedance:

100 k Ohm nominal, resistive

Amplitude Response:

\pm 0.2 dB, 40 kHz to 100 kHz

MECHANICAL/PHYSICAL

Size:

Unpacked:

19" W x 21" H x 24" D (48.3 cm W x 53.3 cm H x 61.0 cm D)

Weight:

Unpacked:

103 lbs (46.7 kg)

Airflow:

Outlet Size:

320 square inches (2065 square cm); top of unit

RF Output Connector:

Type N Connector, Female

ENVIRONMENTAL

Temperature Range:

0 degrees C to +50 degrees C

Altitude:

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

Humidity:

0-95% Non-Condensing

ELECTRICAL

AC Input Voltage:

195-252 VAC, 50/60 Hz, single phase

Disconnect Size:

20 A

AC Wire Size:

#12 Copper AWG, Type THHN

Current Draw:

11 A Max

Power Consumption:

2.2 kW at 1 kW RF Output into 50 Ohm load

Cooling Air Requirements:

700 CFM (19.8M3/min) filter required

Heat Dissipation:



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1.2 kW at 1 kW RF Output into 50 Ohm load

BTU:

4096 BTU/H at 500 W 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

