FM 5T - Technical Specifications : Technical Specifications

RF SPECS

Output Power:
Range:
5 kW (2.5 kW to 5.5 kW)
Efficiency:
Typically 60% (AC line input to RF output)
VSWR:
1.8:1 maximum. (Capable of operating into higher VSWR with automatic power reduction)
Impedance:
50 ohm (others on special request)
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 250 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 kOhm selectable; balanced
Amplitude Response:
AES:
±0.5 dB, 20 Hz to 15 kHz
L&R:

Broadcast Electronics • 4100 North 24th Street, P.O. Box 3606, Quincy, Illinois 62305-3606 U.S.A.
Telephone: (217) 224-9600 • Fax: (217) 224-9607 • E-Mail: bdcast@bdcast.com • www.bdcast.com

±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

Asychronous 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 kOhm

Impedance:

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

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:

85 dB below 100% modulation @ 400 Hz

Asychronous 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:

XLR

Input Level:

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

Impedance:

600 ohm or 10 kOhm selectable

Amplitude Response:

±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

Asychronous 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

SCA:

Internal:

Input Level:

+10 dB for 10% modulation into 600 ohm

Impedance:

600 ohm or 10 kOhm selectable

Amplitude Response:

±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 kOhm unbalanced

Amplitude Response:

±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 kOhm 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 FM 250C 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 kOhm, nominal, resistive. Balanced: 10 kOhm or 50 ohm, programmable, jumper selected

Amplitude Response:

±0.1 dB, 30 Hz to 53 kHz

Phase Response:

±0.25 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

Asychronous 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

Asychronous 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

SCA:

External:

Connector Type:

BNC (3); un-balanced

Input Level:

3.5 V p-p nominal for 7.5 kHz deviation

Impedance:

100 kOhm nominal, resistive

Amplitude Response:

±0.2 dB, 40 kHz to 100 kHz

MECHANICAL/PHYSICAL

Size:

Unpacked:

34.5”W x 70”H x 37.25”D (87.83 x 177.8 x 94.61 cm)

Weight:

Unpacked:

1000 lbs. (455 kg)

RF Output Connector:

1 5/8" EIA flange

ENVIRONMENTAL

Temperature Range:

-10° to +50° C

Altitude:

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

Humidity:

0-95% Non-Condensing

ELECTRICAL

AC Input Voltage:

208/240 V Delta or WYE, 50/60 Hz, three phase. (Taps for 196 to 252 V, other voltages and line frequencies are available upon request)

Power Consumption:

Typically 8.3 kW (at 0.92 pf) at 5 kW RF output

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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