AUDIO SPECIFICATIONS

GENERAL

RF Output Power
Up to 750 W (Depending on transmitter model)

RF Frequency Range
87.5 MHz to 108 MHz
Digitally programmable in 1 kHz steps

RF Output Monitor
-30 dBc, BNC jack

Frequency Stability
± 200 Hz
0°C to +50°C ambient temperature range

Modulation Type
Direct Digital Synthesis (DDS) using a 32 bit NCO
Direct-to-channel RF generation at 635 MS/s with a 16-bit DAC

Modulation Capability
160% (4 dB) ±75 kHz reference standard
±300 kHz modulation capable upon request

Output Impedance
50 ohms

STEREO PERFORMANCE WITH DIGITAL AUDIO INPUT

Input Connector
One XLR female, one DB15 male and one optical input

AES/EBU Input Impedance
110 ohms, nominal

Input Level
0 dBfs to -16 dBfs for 100% modulation

Data Format
AES/EBU (XLR, DB15), SPDIF (optical); 16 bits to 24 bits resolution

Data Rate
20 kHz to 192 kHz

Pilot Carrier
19 kHz ±0.01 Hz, programmable 6% to 12% injection level. Available on rear panel BNC as 1 Vp-p sine wave. Pilot phase may be referenced to GPS 1 PPS (BNC) and adjusted with 1° resolution.

38 kHz Suppression
80 dB below ±75 Hz deviation reference

Stereo Separation
Specification: Better than 60 dB, 30 Hz to 15 kHz
Typical: -65 dB, 30 Hz to 15 kHz

Amplitude Response (L or R)
±0.1 dB, 30 Hz to 15 kHz referenced to 0 dB at 400 Hz

FM Signal-to-Noise Ratio (L or R)
80 dB below 100% modulation (reference 400 Hz, measured in 22 Hz to 22 kHz bandwidth with 75 µs de-emphasis and DIN 'A' weighting)

Stereo Total Harmonic Distortion (L or R)
0.025% or less, 30 Hz to 15 kHz, measured in 22 Hz to 22 kHz bandwidth with 75 µs de-emphasis

Stereo Crosstalk
60 dB below 100% (30 Hz to 15 kHz).
Modulation reference: L+R to L-R and L-R to L+R

Intermodulation Distortion (L or R)
CCIF: 0.008% or less (14/15 kHz, 1:1)
SMPTE: 0.025% or less (60 Hz and 7,000 Hz, 1:1)

Transient Intermodulation Distortion (DIM) (L or R)
0.05% or less (2.96 kHz square wave/14 kHz sine wave)

Stereo/Monaural Mode Control
Monaural mode selectable using left channel

STEREO PERFORMANCE WITH ANALOG STEREOINPUT

Input Connector
DB15 male

Input Impedance
Balanced, no transformers, 600 ohms

Input Level
-6 dBu to 12 dBu for 100% modulation

Input Quantization
Sampled at 77.5 kHz with 24-bit ADC

Pre-Emphasis
0 µs, 25 µs, 50 µs or 75 µs, user selectable

Pilot Carrier
19 kHz ±0.01 Hz, programmable 6% to 12% injection level. Available on rear panel as TTL or 1 Vp-p sine wave. Pilot phase may be referenced to GPS 1 PPS (BNC) and adjusted with 1° resolution.

38 kHz Suppression
80 dB below ±75 Hz deviation reference

Stereo Separation
Specification: Better than 60 dB, 30 Hz to 15 kHz
Typical: -65 dB, 30 Hz to 15 kHz

Amplitude Response (L or R)
±0.1 dB, 30 Hz to 15 kHz referenced to 0 dB at 400 Hz

FM Signal-to-Noise Ratio (L or R)
80 dB below 100% modulation (reference 400 Hz, measured in 22 Hz to 22 kHz bandwidth with 75 µs de-emphasis and DIN 'A' weighting)

Stereo Total Harmonic Distortion (L or R)
0.025% or less, 30 Hz to 15 kHz, measured in 22 Hz to 22 kHz bandwidth with 75 µs de-emphasis

Stereo Crosstalk
50 dB below 100% (30 Hz to 15 kHz).
Modulation reference: L+R to L-R and L-R to L+R

AUDIO SPECIFICATIONS

Intermodulation Distortion (L or R)
CCIF: 0.008% or less (14/15 kHz, 1:1)
SMPTE: 0.025% or less (60 Hz and 7 kHz, 1:1)

Transient Intermodulation Distortion (DIM) (L or R)
0.05% or less (2.96 kHz square wave/14 kHz sine wave)

Stereo/Monaural Mode Control
Monaural mode selectable using left channel

MONAURAL PERFORMANCE WITH DIGITAL OR ANALOG INPUTS

Amplitude Response (L or R)
±0.05 dB, 30 Hz to 15 kHz referenced to 0 dB at 400 Hz

FM Signal-to-Noise Ratio
90 dB below 100% modulation (reference 400 Hz at ±75 kHz deviation with 75 µs de-emphasis and DIN 'A' weighting in 22 Hz to 22 kHz passband)

Harmonic Distortion
0.005% or less at 400 Hz measured in 22 Hz to 22 kHz bandwidth with 75 µs de-emphasis

WIDEBAND COMPOSITE OPERATION

Input Connector
Two BNC connectors, one balanced, one unbalanced

Input Impedance
10,000 ohms

Input Quantization
Sampled at 620 KS/s with 16 bit ADC

Input Level
3.5 Vpp nominal for 100% modulation

Amplitude Response
±0.05 dB, 20 Hz to 100 kHz

Phase Response
±0.1° from linear phase, 20 Hz to 100 kHz

FM Signal-to-Noise Ratio
90 dB below 100% modulation (reference 400 Hz at ±75 kHz deviation with 75 µs de-emphasis and DIN 'A' weighting in 22 Hz to 22 kHz passband)

Total Harmonic Distortion
0.005% or less, (reference 400 Hz at ±75 kHz deviation with 75 µs de-emphasis and DIN 'A' weighting in 22 Hz to 22 kHz passband)

Stereo Separation
50 dB, 20 Hz to 15 kHz

SCA (RBDS/RDS) PERFORMANCE

Input Connector
Two BNC female connectors

Input Impedance
10,000 ohms unbalanced

Input Level
1.24 Vrms nominal for ±7.5 kHz deviation

Amplitude Response (L or R)
±0.2 dB, 20 Hz to 100 kHz

Subcarrier Frequency Range
57 kHz to 93 kHz (25 kHz to 93 kHz monaural)

SCA GENERATOR PERFORMANCE

Input Connector
DB15 Male

Input Impedance
2 balanced, 600 ohms

Input Level
-6 dBu to 12 dBu for ±7.5 kHz deviation

Amplitude Response
±0.02 dB, 30 Hz to 7.5 kHz

Pre-Emphasis
0 µs, 50 µs, 75 µs or 150 µs

Signal-to-Noise Ratio
60 dB or better

Frequency
20 kHz to 99 kHz, adjustable in 1 Hz steps

Modulation
Narrow band FM with maximum deviation of ±7.5 kHz

Injection Level
0% to 15%, user adjustable

RDS/RBDS GENERATOR PERFORMANCE

Input Connector
DB9, RS-232 (DCE, 75 to 115.2 kbps)

Frequency
57 kHz ±0.03 Hz

Injection Level
0% to 15%, user adjustable

Programming
ASCII, UECP

Supported Commands
PI, PS, PTY, PTYN, TA, TP, MS, DI, RT, AF, ODA (Free-format)