

BEXT

XL 3000

Frequency agile
FM Transmitter



- 3000 W FM Transmitter in a compact three rack spaces high enclosure
- Newest high efficiency LD MOS devices capable of withstanding 65:1 VSWR
- Easily replaceable power supplies
- Easy access to all functions via touch screen display and via web page & mobile app
- Excellent audio performance
- Low power consumption with high efficiency power supply
- Meets or exceeds all FCC requirements
- Options include direct to channel digital modulation, Built-in Stereo Generator, AES-EBU Digital Audio Input, RDS/RBDS Encoder, Audio Input over IP

• General Specifications

Frequency Range: 87.5 –108 MHz
RF Output Power: 3000 W
RF Output Connector: 7/8" Flange, 50 Ω
Spurious & harmonic suppression: Meets or exceeds all FCC requirements
Cabinet Dimensions: 483 mm (19") W x 133 mm (5 1/4") H (3 standard rack spaces) x 600 mm (23 3/4") D
Approximate Weight: 22 Kg (48 lbs)
AC PWR requirement: 208 - 240V AC three phase or single phase (specify w/ order), 50-60Hz
Power Consumption: 4600 VA @ full power
Power readings: Programmed Output Power, Forward Power, Reflected Power
Storage temperature: -20°C to + 60 °C
Operating temperature: 5 °C to + 45 °C
Guaranteed performance temp: 0°C to +40°C
Relative humidity: 90 % (non condensing)
Max operating altitude: 2000 m.
Cooling: Forced air (internal low noise blowers)

• RF Specifications

Frequency Programmability: 10 kHz steps, synthesized, μprocessor controlled
Off lock attenuation: > 60 dBc
Lock-in time: < 20 sec. (typ. < 7 sec)
Type of modulation: F3E / F8E direct FM at carrier frequency
Frequency deviation: ±75 kHz = 100 %, ±150 kHz capability
Reference: 12.8 MHz VTCXO
Stability of freq. dev.: ±2.5 % x 6 mo.
Consistency of deviation over range: < ± 2% from 87.5 to 108 MHz
Frequency drift: ≤ 2 kHz/year (due to internal TCXO aging). Can be user calibrated
Short term stability: ± 1 ppm from -5 to +45 °C (100 Hz @ 100MHz)
RF Harmonics: Exceeds EBU/ CCIR/FCC requirements >70dBc
RF Monitor: -40dBc±3dB from 87.5 to 108 MHz (not suitable for measuring harmonics)

Audio Specifications

Preemphasis: Flat/50/75 μs, μprocessor controlled
Preemphasis precision: better than 0.5 dB
Stereo System: CCIR / FCC "pilot tone system"
Distortion, THD: Less than 0.1% (typ. 0.05%)
Intermodulation (IMD): < than 0.1% (typ. 0.05%)
Transient IMD: < 0.25% (square / sine Wave)
Wideband Amplitude Response: ± 0.25 dB, 30 Hz to 100 kHz
Audio Filter Attenuation: > 50 dB @ 19 kHz, >30dB 19 to 50 kHz, >50dB to 100kHz (typ.)
Common mode rejection: > 40 dB typ. 30 Hz to 15kHz (50dB on request)

• Composite Specifications

Stereo Separation: 30-80Hz >50dB, 80Hz-15kHz >60 dB (typ.65)
Crosstalk attn. (M / S): > 40 dB 40 Hz to 15 kHz (typ. 50dB / 100Hz to 8kHz)
Audio Spurious Products: > 53 kHz < 50 dB
38 kHz Suppression: > 50 dB
38 kHz Tone Generation: Internal Crystal
38 kHz Tone Precision: 38 kHz ± 2 Hz
Pilot Tone frequency: 19 kHz ± 1 Hz
Phase response: 19/38 kHz 0°± 2° internally adjustable
THD on L & R channels: < 0.1% 30Hz - 15 kHz
IMD: 70 Hz / 6 kHz 4 : 1 RATIO < 0.1 %
Transient IM: < 0.25 % (square/sinus)
Audio response: ± 0.25 dB 20 Hz to 15 kHz
Pilot Tone Deviation: ± 7 kHz nominal
S/N: Typical Values referred to ± 75kHz:
 Weighted (CCIR 468/2 - Peak CCIR detector) 80 dB / 50μs -74dB / flat
 Weighted (CCIR 468/2 - RMS detector) 83 dB / 50μs -77dB / flat
 Unweighted (RMS detector, 30Hz-20kHz) 80dB / 50μs - 79 dB / flat
 Unweighted (RMS detector, 10Hz-200kHz) 80dB / 50μs - 71 dB / flat
AM Synchronous: (AM=500 Hz, FM = 500 Hz ± 75 kHz Ref. = 100 % AM, RMS detector, BW 30Hz-200kHz) < -55dB typ. -60dB

AM Asynchronous: FM = no modulation, Ref. = 100 % AM, Unweighted, RMS detector, BW 30Hz-200kHz) < -55dB typ. -60dB
Am asynchronous: (Fm = no modulation, Ref. = 100 % AM, Unweighted, RMS detector, BW 30-200 kHz) < -68dB, typ. -80dB

• Audio Inputs

SCA / RDS Input: 1 BNC connector, unbalanced, Z nominal~3 kOhm (2.8<Z<3) Lev: -3 +6 dBm @ 7.5 kHz, Dev. adj. from menu
AUX Input: 1 BNC conn, unbal., Z nominal ~3 kohm (2.8<Z<3), Lev: -3 +6 dBm @ 7.5 kHz Deviation adj. from menu
MPX Input: 1 BNC conn., unbalanced, Z nominal~1k2 (1k2 ± 10 %), Lev: -3 + 6 dBm @ 75 kHz Deviation, adj. from menu
L&R +Mono Input: 2 XLR connectors
AES-EBU digital audio:
 XLR Connector and TOSLINK
AUDIO over IP: RJ 45

• Other Connectors

19 kHz Output: 1 BNC connector, unbalanced Z nominal: >5k Pilot = 1 Vpp19 kHz Squarewave
RF Monitor: BNC connector
Interlock & analog remote interface: DB 25
LAN / WEB: RJ 45

• Touch Screen Display Readings:

Programmed Output Power; Forward Power; Reflected Power; Deviation (simulated Led Bar); L Audio True Peak Level (simulated Led Bar); R Audio True Peak Level (simulated Led Bar); Frequency (6 digits); Sensitivity (3dB step); RDS, SCA, AUX, MPX Ext Modulation; Programmed Audio Parameters; Preemphasis (Flat, 50, or 75μS); Input Impedance; Z=10kOhm / 600 Ohm; Preset Thresholds (low RF power, mute time)