



New generation 1000 W & 2000 W FM Transmitters

- High efficiency 1000 W or 2000 W with high ruggedness mosfets & multiple connectivity options
- Fast access to settings & all readings from front panel via menu display or via LAN or WEB
- Telemetry Readings & Remote Control via standard connections and via available webpage
- User manual & tech documentation accessible via front USB port even when unit is not powered
- Instant user programmability (local or remote) allowing for ideal backup to multiple stations
- Proportional Auto-Foldback of output power in the event of excessive VSWR
- Adjustable, user settable output power level with soft-start control
- Automatic power control maintains the output power at any pre-set level
- Modular layout with plug-in, easily replaceable circuits and parts
- Includes low pass/harmonic filter and meets or exceeds all FCC and CCIR requirements
- Optional built-in, selectable, high separation internal Stereo Generator w/ Fast Audio Limiter
- Optional AES-EBU Digital Audio input

RF Specifications

Nominal RF Output Power: 1 kW (XL 1000) or 2 kW (XL 2000), user adjustable.
Power control stability: Better than 0.1 dB
RF Output Impedance: 50 Ω unbalanced
RF connector: Type 7-16 female
Frequency range: 87.6 - 107.9 MHz, front panel programmable in 10 kHz steps, synthesized, microprocessor controlled
Reference: 10 MHz TCXO
Off-lock attenuation: > 80 dBc
Lock-in time: Typically 7 sec
Type of modulation: F3E / F8E direct FM at carrier frequency
Frequency deviation: Nominal ±75 kHz, can be user set from ±50 kHz to ±100 kHz
Accuracy of deviation: < ±2 dB from 87.6 to 107.9 MHz
Frequency drift: ≤ 1 kHz/year (due to internal TCXO aging). Can be user-calibrated
Short term stability: ± 1 ppm from -5 to +45 °C (100 Hz @ 100 MHz)
RF Harmonics: Exceeds EBU/CCIR/FCC requirements; < -76 dBc
RF Spurious: Exceeds EBU/CCIR/FCC requirements; < -90 dBc min @ ±1 MHz

Built-in Stereo Gen. Specs

Stereo System: EBU/CCIR/FCC standard "Pilot Tone System"
Pilot Tone Frequency: 19 kHz ± 1 Hz
Pilot Tone Deviation: ± 7 kHz nominal
38 kHz Suppression: > 70 dB (typ. 85 dB)
38 kHz Tone Generation: Internal Crystal
38 kHz Tone Precision: 38 kHz ± 2 Hz
Phase response: 19/38 kHz 0°±2°, internally adjustable
Stereo Separation: 30-80 Hz >53 dB, 80 Hz-15 kHz >60 dB
Crosstalk attn. (M / S): > 40 dB, 40 Hz to 15 kHz (typ. 55 dB, 100 Hz to 8 kHz)
Audio Spurious Products: > 53 kHz < 50 dB THD on L & R channels: < 0.03%, 30 Hz-15 kHz
Audio Filter Attenuation: > 55 dB @ 19 kHz; >45 dB 19 to 50 kHz; > 50 dB to 100 kHz (typ.)

Audio General Specs

Preemphasis: Selectable Flat / 50 / 75 micros.
Preemphasis Precision: Better than ±0.5 dB
Wideband Amplitude Response: ± 0.2 dB 30 Hz to 53 kHz; ± 0.2 dB 53 kHz to 100 kHz
Wideband AM Asynchronous: (FM = no modulation, Ref. = 100 % AM, Unweighted, RMS detector, BW 30-200 kHz) < -68dB, typ. -80dB
Wideband Distortion, THD: < 0.1% (typ. 0.05%)
WB Distortion, IMD: < 0.1% (typ. 0.05%)
WB Transient IMD: < 0.25% (square/sine wave)

Composite & Mono Specs

S/N: Typical Values referred to ± 75 kHz:
 Weighted (CCIR 468/2 - Peak CCIR detector) - 75 dB / 50 μs - 69 dB / flat;
 Weighted (CCIR 468/2 - RMS detector) - 79 dB / 50 μs - 72 dB / flat;
 Unweighted (RMS detector, meas. 20 Hz-23 kHz) - 86 dB / 50 μs - 80 dB / flat (stereo);
 Unweighted (RMS detector, meas. 20 Hz-23

kHz) - 92 dB / 50 μs - 88 dB / flat (mono)
IMD: 70 Hz / 6 kHz 4:1 RATIO < 0.03% measured with 1 kHz and 1.3 kHz tones, 1:1 ratio @ 75 kHz deviation
Transient IM: < 0.03 % (square/sine)
Audio response: ± 0.15 dB 20 Hz to 15 kHz
AM Synchronous: (AM = 400 Hz, FM = 400 Hz ± 75 kHz Ref. = 100 % AM, RMS detector, meas. 20 Hz-23 kHz) < -69 dB
AM Asynchronous: FM = no modulation, Ref. = 100 % AM, Unweighted, RMS detector, meas. 20Hz-23kHz) < -70 dB (typ. -85 dB)
Common mode rejection: > 45 dB typical, 25 Hz to 15 kHz

Audio Inputs (rear panel)

Composite/MPX Input: 1 BNC connector, unbalanced, 10 kΩ
 Input level range for 75 kHz Deviation: -13 to +13 dBm, adjustable on rear panel
SCA / RDS / AUX Inputs: 2 BNC connectors, unbalanced, 10 kΩ. Input level range: -20 to +13 dBm for 7.5 kHz, adjustable on rear panel
L&R + Mono Input: 2 XLR connectors, balanced or unbalanced; switchable 50 Ω / 600 Ω. Input level range for 75 kHz Deviation: -13 to +13 dBm, adjustable on rear panel

AES-EBU input (optional): XLR connectors

Other Connectors (rear panel)

19 kHz Output: 1 BNC connector, unbalanced, 4.7kΩ. Pilot tone 1 Vpp 19 kHz Squarewave
DB25: Standard Analog Remote Control
DB9: five DB9 ports for RS485, RS232; AUX; standby/main for dual transmitter configuration
RJ 45: four RJ45s for LAN/WEB connections

Other Connectors (front panel)

USB: Standard type USB port
RF Monitor (not suitable for measuring harmonics): -36 dBc ±3 dB, 50 Ω BNC
Baseband Audio Monitor: 50 Ω BNC

Environmental

Storage temperature: -20°C to + 60 °C
Operating temperature: -10°C to + 45°C
Relative humidity: 90% (non-condensing)
Max operating altitude: 3000 m.
Max ambient field strength: 3 V/m; 4 A/m
Cooling: Forced air (internal blowers)

Physical & Electrical

Front panel: 483 mm (19") W x 88 mm (3 ½") H (two standard rack spaces high)
Cabinet depth from front panel: 545 mm (21½")
Tot depth incl. front handles: 585 mm (23")
Approx. Weight: 33 lbs (15 Kg)
Approx. Packed Weight: 45 lbs (20 Kg)
AC Power Requirement (single phase):
 XL 1000: 120-220 V [±15%] 50 / 60 Hz.
 XL 2000: 220 V [±15%] 50 / 60 Hz,
Approx. Power Consumption @ Full Pwr:
 XL 1000: 1300 VA; XL 2000: 2400 VA
LCD Display Readings:
 Forward Power, Reflected Power, Frequency of Operation, Audio Presence, Deviation, Audio Input Selection, Preemphasis Status, Stereo Generator Enabled / Disabled, Audio Limiter Enabled / Disabled, L & R Channels Modulation Level, VPA, IPA, Temperature, Efficiency, Status of optional FSK ID Keyer, other misc. readings & functions

All features and specifications are subject to change without notice.