



Ultra Slim, Frequency Agile, 30 W FM Exciter / Transmitter

- 30 W in ultra slim size, one rack space stainless steel enclosure and Excellent Audio Specs
- Fast access to main settings from front panel via user-friendly menu display
- Proportional Auto-Foldback of output power in the event of excessive VSWR
- Adjustable power output from approximately 1 W to full power, with soft-start control
- Automatic power control maintaining the set output at any pre-set level
- Modular layout with plug-in, easily replaceable circuits and parts
- Includes low pass/harmonic filter and can be used as a stand-alone transmitter
- Can be used as part of a translator when used in conjunction with a compatible receiver
- Meets or exceeds all FCC and CCIR requirements
- Available with Optional built-in Stereo Generator Card (please specify with order)
- Available with Optional built-in RDS Generator Card (please specify with order)



RF SPECIFICATIONS

Nominal RF power: 30 W adjustable from approx 1 W to Full Power
RF output impedance: 50 Ω unbalanced, VSWR less than 1.5:1
RF connector: Type N female
Frequency range: 87.5 - 108 MHz programmable in 10 kHz steps, synthesized, microprocessor controlled
Off lock attenuation: > 80 dBc
Lock-in time: typ. 4 sec
Type of modulation: F3E / F8E direct FM at carrier frequency
Frequency deviation: ±75 kHz = 100 %, ±150 kHz capability
Reference: 12.8 MHz TCXO
Stability of freq. dev.: ±2.5 % x 6 months
Consistency of deviation over range: < ± 2% from 87.5 to 108 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 @ 100MHz)
RF Harmonics: Exceeds EBU/ CCIR/FCC requirements >70dBc
RF Spurious: Exceeds EBU/ CCIR/FCC requirements, < -100dBc min @ ±1 MHz
RF Monitor: -43dBc±3dB from 87.5 to 108 MHz (not suitable for measuring harmonics)

AUDIO GENERAL SPECS

Preemphasis: Flat / 50 / 75 microseconds, Selectable through internal jumpers.
Preemphasis Precision: better than ± 0.5 dB
Wideband Amplitude Response: ± 0.2 dB within 20Hz 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 SPECIFICATIONS

[the following specifications are applicable when the unit is ordered w/ optional Stereo Generator]
Stereo System: CCIR / FCC 'pilot tone system'
Stereo Separation:
 20-80Hz >50dB, 80Hz-15kHz >60 dB

Crosstalk attn.: >50 dB (M / S & S / M)
Audio Spurious Products Attenuation: better than 50 dB, 53 kHz to 100 kHz
38 kHz Suppression: > 70 dB (typ. 85 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: < 0.03%, 30Hz-15 kHz
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
Pilot Tone Deviation: ± 7 kHz nominal
S/N: Typical Values referred to ± 75kHz:
 Weighted (CCIR 468/2 - Peak CCIR detector) - 75 dB / 50µs - 69 dB / flat;
 Weighted (CCIR 468/2 - RMS detector) - 79 dB / 50µs - 72dB / flat;
 Unweighted (RMS detector, meas. 20Hz-23kHz) - 86 dB / 50µs - 80 dB / flat (stereo);
 Unweighted (RMS detector, meas. 20Hz-23kHz) - 92 dB / 50µs - 88 dB / flat (mono).
AM Synchronous: (AM = 400 Hz, FM = 400 Hz ± 75 kHz Ref. = 100 % AM, RMS detector, meas. 20Hz-23kHz) < -69 dB
AM Asynchronous: FM = no modulation, Ref. = 100 % AM, Unweighted, RMS detector, meas. 20Hz-23kHz) < -70dB (typ. -85dB)
Audio Filter Attenuation: > 55 dB @ 19 kHz; >45dB 19 to 50 kHz; > 50dB to 100kHz (typ.)
Common mode rejection: > 45 dB typical, 25 Hz to 15kHz (50 dB on request)

AUDIO INPUTS

Composite/MPX Input: 1 BNC connector, unbalanced, Z nominal = 2.2 KΩ.
 Two available input ranges: 0.775V to 1.73V RMS or 1.73 V to 3.8V RMS, selectable through internal jumpers, with fine adjustment trimpot on back panel.
AUX Input: (can be used for SCA or external RDS) 1 BNC conn, unbalanced, Input range is 500 mV to 2 V for 7.5 kHz deviation, adjustable through trimpot on back panel.
 Z input: 2.2 KΩ

Mono Input: 1 XLR connector, balanced or unbalanced, internally selectable.
 Input range is 550 mV to 2.45 V, adjustable through trimpot on back panel.
 Input impedance is 600 Ω or 10 kΩ, selectable through internal jumpers.
L&R Input (only w/ optional stereo gen. card): 2 XLR connectors, balanced or unbalanced, internally selectable.
 Input range is 550 mV to 2.45 V, adjustable through trimpot on back panel.
 Input impedance is 600 Ω or 10 kΩ, selectable through internal jumpers.

OTHER CONNECTORS

RF Monitor: 1 BNC on back panel
19 kHz Out (only w/optional stereo gen card): 1 BNC connector, unbalanced
 Z nominal: ~ 5kΩ Pilot = 1 Vpp 19 kHz Squarewave
RDS (opt): 3.5 mm jack, three contact type
DB 9: On back panel for Telemetry & Remote Control (provides readings for FWD PWR, PA Voltage, PA Current, Interlock contact closure).

ENVIRONMENTAL

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.
Max ambient field strength: ≤10 V/m; ≤ 4 A/m
Cooling: Forced air (internal low noise blower)

PHYSICAL & ELECTRICAL

Front panel: 483 mm (19") W x 44 mm (1 3/4") H (One standard rack space high)
Cabinet Depth: 385 mm (15 1/4")
Approx Weight, Unit Only / Packed: 9 lbs (4 Kg) / 15 lbs (7 Kg)
Cabinet: Stainless steel
AC Power Requirement: Single Phase 120 / 220V [±15%] 50 / 60Hz
Approx. Power Consumption @ Full Power: 80 VA
LCD Display Readings:
 Forward Power; Refl. Power; Frequency; Modulation; P.A. Current; Temperature; L & R Input levels (only w/optional stereo gen. card).