



**BEXT**

**LEX 1000**  
Frequency agile  
FM Transmitter

**& FX 1000**  
FM Broadband  
Amplifier

- Available as FM Transmitter (Lex 1000) or FM Amplifier (FX 1000)
- Lightweight and compact unit, only three rack spaces height for 1 kW output
- Fast access to all functions & parameters from front panel via user-friendly menu display
- Totally broadband, no tuning requirement
- Temperature, overload and SWR protection
- Very high efficiency switch-mode power supply
- Meets or exceeds all FCC and CCIR requirements
- Proportional Auto-Foldback of output power in the event of excessive VSWR or overloads
- Full remote control and telemetry capability, with all main parameters on rear terminal board
- Model Lex 1000 has Built-in, selectable high separation internal Stereo Generator, standard
- Includes low pass/harmonic filter and can be used as a stand-alone transmitter

### LEX 1000 and FX 1000:

#### • General Specifications

**Frequency Range:** 87.5 –108 MHz  
**RF Output Power:** 1000 W  
**RF Output Connector:** 7/8" Flange, 50 Ω  
**RF Input (FX 1000 only):** "N" type Female 50Ω  
**Spurious & harmonic suppression:** Meets or exceeds all FCC and CCIR requirements  
**Cabinet Dimensions:** 483 mm (19") W x 133 mm (5¼") H x 600 mm (23¾") (3 standard rack spaces high) x 600 mm (23¾") D  
**Approximate Weight:** 20 Kg (44 lbs)  
**Cabinet:** Stainless steel  
**AC Power requirement:** 230V AC single phase (±15%), 50-60Hz  
**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.  
**Max ambient field strength:** ≤10 V/m; ≤ 4 A/m  
**Cooling:** Forced air (internal low noise blower)

### LEX 1000 only:

#### • 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 Asynchronous:** (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. on rear panel  
**AUX Input:** 1 BNC conn, unbal., Z nominal ~3 kohm (2.8<Z<3), Lev: -3 +6 dBm @ 7.5 kHz Deviation adj on rear panel  
**MPX Input:** 1 BNC conn., unbalanced, Z nominal~1k2 ( 1k2 ± 10 % ), Lev: -3 + 6 dBm @ 75 kHz Deviation, adj. on rear panel  
**L&R +Mono Input:** 2 XLR connectors, balanced or unbalanced; Z nominal 10 kOhm ± 1% or 600 Ohm ± 1%; μP selectable by menu; μP selectable Lev: -3 +6 dBm @ 75 kHz Deviation. Coarse steps 3 dB (μP) Fine adj 3.5dB (± 1.75), adjustable on rear panel

#### • Other Connectors

**19 kHz Output:** 1 BNC connector, unbalanced Z nominal: >5k Pilot = 1 Vpp19 kHz Squarewave  
**Status of correct output:** 1 BNC connector, unbalanced, 15Vmax, 100mA (open drain)  
**Interlock:** 1 BNC connector, unbalanced, Normally open or normally closed, selectable by internal jumper  
**RS 232:** DB9 on front panel (firmware update)  
**RS 485:** RJ45 custom pin-out connector

#### • LCD Display Readings:

Programmed Output Power; Forward Power; Refl. Power; Unclipped Deviation (simulated Led Bar); Clipped Deviation (simulated Led Bar); Clipper activity (clipped / unclipped differential); 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); Limiter On/Off; Input Impedance; Z=10kOhm / 600 Ohm; Preset Thresholds (low RF power, mute time)