BEXT

LEX 25 SPC

Frequency Agile FM Exciter / Transmitter with built-in Stereo Generator/Processor

LEX 25 FMR

Frequency Agile FM Exciter / Translator with built-in FM Composite Receiver

- LEX 25 SPC: Ideal for Satellators (Satellite-fed Translators); LEX 25 FMR: Ideal for Translators receiving off-air
- Local audio input (standard); 24 VDC input (standard); Available FSK ID Keyer (optional)
- Includes low pass/harmonic filter & meets or exceeds all FCC and CCIR requirements

• *Transmitter Section:*

Output Power: 1-25 W continuously variable (Output power maintained by ALC within 0.5 dB over the entire FM band from 1 W to 20 W) w/ Presettable Reflected Power Threshold for VSWR Auto-foldback
RF Connector: "N" type female, 50 Ohm
Frequency Range: 87.5 – 108 MHz
Frequency programmability: 10 kHz steps
Modulation Type: Direct at Carrier Frequency
Frequency Stability: better than ± 500 Hz
Spurious & Harmonic Suppression: Meets or exceeds all FCC & CCIR requirements
S/N Ratio, Mono: Weighted, < 80 dB
S/N Ratio, Mono: Unweighted, < 85 dB
S/N Ratio, Stereo: Weighted, < 75 dB
S/N Ratio, Stereo: Unweighted, < 80 dB
AM Synchronous: < - 60 dB
AM Asynchronous: < - 65 dB
THD: better than 0.03%
AC Power Requirement: 120 or 230 V, 50/60 Hz, single phase, 90 VA
DC Power Requirement: 24 V, 2 A
Front Panel size: 483 mm (19") W x 132 (5¼") H (3 standard rack spaces high)
Overall Depth: 330 mm (13")
Net Weight: 7 Kg (15.5 lbs)
Ambient Temp. Range: 0° C to 40° C (32° F to 104° F
Cooling: Convection cooled
Audio Inputs: 1 BNC for main program, 10 kOhm unbalanced, flat for composite, 75 or 50 µc pre-emphasis for mono (internally selectable)+2 BNCs for SCAs, 10 kOhm unbalanced
All Audio Levels set for 3.5 V P-P (1.237 V RMS / 4.1 dBm), adjustable from 0 to 12 dBm
Amplitude Response: Mono, better than 0.5 dB (to 15 KHz); MPX, better than 0.1 dB (to 53 KHz); SCA, better than 0.5 dB (to 100 KHz)
Stereo Separation: better than 55 dB
Crosstalk: better than 55 dB
Modulation Capability: 1 stereo MPX program + subcarrier channels (up to 100 KHz baseband)
Front panel display: Meter w/ Output Power, Reflected Power and Deviation readings, LEDs for RF Lock, Power Supply Status, Overmodulation
RF monitor: BNC
Options available: FSK ID Keyer, Telemetry, Remote Control for RF Mute

• *Stereo Generator / Audio Processor Section (Lex 25 SPC):*

Frequency Response:±0.5 dB, 20 Hz to 16 KHz; -60 dB or better at 19 KHz
Stereo Separation:
Better than 60 dB, 20 Hz to 16 KHz
Distortion:
With processing engaged, <0.15% THD in baseband and subcarrier at 95% modulation
Noise: -75 dB or better below 100% modulation in demod. audio. Any "digital" noise above 54 kHz is -70 dB or better.
Crosstalk: > -50 dB at 100% modulation
Pilot: 19 KHz, ±1 Hz, level adjustable between 6% & 12%, relative to 100% mod. <1% THD in pilot signal (distortion products better than 60 dB below 100% modulation).
Line Inputs: L & R Line Inputs are active-balanced/bridging; accept line input levels between -15 dBu and +15 dBu for 100% mod. 30 dB range is divided into 2 x 15 dB range jumper options
Subcarrier Input: Single-ended (unbalanced) input accommodates SCA or RDS subcarrier signals at levels between -20 dBu and 0 dBu for nominal 5% to 10% injection
Primary Low-Pass Filtering:7-pole, phase-corrected, active-elliptic "FDNR" low-pass with proprietary filter overshoot compensation circuitry
Preemphasis: Integral to split-spectrum audio processing circuitry; may be jumpered for 75 µs or 50 µs characteristic
AGC Amplifier: Slow (0.5 dB/sec.) correction for long-term input level variations; ±10 dB capture range displayed by LED.
Compressor / Limiter: Fast-acting peak limiter has "platform" time constant to compress dynamic range with average-value weighting. Independent high-frequency limiter conforms to selected preemphasis characteristic. LED's indicate peak and H.F. limiter action and compressor gain state. DENSITY control alters time constants and platform values.
Signal Clipping: Program signal clipping is generally relegated to non repetitive limiter overshoots of 1 ms or less duration. "Safety" clipping of the Composite output signal is performed prior to stereo pilot insertion.
Composite Output: Single-ended (unbalanced), "zero" (voltage source) impedance. Level adjustable between -5 dBm and +12 dBm (0.5 - 3 V RMS, or 1 - 8 V p-p).
19 KHz Sync Output:TTL-level symmetrical squarewave, in-phase with 19KHz Stereo Pilot
Digital Synthesis Sampling Rate:
680 kHz (16X subcarrier oversampling)

• *FM Receiver Section (Lex 25 FMR):*

Tuning range:
87.9-108 MHz in 100 kHz steps, frequency agile
Antenna input:
75 ohm, BNC female connector
Receiver selectivity:
-6 dB at ±150 kHz
Receiver sensitivity:
10 µV for 50 dB mono SNR
Distortion:
Wide IF: <0.3% THD
Composite baseband (MPX) output:
Unbalanced output with 75 ohm source impedance, adjustable 2-5 V p-p at ±75 kHz carrier deviation
Mute functions (defeatable):
MPX output is muted when incoming RF carrier level falls below 10 µV; Open collector NPN transistor switches saturate to ground for loss of carrier
Frequency response (Pgm audio output):
±0.5 dB, 20 Hz-15 kHz, de-emphasis may be jumpered for 75 µsec or 50 µsec characteristic
Noise (Pgm audio output):
Better than 60 dB below ±75 kHz deviation with 1 mV or greater RF input
Note: Receiver Section uses the same internal circuitry as model 210 FM stand alone FM Receiver.
See also model 210 FM Receiver for full description and specifications.