

# LYNX

*Solutions for  
Tomorrow's Radio*

**B**roadcast Electronics has developed a state-of-the-art stereo generator with encoding features that make it easy to use in conventional analog applications or the newest digital transmission systems. All encoding is executed in DSP for superior performance specifications (exceeds the limits of currently available test equipment) and excellent long-term stability. With the increasing number of FM broadcasters operating in the digital domain, the LYNX gives you the extra flexibility to maintain the cleanest, loudest, most transparent broadcasting signal.

## *Digital Stereo Generator*



### *Features*

- Accepts any sampling rate input from 32kHz to 48kHz, XLR or Toslink connector
- Automatic switching of pre-emphasis and de-emphasis follows status bits in the AES/EBU signal
- Compact single rack unit
- Reverts to analog input if no valid digital input is present
- Front panel LED metering for left and right input levels
- Opto-isolated remote control
- Separation: -75dB or better; 20Hz - 15kHz
- Noise: Less than -90dB de-emphasized, 100% modulation
- Distortion (20kHz - 15kHz): 0.02% THD, 0.02% SMPTE IMD
- Front panel mode switches
- Digital limiter to eliminate overshoots caused by "lost" compression algorithms

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#### **BROADCAST ELECTRONICS, INC.**

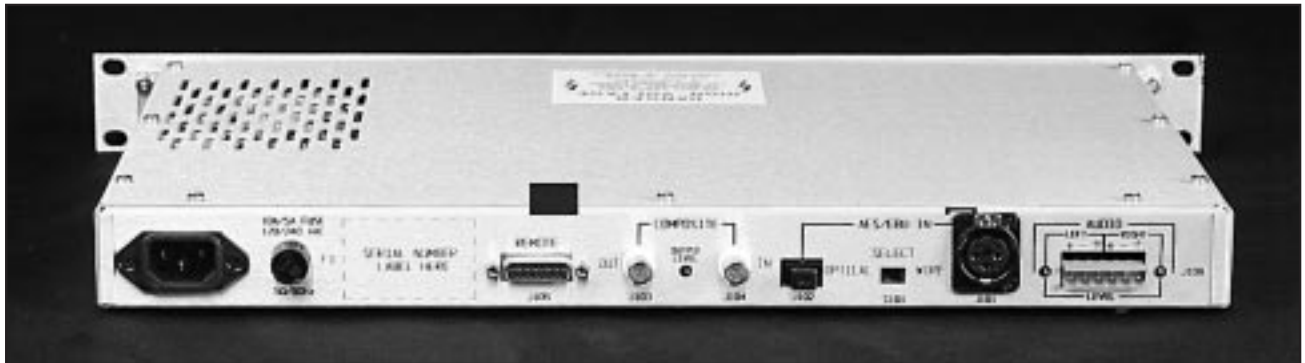
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## Performance Specifications

### GENERAL

**Pilot Stability:** +/-0.3 Hz, 0 to +50 degrees C.

**Pilot Level Range:** 6 to 14%

**19 kHz Reference Output Level:** 2.5 Vpp (sine wave), 50 ohm resistive.

**19 kHz Reference Phase Adjustment Range:** -10° to +70° Referenced to the Pilot.

**Modulation Indication:** Peak reading, color coded, LED display with baseband overmodulation indicator.

**Pre-Emphasis:** FCC 75µS, CCIR 50µS (where specified), or flat response, selectable.

**Composite Output:** Adjustable from 2.5 Vpp to 8 Vpp into Open circuit.

**Composite Output Impedance:** 50 ohms, Resistive, Unbalanced, grounded.

**Composite Input:** 3.5 Vpp Nominal. 50 ohms or 10 k ohms Selectable, Resistive, Balanced, Floating.

**AC Input Power:** 100V to 240V, 50/60Hz, single phase.

**Power Consumption:** 30 watts.

**Altitude:** 7500 ft. @ 50Hz (2286 M), 10,000 ft. @ 60Hz (3048 M).

**Ambient Temperature Range:** 0 to +50 degrees C.

**Dimensions:** 1.75" high x 10.70" deep x 19.00" wide.

**Weight:** 4.6 pounds unpacked (2.1 kg).

### MODES

Limiter on, Limiter off, AES/EBU input, Analog Left/Right input, Composite loop-thru, Stereo, Mono L+R, Mono (L) and Mono (R) remote controlled.

### DIGITAL INPUT OPERATION

**Input Format:** AES or EBU digital input. Connectors are XLR type and Toslink.

**Input Impedance:** 100 ohms, resistive.

**Input Level:** -2 dBfs nominal for 100% modulation.

### Stereo Operation

**Frequency Response:** +/- 0.1 dB, 20 - 15,000 Hz (flat, 75 µS, 50 µS pre-emphasis selectable)

**Total Harmonic Distortion:** 0.02% or less @ 400 Hz.

**SMPTE Intermodulation Distortion:** 0.02%, 60 Hz/7 kHz; 4:1 ratio.

**CCIF Intermodulation Distortion:** 0.03% or less, 15 kHz/14 kHz; 1:1 ratio.

**FM Signal to Noise:** -85 dB or better below left or right channel, 100% modulation @ 400 Hz, 75 µS de-emphasis.

**Stereo Separation:** -75 dB or better; 20 - 15,000 Hz (sine wave). Typical -80 dB or better @ 1 KHz.

**Dynamic Stereo Separation:** -65 dB or better; 20 - 25,000 Hz (normal program content).

**Linear Crosstalk:** Main to Sub, Sub to Main, 20 - 15,000 Hz, 60 dB minimum below 100% modulation.

**38 kHz Suppression:** -85 dB minimum below 100% modulation.

**57, 76, 95 kHz Suppression:** -85 dB minimum below 100% modulation.

**Spurious and Sideband Suppression beyond 95 kHz:** -75 dB minimum below 100% modulation.

### Monaural Operation

**Frequency Response:** +/- 0.1 dB, 20 - 15,000 Hz.

(flat, 75 µS, 50 µS pre-emphasis selectable)

**Total Harmonic Distortion:** 0.02% or less @ 400 Hz.

**FM Signal to Noise:** -90 dB or better below left or right channel, 100% modulation @ 400 Hz, 75 µS de-emphasis.

### ANALOG INPUT OPERATION

**Audio Input Impedance:** 10 k ohms or 600 ohms balanced, resistive, floating. (Adaptable to other impedances).

**Audio Input Level:** +10 dBm, +/- 1 dBm, for 100% modulation @ 400 Hz. (Adaptable to other Input Levels).

### Stereo Operation

**Frequency Response:** +/- 0.5 dB, 20 - 15,000 Hz.

(flat, 75 µS, 50 µS pre-emphasis selectable)

**Total Harmonic Distortion:** 0.02% or less @ 400 Hz.

**SMPTE Intermodulation Distortion:** 0.02%, 60 Hz/7 kHz; 4:1 ratio.

**CCIF Intermodulation Distortion:** 0.03% or less, 15 kHz/14 kHz; 1:1 ratio.

**FM Signal to Noise:** -85 dB or better below left or right channel, 100% modulation @ 400 Hz, 75 µS de-emphasis.

**Stereo Separation:** -72 dB or better; 20 - 15,000 Hz (sine wave). Typical -80 dB or better @ 1 KHz.

**Dynamic Stereo Separation:** -62 dB or better; 20 - 15,000 Hz (normal program content).

**Linear Crosstalk:** Main to Sub, Sub to Main, 20 - 15,000 Hz, 50 dB minimum below 100% modulation.

**38 kHz Suppression:** -70 dB minimum below 100% modulation.

**57, 76, 95 kHz Suppression:** -85 dB minimum below 100% modulation.

**Spurious and Sideband Suppression beyond 95 kHz:** -75 dB minimum below 100% modulation.

### Monaural Operation

**Frequency Response:** +/- 0.5 dB, 20 - 15,000 Hz.

(flat, 75 µS, 50 µS pre-emphasis selectable)

**Total Harmonic Distortion:** 0.02% or less @ 400 Hz.

**FM Signal to Noise:** -90 dB or better below left or right channel, 100% modulation @ 400 Hz, 75 µS de-emphasis.

LYNX system performance is specified using model FMSA-1 Precision Digital FM Stereo Modulation Analyzer and Audio Precision APWin Software version 1.40, measured at 100% modulation where applicable.