# LC STL Series

*High Performance Frequency Agile Composite Aural 940-960 MHz STL's*

*Available in Custom Frequencies*
*200 MHz – 1 GHz & 1.4GHz – 2.5 GHz*

*Available in 1.5 W, 6 W*
*or 15 and 30 W power levels*
*(with STL 15 or STL 30 Amplifiers)*

- Front panel frequency programmability
- Superior MPX and SCA performance
- Excellent RF immunity receiver designed to withstand the most hostile RF sites
- Superior adjacent channel rejection
- Excellent stereo separation and separate 100-200 kHz data/subcarrier port for remote control SCA uplink
- Option "DIGITAL": single widened audio port for digital audio
- 12 VDC input for direct hook-up to back-up battery
- Meets or exceeds all FCC and CCIR requirements

## • LCT STL - TX Specifications

**Power Output:**
0.15 W to 1.5 W, adjustable (typ. 2.0)
or 0.60 W to 6.0 W, adjustable (typ. 8.0)
**Frequency of Operation:**
Synthesized, with temperature compensated crystal reference
**RF Output Connector/Impedance:**
Type "N" female/50 ohm
**Frequency Stability:**
Better than 4 ppm (±4 kHz), 0° C to 40° C (32° to 104° F)
**Frequency Range:**
930 - 960 MHz directly digitally programmable in 10 kHz increments
(on request 200-1000 MHz or 1.4-2.5GHz)
**Modulation Type:**
Direct FM at the carrier frequency
**Asynchronous AM S/N ratio**:
80 dB below reference carrier with 100% AM modulation, 75 µsec de-emphasis (no FM modulation present)
**Synchronous AM S/N Ratio:**
80 dB below reference carrier with 100% AM modulation (FM modulation ±75 kHz)
**Multimeter:**
Modulation, Peak, Peak Hold, Fwd Pwr, Ref Pwr & LED status indication for all functions
**AC Power requirement:**
120 or 240 VAC 50/60 Hz 60 VA (1.5W), 80 VA (6 W) models
**DC Power input:**
STL's can be powered w/ 12.5V, 10mVp-p max ripple, 2A for 1.5W, 3.5 A for 6 W mod.
**Ambient Temperature Range:**
0° to 40° C (+32° to +104° F), operational from-20° to +50° C (-4° to +122° F)
**Spurious and Harmonic Emissions:**
Meets or exceeds all FCC and CCIR requirements
**Modulation Capability:**
One stereo MPX program (balanced or unbalanced input) + any Subcarrier channels (up to 200 kHz baseband)
**Audio Inputs:**
1 baseband input, + and - polarity, balanced and unbalanced, 3 SCA, all BNC inputs.
All levels are factory set for 3.5 Vp-p (1.237 Vrms / 4.1 dBm), adjustable -6 to +6 dB
Switchable impedance 600ohm/10k ohm
Pre-emphasis (75 µsec for FCC, 50 µsec for CCIR) defeatable for flat inputs
**Composite FM S/N Ratio:**
78 dB below 75 kHz deviation (85 dB typical) measured in a 30 Hz to 20 kHz bandwidth
**Composite Harmonic Distortion:**
.03% or less (.015% typical)
**Stereo Separation:**
Greater than 68 dB, 100 Hz to 15 kHz Greater than 63 dB, 30 Hz to 15 kHz
**Composite Amplitude Response:**
±0.1 dB or less, 30 Hz - 200 kHz
**Composite Phase Response:**
±0.5° from linear phase, 30 Hz - 53 kHz
**Front Panel Size:**
483 mm (19") W x 132 mm (5¼") H (3 standard rack spaces high)
**Overall Depth:** 483 mm (19")
**Net Weight:**
10 kg (22 Lbs), 1.5 W model
12 kg (26.4 Lbs), 6 W model

## • LCR STL - Receiver Specifications

**RF Input Connector/Impedance:**
Type "N" female, 50 ohm
**Frequency Range:**
930 - 960 MHz directly digitally programmable in 10 kHz increments
(on request 200-1000 MHz or 1.4-2.5GHz)
**Sensitivity:**
Monaural (demodulated, de-emphasized):
8 µV typ. for S/N > 60 dB
30 µV typ for S/N > 65 dB
130 µV typ. for S/N > 70 dB
1 mV typ. for S/N > 85 dB
Composite (left or right channel, demodulated, decoded, de-emphasized):
50 µV typ. for S/N > 55 dB
80 µV typ. for S/N > 60 dB
320 µV typ. for S/N > 65 dB
1 mV typ. for S/N > 75 dB
**Composite amplitude response**:
±0.1 dB or less, 30 Hz - 53 kHz
±1 dB or less, 53 kHz - 75 kHz
±2·dB or less, 75 kHz - 100 kHz
**Data/subcarrier audio port amplitude response:** ±5 dB or less, 100-200 kHz
**Composite amplitude response, models with option "DIGITAL":**
±3 dB or less, 30 Hz - 400 kHz
**Selectivity (static):**
3 dB IF bandwidth @ 150 kHz 60 dB IF bandwidth ±500 kHz 80 dB IF bandwidth ±600 kHz
**Selectivity (dynamic)** or adjacent-channel selectivity; Performance is unaffected by adjacent signals within following parameters:
at 300 kHz, as much as 12 dB higher
at 400 kHz, as much as 28 dB higher
at 500 kHz, as much as 45 dB higher
at 600 kHz, as much as 50 dB higher
**Multimeter:**
Modulation, Peak, Peak Hold, RF Signal, VCO Voltage & LED status for all functions
**Audio Outputs (MPX + SCA):**
4 BNC's with + and - polarity available, balanced and unbalanced and a 6.3 mm jack female for headphones
**IF 10.7 MHz:** BNC connector
**Carrier Detector:** BNC connector
**Levels:**
factory set for 3.5 Vp-p (1.237 Vrms/3.64 dBm), adjustable -6 to +6 dB
**Ambient Temperature Range:** 0° to 40° C (32° to 104° F). Operational from -20° to +50° C (-4° to +122° F)
**AC Power requirement:**
120 or 240 VAC, 50/60 Hz 30 VA
**DC Pwr Input:** Receivers can be powered w/ 12.5 V (±0.1 V) 2 A, 10 mVp-p max ripple
**Front Panel Size:**
483 mm (19") W x 132 mm (5¼") H (3 standard rack spaces high)
**Overall Depth:** 483 mm (19")
**Net Weight:** 12 kg (26.4 Lbs)

## • LC STL System Specifications

**Frequency Range:**
930 to 960 MHz, directly digitally programmable in 10 kHz increments
(on request 200-1000 MHz or 1.4-2.5GHz)
**Frequency Response:**
±0.3 dB or better, 30 Hz to 53 kHz
±0.5 dB or better, 53 kHz to 75 kHz
**Distortion, THD:**
Stereo demodulated, decoded and de-emphasized:
30 Hz to 7.5 kHz: 0.05% (typ 0.03% @ 1 kHz)
Mono demodulated and de-emphasized: 30 Hz to 7.5 kHz: <0.05% (typ 0.02% @ 1 kHz)
**Distortion, IMD:**
Intermodulation at demodulated output, two tone with 1 kHz difference frequency:
5 - 15 kHz, D2 < 0.05% D3 < 0.1% 15 - 53 kHz, D2 < 0.12% D3 < 0.3%
**Stereo Separation:**
50 dB or better, 30 Hz to 15 kHz (typically 55 dB or better)
**Crosstalk:**
50 dB or better, stereophonic subchannel to main channel
50 dB or better, main channel to stereophonic subchannel
**Signal to Noise Ratio (mono):**
80 dB or better, typically 82 dB with 75 kHz deviation and 400 Hz frequency modulation
**Signal to Noise Ratio (stereo):**
75 dB or better, typically 80 dB with 75 kHz deviation, demodulated, de-emphasized, left or right channel

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