

LT-800 Stationary FM Transmitter



Configuration

LT-800-072 (-01, -02, -03)
LT-800-216 (-01, -02, -03)
LT-800-863 (-01, -02, -03)

Thanks to its outstanding audio quality, the Listen LT-800 Stationary Transmitter can be used in a variety of applications. The LT-800 is connected to your main audio system, broadcasting a high quality audio signal to belt pack receivers, stationary receivers, or wireless speaker / receivers. The end result – your audience can hear and understand the presentation better because of improved speaker placement or because they have their own belt pack and headset. The signature Look & Listen™ LCD shows channel, lock, programming and RF power.

Highlights

- Superior Audio Quality – 80 dB (70 dB with 863 MHz) signal-to-noise ratio, setting the industry's sound quality standard.
- 57 channels (17 channels with 863 MHz).
- 100 % Digital – Listen transmitters are digitally-tuned so the transmission won't drift.
- Limited Lifetime Warranty.
- Designed for installation – rack mountable with remote antennas make installation easy and service reliable.
- Look & Listen™ LCD shows channel, channel lock, signal strength and programming information.
- Balanced/Unbalanced Inputs – you can interface with any audio source on the market.
- Auto Processor – to condition the audio for voice/music prior to transmission. VU level meter and test tone-makes installation easier to set-up.
- 30-day no obligation demonstrations available.
- Many accessory options make Listen products ideal for a wide range of applications.

Architectural Specification

LT-800-072/216 MHz

The stationary FM transmitter shall be capable of broadcasting on 57 wide and narrow band channels. The transmitter shall have an SNR of 80 dB or greater (with SQ enabled). The output power shall be adjustable to quarter, half or full. Channel tuning shall be capable of being locked. The device shall have an audio frequency response of 50 Hz to 15k Hz, ± 3 dB at 72 MHz or of 50 Hz to 10 kHz, ± 3 dB at 216 MHz. It shall have two (2) mixing audio inputs and a mixed signal output. The device shall have the following audio controls: input level, mix level and an adjustable low pass filter (contour). The device shall have an audio processor that is capable of automatic gain control and limiting. The Listen LT-800 is specified.

LT-800-863 MHz

The stationary FM Transmitter shall be capable of broadcasting on 17 channels. Channel tuning shall be capable of being locked. The transmitter shall have a SNR of 70 db or greater. The output power shall be adjustable to quarter, half or full. The device shall have an audio frequency response of 50 Hz to 15 kHz, ± 3 dB. It shall have two (2) mixing audio inputs and a mixed signal output. The device shall have the following audio controls: Input Levels, Mix Level, adjustable low pass filter (contour), headphone output (monitor). The device shall have an audio processor that is capable of automatic gain control and limiting. The Listen LT-800-863 is specified.

Includes:

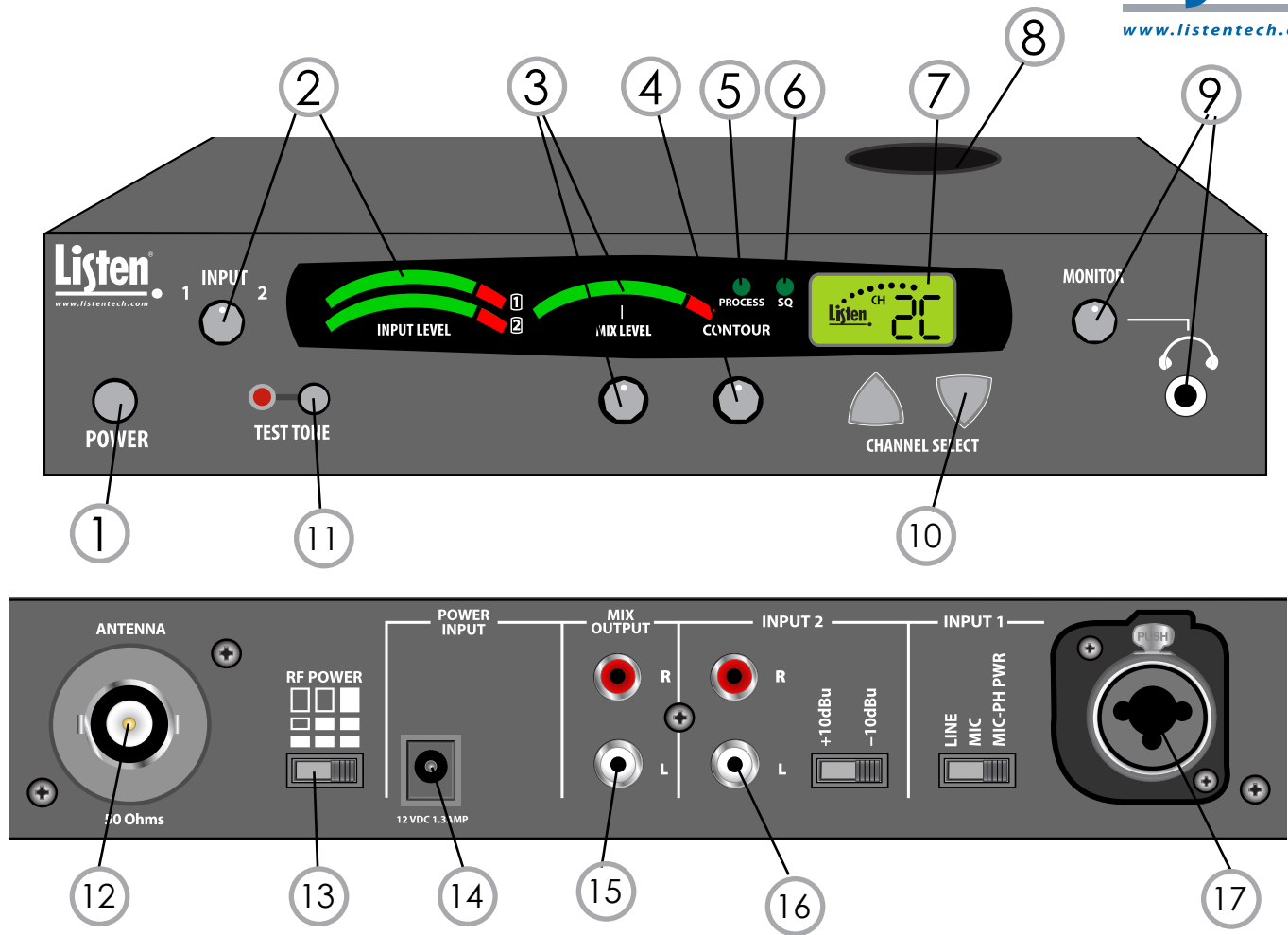
LT-800 Stationary FM Transmitter
LT-800 manual (72 & 216 MHz)
LA-207 Power Supply for LT-800
Line Cord
LA-129 Right Angle Articulating Antenna (863 MHz)
Quick reference card
Limited Lifetime Warranty/FM System Design Guide and Manual Card

Used With:

LR-100-072 Stationary FM Receiver/Power Amplifier (72 MHz)
LR-100-216 Stationary FM Receiver/Power Amplifier (216 MHz)
LR-300-072 Portable Digital FM Receiver (72 MHz)
LR-400-072 Portable Display FM Receiver (72 MHz)
LR-400-216 Portable Display FM Receiver (216 MHz)
LR-400-863 Portable Display FM Receiver (863 MHz)
LR-500-072 Portable Programmable Display FM Receiver (72 MHz)
LR-500-216 Portable Programmable Display FM Receiver (216 MHz)
LR-500-863 Portable Programmable Display FM Receiver (863 MHz)
LR-600-072 Wireless FM Receiver/Speaker (72 MHz)
LR-600-216 Wireless FM Receiver/Speaker (216 MHz)

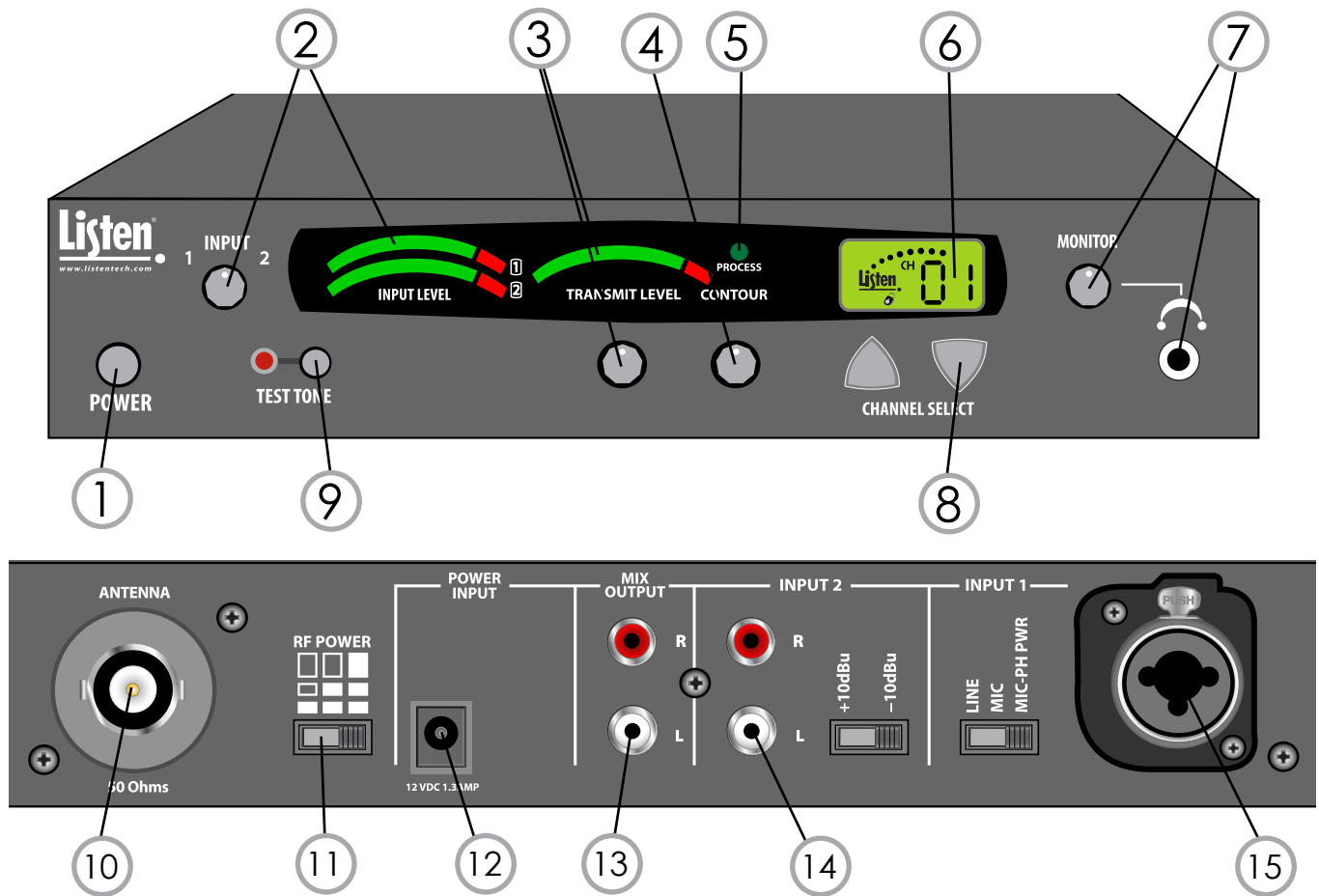
Requires:

LA-101 Helical Top Mounted Antenna (72MHz)
LA-102 Telescoping Top Mounted Antenna (216MHz)
LA-106 Telescoping Top Mounted Antenna (72 MHz)
LA-107 Ground Plane Remote Antenna (216 MHz)
LA-116 Coaxial Dipole Remote Antenna (72MHz)
LA-117 Coaxial Dipole Remote Antenna (216 MHz)
LA-122 Universal Antenna Kit (72 and 216 MHz)
LA-123 90° Helical Antenna (72 MHz)
LA-124 90° Helical Antenna (216 MHz)
LA-129 90° Articulating Antenna (863 MHz)



LT-800-072/216 MHz Product Features

1. POWER on/off on front of unit for easy access.
2. Multiple audio inputs, with input level control and dual VU meters.
3. Mix Level control sets level of mixed audio. VU meter shows the output level of your mixed audio.
4. Contour equalization cuts/boosts frequencies above 5 kHz.
5. Processing (automatic gain control and compression) can be turned on and off from the front panel.
6. SQ (Super Quiet Companding Technology) can be turned on and off from the front panel.
7. LCD display shows channel selected, channel lockout, programming and RF power.
8. Top mount antenna jack for top mounted telescoping antennas.
9. Earphone jack and volume control to check audio integrity of transmission source.
10. UP/DOWN channel selection of 57 channels. User can easily change between Basic and Expanded modes.
11. The test tone level is adjustable, which adds flexibility when setting up and testing your system.
12. Top mount, rear mount, and remote antenna options.
13. Multiple transmitter power settings (full, ½ and ¼) with indication on LCD display.
14. In-line power supply (included) attaches here.
15. Two (2) phono connectors for a mixed output of Inputs 1 and 2.
16. Two (2) unbalanced phono audio inputs. Select either +10 dBu or -10 dBu.
17. Balanced XLR / ¼ inch audio input. Select either mic, line or mic phantom power level for input. Electret (Condenser) microphones can now be used with Input 1 phantom power.



LT-800-863 MHz Product Features

1. POWER on/off on front of unit for easy access.
2. Multiple audio inputs, with input level control and dual VU meters.
3. Mix Level control sets level of mixed audio. VU meter shows the output level of your mixed audio.
4. Contour equalization cuts/boosts frequencies above 5 kHz.
5. Processing (automatic gain control and compression) can be turned on and off from the front panel.
6. LCD display shows channel selected, channel lockout, programming and RF power.
7. Earphone jack and volume control to check audio integrity of transmission source.
8. UP/DOWN channel selection of 17 channels.
9. The test tone level is adjustable, which adds flexibility when setting up and testing your system.
10. Rear mount and remote antenna options.
11. Multiple transmitter power settings (full, ½ and ¼) with indication on LCD display.
12. In-line power supply (included) attaches here.
13. Two (2) phono connectors for a mixed output of Inputs 1 and 2.
14. Two (2) unbalanced phono audio inputs. Select either +10 dBu or -10 dBu.
15. Balanced XLR / ¼ in. audio input. Select either mic, line or mic phantom power level for input. Electret (Condenser) microphones can now be used with Input 1 phantom power.

Accessories

Antennas



LA-124

- LA-101 Helical Top Mounted Antenna (72MHz)
- LA-102 Telescoping Top Mounted Antenna (216MHz)
- LA-106 Telescoping Top Mounted Antenna (72 MHz)
- LA-107 Ground Plane Remote Antenna (216 MHz)
- LA-116 Coaxial Dipole Remote Antenna (72MHz)
- LA-117 Coaxial Dipole Remote Antenna (216 MHz)
- LA-122 Universal Antenna Kit (72 and 216 MHz)
- LA-123 90° Helical Antenna (72 MHz)
- LA-124 90° Helical Antenna (216 MHz)
- LA-125 Antenna Kit for Rack Mount (72 MHz)
- LA-126 Antenna Kit for Rack Mount (216 MHz)
- LA-129 90° Articulating Antenna (863 MHz)
- LA-130 Remote Antenna Kit (863 MHz)
- LA-131 Antenna Kit for Rack Mount (863 MHz)

Power Supply



LA-207

- LA-201 15 VAC Replacement Power Supply for LT-800/LR-100/LR-600
- LA-207-01 12 VDC Replacement Power Supply for LT-800 (North America)
- LA-207-02 12 VDC Replacement Power Supply for LT-800 (Asia, UK)
- LA-207-03 12 VDC Replacement Power Supply for LT-800 (Euro)

Cables/ Connectors



LA-127

- LA-112 RG-58 50 Ohm Coaxial Cable (Per ft.)
- LA-113 RG-8 50 Ohm Low-Loss Coaxial Cable (Per ft.)
- LA-115 RG-58 BNC Coupler
- LA-127 RG-58 BNC Connector
- LA-128 RG-8 BNC Connector
- LA-390 RG-8/50 Ohm Preassembled Coaxial Cable (Per ft.)
- LA-391 RG-58/50 Ohm Preassembled Coaxial Cable (Per ft.)



LA-304

Miscellaneous

- LA-304 Assistive Listening Notification Signage Kit
- LA-326 Universal Rack Mounting Kit
- LA-80 2-Way RF Antenna Combiner
- LA-81 4-Way RF Antenna Combiner (72 & 216 MHz)
- LA-82 6-Way RF Antenna Combiner (72 & 216 MHz)

| Specifications | | LT-800-072 | LT-800-216 |
|----------------|--------------------------------------|--|------------------------------|
| RF | RF Frequency Range | 72.025 - 75.950 MHz | 216.0125 - 216.9875 MHz |
| | Number of Channels | 17 wide band, 40 narrow band | 19 wide band, 38 narrow band |
| | Number of Simultaneous Transmitters | 6 | 3 |
| | Frequency Accuracy | ± .005% stability +32° to +122 °F (0° to +50 °C) | |
| | Transmitter Stability | 50 PPM | |
| | Transmission Range | Up to 1,500 ft. (457 m) | Up to 3,000 ft. (914 m) |
| | Output Power | 80,000 uV at 3 m | 100 mW (max allowed by FCC) |
| | Antenna | Various antennas available | |
| | Antenna Connector | BNC | BNC |
| Compliance | FCC Part 15, Part 90 Industry Canada | | |

** All system specifications are wireless end-to-end

| | | | |
|----------------------------|--|---|-------------------------------------|
| Audio | System Frequency Response | 50 Hz - 15 kHz (±3 dB) | 50 Hz - 10 kHz (±3 dB) |
| | System Signal to Noise Ratio (A-Weighted) | SQ enabled; 80 dB; SQ disabled 60 dB | SQ enabled 80 dB, SQ disabled 50 dB |
| | System Distortion | <2% total harmonic distortion (THD) at 80% deviation | |
| | Audio Input 1 | Rear panel, one (1) Female XLR or 1/4 in combo connector, balanced, 0 / -55 dBu (line/mic) nominal input level adjustable, -30 / +21 dBu (line/mic) maximum input level, impedance 20k / 1k ohm (line/mic), phantom power +12 VDC | |
| | Audio Input 2 | Rear panel, two (2) phono connectors, unbalanced, -10 / +10 dBu nominal input level adjustable, +30 dBu maximum, impedance 100k ohm | |
| | Audio Processing (Process) | Compression can be turned on/off. Slope internally adjustable from 1:1 to 4:1. Default 2:1 | |
| | Contour | Cuts and boosts frequencies above 5kHz | |
| | Combined Audio Output (Mix) | Input 1 and input 2, mixed output (rear panel), two (2) phono connectors, unbalanced, -10 dBu nominal output level, +15 dBu maximum, impedance 10 ohm | |
| Headphone Output (monitor) | Front panel, one (1) 3.5 mm (0.14 in.) stereo connector, unbalanced, adjustable output level, +3 dBu maximum, impedance 10 ohm | | |

| | | |
|----------|----------------------|--|
| Controls | Front Panel | Power, test tone on/off, channel up/down, input levels, mix level, contour, monitor volume control |
| | Rear Panel | Input 1 Level (line, mic, mic-phantom power), Input 2 Level (-10/+10 dBu), RF Power (low, mid, high) |
| | Internal Adjustments | Compression ratio for audio processor |
| | Programming | SQ on/off, process on/off, channel lock |

| | | |
|------------|--------------------------------|---|
| Indicators | Input 1, Input 2, Mix Level VU | Indicates Input 1, Input 2, and Mix audio levels; 10 segment LED's (8 green, 2 red) |
| | SQ and Processing | Indicated by a green LED when on (front panel) |
| | RF Power | Indicated on the LCD (low, mid, high) |
| | LCD Display | Channel designation, lock status, RF power level, programming (front panel) |
| | Test Tone | Red LED illuminates when test tone is enabled. |

| | | |
|-------|-------------------------|--|
| Power | Power Supply | In line power supply, Listen part number LA-207 (Line cord is determined by the each Country's AC power standards) |
| | Power Supply Input | Input: 100-240 VAC, 50-60 Hz, 0.4 A |
| | Power Supply Output | Output: 12 VDC, 1.3 A, 15.6 W |
| | Power Supply Connector | Output Connector: 0.02 in (5.0 mm) OD, 0.01 in. (2.5 mm) ID, barrel type |
| | Power Supply Compliance | UL, CE, GS, TÜV, RoHS |

| | | |
|----------|--------------------------------------|--|
| Physical | Dimensions (H x W x D) | 1.75 x 8.50 x 9.13 in. (4.5 x 21.5 x 23 cm) |
| | Color | Dark grey with white silk screening |
| | Unit Weight | 2.6 lbs. (1.2 kg) |
| | Unit Weight with LA-207 Power Supply | 3.5 lbs. (1.6 kg) |
| | Shipping Weight | 6 lbs. (2.7 kg) |
| | Rack Mounting | One (1) rack space height, 1/2 rack space wide. One (1) or two (2) transmitters can be mounted in one rack space, optional rack mount (LA-326) |

| | | |
|---------------|-------------------------|--|
| Environmental | Temperature - Operation | -10°C (14°F) to +40°C (104°F) |
| | Temperature - Storage | -20°C (-4°F) to +50°C (122°F) |
| | Humidity | 0 to 95% relative humidity, non condensing |

| | Specifications | LT-800-863 |
|--|--|--|
| RF | RF Frequency Range | 863.050 - 864.950 MHz |
| | Number of Channels | 17 Wideband |
| | Number of Simultaneous Transmitters | 8 |
| | Frequency Accuracy | +/-0.005% stability 32 to 122° (0 to 50°C) |
| | Transmitter Stability | 50 PPM |
| | Transmission Range | Up to 400 ft. (122m) |
| | Output Power | 10mW ERP |
| | Antenna | Articulating Right Angle antenna |
| | Antenna Connector | BNC |
| Compliance | CE, ETSI, RoHS | |
| ** All system specifications are wireless end-to-end | | |
| Audio | System Frequency Response | 50Hz - 15kHz (+/-3db) |
| | System Signal to Noise Ratio | 70 dB (A-Weighted) |
| | System Distortion | <2% total harmonic distortion (THD) at 80% deviation |
| | Audio Input 1 | Rear panel, one (1) Female XLR and 1/4 in combo connector, balanced, 0 / -55 dBu (line/mic) nominal input level adjustable, -30 / +21 dBu (line/mic) maximum input level, impedance 20k / 1k ohm (line/mic), phantom power +12 VDC |
| | Audio Input 2 | Rear panel, two (2) phono connectors, unbalanced, -10 / +10 dBu nominal input level adjustable, +30 dBu maximum, impedance 100k ohm |
| | Audio Processing (Process) | Compression can be turned on/off. Slope internally adjustable from 1:1 to 4:1. Default 2:1 |
| | Contour | Cuts and boosts frequencies above 5kHz |
| | Combined Audio Output (Mix) | Input 1 and input 2, mixed output (rear panel), two (2) phono connectors, unbalanced, -10 dBu nominal output level, +15 dBu maximum, impedance 10 ohm |
| Headphone Output (Monitor) | Front panel, one (1) 3.5 mm (0.14 in.) stereo connector, unbalanced, adjustable output level, +3 dBu maximum, impedance 10 ohm | |
| Controls | Front Panel | Power, Test Tone on/off, Channel UP/DOWN, Input level, Mix level, Contour, Monitor, volume control |
| | Rear Panel | Input 1 Level (line, mic, mic-phantom power), Input 2 Level (-10/+10 dBu), RF Power (low, mid, high) |
| | Internal Adjustments | Compression ratio for audio processor |
| | Programming | Process on/off, Channel lock |
| Indicators | Input 1, Input 2, Mix Level VU | Indicates Input 1, Input 2, and Mix audio levels. 10 segment LED's (8 green, 2 red) |
| | Processing | Indicated by a green LED when on (front panel) |
| | RF Power | Indicated on the LCD (low, mid, high) |
| | LCD Display | Channel Designation, lock status, RF power level, programming (front panel) |
| | Test Tone | Red LED illuminates when test tone is enabled. |
| Power | Power Supply | In line power supply, Listen part number LA-207 (Line cord is determined by the each Country's AC power standards) |
| | Power Supply Input | Input: 100-240 VAC, 50-60 Hz, 0.4 A |
| | Power Supply Output | Output: 12 VDC, 1.3 A, 15.6 W |
| | Power Supply Connector | Output Connector: 0.02 in (5.0 mm) OD, 0.01 in. (2.5 mm) ID, barrel type |
| | Power Supply Compliance | UL, CE, GS, TÜV, RoHS |
| Physical | Dimensions (H x W x D) | 1.75 x 8.50 x 9.13 in. (4.5 x 21.5 x 23 cm) |
| | Color | Dark Grey with white silk screening |
| | Unit Weight | 2.6 lbs. (1.2 kg) |
| | Unit Weight with LA-207-03 Power Supply | 3.5 lbs. (1.6 kg) |
| | Shipping Weight | 6 lbs. (2.7 kg) |
| | Rack Mounting | One (1) rack space height, 1/2 rack space wide. One (1) or two (2) transmitters can be mounted in one rack space, optional rack mount (LA-326) |
| Environmental | Temperature - Operation | -10 °C (14 °F) to +40 °C (104 °F) |
| | Temperature - Storage | -20 °C (-4 °F) to +50 °C (122 °F) |
| | Humidity | 0 to 95% Relative Humidity, non condensing |

Frequently Asked Questions

Q Does the LT-800 include the rack mount?

A No, but an LA-326 Universal Rack Mounting Kit is available for purchase.

Q Do I need a transmitter for each audio source?

A Yes.

Q What is the range of the LT-800 transmitter?

A Line of site up to 1500 ft. (457 m) for 72 MHz.
Line of site up to 3,000 ft. (914 m) for 216 MHz.
Line of site up to 400 ft. (122 m) 863 MHz.

Q Is there a limit to the number of transmitters I can use in one room?

A Yes. The 72 MHz LT-800 has a maximum of six. The 216 MHz LT-800 has a maximum of three. The 863 MHz LT-800 has a maximum of eight.

Q How many receivers can I have on a system?

A As many as you want. The transmitter simply transmits a signal and you can have as many receivers pick that signal up as necessary. It's like a radio station transmitting and the receivers are the radios tuning into the "channel".