The Listen LT-82 is the heart of a stationary IR listening system. It takes the desired audio signal and transmits the signal via coaxial cable to one (1) or more IR radiator-emitters (LA-140). The LT-82 can be operated in mono or stereo on one (1) of four (4) different carriers; up to four (4) LT-82 units may be connected to provide up to four (4) mono or stereo carriers to the radiator(s). The LT-82 generates DC power to power up to two (2) LA-140 radiator-emitters. Two (2) LT-82 units can be rack mounted in a single rack space using the LA-326 rack mounting kit. The LT-82 is used for government compliance (such as ADA), assistive listening, language interpretation, live theatre, houses of worship, courtrooms, secure rooms and for auditory description.

**Highlights**

- Secure wireless communication - ideal for applications where isolation of the signal is important.
- Up to four (4) channels mono, or four (4) channels stereo – no need to sacrifice multiple channels to achieve stereo transmissions (one LT-82 is required for each channel).
- Transmitter can power two (2) radiator/emitters (LA-140) using CAT-5 cabling.
- Easy to specify, install and use.
- Outstanding performance - ensures crystal clear sound for listeners.
- Limited Lifetime Warranty.

**Architectural Specification**

The Stationary IR Transmitter shall be capable of broadcasting on four (4) mono or stereo carriers; 2.3, 2.8, 3.3 and 3.8 MHz. Channel Selection shall be capable of being locked. Multiple transmitters shall be capable of being daisy-chained together to transmit up to four (4) channels simultaneously. The transmitter shall have a timer that shuts off the carriers after 30 minutes when no audio is present at the transmitter. The transmitter shall have a SNR of 60 db or better. The device shall have an audio frequency response of 63 Hz to 15 kHz, +/- 3db. It shall have two (2) mixing audio inputs, one (1) balanced XLR/phone input and one (1) unbalanced RCA input. The device shall have the following audio controls: input level, transmit level, contour level and stereo on/off control. The device shall have an audio processor that is capable of automatic gain control and limiting. The transmitter shall provide power for up to two (2) radiators over CAT-5 cable. The LT-82 is specified.

**Requires**

LA-140 Stationary IR Radiator

**Includes**

LT-82 Stationary IR Transmitter
LA-205 30 VDC Extension/Replacement Power Supply for LA-140/LT-82
LA-89 Interconnection Coaxial Cable
Quick Reference Card

**Used With**

LR-42 IR Stethoscope 4-Channel Receiver
LR-44 IR Lanyard 4-Channel Receiver
1. POWER on/off.
2. Controls input levels of inputs 1 and 2. Dual VU meters indicate input level.
3. Mix level control sets level of the mixed (or transmitted) 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) can be turned on and off from the front panel.
6. Stereo indicator. When illuminated, indicates the unit is in stereo mode. Mode can be turned on and off from the front panel.
7. LCD shows channel selected, lock status, programming and carrier on.
8. Headphone jack and volume control to check audio integrity of transmission source.
9. UP/DOWN channel selection of up to four channels or carrier can be turned off.
10. Test tone provides flexibility when setting up and testing your system.
11. “RF Input” provides RF connection from other LT-82 units for multiple carrier interconnections. “RF Output” provides RF connection to LA-140 radiators.
12. In-line Universal Power Supply included [be sure to order the appropriate configuration (power cord) for your country]. Power supply has enough power for the LT-82 and up to two (2) radiators. “Power Input” is from the power supply, “Power Output” is to the radiators.
13. Two (2) phono connectors for a mixed output of Inputs 1 and 2.
14. Two (2) unbalanced phono stereo audio inputs. Select either +10 dBu or -10 dBu input level.
15. Balanced XLR or phone connector audio input. Select either LINE, MIC or MIC-PH PWR (phantom power).
## Accessories

### Cables / Connectors
- LA-70 CAT-5e Cable (Per ft.)
- LA-71 RJ-45 CAT-5e Connector (10)
- LA-72 RJ-45 CAT-5e Coupler
- LA-112 RG-58 50 Ohm Coaxial Cable (Per ft.)
- LA-115 RG-58 BNC Coupler
- LA-127 RG-58 BNC Connector
- LA-326 Universal Rack Mounting Kit
- LA-391 RG-58 50 Ohm Preassembled Coaxial Cable (Per ft.)
- LA-393 CAT-5e Preassembled Cable (Per ft.)

### Mounting
- LA-326 Universal Rack Mounting Kit
**Specification LT-82**

### RF
- **Carrier Frequencies**: 2.3 MHz, 2.8 MHz, 3.3 MHz, 3.8 MHz
- **Number of Channels**: Four (4) channels. Selectable one (1) channel per transmitter (mono or stereo)
- **Carrier Shut Off**: Carrier will shut off when no audio is present for 30 minutes to preserve radiator life.
- **Frequency Accuracy**: +/- .005% stability 0 to 50°C
- **Transmitter Stability**: 50 PPM
- **RF Output**: Two (2) BNC connectors, for connection to radiator(s) and/or additional transmitter(s). 50 mV, 50 ohm, -15 dbm
- **RF Input**: One (1) BNC connector, for connection from additional transmitter(s). 50 mV, 50 ohm, -15 dbm
- **Compliance**: FCC Part 15, Industry Canada, CE, RoHS

### Audio
- **All system specifications are wireless end-to-end**
- **System Frequency Response**: 63 Hz - 15 kHz (+/- 3 dB)
- **System Signal to Noise Ratio (A-weighted)**: Mono: >60 dB
  
  Stereo: >52 dB
- **System Distortion**: <2% total harmonic distortion (THD)
- **Audio Input 1**: Mono Input (Rear Panel). Female-XLR and 1/4 in. combo connector, balanced, 0/-55 dBu (line/mic) nominal input level adjustable; +21/-30 dBu (line/mic) maximum input level: impedance 20k/1k ohms (line/mic); phantom power +12 VDC
- **Audio Input 2**: Stereo or Mono Input (Rear Panel). Two (2) Phono connectors, unbalanced, -10/+10 dBu nominal input level adjustable, +30 dBu maximum, impedance 100k ohms
- **Audio Processing**: Compression can be turned on/off.
- **Contour**: Cuts and boosts frequencies above 5 kHz
- **Combined Audio Output (Mix)**: Input 1 and Input 2 Mixed Output (Rear panel). Two (2) Phono connectors, unbalanced, -10 dBu nominal output level, +19 dBu maximum, impedance 10 ohms.
- **Monitor Output**: Front panel. One (1) 3.5 mm (0.14 in.) connector, unbalanced, adjustable output level, +7 dBu maximum, impedance 10 ohms. 100 mW, 32 ohms

### Controls
- **Front Panel**: Power, Test Tone on/off, Channel up/down, Input Level, Transmit Level, Contour, Monitor Level
- **Rear Panel**: Input 1 Level (Line, Mic, Mic-Phantom Power), Input 2 Level (-10/+10 dBu)
- **Internal Adjustments**: Compression ratio for audio processor. Slope adjustable from 1:1 to 4:1. Default 2:1
- **Programming**: Stereo on/off, Processing on/off

### Indicators
- **Unit Power**: Red LED illuminates when the unit is powered up (front panel)
- **Input 1, Input 2, Transmit Level**: Indicates Input 1, Input 2, and Transmit audio levels. 10 segment LEDs (8 green, 2 red)
- **Stereo**: Indicated by a green LED when on (front panel)
- **Processing**: Indicated by a green LED when on (front panel)
- **RF Carrier**: Indicates carrier is active on the LCD Display (front panel)
- **LCD**: Channel designation, lock status, RF Carrier, programming (front panel)
- **Test Tone**: Red LED illuminates when test tone enabled (front panel)

### Power
- **Power Supply**: In-line switching mode power supply, Listen part number LA-205
  - Input: 100-240 VAC, 47-63 hz
  - Output: 30 VDC, 1.5 A
  - Compliance: UL and CE Listed
- **Power Output**: Two (2) RJ-45 jacks. For remote powering up to two (2) radiators.
- **Power Line Cord**: North America, Type B. (LT-82-01)
  - Asia, UK, Type G. (LT-82-02)
  - Euro Type J. (LT-82-03)

### 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 (1.18 kg)
- **Unit Weight with LA-205 Power Supply**: 3.8 lbs (1.72 kg)
- **Shipping Weight**: 4.4 lbs (2.00 kg)
- **Rack Mounting**: One (1) rack space high (1U), 1/2 rack space wide. One (1) or two (2) transmitters can be mounted in a single rack space. Optional rack mount (LA-326) not included.

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

---

*Specifications are subject to change with out notification.*

Listen Technologies Corporation • 14912 Heritagecrest Way • Bluffdale • Utah 84065-4818 U.S.A.
+1.801.233.8992 • +1.800.330.0891 North America • +1.801.233.8995 Fax
Listen Technologies Corporation All rights reserved 41808
Stationary IR Block Diagram
Basic Single Channel/Single Radiator System

- LT-82 Stationary IR Transmitter
- LA-140 IR Radiator
- LR-42 Stereo IR Receiver
- LR-44 Lanyard IR Receiver

Mounting hardware for radiator included with radiator

RF – RG-58 50 ohm Cable

Up to four LT-82 transmitters can be daisy chained together (using RG-58 cable) to create a multi-channel system

Up to 100 LA-140 radiators can be daisy chained together (using RG-58 cable) to provide sufficient IR power for most applications

Radiator Power: Radiators can be powered from the LT-82 (up to two radiators) or an additional power supply (LA-205) can power up to two radiators

Radiator RF: RF from the last LT-82 must be daisy chained from radiator to radiator

LA-89 RG-58 Multi-carrier Interconnection Cable (included)

Power – CAT-5 Cable

IR
Related Systems

LS-80 – Basic Stationary IR System
Includes:
(1) LT-82-01 Stationary IR Transmitter
(1) LA-140-GY Stationary IR Radiator
(4) LR-42 Stationary IR Stethoscope 4-Channel Receiver
(4) LA-363 High Capacity AAA Alkaline Batteries (2)
(1) LA-304 Assistive Listening Notification Signage Kit

LS-81 – Performance Stationary IR System
Includes:
(1) LT-82-01 Stationary IR Transmitter
(1) LA-326 Universal Rack Mounting Kit
(2) LA-140-GY Stationary IR Radiator
(4) LR-42 Stationary IR Stethoscope 4-Channel Receiver
(4) LA-363 High Capacity AAA Alkaline Batteries (2)
(1) LA-351 Stationary IR Storage Station
(1) LA-304 Assistive Listening Notification Signage Kit

LS-82 – Advanced Installed IR System
Includes:
(1) LT-82-01 Stationary IR Transmitter
(1) LA-326 Universal Rack Mounting Kit
(2) LA-140-GY Stationary IR Radiator
(8) LR-42 Stationary IR Stethoscope 4-Channel Receiver
(8) LA-364 NiMH Rechargeable Battery Pack for Stationary IR Receivers
(1) LA-350-01 8-Unit IR Charging/Storage Station
(1) LA-304 Assistive Listening Notification Signage Kit

LS-83 – 4-Channel, 48-Listener Stationary IR System
Includes:
(4) LT-82-01 Stationary IR Transmitter
(2) LA-326 Universal Rack Mounting Kit
(3) LA-89 Interconnection Coaxial Cable
(8) LA-140-GY Stationary IR Radiator
(48) LR-42 Stationary IR Stethoscope 4-Channel Receiver
(48) LA-364 NiMH Rechargeable Battery Pack for Stationary IR Receivers
(6) LA-350-01 8-Unit IR Charging/Storage Station
(2) LA-304 Assistive Listening Notification Signage Kit

LS-84 – Expanded Performance (2-Channel) Stationary IR System
Includes:
(2) LT-82-01 Stationary IR Transmitter
(1) LA-326 Universal Rack Mounting Kit
(1) LA-140-GY Stationary IR Radiator
(5) LR-42 Stationary IR Stethoscope 4-Channel Receiver
(5) LA-364 NiMH Rechargeable Battery Pack for Stationary IR Receivers
(1) LA-350-01 8-Unit IR Charging/Storage Station
(1) LA-304 Assistive Listening Notification Signage Kit

LS-85 – Expanded Basic Stationary IR System
Includes:
(1) LT-82-01 Stationary IR Transmitter
(1) LA-326 Universal Rack Mounting Kit
(1) LA-140-GY Stationary IR Radiator
(3) LR-42 Stationary IR Stethoscope 4-Channel Receiver
(1) LR-44 Stationary IR Lanyard 4-Channel Receiver
(1) LA-166 Neck Loop
(1) LA-165 Stereo Headphones
(4) LA-363 High Capacity AAA Alkaline Batteries (2)
(1) LA-304 Assistive Listening Notification Signage Kit
Frequently Asked Questions

Q How many carriers does the LT-82 produce?
   A One.

Q How many carriers can be produced simultaneously in a room?
   A Four. You will need one (1) LT-82 per carrier.

Q How do you interconnect multiple LT-82 units?
   A Units are daisy chained using a short piece of coax cable (supplied with each LT-82).

Q Is there any performance degradation in stereo mode?
   A Yes, stereo operation raises the noise floor slightly.

Q Can I operate some channels in mono and others in stereo?
   A Yes.

Q How many radiators does the LT-82 power?
   A The LT-82 powers up to two (2) Listen LA-140 radiators.

Q How are radiators connected to the LT-82?
   A The carrier (signal) is connected using coax cable; power is connected using standard CAT-5 cabling.

Q Can the LT-82 be operated on 230 VAC?
   A Yes, the LT-82 has a universal power supply that can be used anywhere in the world.

Q What happens if the radiator power cable is shorted?
   A To protect the system, the LT-82 will shut down the power to the radiator cable until the problem is eliminated.

Q Can I use the LT-82 with other manufacturers’ radiators?
   A Yes, but the LT-82 will not power those radiators.