

4-Channel, 48 Listener Stationary IR System

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Configuration

- LS-83-SIR-GY-01 (Grey Radiators - North America)
- LS-83-SIR-GY-02 (Grey Radiators - Asia, UK)
- LS-83-SIR-GY-03 (Grey Radiators - Euro)
- LS-83-SIR-WH-01 (White Radiators - North America)
- LS-83-SIR-WH-02 (White Radiators - Asia, UK)
- LS-83-SIR-WH-03 (White Radiators - Euro)

The 4-Channel, 48-Listener Stationary IR System delivers clear audio from four audio sources to 48 listeners with consistent great sound and substantial signal coverage. Includes transmitter and radiator mounting hardware, rechargeable batteries and charging stations. It is designed for delivering multi-channel audio in applications such as language interpretation, houses of worship, courtrooms, secure rooms, and for auditory description. It includes four Stationary IR Transmitters and 48 stetho receivers, NiMH rechargeable battery packs and six charging station. The system can operate between one and four channels of audio and can cover up to 80,000 square feet. Listen's IR systems are designed for applications that require the audio signal to be isolated for security or other reasons, such. Custom systems available.

Highlights

- Accommodates up to 48 listeners – great for applications to accommodate large groups
- Outstanding coverage – 80,000 square feet. (7432 square meters)
- Secure wireless communication – ideal for applications where isolation of the signal is important
- Up to four channels mono, or four channels stereo – no need to sacrifice multiple channels to achieve stereo transmissions
- Easy to specify, install and use
- Outstanding performance ensures crystal clear sound for listeners

Architectural Specification

The LS-83-SIR 4-Channel, 48 Listener Stationary IR System shall use infrared (IR) light to transmit audio from IR emitting radiators to portable IR receivers. The system shall use IR modulating frequencies above 2.0 MHz. The system transmitter shall have a timer that shuts off the carriers after 30 minutes when no audio is present at the transmitter. Channel selection shall be capable of being locked. The system shall be capable of transmitting on four carriers and each of the four carriers shall be capable of transmitting a mono or stereo signal. The system shall have a frequency response of 100 to 15 KHz (+/-3 dB), less than 2% distortion and shall have signal to ratio of greater than 58 dB. A single emitting radiator shall have a transmitting area of no less than 10,000 square feet (one carrier) or greater for each radiator specified. The radiator shall be powered via CAT-5 cabling and the RF from the transmitter shall be carried by 50 ohm coaxial cable. The receivers will be powered by NiMH rechargeable battery packs and include a compact charging station.

Includes

- (4) LT-82 Stationary IR Transmitter
- (2) LA-326 Universal Rack Mounting Kit
- (8) LA-140 Stationary IR Radiator - Grey
- (48) LR-42 Stationary IR Stetho Receivers
- (48) LA-364 NiMH Rechargeable Battery Pack
- (6) LA-350 IR 8-Unit Receiver Charging/Storage Station
- (2) LA-304 ADA Compliance Signage Kit
- System Manual

Used With

LR-44 IR Lanyard 4-Channel Receiver

Requires

None

Accessories



LA-70
CAT-5 Cable
specify length



LA-71
RJ-45 CAT-5 Connector
(Pkg. of 10)



LA-72
RJ-45 to RJ-45
CAT-5 Coupler



LA-112
RG-58 50 Ohm Coaxial Cable
specify length



LA-115
RG-58 BNC to
BNC Coupler



LA-127
RG-58 BNC
Connector



LA-150
Replacement
Lanyard for the
LR-44



LA-151
Stetho Receiver
Replacement Eartips
(Pkg. of 20)



LA-152
IR Alkaline battery
compartment



LA-161
Single Ear Bud



LA-162
Stereo Ear Bud



LA-164
Earspeaker



LA-165
Stereo
Headphones

Accessories cont.



LA-166
Neck Loop



LA-170
Behind-the-Head
Headphones



LBB 3441/10
Bosch Under-the-Chin
Stereo Headphones



LBB 3443/00
Bosch Stereo
Headphones



LA-205
IR Extended Power Supply
(powers two LA-140 radiators)
Note: You will only need the LA-205 if
you are using more than two LA-140
radiators per LT-82 transmitter or if you
wish to remote power the radiator(s).



LA-320
Configurable
Carrying Case



LA-326
Universal Rack Mounting Kit



LA-342
IR Dual Radiator Mounting Bracket (for
mounting two radiators vertically or
horizontally) includes RG-58 coaxial cable
and CAT-5 cable to interconnect the two
radiators



LA-350
IR 8-Unit Charging/Storage
Station



LA-351
IR 8-Unit Storage
Station



LA-364
NiMH Rechargeable
Battery Pack



LA-391
RG-58/50 Ohm Coaxial Cable
Preassembled, specify length



LA-393
RJ-45/CAT-5 Cable
Preassembled, specify length

Accessories cont.



LA-337
IR Radiator Floor Stand



LR-44
IR Lanyard 4-Channel
Receiver

Specifications		LR-42
RF	Carrier Frequencies	2.3 MHz, 2.8 MHz, 3.3 MHz, 3.8 MHz
	Number of Channels	Four (4) selectable channels
	IR Detectors	Two (2) detectors under front IR lens
	Sensitivity	One (1) nW/cm ² at 40 db SNR
	Frequency Accuracy	+/- .005% stability 0 to 50C
	Squelch	Automatic on loss of RF signal (40 db SNR)
	Compliance	FCC Part 15, Industry Canada, CE, RoHS

Audio	** All systems specifications are wireless end-to-end	
	System Frequency Response	63Hz-15kHz (+/- 3dB)
	System Signal to Noise Ratio (A-weighted)	Mono: >60dB
		Stereo: >52dB
	System Distortion	<2% total harmonic distortion (THD)
	Audio Output Jacks	None. Built in Stethoscope speakers
	Audio Output Power	20 mW maximum at 32 ohms

Controls	User Controls	Volume, Power, Channel Select
	Programming	Channel Lock, Auto Find, Auto Seek, Channel Lock-Out, Squelch

Indicators	Unit Power	Indicated by current channel selection LED
	Channel Selection	Red LED illuminates on the current channel selection
	Audible Indicator	Audio beep in headset indicates low batteries, channel lock, power on/off. Can be disabled in programming mode. Default: On

Power	Battery Type	Two (2) AAA alkaline batteries of NiMH battery pack
	Battery Life	30 hours alkaline, 15 hours NiMH rechargeable pack (LA-364)
	Battery Charging	Fully Automatic with NiMH battery pack and LA-350 charger

Physical	Dimensions (H x W x D)	1.8 x 4.0 x .75 in (46 x 102 x 19 mm) Stethoscope arm length 8 in (203 mm)
	Color	Dark Grey with White Silk Screening
	Unit Weight without batteries	2.15 oz (60 g)
	Unit Weight with batteries	2.95 oz (85 g)
	Shipping Weight	8 oz (227 g)

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

Specifications		LT-82
RF	Carrier Frequencies	2.3 MHz, 2.8 MHz, 3.3 MHz, 3.8 MHz
	Number of Channels	Four channels. Selectable one 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 50C
	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	63Hz - 15kHz (+/-3dB)
	System Signal to Noise Ratio (A-weighted)	Mono: >60dB
		Stereo: >52dB
	System Distortion	<2% total harmonic distortion (THD)
Audio Input 1	Mono Input (Rear Panel). Female-XLR and ¼ in combo connector, balanced, 0/-55dBu (line/mic) nominal input level adjustable; -30/+21dBu (mic/line) maximum input level; impedance 20k/1k ohms (line/mic); phantom power +12VDC	

Audio	Audio Input 2	Stereo or Mono Input (Rear Panel). Two (2) Phono connectors, unbalanced, -10/+10dBu nominal input level adjustable, +30dBu 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, -10dBu nominal output level, +19dBu maximum, impedance 10 ohms
	Headphone Output (Monitor)	Front panel. (1) 3.5 mm connector, unbalanced, adjustable output level, +7dBu maximum, impedance 10 ohms. 100 mW, 32ohms, 3.5 mm stereo

Controls	Front Panel	Power, Test Tone on/off, Channel up/down, Input Level, Transmit Level, Contour, Headset Level
	Rear Panel	Input 1 Level (Line, Mic, Mic-Phantom Power), Input 2 (-10/+10dBu)
	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 LED's (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 Display	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
		Output Connector: RJ-45
		Compliance: UL and CE Listed
	Power Output	Two (2) RJ-45 jacks. For remote powering up to 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 (5.7 kg)
	Unit Weight with LA-205 Power Supply	3.8 lbs (8.3 kg)
	Shipping Weight	4.4 lbs (9.7 kg)
	Rack Mounting	1 rack space height, ½ rack space wide. One or two transmitters can be mounted in 1 rack space. Optional rack mount (LA-326) not included

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

Specifications		LA-140 Radiator
RF	Frequency Range	1 MHz - 5 MHz
	Input	BNC Connection. -25dbm to -5dbm input nominal
	Output	BNC Connection. -15 dBu nominal
	Compliance	FCC Part 15, Industry Canada, CE, RoHS
	Coverage Area	10,000 sq. ft. (929 sq. m) when used with Listen Receivers

Controls	User Controls	Termination Switch, Delay Compensation Switch, Indicator LEDs on/off, Compatibility Switch
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Indicators	Red LED	Indicates power is present
	Yellow LED	Indicates no connection to transmitter or radiator
	Green LED	Indicates carrier and power are present and radiator is emitting IR signal

Power	Input	RJ-45 connector. 30 VDC, powered from transmitter via CAT-5 cable or optional LA-205 power supply
	Output	RJ-45 connector. 30 VDC, powers up to one additional radiator. (Maximum two (2) radiators powered for each LT-82 transmitter or LA-205 power supply)
	Emitter Power	3 Watts

Physical	Dimensions (H x W x D)	5.5 x 8.0 x 2.6 in (140 x 203 x 66 mm)
	Color	LA-140-GY (Grey), LA-140-WH (White)
	Unit Weight	2.10 lbs (.95 kg)
	Unit Weight with Wall/Ceiling Mounting hardware	2.35 lbs (1.05 kg)
	Shipping Weight	4.0 lbs (1.8 kg)

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

Specifications		LA-350
Compliance	RF, Safety Compliance	FCC, Industry Canada, CE, RoHS

Controls	User Controls	None
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Indicators	Bicolor LED	Red when charging, Green when charging is complete
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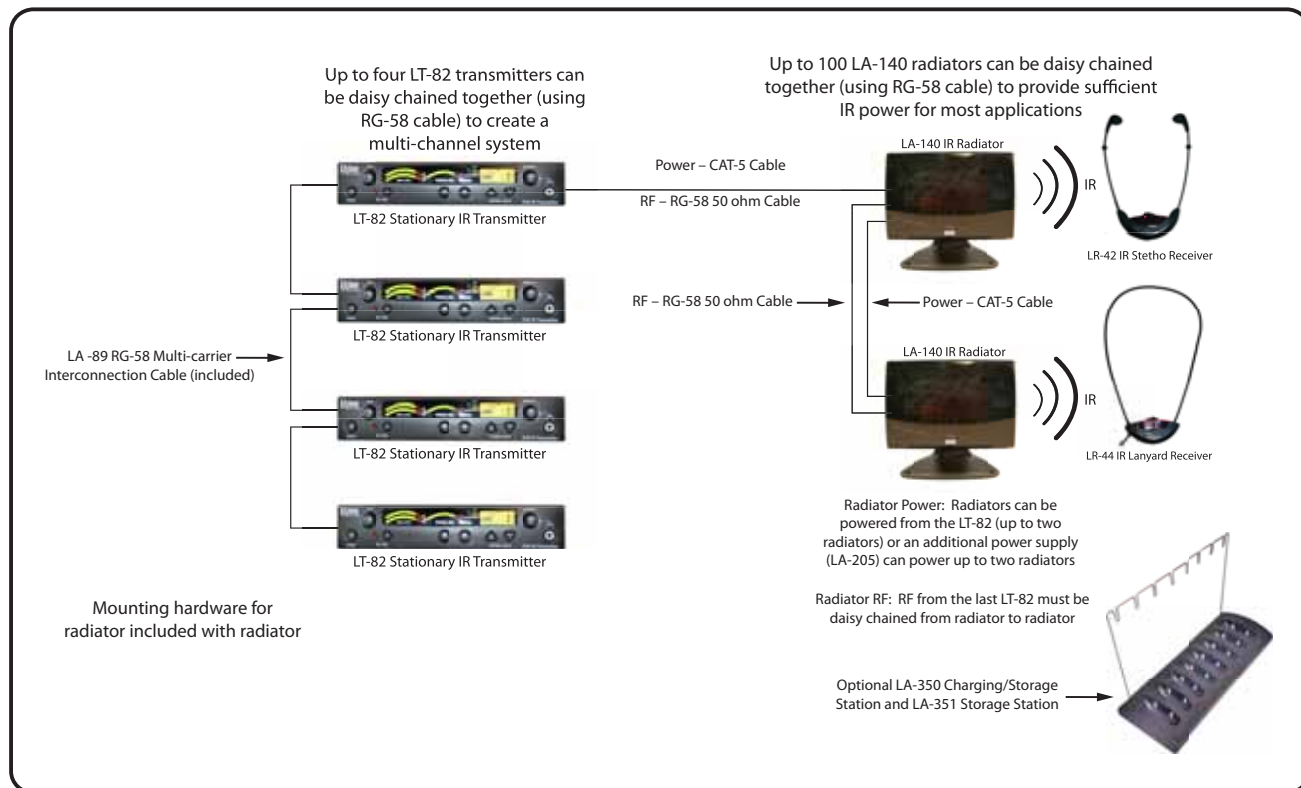
Power Supply	Type	In-line switching mode power supply, Listen part number LA-204	
	Input	100-240 VAC, 47-63 Hz	
	Output	7.5 VDC, 4.0 A	
	Power Line Cord		North America, Type B, (LA-350-01)
			Asia, UK, Type G, (LA-350-02)
		Euro, Type J, (LA-350-03)	

Power Supply cont.	Output Connector	5.0 mm x 2.1 mm Barrel
	Compliance	UL, CE listed

Physical	Dimensions (H x W x D)	1.5 x 13.6 x 5.4 in (3.8 x 34.5 x 13.7 cm)
	Color	Dark Grey with White Silk Screening
	Unit Weight	1.2 lbs (0.45 kg)
	Shipping Weight	3.0 lbs (1.3 kg)
	Mounting Options	Desk or wall mount

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

Stationary IR Block Diagram Multi-Channel/Radiator System



Related Systems

LS-80-SIR – Basic Stationary IR System

Includes:

- (1) LT-82 Stationary IR Transmitter
- (1) LA-140 Stationary IR Radiator
- (4) LR-42 Stethoscope 4-Channel IR Receivers
- (4) LA-363 High Performance AAA Alkaline Battery sets (Pkg of 2)
- (1) LA-304 ADA Compliance Signage Kit



LS-81-SIR – Performance Stationary IR System

Includes:

- (1) LT-82 Stationary IR Transmitter
- (1) LA-326 Universal Rack Mounting Kit
- (2) LA-140 Stationary IR Radiator
- (4) LR-42 Stethoscope 4-Channel IR Receivers
- (4) LA-363 High Performance AAA Alkaline Battery sets (Pkg of 2)
- (1) LA-351 8-Unit IR Receiver Storage Station
- (1) LA-304 ADA Compliance Signage Kit



LS-82-SIR – Advanced Installed IR System

Includes:

- (1) LT-82 Stationary IR Transmitter
- (1) LA-326 Universal Rack Mounting Kit
- (2) LA-140 Stationary IR Radiator
- (8) LR-42 Stethoscope 4-Channel IR Receivers
- (8) LA-364 NiMH Rechargeable Battery Pack
- (1) LA-350 8-Unit IR Receiver Charging/Storage Station
- (1) LA-304 ADA Compliance Signage Kit



Frequently Asked Questions

- Q** How many carriers does the LT-82 Stationary IR Transmitter produce?
A One.
- Q** How many carriers can be produced simultaneously in a room?
A Four. You will need one LT-82 Stationary IR Transmitter per carrier.
- 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 are radiators connected to the LT-82?
A The carrier (signal) is connected using RG-58 coaxial 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** How much coverage is provided with the LA-140 radiator?
A Approximately 10,000 square feet (929 square meters).
- Q** Does the number of carriers affect the coverage?
A Yes, for two carriers, the coverage per carrier is halved. For four carriers, the coverage per carrier is one-fourth.
- Q** How is power delivered to the radiator?
A Power is delivered with CAT-5 cables (connected between the radiator and either the LT-82 transmitter or the LA-205 power supply).
- Q** How many radiators can be powered from the LT-82 or LA-205 power supply?
A Two.
- Q** What is the purpose of the delay compensation switch?
A This switch allows you to set up delay timing in a multi-radiator system so that each radiator receives the carrier at exactly the same time. This prevents signal dropouts that can be caused by out-of-phase signals (multi-path). With Listen's delay compensation switch, it is not necessary to cut all of your coaxial cables to the same length - your shorter runs can use shorter cables, keeping your installation clean (and cost-effective).

Frequently Asked Questions

- Q** How do you replace the batteries in the receiver?
- A** For non-rechargeable batteries (AAA alkaline), remove the battery compartment and replace the batteries with fresh AAA alkaline batteries. For rechargeable NiMH batteries, simply replace the sealed battery pack with a freshly charged pack.
- Q** How do I recharge the NiMH batteries?
- A** Use the Listen LA-350 8-Unit Charging/Storage unit. This unit will charge batteries that are in receivers or out of receivers.
- Q** How long will the NiMH batteries last until they need to be recharged?
- A** You should receive 15 hours of use from each charge of the batteries.