

OVERVIEW

Widely used in installed sound and live music situations, LX Wireless systems deliver top-notch performance and VHF reliability at a moderate price. They enable users to configure a wireless system, with a wide array of professional

handheld, lavalier, instrument and headworn microphone options as well as single-antenna or diversity receivers.

FEATURES

- **Exclusive Shure MARCAD Circuitry (LX4).** MARCAD (Maximum Ratio Combining Audio Diversity) circuitry constantly monitors signals from both receiver sections and combines them to create a single output signal. The result is improved reception and exceptional freedom from dropouts.
- **Half-Rack Receiver Size.** The LX3 and LX4 receivers interface with the HR (half-rack) format, and are supplied with both single and dual rack-mount hardware. An optional WA503 accessory kit lets you front-mount antennas.
- **Power/Battery Fuel Gauge.** The LX1 and LX2 transmitters include a three-light gauge that indicates both "power on" and the amount of battery life remaining. (Refer to the *Checking the Transmitter Battery* section.)
- **Dual RF Level Meters (LX4).** Instead of a conventional single RF meter, the LX4 receiver has two meters, one for each antenna. The dual meters indicate received signal strength at each antenna, and make it easier to identify and troubleshoot RF "dead spots."
- **Audio Metering.** A five-light audio meter helps to optimize transmitter gain setting and lets you monitor audio level during operation.
- **True Guitar Sound.** Guitar players demanding the highest degree of sound quality and reliability will appreciate the low noise and uncolored sound of the LX Wireless System.
- **Noise Squelch.** This circuit analyzes signal *quality* instead of signal *strength*. This virtually eliminates the possibility of annoying noise bursts coming through your receiver.
- **Body-Pack Transmitter Belt Clip.** The belt clip has a wider contact surface for a better grip, and firmly holds thinner, more slippery materials. It can be removed or inverted for special positioning.
- **Grip/Switch Cover Accessory.** The unbreakable WA555 grip/switch cover accessory, supplied with all LX2 hand-held microphone-transmitters, prevents accidental movement of the power and mute switches and provides a "grip" feel.
- **Compact Power Adapter.** The supplied ac power adapter incorporates small, in-line transformers that save space on ac power strips. It also has mounting tabs so it can be secured to any surface, as well as locking dc power connectors to prevent accidental disconnection from the receiver.

SPECIFICATIONS

RF Carrier Frequency Range

169.445 to 240.000 MHz (available frequencies depend on the applicable regulations in the country where the system is used)

Working Range

91 m (300 ft) under typical conditions. **NOTE:** Actual working range depends on RF signal absorption, reflection and interference.

Audio Frequency Response

50 to 15,000 Hz, ± 2 dB. **NOTE:** Overall system frequency response depends on the microphone element.

Audio Output Level (± 15 kHz deviation, 1 kHz tone)

XLR connector (into 600 Ω load): 0 dBV (line), -20 dBV (mic)
 $\frac{1}{4}$ inch connector (into 3 k Ω load): -8.8 dBV

Gain Adjustment Range

LX1: 40 dB
LX2: 25 dB

Impedances

LX1 (input): 1 M Ω
LX3 (output): 3 k Ω ($\frac{1}{4}$ -inch phone jack)
LX4 (output): 150 Ω (XLR); 3 k Ω ($\frac{1}{4}$ -inch phone jack)

Modulation

± 15 kHz deviation compressor-expander system with pre- and de-emphasis

RF Power Output

LX1, LX2: 50 mW maximum (complies with FCC and IC regulations)

Dynamic Range

>102 dB, A-weighted

RF Sensitivity

0.45 μ V for 12 dB SINAD (typical)

Image Rejection

80 dB typical

Spurious Rejection

75 dB typical

Ultimate Quieting (ref. 15 kHz deviation)

>100 dB, A-weighted

Audio Polarity

Positive pressure on microphone diaphragm (or positive voltage applied to tip of WA302 phone plug) produces positive voltage on pin 2 with respect to pin 3 of low impedance output and the tip of the high impedance $\frac{1}{4}$ -inch output.

System Distortion (ref. ± 15 kHz deviation, 1 kHz modulation)

0.3% THD typical

Power Requirements

LX1, LX2: 9V alkaline battery (Duracell MN1604 recommended); 8.4V Ni-cad optional
LX3, LX4: 12.5 - 18 Vdc (negative ground), 400 mA

Battery Life

18 to 20 hours (with Duracell MN1604 9V alkaline battery)

Operating Temperature Range

-20° to 50° C (-4° to 122° F). **NOTE:** Battery characteristics may limit this range.

Overall Dimensions

LX1: 83 mm H x 64 mm W x 26 mm D ($3\frac{1}{4}$ x $2\frac{1}{2}$ x $1\frac{1}{32}$ in.)
LX2/58, LX2/BETA 58: 241 mm L x 51 mm Dia. ($9\frac{1}{2}$ x 2 in.)
LX2/87, LX2/BETA 87: 216 mm L x 51 mm Dia. ($8\frac{1}{2}$ x 2 in.)
LX3, LX4: 43 mm H x 214 mm W x 183 mm D ($1\frac{11}{16}$ x $8\frac{7}{16}$ x $7\frac{3}{16}$ in.)

Net Weight

LX1: 79 g (2.8 oz.) without battery
LX2/58, LX2/BETA 58: 295 g (10.4 oz.) without battery
LX2/87, LX2/BETA 87: 193 g (6.8 oz.) without battery
LX3: 1,049 g (2 lbs, 5 oz.)
LX4: 1,105 g (2 lbs, 7 oz.)

FURNISHED ACCESSORIES

Microphone Stand Adapter (LX2)	WA370A
Single Receiver HR Rack Panel Kit	WA500
Dual Receiver (Side-by-Side) HR Rack Panel Kit (LX4) ...	WA502
Grip/Switch Cover (LX2)	WA555

Zipper Bag (LX1)	26A13
Zipper Bag (LX2)	26A13
Screwdriver	80A498

REPLACEMENT PARTS

Universal Horn Clamp (for WM98)	A98KCS
AC Adapter (120 Vac, 60 Hz)	PS40
AC Adapter (230 Vac, 50/60 Hz, Europlug)	PS40E
AC Adapter (230 Vac, 50/60 Hz, UK)	PS40UK
SM58® Cartridge with Grille (LX2/58)	R158
BETA 58® Cartridge with Grille (LX2/BETA 58)	R178
SM87 Cartridge with Grille (LX2/87)	R165
BETA 87A Cartridge with Grille (LX2/BETA 87)	R166
BETA 87C Cartridge with Grille (LX2/BETA 87)	RPW100
Matte Silver Grille (LX2/58)	RK143G
Matte Silver Grille (LX2/BETA 58)	RK265G
Matte Silver Grille (LX2/BETA 87)	RK313

Black Grille (LX2/87)	RK214G
Black Grille (LX2/BETA 58)	RK323G
Black Grille (LX2/BETA 87)	RK324G
Belt Clip (LX1)	53A8247A
1/4-Wave Antenna (169 - 186 MHz)	90A8380
1/4-Wave Antenna (186 - 204 MHz)	90B8380
1/4-Wave Antenna (204 - 216 MHz)	90C8380
1/4-Wave Antenna (216 - 240 MHz)	90D8380

OPTIONAL ACCESSORIES

Instrument Adapter Cable, 1/4" Plug (LX1)	WA302
Instrument Adapter Cable, Right-Angle 1/4" Plug (LX1) ...	WA304
Microphone Adapter Cable (LX1)	WA310
4-Pin Female Mini-ConnectorTA4F (LX1)	WA330
In-Line Audio Switch (LX1)	WA360
1/2-Wave Telescoping Antenna (169 - 185 MHz)	WA380A*
1/2-Wave Telescoping Antenna (185 - 200 MHz)	WA380B*
1/2-Wave Telescoping Antenna (200 - 230 MHz)	WA380C*
Antenna/Power Distribution System, 120 Vac	WA405
Antenna/Power Distribution System, 230 Vac	WA405E
1.8 Meter (6 ft.) Receiver-Mixer Cable (1/4" phone to XLR) .	WA410

6.1 Meter (20 ft.) Antenna Extension Cable	WA421
Antenna Rack Mount Kit	WA440
Passive Antenna Splitter	WA470
1/2-Wave Cable Antenna (169 - 185 MHz)	WA490A
1/2-Wave Cable Antenna (185 - 200 MHz)	WA490B
1/2-Wave Cable Antenna (200 - 216 MHz)	WA490C
Single Receiver Front-Mount Antenna Conversion Kit	WA503
Pelican Protector® Carrying Case for Single LX or SC Wireless System	WA525
Nylon Carrying Case	WA590