

# SHURE®

LEGENDARY  
PERFORMANCE™

Wireless Systems

PGW | PGX | SLX® | ULX | UHF-R

# SLX® WIRELESS SYSTEM

## The out-of-the-box wireless solution



Sound installations need powerful wireless tools which can be set-up quickly and used confidently. SLX® Wireless Systems exceed these demands bringing unparalleled ease of set-up and exceptional audio quality into reach.

### Unparalleled ease of set-up

- Auto Frequency Selection quickly locates the clearest channel
- Auto Transmitter Set-up synchronizes transmitter with receiver frequency at the touch of a button
- Quick and easy multi-system set-up with detachable antennas and included rack hardware

### Exceptional audio quality – constantly

- Patented Audio Reference Companding employs, unlike conventional wireless technology, a level dependent microphone circuitry
- Wide variety of legendary Shure microphone capsules
- Predictive Diversity – automatically detects and prevents drop outs before they occur

### Installation-ready

- Up to 12 compatible systems per UHF band (country-dependent)
- Rack-hardware for single and side-by-side 19" mounting included
- Rugged metal receiver construction
- Antenna front-mount cables and BNC adapter included
- Frequency and power lockouts on receiver and transmitter
- Receiver volume control on the rear of unit
- 2 "AA" batteries (included) provide over 8 hours of continuous use
- 1/4" and XLR audio outputs
- Logic-enabled transmitter (MX690, MX890) and receiver models (SLX4L), with selectable mode available
- Optional logic functionality for software echo cancellation and remote battery life monitoring

#### APPLICATIONS

Conference Rooms  
Seminars  
Churches  
Theaters  
Music Clubs

#### PRODUCT HIGHLIGHTS

Frequency Scan & Sync  
Audio Reference  
Companding  
Wide variety of  
legendary Shure  
microphone capsules  
Rack-mount  
hardware included  
Logic-enabled models  
available

# System Specifications

All system and component specifications are subject to change.

<b>Operating range</b>	30 – 100 m (100 – 300 ft.) under typical conditions, depending on the transmitter type. <i>Note: actual range depends on RF signal absorption, reflection and interference.</i>
<b>Audio frequency response (<math>\pm 2</math>dB)</b>	45 Hz – 15 kHz
<b>Total harmonic distortion</b>	< 0.5%, typical (ref. $\pm 38$ kHz deviation, 1 kHz tone)
<b>Dynamic range</b> (A-weighted)	> 100 dB
<b>Operating temperature range</b>	-18°C (0°F) to +57°C (+135°F). <i>Note: battery characteristics may limit this range.</i>
<b>Transmitter Audio Polarity</b>	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 1/4-inch output.

## Frequency Range and Transmitter

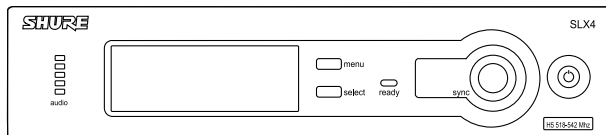
Band	Range	SLX1 / SLX2	MX690 / MX890
H5	518 – 542 MHz	$\leq 30$ mW	$\leq 10$ mW
J3	572 – 596 MHz	$\leq 30$ mW	$\leq 10$ mW
L4	638 – 662 MHz	$\leq 30$ mW	$\leq 10$ mW
P4	702 – 726 MHz	$\leq 30$ mW	$\leq 10$ mW
R5	800 – 820 MHz	$\leq 20$ mW	$\leq 10$ mW
S6	838 – 865 MHz	$\leq 10$ mW	$\leq 10$ mW
JB	806 – 810 MHz	$\leq 10$ mW	$\leq 10$ mW
Q4	740 – 752 MHz	$\leq 10$ mW	$\leq 10$ mW

NOTE: This radio apparatus may be capable of operating on some frequencies not authorized in your region. Please contact your national authority to obtain information on authorized frequencies and output power levels for wireless microphone products in your region.

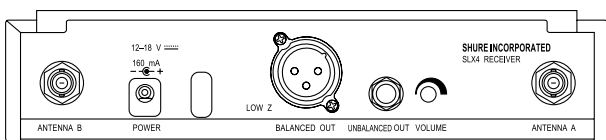
## Optional Accessories

<b>UA221</b>	Passive antenna splitter; recommended for 2 receivers
<b>UA844E</b>	Antenna/power distribution system; recommended for 3 or more receivers
<b>UA820</b>	1/2 wave antenna
<b>UA860SWB</b>	1/2 wave antenna (wideband)
<b>PA705</b>	Passive directional antenna
<b>UA505</b>	Remote antenna mounting bracket kit for UA820
<b>WA610</b>	Universal hard carrying case
<b>UA870WB</b>	Active directional antenna; usable only in combination with UA844E
<b>UA830WB</b>	In-line RF amplifier; usable only in combination with UA844E

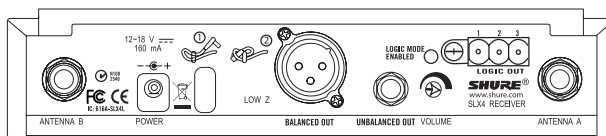
## SLX4/SLX4L Wireless Receiver



SLX4/SLX4L Receiver Front



SLX4 Receiver Rear

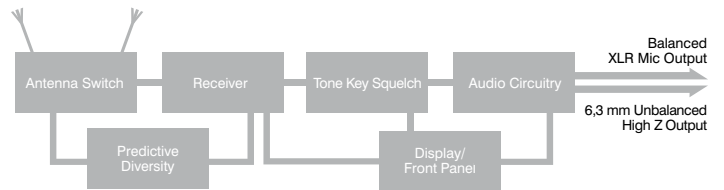


SLX4L Receiver Rear

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## Receiver Block Diagram



## Logic Compatibility (optional)

A logic circuitry and associated removable block connector is provided on the SLX4L, that connects to logic interfaces of external devices to provide remote monitoring of mute status and transmitter battery life. It is especially designed to function optimally with microphone mixers and audio processors that incorporate software echo cancellers. Supported models include MX690 and MX890 transmitters.

<b>SLX4L</b>	Logic enabled wireless receiver
<b>MX690</b>	Microflex wireless boundary microphone
<b>MX890</b>	Microflex wireless desktop base

## Architectural Specifications

The wireless receiver shall be a microprocessor controlled diversity system including a tone key (32.768 kHz) to provide improved operation reliability and prevent switching noises in a 9.5"71U metal housing. The system shall allow the selection of up to 960 operating frequencies and preprogrammed groups with up to 12 compatible channels. An open frequency shall be selected automatically and synchronized with the transmitter via an infrared signal. It shall provide a RF-reception LED, LED audio metering and a backlit LCD showing frequency group and channel, low battery status of the transmitter and locked/unlocked status. The wireless receiver shall have noise sensitive and tone key squelch, volume level control on the rear of the unit, XLR and phone jack audio output as well as the possibility to lock the frequency and power settings. Rack-mounting as well as antenna front-mounting hardware shall be included with the wireless receiver.

**SLX4L ONLY:** The receiver shall have a selectable Logic Enabled Mode, which allows it to send transmitter mute status and transmitter battery status to external devices via TTL logic on the output block connector.

<b>Audio frequency response (<math>\pm 2</math> dB)</b>	45 Hz – 15 kHz
<b>Dynamic range</b>	> 100 dB(A)
<b>System distortion</b> (at 1 kHz; $\pm 38$ kHz modulation)	< 0.5%
<b>Audio output level</b> (ref. $\pm 38$ kHz deviation, 1 kHz tone)	XLR connector (into 600 $\Omega$ load): -13 dBV 1/4 inch connector (into 3000 $\Omega$ load): -2 dBV
<b>Output impedance</b>	XLR: 200 $\Omega$ 1/4 inch: 1 k $\Omega$
<b>Sensitivity</b>	-105 dBm for 12 dB SINAD, typical
<b>Image rejection</b>	> 70 dB, typical
<b>RF carrier frequency</b>	518 – 865 MHz (refer to the frequency supplement supplied with the system)
<b>Logic Connections (SLX4L only)</b>	Pin 1: Logic output, Transmitter Mute Status. Mute=low (0 V). Sinks up to 100 mA. Absolute maximum -0.7 to 5.5V DC Pin 2: Logic ground Pin 3: Logic output, Battery Status. Good=low (0 V). Sinks up to 100 mA. Absolute maximum -0.7 to 5.5V DC
<b>Power</b>	12 – 18 Vdc at 150 mA, supplied by external power supply
<b>Housing</b>	Galvanized steel
<b>Dimensions (H x W x D)</b>	42 mm x 197 mm x 134 mm (1.65 x 7.76 x 5.28 in.)

# SLX1 Bodypack Transmitter

## Architectural Specifications

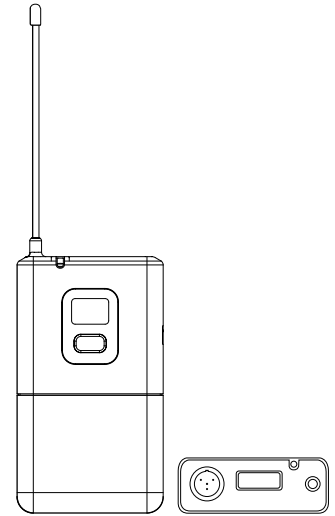
**SLX1:** The wireless bodypack shall be a professional transmitter for audio signals with switchable carrier frequencies as well as pre-programmed groups with up to 12 compatible channels. An infrared signal shall be used to synchronize the frequency between transmitter and receiver. The transmitter shall send a tone key (32.768 kHz) to provide improved operation reliability and prevent switching noises. The audio signal should be mutable. The transmitter shall have a 3-position input attenuator (+15, 0, -10 dB), a timed backlit LCD showing a frequency group and channel, battery strength and locked/unlocked status. 4-pin mini-connector (TA4F). Frequency and power locking capability shall be included. 2 "AA" alkaline batteries and softcase shall be included.

## Product Specifications

Audio input level	+10 dBV max. at 0 dB gain position
Carrier frequency	518 – 865 MHz (available frequencies depend on applicable country regulations)
RF output level	10 – 30 mW (dependent on frequency version)
Power	2 "AA" size alkaline or rechargeable batteries
Battery life	> 8 hours
Housing	Molded ABS case
Dimensions (H x W x D)	108 mm x 64 mm x 19 mm
Weight	81 grams (3 oz.) without batteries

## Microphone Options

PG185	Condenser capsule, cardioid lavalier mic
WL93	Condenser capsule, omnidirectional lavalier mic
WL183	Condenser capsule, omnidirectional lavalier mic
WL184	Condenser capsule, supercardioid lavalier mic
WL185	Condenser capsule, cardioid lavalier mic
WL50	Condenser capsule, omnidirectional lavalier mic
WL51	Condenser capsule, cardioid lavalier mic
WCB6	Condenser capsule, omnidirectional Countryman lavalier mic
PG30	Condenser capsule, cardioid headworn mic
WH20	Dynamic capsule, cardioid headworn mic
WH30	Condenser capsule, cardioid headworn mic
WCM16	Condenser capsule, hypercardioid headworn mic
WBH53	Condenser capsule, omnidirectional headworn mic
WBH54	Condenser capsule, supercardioid headworn mic
WCE6/WCE6i	Condenser capsule, omnidirectional or cardioid / hypercardioid Countryman earset mic
WB98H/C	Condenser capsule, cardioid instrument clip mic



**SLX1**  
Bodypack Transmitter

# SLX2 Handheld Transmitter

## Architectural Specifications

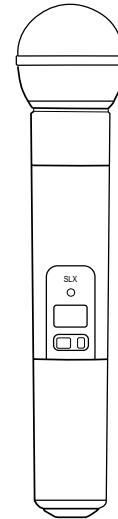
**SLX2:** The wireless microphone shall be a professional transmitter for audio signals with switchable carrier frequencies; preprogrammed groups with up to 12 compatible channels. An infrared signal shall be used to synchronize the frequency between transmitter and receiver. The transmitter shall send a tone key (32.768 kHz) to provide improved operation reliability and prevent switching noises. The capsule shall be mutable. It shall have an input attenuator switch (0, -10 dB), a timed backlit LCD showing frequency group and channel, battery strength and locked/unlocked status. Frequency and power locking capability shall be included. 2 "AA" alkaline batteries, mic clamp and softcase shall be included.

## Product Specifications

<b>Audio input level</b>	+2 dBV max. at -10 dB gain position
<b>Carrier frequency</b>	518 – 865 MHz (available frequencies depend on applicable country regulations)
<b>RF output level</b>	10 – 30 mW (dependent on frequency version)
<b>Power</b>	2 "AA" size alkaline or rechargeable batteries
<b>Battery life</b>	> 8 hours
<b>Housing</b>	Molded ABS handle and battery cup
<b>Overall dimensions (L x Ø)</b>	SLX2/SM58®, SLX2/Beta58: 254 x 51 mm SLX2/SM86, SLX2/Beta87: 243 x 51 mm
<b>Weight</b>	290 grams (10.2 oz.) without batteries

## Microphone Options

<b>SLX2/SM58</b>	Dynamic capsule, cardioid handheld mic
<b>SLX2/SM86</b>	Condenser capsule, cardioid handheld mic
<b>SLX2/Beta58A</b>	Dynamic capsule, supercardioid handheld mic
<b>SLX2/Beta87A</b>	Condenser capsule, supercardioid handheld mic
<b>SLX2/Beta87C</b>	Condenser capsule, cardioid handheld mic



**SLX2**  
Handheld Transmitter

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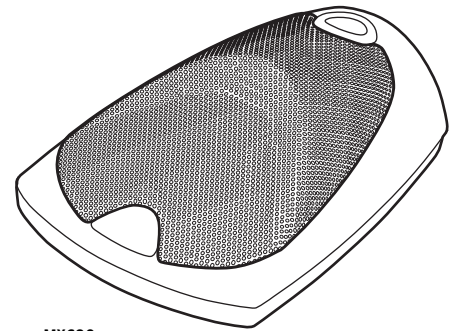
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# MX690 Wireless Boundary and MX890 Wireless Desktop Base

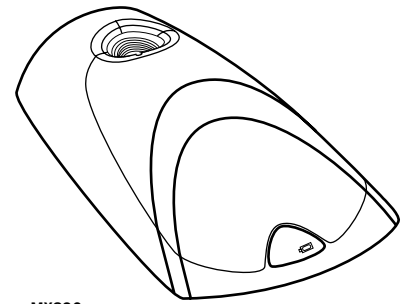
## Architectural Specifications

**MX690:** The microphone shall be a surface mounted, black condenser microphone with a cardioid polar pattern. The microphone shall include a bi-color LED status indicator and a programmable mute switch. The microphone shall have an integrated wireless transmitter for audio signals with switchable carrier frequencies as well as preprogrammed groups up to 12 compatible channels. An infrared signal shall be used to synchronize the frequency between transmitter and receiver. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency range shall be 50 Hz to 17 kHz and the sensitivity shall be 22 mV/Pa.

**MX890:** The wireless desk stand shall be a transmitter base for audio signals with switchable carrier frequencies as well as preprogrammed groups with up to 12 compatible channels. An infrared signal shall be used to synchronize the frequency between transmitter and receiver. The wireless desktop base shall exclusively be used with the MX405 and MX410 series gooseneck microphones and shall feature a programmable mute switch.



**MX690**  
Wireless Boundary Microphone  
L x W x H: 148 mm x 87 mm x 43 mm  
(5 13/16" x 3 3/8" x 1 11/16")



**MX890**  
Wireless Desktop Base  
L x W x H: 148 mm x 87 mm x 43 mm  
(5 3/4" x 3 7/16" x 1 11/16")

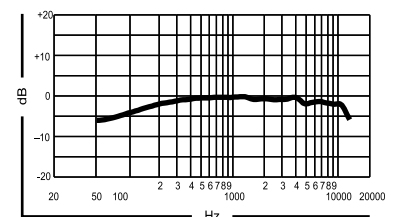
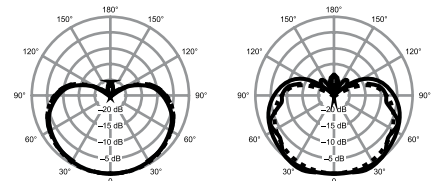
## Product Specifications

### MX690 Microphone Specifications

Type	Condenser (electret bias)
Audio frequency response	50 Hz – 17 kHz
Polar pattern	Cardioid
Sensitivity (at 1 kHz, open circuit voltage; 1 Pascal = 94 dB SPL)	-33 dBV/Pa (22 mV)
Dynamic range	96 dB (1 kΩ load at 1 kHz)
Common mode rejection	45 dB minimum (10 Hz to 100 kHz)
Preamplifier output clipping level (1% THD)	-6 dBV (0.5 V)
Polarity	Positive sound pressure on diaphragm produces positive voltage on pin 2 relative to pin 3 of output XLR connector or tip relative to ring of 1/4" phone plug (both on SLX4 or SLX4L wireless receiver).

### MX690 and MX890 Transmitter Specifications

RF power	≤ 10 mW
Operating range	30 m (100 ft.) Note: Actual range depends on RF signal absorption, reflection, and interference
Frequency stability	±10 ppm
Maximum frequency deviation	45 kHz
Oscillator type	Phase-locked loop (PLL) controlled synthesizer
Power requirements	3 V (2 AA alkaline or rechargeable batteries)
Battery life	≥ 8 hours (alkaline)
Power consumption	130 mA, ± 15 mA
Operating temperature range	-18 – 57 °C (0 – 135 °F) Note: Battery may limit this range
Dimensions (H x W x L)	43 mm x 87 mm x 148 mm (1 11/16" x 3 3/8" x 5 13/16" inch)
Weight	<b>MX690</b> Net: 318 g (11.2 oz) Packaged: 516 g (18.2 oz) <b>MX890</b> Net: 312 g (11 oz) Packaged: 530 g (18.7 oz)



MX690

## Available Models

<b>MX690</b>	Wireless boundary microphone, cardioid, mute switch
<b>MX890</b>	Wireless desktop base for MX405 and MX410* models, mute switch

\* Please find more information on the Microflex MX405 and MX410 Gooseneck Microphones at [www.shure.com](http://www.shure.com) and in the Shure Microflex data sheet.

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