

SHURE®

LEGENDARY
PERFORMANCE™

Wireless Systems

PGW | PGX | SLX® | ULX® | **ULX-D™** | UHF-R® | AXIENT™

ULX-D™ DIGITAL WIRELESS



Shure ULX-D™ Digital Wireless offers uncompromising audio clarity, extremely efficient and reliable RF performance, with rugged, intelligent hardware for professional sound reinforcement. Encryption-enabled hardware offers secure transmission and advanced rechargeability options eliminate the need for disposable batteries while extending usage times and life cycle.

Professional Digital Wireless

- 24-bit/48 kHz digital audio provides totally transparent reproduction of source material
- 20 Hz – 20 kHz frequency range captures every detail with incredible accuracy and clarity
- > 120 dB dynamic range for excellent signal-to-noise performance
- 256-bit AES Encryption for any application where secure transmission is needed

Extremely Efficient and Reliable RF Performance

- Up to 64 MHz overall tuning range (region dependent)
- 14 active transmitters in one 6 MHz TV channel
- Over 60 compatible channels on one frequency band
- Rock-solid signal stability over the entire 100 meter range with standard supplied antennas
- Interference detection and alerts provide instant confirmation when interference is present

Advanced Rechargeability

- Compatible with the Shure SB900 lithium-ion rechargeable battery, which provides extended usage times and precision tracking of remaining life and charge cycle details
- The SBC200 Dual Docking charger recharges batteries while in transmitters or out
- The SBC800 Eight-Bay Charger brings up to eight SB900 batteries to full charge within three hours
- AA alkaline backwards compatibility

APPLICATIONS

A/V Production & Rental
Installed Sound
House of Worship
Presentation

PRODUCT HIGHLIGHTS

Professional Digital
Wireless
Extremely Efficient
RF Performance
Rugged, Intelligent
Hardware
Advanced Recharge-
ability

ULX-D™ System Specifications

RF Carrier Range	470–814 MHz, varies by region (See Frequency Range and Output Power table)
Working Range	100 m (328 ft) Note: Actual range depends on RF signal absorption, reflection and interference.
RF Tuning Step Size	25 kHz, varies by region
Image Rejection	>70 dB, typical
RF Sensitivity	-98 dBm at 10 ⁻⁵ BER
Latency	<2.9 ms
Audio Frequency Response	ULXD1: 20 Hz – 20 kHz (±1 dB) ULXD2: 30 Hz – 20 kHz (±1 dB) Note: Dependent on microphone type
Audio Dynamic Range	>120 dB, A-weighted, typical
System Gain @ +10	
Total Harmonic Distortion –12 dBFS input, System Gain @ +10	<0.1%
System Audio Polarity	Positive pressure on microphone diaphragm produces positive voltage on pin 2 (with respect to pin 3 of XLR output) and the tip of the 6.35 mm (1/4-inch) output.
Operating Temperature Range	-18°C (0°F) to 50°C (122°F) Note: Battery characteristics may limit this range.
Storage Temperature Range	-29°C (-20°F) to 74°C (165°F) Note: Battery characteristics may limit this range.

Frequency Range

Band	Range (MHz)	Transmitter Output (mW)
G50	470 to 534	1/10/20
G51	470 to 534	1/10/20
G52	479 to 534	1/10
H51	534 to 598	1/10/20
H52	534 to 565	1/10
J50	572 to 636	1/10/20
K51	606 to 670	1/10
L50	632 to 696	1/10/20
L51	632 to 696	1/10/20
P51	710 to 782	1/10/20
R51	800 to 810	1/10/20
JB (Tx only)	806 to 810	1/10
AB (Rx and Tx)	770 to 810	"A" band (770,250-805,750): 1/10/20 "B" band (806,125-809,750): 1/10
Q51	794 to 806	1/10/20
X50	925 to 932	1/10

Furnished Accessories

All Systems	
PS41US*	Power supply
95T9279*	1/2 Wave Receiver Antenna (2)
95K2035	2' BNC Cable (2)
98A8994	BNC Bulkhead Adapter (2)
90AZ8100	Rackmount Hardware kit
95A16941	5' ethernet cable
80B8201	2 x AA batteries (bodypack systems)
Handheld Systems	
95T9279	Microphone Clip (handheld systems)
95B2313	Handheld Zipper Bag (bodypack systems)
Bodypack Systems	
95G9043*	Bodypack Antenna
95A2313	Bodypack Zipper Bag (bodypack systems)

*: region specific part # (US part listed)

NOTE:

This Radio equipment is intended for use in musical professional entertainment and similar applications. 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 RF power levels for wireless microphone products.

Rechargeable Power Management (sold separately)

SB900 Rechargeable Battery

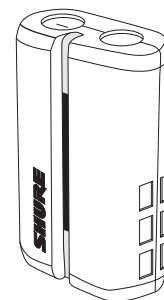
ULX-D transmitters are compatible with the SB900 lithium-ion rechargeable battery, which provides over 12 hours of continuous use and precise tracking of remaining life and charge cycle details.

SBC200 Dual Docking Recharging Station

This compact and portable unit charges batteries while in transmitters or out. Up to 4 SBC200's can be chained together to run off one power supply.

SBC800 Eight Battery Recharging Station

This compact and portable unit charges up to 8 SB900 batteries to full capacity within 3 hours, with status LEDs to indicate power levels. SB900 batteries fit securely in the charger for easy, efficient storage and transport.



Battery Runtime

Battery Type	1 mW	10 mW	20 mW
SB900	>12 hours	>12 hours	>8 hours
Alkaline	<11 hours	<11 hours	<5.5 hours
NiMH	<11 hours	<11 hours	<8 hours
Li-primary	12.5-18 hours	12.5-18 hours	9.5-12 hours

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Component Specifications

ULXD4 Digital Wireless Receiver

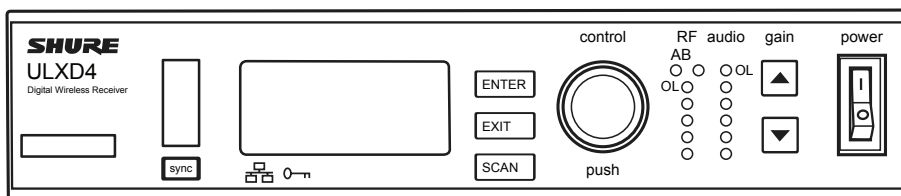
Overview

The Shure ULXD4 is a half-rack wireless receiver for use with ULX-D™ Digital Wireless Systems. With an expansive set of professional features, including 24-bit/48kHz digital audio quality, efficient and intelligent RF performance, and AES 256-bit encryption, ULX-D offers uncompromising wireless tailored for professional sound reinforcement.

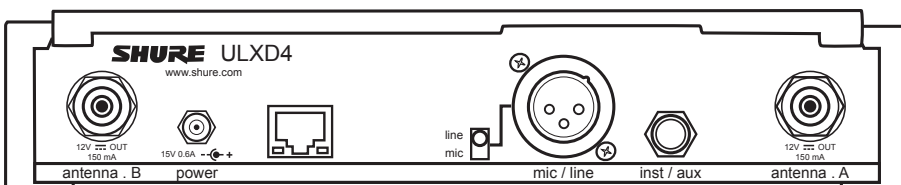
- Up to 64 MHz tuning range
- Predictive switching diversity
- Intelligent scanning automatically finds and deploys the cleanest frequencies to transmitters over IR sync
- Interference detection and alerts provided on both the receiver and WWB6
- Front panel gain adjustment buttons provide up to 60 dB additional gain
- AES 256-bit encryption-enabled for applications where secure transmission is needed
- Ethernet networking for streamlined setup across multiple receivers, WWB6 integration (coming soon), and AMX/Crestron control
- Support for frequency coordination with Axient Spectrum Manager (coming soon)
- Rugged metal chassis
- Intuitive front panel LCD menu and controls
- Easily readable Upgraded LCD with adjustable contrast and brightness
- Audio and RF LED meters with peak indicator
- Front panel lockout
- XLR and ¼" outputs
- Removable ½ wave antennas
- Furnished rack hardware

Product Specifications

Dimensions	197 mm x 171 mm x 42 mm (7.75 in. x 6.75 in. x 1.65 in.), H x W x D
Weight	913 g (2.0 lbs), without antennas
Housing	Galvanized Steel
RF Input	
Spurious Rejection	>80 dB, typical
Connector Type	BNC
Impedance	50 Ω
Bias Voltage	12 - 13 V DC, 170 mA maximum, per antenna
Audio Output	
Gain Adjustment Range	-18 to +42 dB in 1 dB steps (plus Mute setting)
Configuration	1/4" (6.35 mm):: Impedance balanced (Tip=audio, Ring=no audio, Sleeve=ground) XLR: Balanced (1=ground, 2=audio +, 3=audio -)
Impedance	1/4" (6.35 mm):: 100 Ω (50 Ω Unbalanced) XLR: 100 Ω
Full Scale Output	1/4" (6.35 mm):: +12 dBV XLR: LINE setting= +18 dBV, MIC setting= -12 dBV
Mic/Line Switch	30 dB pad
Phantom Power Protection	1/4" (6.35 mm): Yes XLR: Yes
Networking	
Power Over Ethernet (PoE)	No, protected
Network Interface	Single Port Ethernet 10/100 Mbps
Network Addressing Capability	DHCP or Manual IP address
Maximum Ethernet Cable Length	100 m (328 ft)



ULXD4 Front Panel



ULXD4 Back Panel

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Component Specifications

ULXD2 Wireless Handheld Transmitter

Overview

The Shure ULXD2 is a handheld wireless transmitter compatible with ULX-D™ Digital Wireless Systems. Offering premium 20 Hz – 20 kHz audio quality, advanced rechargeability options, and a wide selection of interchangeable Shure microphone heads, the ULXD2 delivers uncompromising wireless performance for professional sound reinforcement applications. The ULXD2 is offered with SM58®, SM86, SM87A, Beta 58A®, Beta 87A, and Beta 87C.

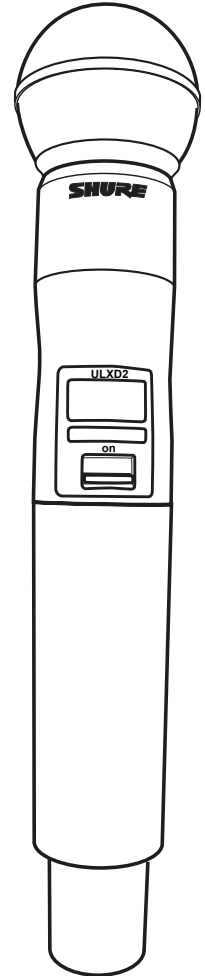
- 30 Hz to 20 kHz range with flat frequency response (actual response is microphone dependent)
- Interchangeable Shure microphone cartridges, including the legendary SM58®
- >120 dB dynamic range
- 1, 10, and 20 mW selectable RF output power
- 5 segment battery fuel gauge
- Shure lithium-ion rechargeable battery pack provides up to 12 hours of battery life, precision metering, and zero memory effect
- Up to 11 hours continuous use with 2 x AA batteries
- Backlit LCD with easy to navigate menu and controls
- 100 meter (300 ft) operating range
- Rugged metal construction
- Frequency and power lockout

Product Specifications

Gain Offset Range	0 to 21 dB (in 3 dB steps)
Battery Type	Shure SB900 Rechargeable Li-Ion or AA batteries
Battery Runtime @ 10 mW	Shure SB900: >12 hours Alkaline: 11 hours See Battery Runtime Chart
Dimensions	256 mm x 51 mm (10.1 in. x 2.0 in.) L x Dia.
Weight	340 g (12.0 oz.), without batteries
Housing	Machined aluminum
Audio Input	
Configuration	Unbalanced
Maximum Input Level 1 kHz at 1% THD	145 dB SPL (SM58), typical Note: Dependent on microphone type
Preamplifier Equivalent Input Noise (EIN) System Gain Setting ≥ +20	120 dBV, A-weighted, typical
RF Output	
Antenna Type	Integrated Single Band Helical
Occupied Bandwidth	<200 kHz
Modulation Type	Shure Proprietary Digital
Power	1 mW, 10 mW, 20 mW See Frequency Range and Output Power table, varies by region

Microphone Options

ULXD2/SM58	ULXD2 Handheld Transmitter with SM58 Cardioid Microphone
ULXD2/SM86	ULXD2 Handheld Transmitter with SM86 Cardioid Microphone
ULXD2/SM87A	ULXD2 Handheld Transmitter with SM87A Supercardioid Microphone
ULXD2/BETA 58	ULXD2 Handheld Transmitter with Beta 58A Supercardioid Microphone
ULXD2/BETA 87A	ULXD2 Handheld Transmitter with Beta 87A Supercardioid Microphone
ULXD2/BETA 87C	ULXD2 Handheld Transmitter with Beta 87C Cardioid Microphone



ULXD2
Wireless Handheld Transmitter

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Component Specifications

ULXD1 Wireless Bodypack Transmitter

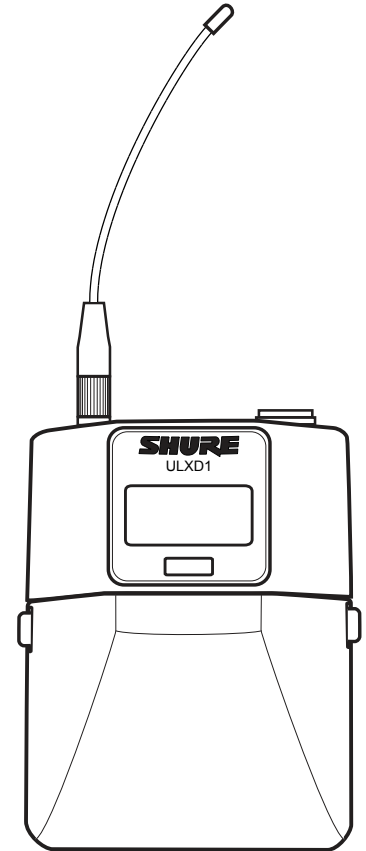
Overview

The ULXD1 is a wireless bodypack transmitter compatible with ULX-D™ Digital Systems. With a rugged yet lightweight aluminum case, the ULXD1 delivers uncompromising audio quality and RF performance, AES 256-bit encryption for secure transmission, and advanced rechargeability options for professional sound reinforcement applications.

- 20 Hz to 20 kHz range with flat frequency response (actual response is microphone dependent)
- AES 256-bit encryption-enabled for applications where secure transmission is needed
- Interchangeable Shure microphone cartridges, including the legendary SM58®
- >120 dB dynamic range
- 1, 10, and 20 mW selectable RF output power
- 5 segment battery fuel gauge
- Shure lithium-ion rechargeable battery pack provides up to 12 hours of battery life, precision metering, and zero memory effect
- Up to 11 hours continuous use with 2 x AA batteries
- Backlit LCD with easy to navigate menu and controls
- 100 meter (300 ft) operating range
- Rugged metal construction
- Frequency and power lockout

Product Specifications

Gain Offset Range	0 to 21 dB (in 3 dB steps)
Battery Type	Shure SB900 Rechargeable Li-Ion or AA batteries
Battery Runtime @ 10 mW	Shure SB900: >12 hours Alkaline: 11 hours
Dimensions	86 mm x 66 mm x 23 mm (3.4 in. x 2.6 in. x 0.9 in.) H x W x D
Weight	142 g (5.0 oz.), without batteries
Housing	Cast aluminum
Audio Input	
Connector	4-Pin male mini connector (TA4M), See drawing for details
Configuration	Unbalanced
Impedance	1 M Ω
Maximum Input Level 1 kHz at 1% THD	Pad Off: 8.5 dBV (7.5 Vpp) Pad On: 20.5 dBV (30 Vpp)
Preamp Equivalent Input Noise (EIN) System Gain Setting \geq +20	120 dBV, A-weighted, typical
RF Output	
Connector	SMA
Antenna Type	1/4 wave
Impedance	50 Ω
Occupied Bandwidth	<200 kHz
Modulation Type	Shure Proprietary Digital
Power	1 mW, 10 mW, 20 mW See Frequency Range and Output Power table, varies by region



ULXD1
Wireless Bodypack Transmitter

Microphone Options (see catalog for more)

WL93	WL93 condenser capsule, omnidirectional lavalier mic
WL183	WL183 condenser capsule, omnidirectional lavalier mic
WL184	WL184 condenser capsule, supercardioid lavalier mic
WL185	WL185 condenser capsule, cardioid lavalier mic
WL50	WL50 condenser capsule, omnidirectional lavalier mic
WL51	WL51 condenser capsule, cardioid lavalier mic
WH30	WH30 condenser capsule, cardioid headworn mic
WCM16	WCM16 condenser capsule, hypercardioid headworn mic
WBH53	WBH53 condenser capsule, omnidirectional headworn mic
WBH54	WBH54 condenser capsule, supercardioid headworn mic
WB98H/C	WB98H/C condenser capsule, cardioid instrument clip mic

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