

ULX-D DIGITAL WIRELESS



Shure ULX-D offers a premium 24-bit/48kHz digital audio quality combined with spectrum-efficient, reliable and intelligent RF performance, meeting the needs of demanding Installed Applications. ULX-D employs the Advanced Encryption Standard (AES-256) for high-security applications, allows for a seamless integration in current media control systems, and utilizes latest rechargeability technology, originating from Axient.

Professional Digital Wireless

- 24-bit/48 kHz digital audio provides totally transparent capturing 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
- System Gain Control on the receiver eliminates the need for gain adjustments at the transmitter

Extremely Efficient, Intelligent and Reliable RF Performance

- Up to 72 MHz overall tuning range (region dependent)
- 17 active transmitters in one 8 MHz TV channel
- Up to 70 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

Industry-Leading Control

Allows multiple parameter settings via

- Wireless Workbench 6
- AMX and Crestron media control system
- Axient Spectrum Manager

APPLICATIONS

Installed Sound

A/V Production & Rental

Presentation

House of Worship

PRODUCT HIGHLIGHTS

Professional Digital
Wireless

Extremely Efficient
RF Performance

Advanced Encryption
Standard

Advanced
Rechargeability

ULX-D System Specifications

RF Carrier Range	470 – 810 MHz, varies by region (See frequency range and output power table)
Working Range	100 m 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 System Gain @ +10	>120 dB, A-weighted, typical
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 to 50°C Note: Battery characteristics may limit this range
Storage Temperature Range	-29°C to 74°C 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
H51	534 to 598	1/10/20
J50	572 to 636	1/10/20
K51	606 to 670	1/10/(20)
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
Q51	794 to 806	1/10/20

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.

Furnished Accessories

All Systems	
PS41US*	Power supply (120 Vac)
95A17019	Power supply for European type F AC outlets
95B17019	Power supply for UK type G AC outlets
95T9279*	1/2 wave receiver antenna (2)
95K2035	60 cm BNC cable (2)
98A8994	BNC bulkhead adapter (2)
90AZ8100	Rackmount hardware kit
95A16941	150 cm ethernet cable
80B8201	2 x AA batteries
Handheld Systems	
95T9279	Microphone clip
95B2313	Handheld zipper bag
95A15842	AA battery adapter
Bodypack Systems	
95G9043*	Bodypack antenna
95A2313	Bodypack zipper bag
65A15224	AA battery adapter

*: region specific part # (US part listed)

Rechargeable Power Management (sold separately)

SB900 Rechargeable Battery

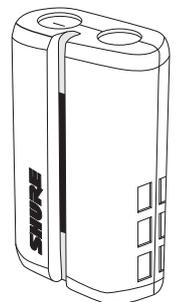
ULX-D transmitters are compatible with the SB900 lithium-ion rechargeable battery, which provides over 12 hours of continuous use and precise tracking of remaining life and charge cycle details.

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.



SB900
Rechargeable Battery

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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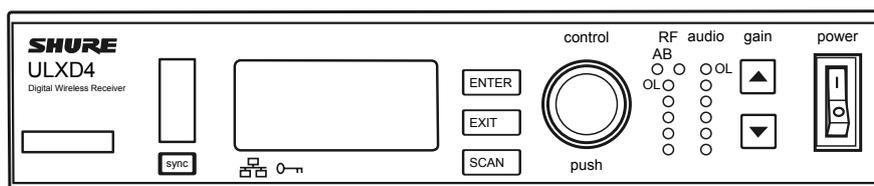
ULXD4 Digital Wireless Receiver

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

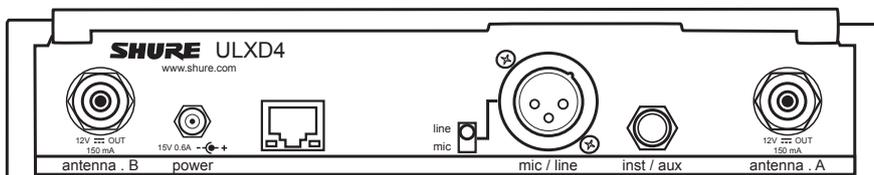
- Up to 72 MHz tuning range
- Predictive switching diversity
- Intelligent scanning automatically finds the cleanest frequencies to be deployed to transmitters over IR sync
- Interference detection and alerts provided on both the receiver and WWB6
- Front panel gain adjustment buttons provide up to 60 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, and AMX and Crestron control
- Support for frequency coordination with Axient Spectrum Manager
- Rugged metal chassis
- Intuitive front panel LCD menu and controls
- Easily readable LCD with adjustable contrast and brightness
- Audio and RF LED meters with peak indicator
- Several front panel lockout modes
- XLR and 1/4" outputs
- Remoteable 1/2 wave antennas
- Furnished rack mounting hardware
- Antenna front mount kit

Product Specifications

Dimensions	197 mm x 180 mm x 42 mm, H x W x D
Weight	913 g, 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	6.35 mm (1/4"): Impedance balanced (Tip = audio, Ring = no audio, Sleeve = ground) XLR: Balanced (1 = ground, 2 = audio +, 3 = audio -)
Impedance	6.35 mm (1/4"): 100 Ω (50 Ω Unbalanced) XLR: 100 Ω
Full Scale Output	6.35 mm (1/4"): +12 dBV XLR: LINE setting= +18 dBV, MIC setting= -12 dBV
Mic/Line Switch	30 dB pad
Phantom Power Protection	6.35 mm (1/4"): 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



ULXD4
Front Panel



ULXD4
Back Panel

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ULXD2 Wireless Handheld Transmitter

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.

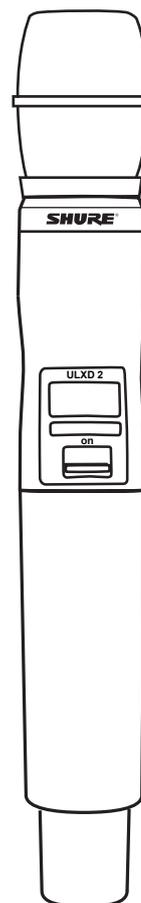
- 30 Hz to 20 kHz range with flat frequency response (actual response is microphone dependent)
- Interchangeable Shure microphone cartridges, including the legendary SM58®
- >120 dB dynamic range
- 1, 10, and 20 mW selectable RF output power
- 5 segment battery fuel gauge
- Optional Shure lithium-ion rechargeable battery pack provides up to 12 hours of battery life, precision metering in hours and minutes, 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 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, L x Dia.
Weight	340 g, 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)	-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/BETA58A	ULXD2 handheld transmitter with Beta 58A supercardioid microphone
ULXD2/BETA87A	ULXD2 handheld transmitter with Beta 87A supercardioid microphone
ULXD2/BETA87C	ULXD2 handheld transmitter with Beta 87C cardioid microphone



ULXD2
Wireless Handheld Transmitter

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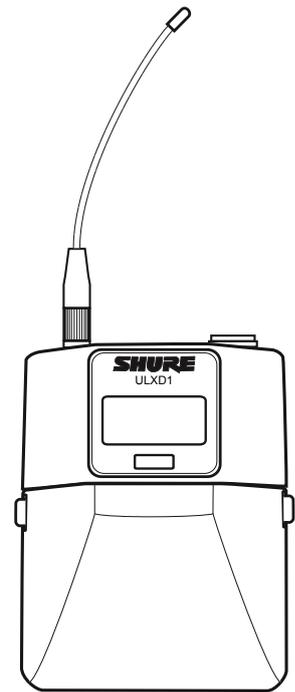
ULXD1 Wireless Bodypack Transmitter

The ULXD1 is a wireless bodypack transmitter compatible with ULX-D Digital Wireless microphone 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 installed 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
- >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 in hours and minutes, 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 operating range
- Rugged metal construction
- Frequency and power lockout
- Detachable antenna

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, H x W x D
Weight	142 g, 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)
Preamplifier Equivalent Input Noise (EIN)	-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/website 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
MX150/O	MX150/O condenser capsule, omnidirectional lavalier mic
MX150/C	MX150/C condenser capsule, cardioid lavalier mic
MX153	MX153 condenser capsule, omnidirectional earset 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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