

SHURE®

LEGENDARY
PERFORMANCE™

Wireless Systems
QLX-D® | ULX-D® | UHF-R® | AXIENT®

ULX-D® DIGITAL WIRELESS



Shure ULX-D® Digital Wireless offers uncompromising 24-bit audio clarity and extremely efficient RF performance with single, dual, and quad channel receivers for any size professional sound reinforcement application. Generations ahead of any other available system in its class, ULX-D brings a new level of performance to professional sound reinforcement.

Uncompromising Professional Digital Wireless

- 24-bit/48 kHz digital audio that delivers incredibly clear and accurate sound reproduction
- 20 Hz – 20 kHz frequency range with flat response
- Greater than 120 dB dynamic range
- Wide selection of trusted Shure Microphones

Extremely Efficient and Reliable RF Performance

- Up to 64 MHz overall tuning range (region dependent)
- Up to 17 active transmitters in one 6 MHz TV channel (23 on an 8 MHz TV channel)
- High Density mode enables up to 47 active transmitters in one 6 MHz TV channel
- Rock-solid signal stability with no audio artifacts over the entire 100 meter range
- Optimized scanning automatically finds, prioritizes, and selects the cleanest frequencies available

Scalable, Intelligent Hardware

- Single (half-rack), Dual and Quad (full-rack) receiver form factors
- AES 256-bit encryption equipped for secure wireless transmission
- Dante™ digital networked audio over Ethernet
- Wireless Workbench® 6.11.2 compatible for advanced coordination, monitoring and control; features Site Survey tool for scanning frequencies in the 902-928 MHz ISM band
- Compatible with the Shure SB900A Rechargeable Battery and SBC chargers

APPLICATIONS

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

PRODUCT HIGHLIGHTS

24-bit/48 kHz Digital
Wireless Audio
High Density Mode
Single, Dual, and Quad
Channel Receivers
Advanced
Rechargeability
Dante™ Networked
Audio over Ethernet
Wireless Workbench®
6.11.2 Site Survey Tool

ULX-D® System Specifications

| | |
|--|--|
| RF Carrier Range | 470–932 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 | XLR Analog Output: >120 dB, A-weighted |
| System Gain @ +10 | Dante Digital Output (Dual and Quad receivers): 130 dB (typical), A-weighted |
| 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 |
| X52 | 902 to 928 | 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)

SB900A Rechargeable Battery

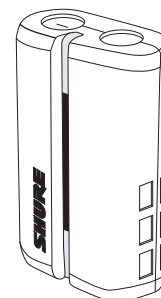
ULX-D transmitters are compatible with the SB900A lithium-ion rechargeable battery, which provides over 12 hours of continuous use and precise tracking of remaining life and charge cycle details.

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 SB900A batteries to full capacity within 3 hours, with status LEDs to indicate power levels. SB900A batteries fit securely in the charger for easy, efficient storage and transport.



Battery Runtime

| Battery Type | 1 mW | 10 mW | 20 mW |
|--------------|---------------|---------------|--------------|
| SB900A | >11 hours | >11 hours | >7 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

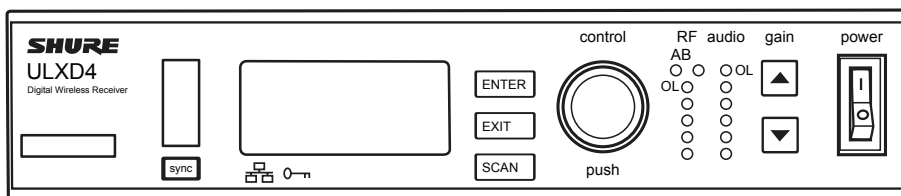
Overview

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.

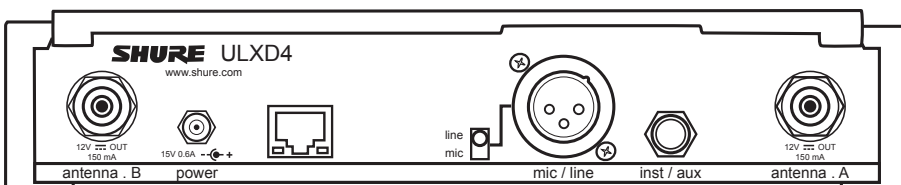
- Up to 64 MHz tuning range
- Predictive switching diversity
- Intelligent scanning automatically finds and deploys the cleanest frequencies to transmitters over IR sync
- Interference detection and alerts provided on both the receiver and WWB6
- Front panel gain adjustment buttons provide up to 60 dB 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 1/4" outputs
- Remountable 1/2 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

ULXD4D Dual Channel Digital Wireless Receiver

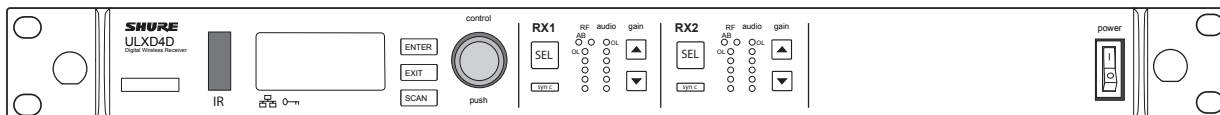
Overview

The Shure ULXD4D Dual Channel Digital Wireless Receiver offers two channels of uncompromising audio quality, RF signal stability, and advanced setup features in a space-efficient single rack unit. Digital wireless processing delivers premium 24-bit/48 kHz audio and RF spectrum efficiencies that dramatically increase the number of available compatible channels. With an expansive set of enhanced features including AES 256-bit encryption for security and Dante™ digital networking for audio over Ethernet, the ULXD4D brings a new level of performance to professional sound reinforcement.

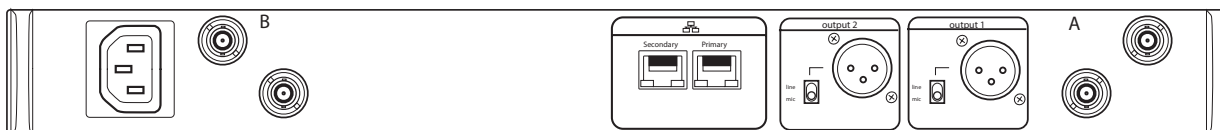
- Two receivers in a rugged 1RU metal chassis with internal power supply
- Individual gain controls, LED meters, and XLR outputs for each channel
- Up to 64 MHz tuning range (region dependent)
- Digital predictive switching diversity
- High Density mode optimizes ULX-D systems to simultaneously operate significantly more channels in applications up to 30 meters
- RF cascade ports allow distribution of RF signal to another unit
- Optimized scanning automatically finds, prioritizes, and deploys the cleanest frequencies to transmitters over IR sync
- Bodypack Frequency Diversity ensures uninterrupted audio for mission-critical applications
- AES 256-bit encryption-enabled for secure transmission
- Audio summing routes both audio channels to each XLR receiver output
- Dante™ digital networked audio over Ethernet
- Up to 60 dB independently adjustable gain for each channel
- Ethernet networking for streamlined frequency coordination and deployment across multiple receivers
- Wireless Workbench® 6 (WWB6) software integration for advanced coordination, monitoring, and control
- Interference detection and alerts provided on both the receiver and WWB6
- AMX/Crestron control
- AXT600 Axient™ Spectrum Manager compatible
- Intuitive front panel LCD menu and controls with lockout feature
- Audio and RF LED meters with peak indicator
- XLR connectors with switchable mic/line output level
- Removable ½ wave antennas

Product Specifications

| | |
|-------------------------------|---|
| Dimensions | 44 mm x 482 mm x 274 mm (1.73 in. x 18.97 in. x 10.79 in.), H x W x D |
| Weight | 3.36 Kg (7.4 lbs), without antennas |
| Housing | Steel; Extruded Aluminum |
| Power Requirements | 100 to 240 V AC, 50-60 Hz, 0.26 A max. |
| RF Input | |
| Spurious Rejection | >80 dB, typical |
| Connector Type | BNC |
| Impedance | 50 Ω |
| Bias Voltage | 12 - 13 V DC, 150 mA maximum, per antenna |
| Audio Output | |
| Gain Adjustment Range | -18 to +42 dB in 1 dB steps (plus Mute setting) |
| Configuration | XLR: Balanced (1=ground, 2=audio +, 3=audio -) |
| Impedance | 100 Ω |
| Full Scale Output | LINE setting= +18 dBV, MIC setting= -12 dBV |
| Mic/Line Switch | 30 dB pad |
| Phantom Power Protection | Yes |
| Networking | |
| Network Interface | Dual Port Ethernet 10/100 Mbps, 1 Gbps |
| Network Addressing Capability | DHCP or Manual IP address |
| Maximum Ethernet Cable Length | 100 m (328 ft) |
| Cascade Output | |
| Connector Type | BNC: For connection of 1 additional receiver |
| Configuration | Unbalanced, passive |
| Impedance | 50 Ω |
| Insertion Loss | 0 dB |



ULXD4D Front Panel



ULXD4D Back Panel

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Component Specifications

ULXD4Q Quad Channel Digital Wireless Receiver

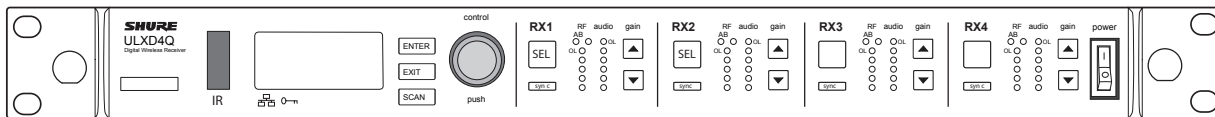
Overview

The Shure ULXD4Q Quad Channel Digital Wireless Receiver offers four channels of uncompromising audio quality, RF signal stability, and advanced setup features in a space-efficient single rack unit. Digital wireless processing delivers premium 24-bit/48 kHz audio and RF spectrum efficiencies that dramatically increase the number of available compatible channels. With an expansive set of enhanced features including AES 256-bit encryption for security and Dante™ digital networking for audio over Ethernet, the ULXD4Q delivers the most wireless performance per square inch.

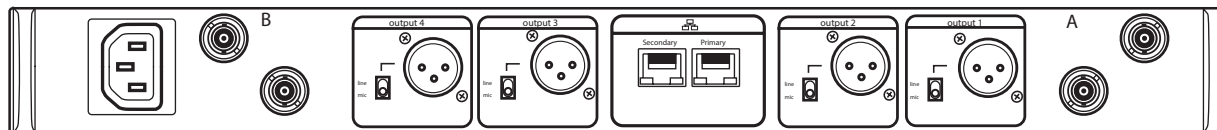
- Four receivers in a rugged 1RU metal chassis with internal power supply
- Individual gain controls, LED meters, and XLR outputs for each channel
- Up to 64 MHz tuning range (region dependent)
- Digital predictive switching diversity
- High Density mode optimizes ULX-D systems to simultaneously operate significantly more channels in applications up to 30 meters
- RF cascade ports allow distribution of RF signal to another unit
- Optimized scanning automatically finds, prioritizes, and deploys the cleanest frequencies to transmitters over IR sync
- Bodypack Frequency Diversity ensures uninterrupted audio for mission-critical applications
- AES 256-bit encryption-enabled for secure transmission
- Audio summing routes two or more audio channels to combinations of receiver outputs. Use each channel's gain adjustment to reach the desired mix.
- Dante™ digital networked audio over Ethernet Two receivers in a rugged 1RU metal chassis with internal power supply
- Individual gain controls, LED meters, and XLR outputs for each channel
- Ethernet networking for streamlined frequency coordination and deployment across multiple receivers
- Interference detection and alerts provided on both the receiver and WWB6
- Up to 60 dB independently adjustable gain for each channel
- Wireless Workbench® 6 software integration for advanced coordination, monitoring, and control AMX/Crestron control
- Compatible with the AXT600 Axient™ Spectrum Manager
- Intuitive front panel LCD menu and controls with lockout feature
- Upgraded LCD with adjustable contrast and brightness
- Audio and RF LED meters with peak indicator
- Switchable mic/line output level
- Removable ½ wave antennas

Product Specifications

| | |
|-------------------------------|---|
| Dimensions | 44 mm x 482 mm x 274 mm (1.73 in. x 18.97 in. x 10.79 in.), H x W x D |
| Weight | 3.45 Kg (7.6 lbs), without antennas |
| Housing | Steel, Extruded Aluminum |
| Power Requirements | 100 to 240 V AC, 50-60 Hz, 0.32 A max. |
| RF Input | |
| Spurious Rejection | >80 dB, typical |
| Connector Type | BNC |
| Impedance | 50 Ω |
| Bias Voltage | 12 - 13 V DC, 150 mA maximum, per antenna |
| Audio Output | |
| Gain Adjustment Range | -18 to +42 dB in 1 dB steps (plus Mute setting) |
| Configuration | XLR: Balanced (1=ground, 2=audio +, 3=audio -) |
| Impedance | 100 Ω |
| Full Scale Output | LINE setting= +18 dBV, MIC setting= -12 dBV |
| Mic/Line Switch | 30 dB pad |
| Phantom Power Protection | Yes |
| Networking | |
| Network Interface | Dual Port Ethernet 10/100 Mbps, 1 Gbps |
| Network Addressing Capability | DHCP or Manual IP address |
| Maximum Ethernet Cable Length | 100 m (328 ft) |
| Cascade Output | |
| Connector Type | BNC: For connection of 1 additional receiver |
| Configuration | Unbalanced, passive |
| Impedance | 50 Ω |
| Insertion Loss | 0 dB |



ULXD4Q Front Panel



ULXD4Q 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.

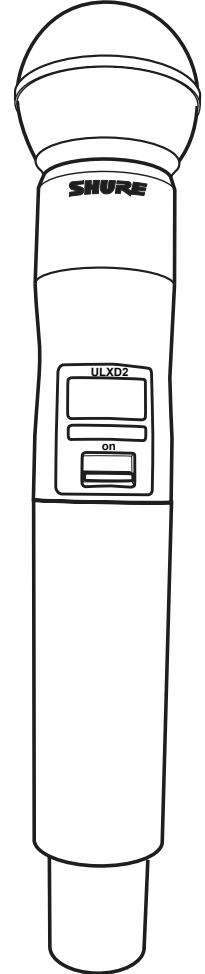
- 30 Hz to 20 kHz range with flat frequency response (actual response is microphone dependent)
- Interchangeable Shure microphone cartridges, including the legendary SM58®
- >120 dB dynamic range
- 1, 10, and 20 mW selectable RF output power
- 5 segment battery fuel gauge
- Shure lithium-ion rechargeable 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 SB900A Rechargeable Li-Ion or LR6 AA batteries 1.5 V |
| Battery Runtime @ 10 mW | Shure SB900A: >11 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/KSM9 | ULXD2 Handheld Transmitter with KSM9 Dual-Pattern Condenser Vocal Microphone |
| ULXD/KSM9HS | ULXD2 Handheld Transmitter with KSM9HS Dual-Pattern Condenser Vocal Microphone |
| ULXD2/K8B | ULXD2 Handheld Transmitter with KSM8 Dualdyne™ Dual-Diaphragm Cardioid Dynamic Microphone (Black) |
| ULXD2/K8N | ULXD2 Handheld Transmitter with KSM8 Dualdyne™ Dual-Diaphragm Cardioid Dynamic Microphone (Nickel) |



ULXD2
Wireless Handheld Transmitter

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Component Specifications

ULXD1 Wireless Bodypack Transmitter

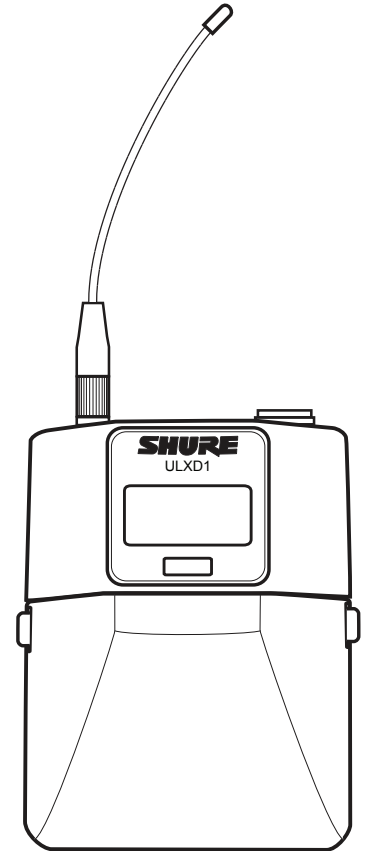
Overview

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
- >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
- Available with TA4M and LEMO3 input connectors
- 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 SB900A Rechargeable Li-Ion or AA batteries |
| Battery Runtime @ 10 mW | Shure SB900A: >11 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) LEMO3 connector |
| 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) 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 |
| SM31FH | SM31FH condenser capsule, moisture repellant cardioid headset mic |
| SM35 | SM35 condenser capsule, cardioid headset 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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