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QLX-D® Digital Wireless

QLX-D® Digital Wireless delivers defined, streamlined performance with transparent 24-bit digital audio. Combining professional features with simplified setup and operation, QLX-D offers outstanding wireless functionality for demanding live sound events and installations.

Transparent 24-bit digital audio captures every performance detail

- Extended 20 Hz to 20 kHz frequency range*
- Over 120 dB of dynamic range eliminates transmitter gain adjustment

Incredibly Efficient Wireless

- Wide 64 MHz tuning bandwidth**
- Up to 17 compatible systems per 6 MHz TV channel

Powerful Networking Features

- Compatible with Shure Wireless Workbench® 6 control software
- Remote control from an iOS device via ShurePlus™ Channels mobile app

Rugged, secure systems built to match demanding environments

- AES-256 encryption for secure wireless transmission
- Professional-grade all metal construction

*Microphone dependent
**Region dependent

APPLICATIONS

- Musicians
- Presenters
- Houses of Worship
- Education
- Hotels and Conference Centers

PRODUCT HIGHLIGHTS

- 24-bit Digital Audio
- 100 meter (330 ft.) Range
- Ethernet Networking
- Rechargeable Power Options

System Specifications

RF Carrier Range	174–216; 470–937.5MHz, varies by region (See Frequency Range and Ouput 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	–97 dBm at 10^{-5} BER
Latency	<2.9 ms
Audio Frequency Response	QLXD1: 20 Hz – 20 kHz (±1 dB) QLXD2: 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 (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 - 534	1 or 10
G51	470 - 534	1 or 10
G52	479 - 534	1 or 10
H50	534 - 598	1 or 10
H51	534 - 598	1 or 10
H52	534 - 565	1 or 10
H53	534 - 598	1 or 10
J50	572 - 636	1 or 10
J51	572 - 636	1 or 10
JB	806 - 810	1 or 10
K51	606 - 670	1 or 10
K52	606 - 670	1 or 10
L50	632 - 696	1 or 10
L51	632 - 696	1 or 10
L52	632 - 694	1 or 10
L53	632 - 714	1 or 10
P51	710 - 782	1 or 10
P52	710 - 782	1 or 10
Q51	794 - 806	1 or 10
S50	(823 - 832) (863 - 865)	1 or 10
X51	925 -937.5	1 or 10

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
QLX-D transmitters are compatible with the SB900A lithium-ion rechargeable battery, which provides up to 10 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.

Furnished Accessories

All Systems
PS23 Power supply
1/2 Wave Receiver Antenna (2)
2' BNC Cable (2)
BNC Bulkhead Adapter (2)
Rackmout Hardware kit
5' ethernet cable
2 × AA batteries (bodypack systems)
Handheld Systems
Microphone Clip (handheld systems)
Handheld Zipper Bag (bodypack systems)
Bodypack Systems
Bodypack Antenna
Bodypack Zipper Bag (bodypack systems)

Battery Runtime (at 10 mW)

Battery Type	Runtime
SB900A	up to 10 hours
Alkaline	up to 9 hours

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Component Specifications

QLXD4 Digital Wireless Receiver

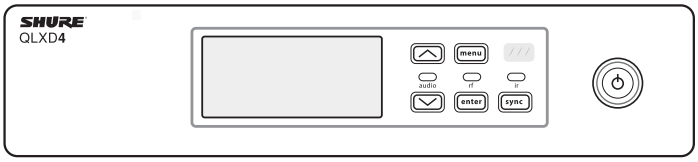
Overview

Featuring transparent 24 bit digital audio quality and incredibly efficient RF spectrum usage, the QLXD4 is a half-rack digital wireless receiver for use with QLX-D® Digital Wireless Systems. Ideal for presentation spaces, music venues, and houses of worship, the QLXD4 combines professional features with streamlined setup and operation. Automatic scanning quickly finds open frequencies and one-touch sync quickly deploys them to transmitters. Ethernet networking enables networked channel scanning across multiple receivers and Wireless Workbench software integration for remote control of receiver settings from a PC or Mac.

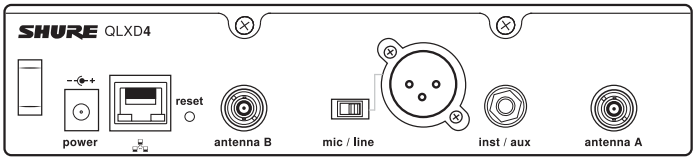
- 64 MHz tuning bandwidth (region dependent)
- More than 60 preset compatible channels per frequency band (region dependent)
- Up to 17 compatible systems per 6 MHz TV channel; 22 systems per 8 MHz channel
- Digital predictive switching diversity ensures solid RF connection
- Automatic channel scan quickly finds the cleanest frequency
- IR sync deploys selected frequency to transmitter
- Ethernet networking provides streamlined setup across multiple receivers
- Networked channel scan configures open frequencies for all connected receivers
- AES 256-bit encryption for secure wireless transmission
- Up to 60 dB of adjustable audio gain
- High-contrast LCD menu and controls with lockout feature
- Audio and RF LED meters with peak indicator
- Detachable ½ wave antennas
- Mic / line switchable XLR output
- ¼" instrument output
- Durable aluminum construction with brushed finish
- Professional-grade rack hardware included
- Compatible with Shure Wireless Workbench® 6 control software
- Remote monitoring and control from iOS devices via ShurePlus™ Channels app

Product Specifications

Dimensions	41 mm × 197 mm × 151 mm (1.63 in. × 7.75 in. × 5.94 in.), H × W × D
Weight	777 g (1.71 lbs), without antennas
Housing	Steel
Power requirements	12 V DC @ 0.4 A, supplied by external power supply (tip positive)
RF Input	
Spurious Rejection	>80 dB, typical
Connector Type	BNC
Impedance	50 Ω
Audio Output	
Gain Adjustment Range	-18 to +42 dB in 1 dB steps
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	
Network Interface	Single Port Ethernet 10/100 Mbps
Network Addressing Capability	DHCP or Manual IP address
Maximum Ethernet Cable Length	100 m (328 ft)



QLXD4 Front Panel



QLXD4 Back Panel

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Component Specifications

QLXD2 Wireless Handheld Transmitter

Overview

Featuring transparent 24-bit digital audio quality and incredibly efficient RF spectrum usage, the QLXD2 handheld transmitter is ideal for wireless vocals in presentation spaces, music venues, and houses of worship. Easy to use, the QLXD2 quickly syncs with a wireless receiver over IR at the push of a button and maintains clear, uninterrupted signal over its entire 100 m (330 ft.) range. All metal construction ensures durability, and a wide selection of compatible microphone choices offer legendary Shure sound signatures.

- 20 Hz to 20 kHz frequency range with flat response (actual response is microphone dependent)
- Interchangeable Shure microphone capsules, including the legendary SM58®
- AES 256-bit encryption for secure transmission
- Over 120 dB of dynamic range – no transmitter gain adjustment needed
- 1, 10 mW selectable RF output power
- Up to 9 hours continuous use with 2 x AA alkaline batteries
- Optional Shure SB900A lithium ion rechargeable battery provides up to 10 hours of continuous use and reports remaining runtime in hours and minutes
- External charging contacts for docked charging
- Backlit LCD with easy to navigate menu and controls
- Selectable display mode showing group/channel, frequency, or battery runtime
- 100 meter (330 ft.) line-of-sight operating range
- Rugged metal construction
- Frequency and power lockout

Product Specifications

Mic Offset Range	0 to 21 dB (in 3 dB steps)
Battery Type	Shure SB900A Rechargeable Li-Ion or AA batteries 1.5 V
Battery Runtime @ 10 mW	Shure SB900A: up to 10 hours Alkaline: up to 9 hours See Battery Runtime Chart
Dimensions	256 mm × 51 mm (10.1 in. × 2.0 in.) L × Dia.
Weight	347 g (12.2 oz.), without batteries
Housing	Machined aluminum

Audio Input

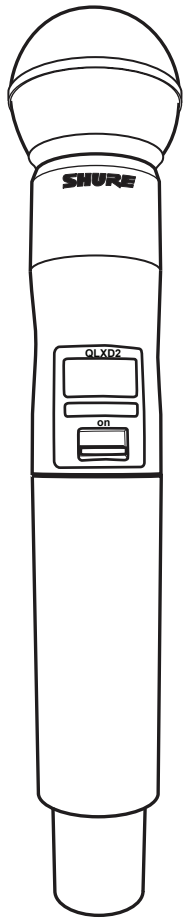
Configuration	Unbalanced
Maximum Input Level 1 kHz at 1% THD	145 dB SPL (SM58®), typical Note: Dependent on microphone type

RF Output

Antenna Type	Integrated Single Band Helical
Occupied Bandwidth	<200 kHz
Modulation Type	Shure proprietary digital
Power	1 mW or 10 mW See Frequency Range and Ouput Power table, varies by region

Microphone Options

QLXD2/SM58®	Handheld Transmitter with SM58® Cartridge
QLXD2/SM86	Handheld Transmitter with SM86 Cartridge
QLXD2/SM87A	Handheld Transmitter with SM87A Cartridge
QLXD2/BETA® 58A	Handheld Transmitter with Beta® 58A Cartridge
QLXD2/BETA® 87A	Handheld Transmitter with Beta® 87A Cartridge
QLXD2/BETA® 87C	Handheld Transmitter with Beta® 87C Cartridge
QLXD2/KSM9	Handheld Transmitter with KSM9 Cartridge
QLXD2/KSM9HS	Handheld Transmitter with KSM9HS Cartridge
QLXD2/K8B	Handheld Transmitter with KSM8 Cartridge



QLXD2
Wireless Handheld Transmitter

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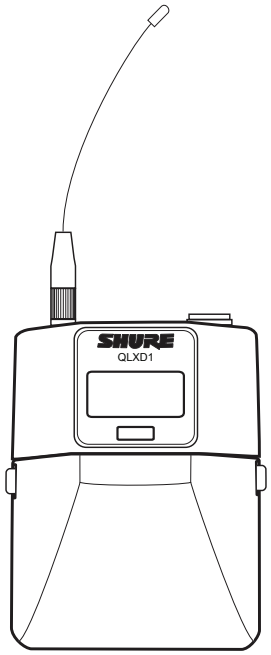
Component Specifications

QLXD1 Wireless Bodypack Transmitter

Overview

Featuring transparent 24 bit digital audio quality and incredibly efficient RF spectrum usage, the QLXD1 bodypack transmitter is ideal for wireless vocals and instruments in presentation spaces, music venues, and houses of worship. Easy to use, the QLXD1 quickly syncs with a wireless receiver over IR at the push of a button and maintains clear, uninterrupted signal over its entire 100 m (330 ft.) range. All metal construction ensures durability, and a wide selection of compatible microphone choices offer legendary Shure sound signatures..

- 20 Hz to 20 kHz frequency range with flat response (actual response is microphone dependent)
- Over 120 dB of dynamic range - no transmitter gain adjustments needed
- AES 256-bit encryption for secure transmission
- Up to 9 hours continuous use with 2 x AA alkaline batteries
- Optional Shure SB900A lithium ion rechargeable battery provides up to 10 hours of continuous use and reports remaining runtime in hours and minutes
- External charging contacts for docked charging
- Backlit LCD with easy to navigate menu and controls
- Selectable display mode showing group/channel, frequency, or battery runtime
- 100 meter (300 feet) line-of-sight operating range
- 4-Pin male mini connector (TA4M)
- Rugged metal construction
- Detachable ¼ wave antenna
- Frequency and power lockout



QLXD1
Wireless Bodypack Transmitter

Product Specifications

Mic Offset Range	0 to 21 dB (in 3 dB steps)
Battery Type	Shure SB900A Rechargeable Li-Ion or AA batteries 1.5 V
Battery Runtime @ 10 mW	Shure SB900A: up to 10 hours Alkaline: up to 9 hours
Dimensions	86 mm × 65 mm × 23 mm (3.38 in. × 2.57in. × 0.92 in.) H × W × D
Weight	138 g (4.9 oz.), without batteries
Housing	Cast aluminum

Audio Input

Connector	4-pin male mini connector (TA4M)
Configuration	Unbalanced
Impedance	1 MΩ
Maximum Input Level 1 kHz at 1% THD	8.5 dBV (7.5 Vpp)
Preamplifier Equivalent Input Noise (EIN) System Gain Setting ≥ +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 or 10 mW See Frequency Range and Ouput Power table, varies by region

Microphone Options (see catalog for more)

SM35	SM35 Performance Headset Condenser Microphone
MX150/O	MX150 Subminiature Lavalier Microphone, Omnidirectional
MX150/C	MX150 Subminiature Lavalier Microphone, Cardioid
WL183	WL183 Condenser Capsule Lavalier Microphone, Omnidirectional
WL184	WL184 Condenser Capsule Lavalier Microphone, Supercardioid
WL185	WL185 Condenser Capsule Lavalier Microphone, Cardioid
WL93	WL93 Condenser Capsule Lavalier Microphone, Omnidirectional
WB98H/C	WB98H/C Condenser Capsule Instrument Clip Microphone, Cardioid
MX153B	MX153 Omnidirectional Earset Headworn Microphone, Black
MX153T	MX153 Omnidirectional Earset Headworn Microphone, Tan

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