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 up to 72 MHz tuning bandwidth**
– Up to 22 compatible systems per 8 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

APPLICATIONS

Musicians

Presenters

Houses of Worship

Education

Hotels and Conference Centers

PRODUCT HIGHLIGHTS

24-bit Digital Audio

100 meter Range

Ethernet Networking

Rechargeable Power Options

*Microphone dependent **Region dependent

# System Specifications

RF Carrier Range	470 – 865 MHz, varies by region *See Frequency Range and Ouput 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	−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 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)
G51	470 – 534	1 or 10
H51	534 – 598	1 or 10
K51	606 – 670	1 or 10
L52	632 – 694	1 or 10
P51	710 – 782	1 or 10
Q51	794 – 806	1 or 10
S50	(823 – 832) (863 – 865)	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)
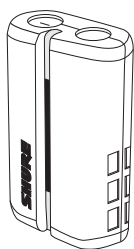
SB900 Rechargeable Battery QLX-D transmitters are compatible with the SB900 lithium-ion rechargeable battery, which provides up to 10 hours of continuous use and precise tracking of remaining life and charge cycle details.

SBC200 Dual Docking Recharging Station This compact and portable unit charges batteries while in trans-mitters 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 (at 10 mW)

Battery Type	Runtime
SB900	up to 10 hours
Alkaline	up to 9 hours

Furnished Accessories

All Systems

PS23 Power supply
1/2 Wave Receiver Antenna (2)
2' BNC Cable (2)
BNC Bulkhead Adapter (2)
Rackmout Hardware kit
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)

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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.

– Up to 72 MHz tuning bandwidth (region dependent)
– More than 60 preset compatible channels per frequency band (region dependent)
– 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 × 197 × 151 mm, *H × W × D*
Weight	777 g, *without antennas*
Housing	Aluminium
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

QLXD4 Front Panel

QLXD4 Back Panel

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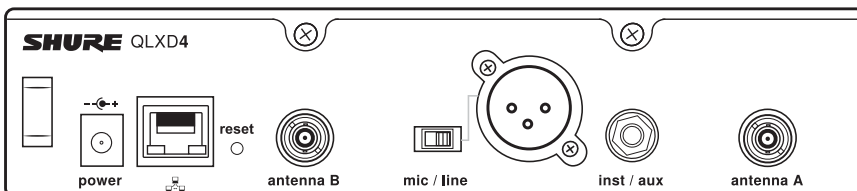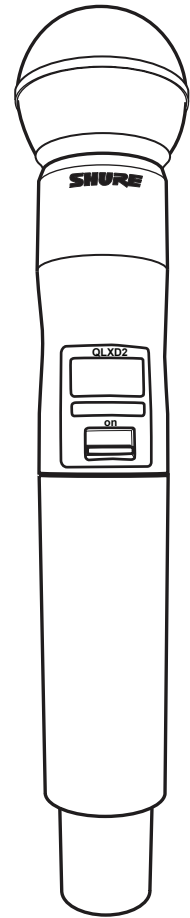
QLXD2 Wireless Handheld Transmitter

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 range. All metal construction ensures durability, and a wide selection of compatible microphone choices offer legendary Shure sound signatures.

– 30 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 SB900 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 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 SB900 Rechargeable Li-Ion or AA batteries 1.5 V
Battery Runtime *@ 10 mW*	Shure SB900: 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*

QLXD2 Wireless Handheld Transmitter

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

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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..
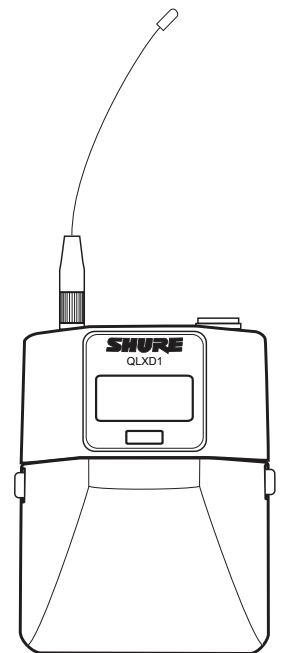
– 20 Hz to 20 kHz frequency range with flat response (actual response is microphone dependent)
– Over 120 dB of dynamic range - no transmitter gain adjustments needed
– AES 256-bit encryption for secure transmission
– Up to 9 hours continuous use with 2 x AA alkaline batteries
– Optional Shure SB900 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 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 SB900 Rechargeable Li-Ion or AA batteries 1.5 V
Battery Runtime *@ 10 mW*	Shure SB900: Up to 10 hours / Alkaline: Up to 9 hours
Dimensions	86 × 65 × 23 mm, *H × W × D*
Weight	138 g, *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 Condenser Headset Microphone, Cardioid
MX150/O	MX150 Condenser Lavalier Microphone, Omnidirectional
MX150/C	MX150 Condenser Lavalier Microphone, Cardioid
WL183	WL183 Condenser Lavalier Microphone, Omnidirectional
WL184	WL184 Condenser Lavalier Microphone, Supercardioid
WL185	WL185 Condenser Lavalier Microphone, Cardioid
WL93	WL93 Condenser Lavalier Microphone, Omnidirectional
WB98H	WB98H/C Condenser Instrument Clip-on Mic, Cardioid
MX153B	MX153 Condenser Headset Microphone, Omnidirectional, Black
MX153T	MX153 Condenser Headset Microphone, Omnidirectional, Tan