ULX STANDARD
ULX Standard UHF systems represent a breakthrough in performance and price for both working musicians and professional sound installers. Multiple system configurations provide limitless options, each with a choice of legendary Shure microphone transmitters. Over 1400 selectable, pre–programmed frequencies are available, and Automatic Frequency Selection provides a straight shot to a clear channel.

ULX PROFESSIONAL
Step up to ULX Professional wireless, UHF systems for working musicians and professional sound installers. Multiple system configurations provide limitless options, each with a choice of legendary Shure microphones. Up to 1400 selectable, pre–programmed frequencies are available, and Automatic Frequency Selection provides a straight shot to a clear channel. ULX Professional systems offer more advanced features and controls, including lockable settings and group scan function.

ULXS4 DIVERSITY RECEIVER
- Automatic Frequency Selection
- Over 1400 selectable frequencies
- Predictive Diversity
- RF presence LED
- 5–segment audio meter
- 3–segment transmitter battery fuel gauge
- Multi–function LCD
- 1/2 rack design
- Detachable 1/4 wave antennas
- Durable plastic chassis
- Locking DC connector on the Power Supply
- XLR and 1/4” outputs
- Mic/line switchable XLR Output
- In line DC Power on Antenna Connections

ULXP4 DIVERSITY RECEIVER
- Automatic Frequency Selection with group scan function
- Over 1400 selectable frequencies
- Predictive Diversity
- 5–segment audio meter
- 5–segment RF meter
- Advanced multi–function LCD
- Squelch adjustment
- 1/2 rack design
- In–line DC power on antenna connections
- Remotable 1/2 wave antenna
- Frequency and volume lockout
- Rugged metal chassis
- Furnished rack hardware
- Locking DC connector on the power supply
- XLR and 1/4” outputs

ULX1 AND ULX2 TRANSMITTERS
- 3–segment battery fuel gauge
- Backlit LCD shows group and channel
- Adjustable Frequency settings
- Up to 1400 selectable frequencies
- Frequency and power lockout
- 8 hour battery life
- 300 ft (92m) operating range Line of sight
- –20dB pad switch on ULX1

NOTE: Available frequencies depend on the applicable regulations in the country where the system is used.
SPECIFICATIONS

RF Carrier Frequency Range
470.000 to 865.000 MHz (Available frequencies depend on the applicable regulations in the country where the system is used). Refer to the frequency supplement supplied with the system.

Effective Range
100 m (300 ft.) under optimal conditions

NOTE: Actual working range depends on RF signal absorption, reflection, and interference

Audio Frequency Response
25 to 15,000 Hz, ±2 dB

NOTE: Overall system frequency response depends on the microphone element.

Transmitter Audio Polarity
Positive pressure on microphone diaphragm (or positive voltage applied to tip of WA302 phone plug) produces positive voltage on pin 2 (with respect to pin 3 of low impedance output) and the tip of the high impedance 1/4-inch output

Transmitter Gain Adjustment Range
ULX1: 25 dB
ULX2: 25 dB

Receiver Audio Output Level (±38 kHz deviation, 1 kHz tone)
XLR connector (into 600 ohm load): +3.9 dBV (line), −17 dBV (mic)
1/4 inch connector (into 3000 ohm load): −2 dBV

Impedance
ULX1 (input): 1 Megohm ULXS4, ULXP4 (output): 50 ohms at line level; 2000 ohms at mic level

Modulation
±38 kHz deviation compressor-expander system with pre- and de-emphasis.

RF Power Output
ULX1, ULX2: 30 mW maximum

Dynamic Range
>100 dB, A-weighted

RF Sensitivity
1.26 μV for 12 dB SINAD (typical)

ULX1 Bodypack Transmitter

Image Rejection
80 dB typical

Spurious Rejection
75 dB typical

Ultimate Quieting (reference ±38 kHz deviation) >105 dB, A-weighted

System Distortion (reference ±38 kHz deviation, 1 kHz modulation)
0.3% total harmonic distortion, typical

Power Requirements
ULX1, ULX2: 9V alkaline battery; 8.4 V NiMH 500 mA optional
ULXS4, ULXP4: 14 - 18 Vdc (negative ground), 550 mA

Battery Life
8 to 9 hours (with 9V alkaline battery)

Operating Temperature Range
- 20° to 49° C (- 4° to 120° F)

NOTE: Battery characteristics may limit this range.

Overall Dimensions
ULX1: 96.5 mm H x 67 mm W x 26.7 mm D (3.86 x 2.68 x 1.10 in.)
ULX2/SM58: 228.6 L x 51 mm Dia. (9 x 2 in)
ULX2/BETA 58: 220.9 mm L x 51 mm Dia. (8.7 x 2 in.)
ULX2/SM86: 213 mm L x 49 mm Dia. (8.4 in x 1.9 in)
ULX2/87, ULX2/BETA 87: 223.5 mm L x 51 mm Dia. (8.8 x 2 in.)
ULX4S: 43 mm H x 214 mm W x 163 mm D (1.72 in. x 8.56 in. x 6.52 in.)
ULX4P: 43 mm H x 214 mm W x 172 mm D (1.72 in. x 8.56 in. x 6.88 in.)

Net Weight
ULX1: 79 g (2.8 oz.) without battery
ULX2/58, ULX2/BETA 58: 289 g (10.2 oz.) without battery
ULX2/SM86: 251 g (8.8 oz.) without battery
ULX2/87, ULX2/BETA 87: 258 g (9.1 oz.) without battery
ULXS4: 1049 g (2 lbs, 5 oz.)
ULXP4: 1105 g (2 lbs, 7 oz.)
### ULX1 Transmitter Input

<table>
<thead>
<tr>
<th>Connector</th>
<th>TA4M</th>
<th>TA4M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration</td>
<td>Unbalanced, active</td>
<td>Unbalanced, active</td>
</tr>
<tr>
<td>Actual Impedance</td>
<td>75 kΩ</td>
<td>1 MΩ</td>
</tr>
<tr>
<td>Maximum Input Level</td>
<td>-4 dBV (1.82 Vp-p)</td>
<td>Gain Switch 0 dB: 5 dBV (5 Vp-p) Gain Switch -20 dB: 25 dBV (50 Vp-p)</td>
</tr>
<tr>
<td>Pin Assignments</td>
<td>1 = Ground 2 = +5V through 4.5 kΩ (Microphone Bias) 3 = Audio 4 = No Connection</td>
<td>1 = Ground 2 = No Connection 3 = Audio 4 = No Connection</td>
</tr>
</tbody>
</table>

### ULX2 Transmitter Input

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Unbalanced, active</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual Impedance</td>
<td>20 kΩ</td>
</tr>
<tr>
<td>Maximum Input Level</td>
<td>20 kΩ</td>
</tr>
</tbody>
</table>

### ULX4, ULXS4 Receiver Audio Output

<table>
<thead>
<tr>
<th>Connector</th>
<th>Unbalanced (1/4 in.)</th>
<th>Balanced (XLR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual Impedance</td>
<td>3 kΩ</td>
<td>Mic. Level: 1848 Ω Line Level: 75 Ω</td>
</tr>
<tr>
<td>Pin Assignments</td>
<td>Tip = Hot Ring/Sleeve = Ground 1 = Ground 2 = Hot 3 = Cold</td>
<td></td>
</tr>
<tr>
<td>Phantom Power Protection?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### ULX4, ULXS4 Receiver Antenna Input

<table>
<thead>
<tr>
<th>Connector Type</th>
<th>BNC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Input Level</td>
<td>-95 to ~30 dBm</td>
</tr>
<tr>
<td>Maximum Input Level</td>
<td>+6 dBm (~20 dBm recommended)</td>
</tr>
<tr>
<td>Pin Assignments</td>
<td>Shell = Ground, Center = Signal</td>
</tr>
<tr>
<td>Voltage for Remote Power</td>
<td>12 Vdc, 150 mA maximum</td>
</tr>
</tbody>
</table>

### Furnished Accessories

- Microphone Stand Adapter (ULX2): WA371
- Grip/Switch Cover (ULX2): WA555
- Zipper Bag (ULX1): 95A2313
- Zipper Bag (ULX2): 95B2313
- Screwdriver (ULX2): 80A498

### Optional Accessories

- Passive Antenna Splitter/Combiner Kit: UA221
- UHF In-Line Antenna Amplifier: UA830USTV
- UHF Passive Omnidirectional Antenna: UA860SWB
- Wall-Mounted Wideband Antenna: UA864US
- UHF Powered Directional Antenna: UA870USTV
- UHF Active Directional Antenna: UA874US
- UHF Active Directional Antenna: UA874E
- UHF Active Directional Antenna: UA874WB
- UHF Active Directional Antenna: UA874X
- UHF Antenna Power Distribution Amplifier (U.S.A.): UA844SWB
- UHF Antenna Power Distribution Amplifier (Europe): UA844SWB-E
- UHF Antenna Power Distribution Amplifier (UK): UA844SWB-UK
- 33 m (100 ft.) BNC–BNC cable (RG213): UA8100
- 1.8 m (6 ft.) BNC–BNC cable (RG58): UA806
- 7.6 m (25 ft.) BNC–BNC Cable (RG8X): UA825
- 15.2 m (50 ft.) BNC–BNC Cable (RG8X): UA850
- 0.6 m (2 ft.) BNC–BNC Cable (RG58): UA802
- Four Antenna Rack Panel: UA440
- Front Mount Antenna Kit (Includes 2 cables and 2 bulkhead adapters): UA600
- Remote Antenna Bracket with BNC Bulkhead Adapter: UA505
- Rack Mount Antenna Kit for single Receiver: UA506
- Rack Mount Kit for Two Receivers: UA507
- Carrying Case: WA610
- Microphone Adapter Cable (XLR to TA4F): WA310

### Replacement Parts

- AC Adapter (120 VAC, 60 Hz): PS41
- AC Adapter (220 VAC, 50 Hz): PS41AR
- AC Adapter (230 VAC, 50/60 Hz): PS41AZ
- SM58® Cartridge with Grille (ULX2/SM58): RPW112
- BETA 58A® Cartridge with Grille (ULX2/BETA 58): RPW18
- SM86 Cartridge with Grille (ULX2/SM86): RPW114
- SM87A Cartridge with Grille (ULX2/SM87A): RPW116
- BETA 87A Cartridge with Grille (ULX2/BETA 87A): RPW120
- BETA 87C Cartridge with Grille (ULX2/BETA 87C): RPW122
- Matte Silver Grille for SM58®: RK143G
- Matte Silver Grille for SM86: RPM226
- Matte Silver Grille for BETA 58A®: RK265G
- Matte Silver Grille for BETA 87A: RK312
- Black Grille for SM87A: RK214G
- Black Grille for BETA 87A: RPM323G
- Black Grille for BETA 87A and BETA 87C: RPM324G
- Belt Clip: 44A8013A
- Antenna (470 - 752 MHz): UA400B
- Antenna (774 - 952 MHz): UA400
- Antenna (638 - 698 MHz): UA820L3
- Antenna (554 - 590 MHz): UA820D
- Antenna (740 - 814 MHz): UA820Q
- Antenna (470 - 530 MHz): UA820G
- Antenna (746 - 784 MHz): UA820E
- Antenna (578 - 638 MHz): UA820J