

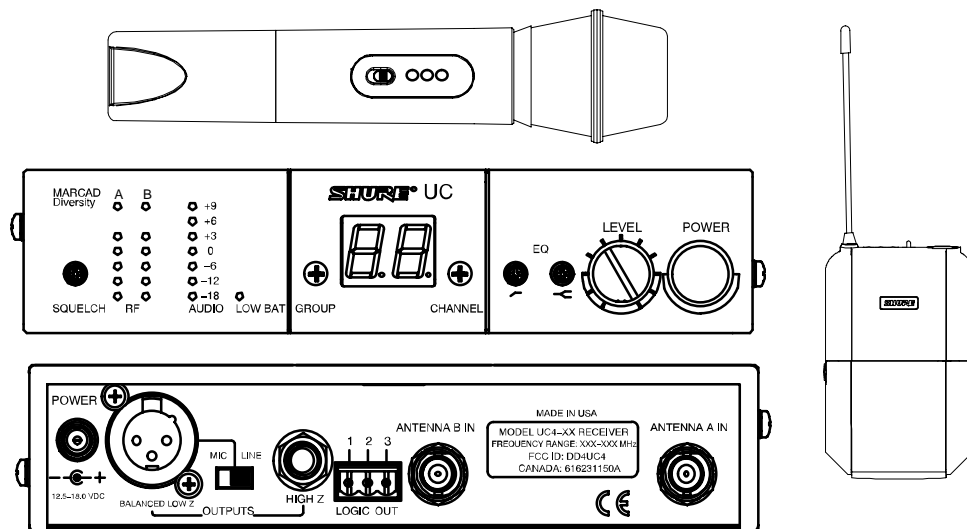


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UC WIRELESS SYSTEM

Specification Sheet



The Shure UC Wireless System is a frequency-agile diversity system operating in the UHF band. Both the receiver and the transmitter are synthesizer controlled via Phase Locked Loop (PLL) circuitry for a clear, steady signal. The half-rack space receiver mounts into a standard 19 inch (482 mm) equipment rack.

Features

- UHF band operation for less interference
- Frequency-agility lets user change system frequency if interference is encountered
- Over 100 user-selectable frequencies (international versions may vary)
- Up to 16 systems can operate simultaneously (international versions may vary)
- Compact, 1/2 rack space receiver design
- Exclusive Shure MARCAD circuitry delivers signal that is virtually free from drop outs
- Noise Squelch Circuitry analyzes signal quality rather than signal strength, virtually eliminating the possibility of noise bursts
- Tone Key Squelch that prevents unwanted noise from entering the system, including the "pop" noise that occurs when the transmitter is turned on and off
- Extensive rf and audio metering
- Low transmitter battery warning LED on receiver
- Preconfigured Group/Channel and frequency for simplified setup of multiple UC wireless systems
- Two Band EQ feature on receiver lets you fine tune frequency response

- Receiver logic capability lets you control external equipment
- Remote mute feature on bodypack; optional accessory switch lets you externally mute bodypack transmitter during performance

Components

- UC1 Body-Pack Transmitter with detachable lavaliere microphone, headset, or instrument cable
- or
- UC2 Handheld Microphone Transmitter with interchangeable microphone heads
- and a
- UC4 MARCAD Diversity Receiver with external in-line power supply (100/120/230 Vac) and antennas

Accessories

- **UA101 Remote Mute Switch**— Mutes audio and/or rf from bodypack transmitter during performance
- **UA220 Passive Antenna Splitter/Combiner Kit**— Splits two antennas for use with two diversity receivers and/or combines four antennas into two antenna inputs
- **UA845 Antenna Power/Distribution System**— Provides connection for up to five diversity receivers and supplies power for to up to four receivers; uses only two antennas
- **UA500 Remote Mount Antenna Kit**— Hardware for remote mounting one 1/2 wave antenna
- **UA600 Front Mount Antenna Kit**— Front mounts antennas for the receiver

SYSTEM SPECIFICATIONS

RF Carrier Frequency Range

774–862 MHz (782–806 MHz for U.S. models)

Working Range

152.4 m (500 ft), minimum, under typical conditions;
487.6 m (1600 ft) line of sight

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

Audio Frequency Response

45 to 15,000 Hz, ± 2 dB. **NOTE:** Overall system frequency response depends on the microphone element

Gain Adjustment Range

UC1: –6 to 34 dB
UC2: –6 to 26 dB

Modulation

± 45 kHz deviation compressor-expander system with pre-and de-emphasis
(U.S. models only; international models may vary)

RF Power Output

UC1, UC2: 50 mW, typical; international versions may vary

Dynamic Range

>100 dB, A-weighted

Receiver Audio Output Level (Maximum)

+5 dBu typical, unbalanced output
+14 dBu typical, balanced output

RF Sensitivity

UC4: –108 dBm at 12 dB SINAD

Image Rejection

90 dB typical

Spurious Rejection

70 dB typical

Ultimate Quieting (ref. 45 kHz deviation)

>100 dB, A-weighted

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 $\frac{1}{4}$ -inch output

System Distortion (ref. ± 45 kHz deviation, 1 kHz modulation)

0.4% Total Harmonic Distortion typical

Power Requirements

UC1, UC2: 9V alkaline battery (Duracell MN1604 recommended); Nicad optional

UC4: 15 Vdc, 600 mA 50/60 Hz

Power Consumption: 600 mA x 15 V, maximum

Transmitter Battery Life (Typical)

8 hours (with Duracell MN1604 9V alkaline battery)

Operating Temperature Range

–7° to 49° C (20° to 120° F) **NOTE:** Battery characteristics may limit this range

Overall Dimensions

UC1: 99.06 mm L x 63.50 mm W x 22.86 mm D
(3–29/32 L x 2–1/2 W x 29/32 in. D)

UC2/58: 241.30 mm L x 50.8 mm Dia. (9–1/2 L x 2 in. Dia.)

UC2/BETA 58: 241.30 mm L x 50.80 mm Dia. (9–1/2 L x 2 in. Dia.)

UC2/87: 215.90 mm x 50.80 mm Dia. (8–1/2 L x 2 in. Dia.)

UC2/BETA 87: 215.90 mm L x 50.8 mm Dia. (8–1/2 L x 2 in. Dia.)

UC4: 44.50 mm H x 197.40 mm W x 214.30 mm D
(1–3/4 L x 7.77 W x 8.44 in. D)

Net Weight

UC1: 73.50 g (2.59 oz.) without battery

UC2/58, U2/BETA 58: 311.9 g (11 oz.) without battery

UC2/87, U2/BETA 87: 198.5 g (7 oz.) without battery

UC4: 1.22 kg (2 lbs, 11 oz.)

Certification

UC1, UC2 (UA versions): Type Accepted under FCC Parts 74. Certified by IC in Canada under RSS123.

UC1, UC2 (MA versions): Type Approved to I-ETS 300 442; EMC Approved to ETS 300 445.

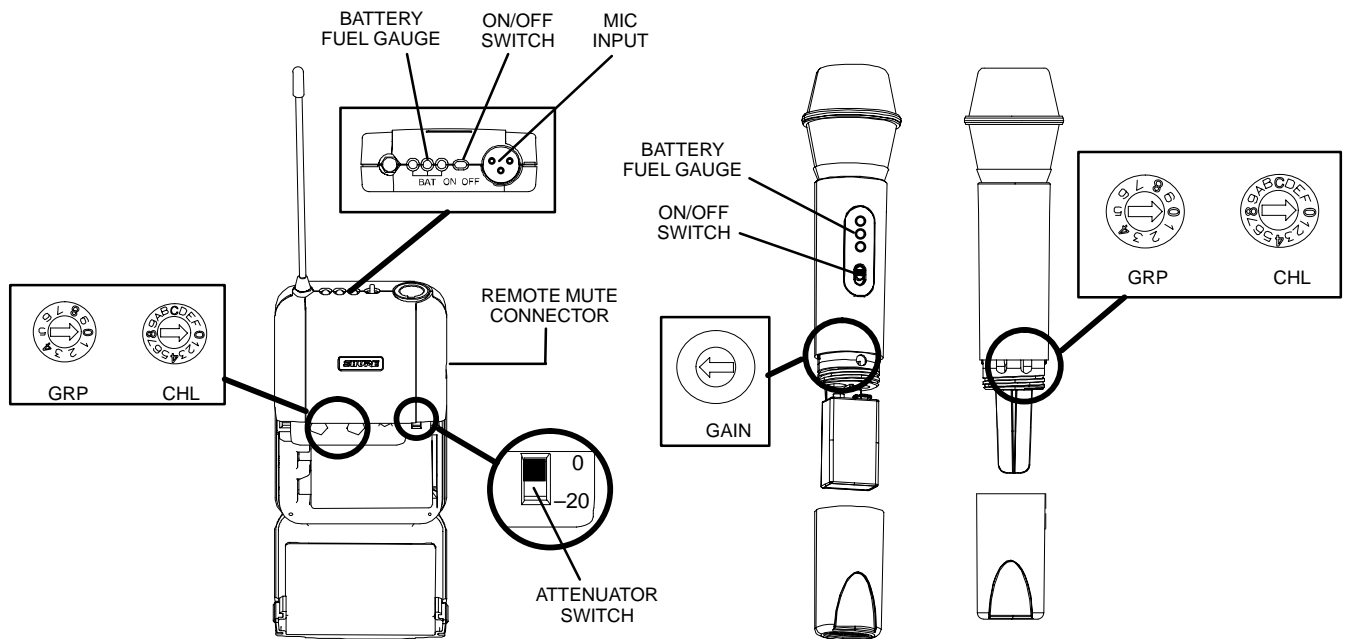
UC4 (UA version): Approved under the Notification provision of FCC Part 15; Certified by IC in Canada under RSS123.

UC4 (MA version): EMC Approved to ETS 300 445.

PS40 Power Supply: UL Listed and CSA Certified.

PS40E Power Supply: TUV Certified. Meets Low Voltage Directive.

UC Type Approved and EMC Approved systems and component models are eligible to carry the CE marking.



UC1 Transmitter Input

| | |
|--|--|
| Connector: | Switchcraft TA4F Tini Q.G. or LEMO connector (optional) |
| Input Configuration: | Unbalanced, active |
| Actual Impedance: | 18 k Ω with lavalier microphone 1 M Ω with instrument cable |
| Maximum Input Level: | 9 V _{p-p} (10 dBV) for 1% THD at minimum gain setting using 1 kHz signal. |
| TA4F Tini Q.G. Connector Pin Assignments: | Pin 1: Tied to Ground Pin 2: Tied to +5 V Pin 3: Tied to Audio Pin 4: Tied thru 20k Ω Resistor to Ground. (On instrument adapter cable, Pin 4 floats) |
| LEMO Connector Pin Assignments: | Pin 1: Tied to Pin 3 and 10 k Ω to Ground Pin 2: +5V Pin 3: Tied to Pin 1 Pin 4: Tied to Shield (Ground for Positive Bias) |
| Voltage for Remote Power: | +5 V supplied to microphone cartridge |

UC1 Transmitter Output

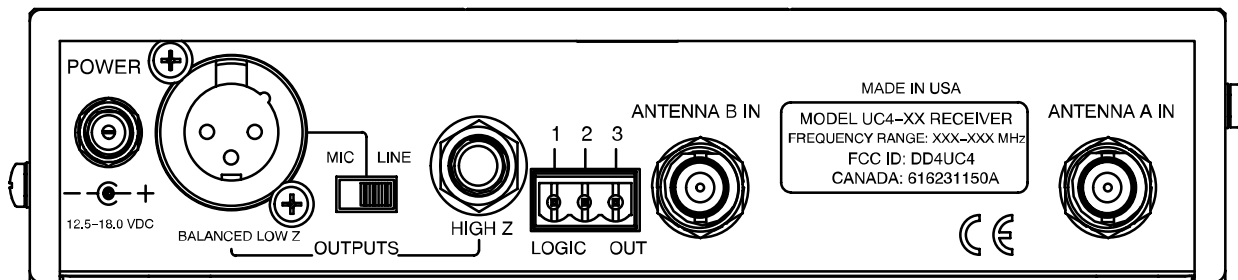
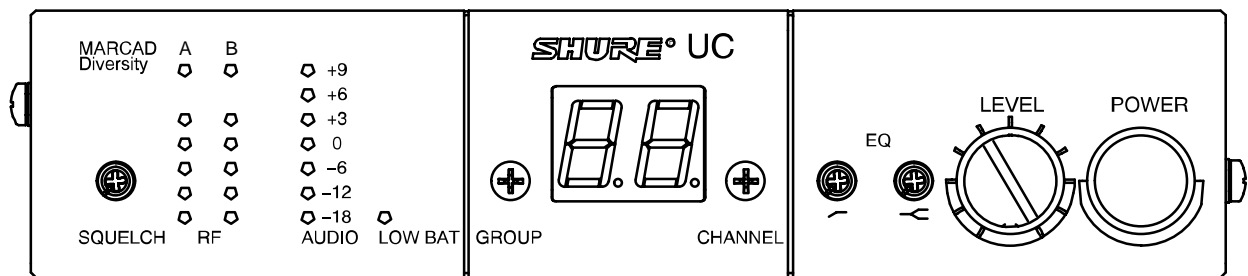
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|------------------------------|------------------------|
| Antenna: | Flexible 1/4 wave wire |
| Actual Impedance: | 50 Ω |
| Nominal Output Level: | +16 dBm |
| Maximum Output Level: | +17 dBm |

UC2 Transmitter Input

| | |
|-----------------------------|--|
| Input Configuration: | Unbalanced, active |
| Actual Impedance: | 25 k Ω |
| Maximum Input Level: | 9 V _{p-p} (10 dBV) for 1% THD at minimum gain setting using 1 kHz signal. |

UC2 Transmitter Output

| | |
|------------------------------|-----------------|
| Antenna: | Internal dipole |
| Actual Impedance: | 50 Ω |
| Nominal Output Level: | +16 dBm |
| Maximum Output Level: | +17 dBm |



UC4 Receiver Input

| Connector: | Antenna | Power Input |
|----------------------|-----------------------------------|---------------------|
| Connector Type: | BNC | dc style |
| Actual Impedance: | 50 Ω | — |
| Nominal Input Level: | -95 to -30 dBm | 15 Vdc |
| Maximum Input Level: | +6 dBm (-20 dBm recommended) | 17 Vdc |
| Pin Assignments: | Shell = Ground Center = Signal | Center pin positive |

UC4 Receiver Output

| Connector: | High Z Audio | Low Z Audio |
|-----------------------|---------------------------------|----------------------------------|
| Output Configuration: | Unbalanced | Balanced |
| Actual Impedance: | 1 k Ω | 44 Ω |
| Nominal Input Level: | — | — |
| Output Level: | 5 dBu maximum | 14 dBu maximum |
| Pin Assignments: | Tip = Hot Ring/ Sleeve = Gnd | 1 = Ground 2 = Hot 3 = Hot |