



# UC Wireless System

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**USER GUIDE SUPPLEMENT**

**MB (800–830 MHz)**

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## CONTENTS

SPECIFICATIONS .....	2
Furnished Accessories .....	5
Optional Accessories .....	5
Replacement Parts .....	6
FREQUENCY SELECTION GUIDE .....	6
Compatibility Groups .....	7

## SPECIFICATIONS

### RF Carrier Frequency Range

800–830 MHz

### 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,  $\pm 2$  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

$\pm 45$  kHz deviation compressor-expander system with pre-and de-emphasis

### RF Power Output

UC1, UC2: 20 mW, typical

### 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  $1/4$ -inch output

### System Distortion (ref. $\pm 45$ 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: 247.30 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: BAPT Type Approved to ETS 300 422 and BAPT 122 R1; EMC

Approved to ETS 300 445, FCC PART 74, Industry Canada RSS123–1.

UC4: VDE Certified to EN 60 950. BAPT Type Approved to Industry Canada

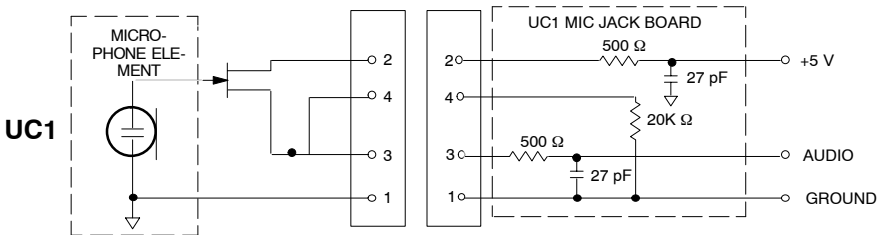
RSS123–1 and FCC Part 15, BAPT 122 R1; EMC Approved to ETS 300 445.

Meets Low Voltage Directive.

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

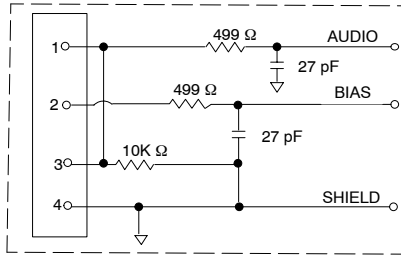
## UC1 Transmitter Input (Figure 1)

<b>Connector:</b>	4-Pin Female Miniature Connector TA4F or LEMO connector (optional)
<b>Input Configuration:</b>	Unbalanced, active
<b>Actual Impedance:</b>	18 k $\Omega$ with lavalier microphone 1 M $\Omega$ with instrument cable
<b>Maximum Input Level:</b>	9 V <sub>p-p</sub> (10 dBV) for 1% THD at minimum gain setting using 1 kHz signal.
<b>4-Pin Female Miniature Connector TA4F Pin Assignments:</b>	Pin 1: Tied to Ground Pin 2: Tied to +5 V Pin 3: Tied to Audio Pin 4: Tied thru 20k $\Omega$ Resistor to Ground. (On instrument adapter cable, Pin 4 floats)
<b>LEMO Connector Pin Assignments:</b>	Pin 1: Tied to Pin 3 and 10 k $\Omega$ to Ground Pin 2: +5V Pin 3: Tied to Pin 1 Pin 4: Tied to Shield (Ground for Positive Bias)
<b>Voltage for Remote Power:</b>	+5 V supplied to microphone cartridge



**NOTE:** LAVALIER MIC TIES PINS 3 AND 4 TOGETHER; GUITAR CABLE DOES NOT.

### UC1L (LEMO 4 PIN) MIC JACK BOARD



**FIGURE 1**

### UC1 Transmitter Output

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

### UC2 Transmitter Input

<b>Input Configuration:</b>	Unbalanced, active
<b>Actual Impedance:</b>	25 kΩ
<b>Maximum Input Level:</b>	9 V <sub>p-p</sub> (10 dBV) for 1% THD at minimum gain setting using 1 kHz signal.

### UC2 Transmitter Output

<b>Antenna:</b>	Internal dipole
<b>Actual Impedance:</b>	50 Ω
<b>Nominal Output Level:</b>	+16 dBm
<b>Maximum Output Level:</b>	+17 dBm

## UC4 Receiver Input

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

## UC4 Receiver Output

<b>Connector:</b>	<b>High Z Audio</b>	<b>Low Z Audio</b>
<b>Output Configuration:</b>	Unbalanced	Balanced
<b>Actual Impedance:</b>	1 k $\Omega$	44 $\Omega$
<b>Nominal Input Level:</b>	—	—
<b>Output Level:</b>	5 dBu maximum	14 dBu maximum
<b>Pin Assignments:</b>	Tip = Hot Ring/ Sleeve = Gnd	1 = Ground 2 = Hot 3 = Hot

## FURNISHED ACCESSORIES

Microphone Stand Adapter (UC2) .....	WA370A
Zipper Bag (UC1) .....	26A13
Zipper Bag (UC2) .....	26A14
Screwdriver .....	80A498
1/4 Wave Antenna .....	UA400

## OPTIONAL ACCESSORIES

Instrument Adapter Cable (UC1) .....	WA302
4-Pin Female Miniature Connector TA4F (UC1) .....	WA330
In-Line Audio Switch (UC1) .....	WA360
1.8 Meter (6 ft) Receiver-Mixer Cable (1/4" phone to XLR) .....	WA410
0.6 Meter (2 ft.) Antenna Extension Cable .....	UA802
7.6 Meter (25 ft) Antenna Extension Cable .....	UA825
15.2 (50 ft) Meter Antenna Extension Cable .....	UA850
In-Line Active Remote Antenna Kit (800 – 830 MHz) (If using the UA845-MB Antenna/Power Distribution System) .....	UA830C
Antenna/Power Distribution System, 230 Vac .....	UA845-MB
Directional Antenna for UC4 Receiver (If using the UA845-MB Antenna/Power Distribution System) .....	UA870C
Remote Mute Switch for UC1 .....	UA101
Passive Antenna Splitter/Combiner .....	UA220
1/2 Wave Omnidirectional Antenna for UC4 Receiver .....	UA820A
Remote Mount Antenna Kit .....	UA500
Front Mount Antenna Kit .....	UA600

## REPLACEMENT PARTS

Hardware Kit (screwdriver, mounting feet, cable clamps) .....	90VX1371
Bulkhead Adapters for Front-Mounting Antennas .....	95A8647
15 Vdc Power Cord (230 VAC) .....	PS40E
SM58 <sup>®</sup> Cartridge with Grille (UC2/58) .....	R158
BETA 58A <sup>®</sup> Cartridge with Grille (UC2/BETA 58) .....	R179
SM87 Cartridge with Grille (UC2/87) .....	R165
BETA 87A Cartridge with Grille (UC2/BETA 8A7) .....	R166
BETA 87C Cartridge with Grille (UC2/BETA 87C) .....	RPW100
Matte Silver Grille (UC2/58) .....	RK143G
Matte Silver Grille (UC2/BETA 58) .....	RK265G
Matte Silver Grille (UC2/BETA 87A) .....	RK313G
Black Grille (UC2/87C) .....	RK214G
Black Grille (UC2/BETA 58) .....	RK323G
Black Grille (UC2/BETA 87A) .....	RK324G
Belt Clip (UC1) .....	44A8013
Mounting Brackets, Long .....	53A8458
Mounting Brackets, Short .....	53A8454
Mounting Brackets, Link .....	31A8138
UC4 Logic Connector (Phoenix) .....	95A8580

## FREQUENCY SELECTION GUIDE

The Shure UC Wireless System is designed for maximum flexibility and versatility in a variety of applications. Up to 16 Shure UHF Wireless Systems can be operated simultaneously in a single installation using the frequency compatibility groups. Please contact Shure Brothers Incorporated if you need additional information or assistance in frequency selection and setup.

### Compatibility Groups

The Shure UC Wireless System includes 10 groups of compatible channels. If you are using more than one receiver in the same area, we recommend that you set the receivers to different frequencies within the same group.

## Compatible Frequency List

The following table lists the frequencies in each of the ten compatibility groups.

		GROUP									
		GRP 0	GRP 1	GRP 2	GRP 3	GRP 4	GRP 5	GRP 6	GRP 7	GRP 8	GRP 9
<b>C H A N N E L</b>	<b>0</b>	800.750	800.050	800.325	801.775	800.425	801.875	827.100	800.650	800.500	800.100
	<b>1</b>	801.575	801.325	800.900	803.400	801.000	802.975	802.325	801.475	801.125	801.200
	<b>2</b>	805.400	803.250	804.100	804.150	801.825	803.500	803.075	803.025	802.000	801.800
	<b>3</b>	806.100	805.500	804.575	804.625	805.650	805.700	804.800	806.950	802.500	802.800
	<b>4</b>	808.750	806.100	806.250	808.375	809.000	809.050	805.200	808.600	803.250	804.100
	<b>5</b>	809.575	809.325	809.725	808.950	809.825	809.875	806.850	809.100	804.250	804.800
	<b>6</b>	813.400	810.425	810.825	809.775	811.450	810.975	809.150	810.550	804.875	805.900
	<b>7</b>	814.100	813.500	811.350	816.950	813.650	817.050	810.150	811.600	806.750	807.300
	<b>8</b>	816.175	816.050	812.575	819.400	814.350	819.500	812.800	815.475	808.375	811.400
	<b>9</b>	819.200	819.250	815.900	820.150	816.425	820.725	819.100	817.150	808.875	813.100
	<b>a</b>	819.950	819.825	820.100	820.625	820.675	821.700	819.600	818.575	809.625	813.800
	<b>b</b>	820.425	822.100	823.200	821.600	822.750	822.400	821.150	820.775	810.625	815.100
	<b>c</b>	822.500	824.050	823.900	822.300	824.425	825.875	821.750	821.275	811.250	815.900
	<b>d</b>	827.200	825.325	826.825	825.775	827.450	827.500	822.950	823.425	812.125	817.500
	<b>e</b>	827.950	827.250	828.100	827.400	828.675	828.725	825.150	827.600	813.250	818.400
<b>f</b>	828.425	827.825	828.575	828.150	829.650	829.700	826.000	828.800	813.875	819.600	

**SHURE®**

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