



### SPECIFICATIONS

#### RF Carrier Frequency Range

838–862 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

$\pm 40$  kHz deviation compressor-expander system with pre-and de-emphasis

#### RF Power Output

UC1, UC2: 10 mW, typical

#### Dynamic Range

>85 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. 40 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.  $\pm 40$  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: RA Type Approved to ETS 300 445; meets requirements of MPT 1350.

UC4: RA Type Approved to ETS 300 445; meets requirements of MPT 1350. 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 Vp-p (10 dBV) for 1% THD at minimum gain setting using 1 kHz signal.
<b>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

### UC1 Transmitter Output

<b>Antenna:</b>	Flexible 1/4 wave wire
<b>Actual Impedance:</b>	50 $\Omega$
<b>Nominal Output Level:</b>	+10 dBm
<b>Maximum Output Level:</b>	+10 dBm

### UC2 Transmitter Input

<b>Input Configuration:</b>	Unbalanced, active
<b>Actual Impedance:</b>	25 k $\Omega$
<b>Maximum Input Level:</b>	9 Vp-p (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 $\Omega$
<b>Nominal Output Level:</b>	+10 dBm
<b>Maximum Output Level:</b>	+10 dBm

### 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

### 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

## FURNISHED ACCESSORIES

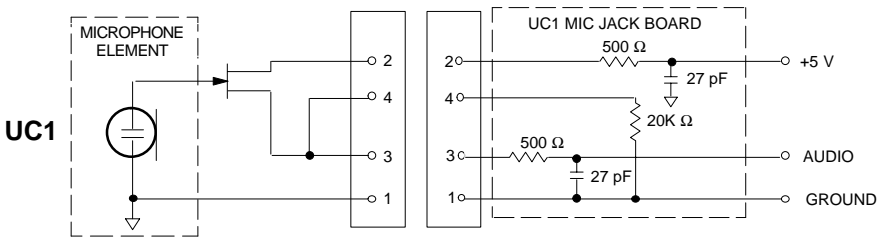
Microphone Stand Adapter (UC2) . . . . .	WA370A
Zipper Bag (UC1) . . . . .	26A13
Zipper Bag (UC2) . . . . .	26A14
Screwdriver . . . . .	80A498
1/4 Wave Antenna . . . . .	UA400

## 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 (838 – 862 MHz) (If using the UA845–KK Antenna/Power Distribution System) . . . . .	UA830KK
Antenna/Power Distribution System, 230 Vac . . . . .	UA845-KK
Directional Antenna for UC4 Receiver (If using the UA845–KK Antenna/Power Distribution System) . . . . .	UA870KK
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) . . . . .	PS40UK
SM58 Cartridge with Grille (UC2/58) . . . . .	R158
BETA 58A Cartridge with Grille (UC2/BETA 58) . . . . .	R179
SM87 Cartridge with Grille (UC2/87) . . . . .	R165
BETA 87A Cartridge with Grille (UC2/BETA 87A) . . . . .	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



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

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

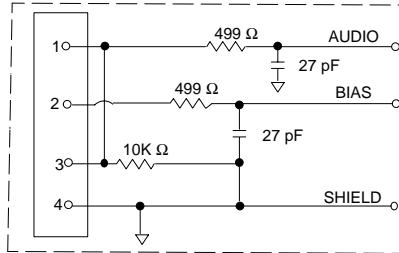


FIGURE 1

## FREQUENCY SELECTION GUIDE

Up to 16 Shure UHF Wireless Systems can be operated simultaneously in a single installation using the frequency compatibility groups.

### Compatibility Groups

Group 0 contains 16 compatible frequencies within the 838–862 MHz band.

Group 1 contains 10 compatible frequencies which are derived from a combination of fixed site (Multi UHF High and Low) frequencies, as well as Indoor Use at Fixed Site frequencies.

Group 2 contains 14 fixed site frequencies taken entirely from the Multi UHF High and Low Band (these frequencies are not compatible).

Groups 3 and 4 contain 10 compatible channels within the 854–862 MHz band.

Groups 5 and 6 contain 16 compatible channels within the 846–862 MHz band.

Groups 7, 8 and 9 contain 16 compatible channels within the 838–862 MHz band.

### Compatible Frequency List

CHANNEL	GROUP										
	GRP. 0	GRP.1	GRP.2	GRP.3	GRP.4	GRP.5	GRP.6	GRP.7	GRP.8	GRP.9	
0	838.625	861.750	861.750	855.025	854.900	846.375	847.500	842.500	838.750	841.500	
1	839.250	854.900	854.900	855.525	855.900	846.875	848.125	843.000	839.250	842.375	
2	840.250	855.900	855.275	856.525	856.650	847.875	849.250	846.000	840.750	843.000	
3	841.000	856.575	855.900	857.025	857.150	848.375	849.875	847.000	841.375	844.750	
4	844.375	857.125	856.175	857.775	858.025	849.625	850.750	847.625	843.000	845.250	
5	845.500	858.025	856.575	858.775	858.650	851.125	851.250	848.500	843.750	852.875	
6	846.125	858.650	857.625	859.400	859.650	851.875	852.000	850.375	845.000	853.875	
7	847.625	859.625	857.950	860.275	860.400	853.500	853.000	852.000	845.750	854.625	
8	848.875	860.400	858.200	860.775	860.900	854.875	853.625	854.250	847.500	855.125	
9	851.125	860.900	858.650	861.525	861.650	856.625	855.500	856.750	848.000	855.875	
A	852.500		860.400			858.125	857.000	857.500	850.500	856.875	
B	854.250		860.900			858.875	857.625	858.750	851.625	858.375	
C	854.875		861.200			859.375	858.750	859.750	853.875	859.500	
D	855.750		861.550			860.375	859.375	860.375	855.000	860.250	
E	857.625					860.875	860.750	861.250	855.500	861.250	
F	858.250					861.625	861.375	861.750	857.750	861.875	