



UC Wireless System

USER GUIDE SUPPLEMENT

UA (782–806 MHz)

CONTENTS

SPECIFICATIONS	2
Furnished Accessories	4
Optional Accessories	5
Replacement Parts	5
FREQUENCY SELECTION GUIDE	6
Compatibility Groups	6
Compatible Frequency List	7
UHF TV Channel Guide (for U.S. Channels 66–69)	8

SPECIFICATIONS

RF Carrier Frequency Range

782–806 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, ± 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

RF Power Output

UC1, UC2: 50 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. ± 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

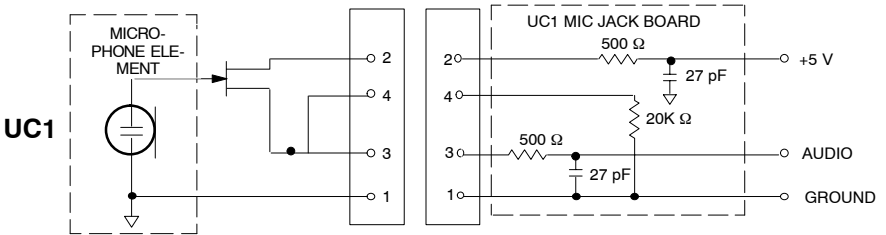
UC1, UC2: Type Accepted under FCC Parts 74. Certified by IC in Canada under RS 123.

UC4: UL and cUL Listed to UL 813 and CSA C22.2 No. 1. VDE Certified to EN 60 950.

Approved under the DoC provision of FCC Part 15; Certified by IC in Canada under RS 123.

UC1 Transmitter Input (Figure 1)

Connector:	4-Pin female miniature connector (TA4F) 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.
Miniature Connector TA4F Pin Assignments:	Pin 1: Tied to Ground Pin 2: Tied to +5 V Pin 3: Tied to Audio Pin 4: Tied thru 20 k 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



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

UC1L (LEMO 4 PIN) MIC JACK BOARD

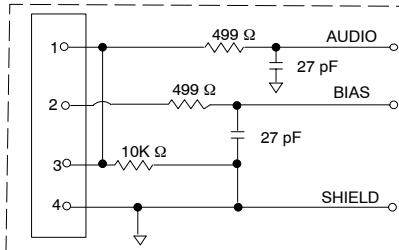


FIGURE 1

UC1 Transmitter Output

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 = Audio + Ring/ Sleeve = Ground	1 = Ground 2 = Audio + 3 = Audio -

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
Antenna/Power Distribution System, 120 Vac	UA845UA
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 (120 VAC)	PS40
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

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 the Shure Customer Service Department 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.

Use frequencies from Groups 0–3, 8, or 9 in locations where TV channels 66, 67, 68, and 69 are NOT in use. If any of these TV channels are present in your location, use frequencies from one of the Groups 4–7 as indicated in the following table. Use the UHF TV Channel Guide in this supplement to determine which TV channels may be present in your area.

TV CHANNEL PRESENT	OPEN UHF CHANNELS	RECOMMENDED UC WIRELESS FREQUENCY GROUP	FREQUENCY RANGE
None	66 ,67, 68, 69	Groups 0–3; 8, 9	
66	67, 68, 69	Group 4	782–788 MHz
67	66, 68, 69	Group 5	788–794 MHz
68	66, 67, 69	Group 6	794–800 MHz
69	66, 67, 68	Group 7	800–806 MHz

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
		TV Channels 66, 67, 68, 69 Open				TV Channel 66 Present	TV Channel 67 Present	TV Channel 68 Present	TV Channel 69 Present	TV Channels 66, 67, 68, 69 Open	
C H A N N E L	0	786.250	805.750	805.750	805.625	805.500	805.125	805.625	799.625	786.000	788.125
	1	787.500	782.750	783.125	782.625	788.500	782.625	783.125	782.125	786.750	789.375
	2	788.500	783.375	783.750	783.125	789.000	784.250	783.750	783.000	788.375	790.125
	3	789.125	785.125	784.625	783.875	790.125	785.125	784.750	783.625	789.125	791.375
	4	790.250	786.000	785.750	785.625	790.875	786.375	785.500	784.875	790.500	793.125
	5	791.125	787.250	786.500	787.875	792.250	787.125	786.875	785.875	791.250	793.625
	6	792.500	788.250	788.125	789.125	793.000	794.125	788.750	787.250	793.125	795.125
	7	795.500	788.875	788.875	789.875	796.500	795.250	789.750	788.375	796.750	795.625
	8	796.250	790.000	790.250	791.125	798.000	796.875	790.375	789.000	798.125	796.375
	9	797.875	790.875	791.000	792.875	798.750	797.625	791.625	789.875	798.875	798.500
	A	799.000	792.250	792.875	793.375	799.750	799.250	793.125	790.375	800.000	799.875
	B	800.500	795.250	796.500	794.875	800.500	800.375	800.500	792.875	800.625	801.625
	C	801.000	796.000	797.875	795.375	801.875	802.375	801.000	794.125	801.625	802.375
	D	802.750	797.625	798.625	796.125	802.500	802.875	801.750	795.625	803.625	803.625
	E	803.750	798.750	799.750	798.250	803.500	803.625	803.500	796.375	804.125	805.125
	F	805.250	800.250	800.375	799.625	804.250	804.625	804.125	798.125	805.375	805.875

UHF TV Channel Guide (for U.S. Channels 66–69)

The following table identifies U.S. cities that have UHF TV stations operating on TV Channels 66, 67, 68, and 69. Shure recommends that you operate your wireless system only on TV channels *other* than those listed for your location.

STATE	CITY	TV CHANNEL	STATE	CITY	TV CHANNEL
Alabama	Birmingham	68	Michigan	East Lansing	69
	Opelika–Auburn	66		Flint	66
	Troy	67	New Jersey	Newark	68
California	Los Angeles	68		West Milford	66
	Salinas–Monterrey	67	New York	Ilion	67
	Novato	69		Smithtown	67
	San Diego	69		Springville	67
	Vallejo	66		Syracuse	68
Florida	Bradenton	66	North Carolina	Bryson City	67
	Cocoa	68		Forest City	66
	Hollywood	69		High Point	67
	Lake Worth	67	Ohio	Canton	67
Georgia	Atlanta	69		Mansfield	68
	Toccoa	68		Springfield	66
Hawaii	Lihue	67	Pennsylvania	Allentown	69
Illinois	Danville	68		Erie	66
	Elgin	66	Rhode Island	Block Island	69
	Galesburg	67	South Dakota	Lowry	68
	Joliet	66	Tennessee	Lebanon	66
Indiana	Anderson	67	Texas	Alvin	69
	Indianapolis	69		Arlington	68
Iowa	Des Moines	69	Virginia	Fredericksburg	69
Kentucky	Louisville	68		Grundy	68
	Morehead	67		Manassas	66
	Paintsville	69	Washington	Olympia	67
Maryland	Baltimore	67	Wisconsin	Fond du Lac	68
	Hagerstown	68	West Virginia	Fairmont	66
Massachusetts	Boston	68	Puerto Rico	Humacao	68
	Marlborough	66			



SHURE Incorporated Web Address: <http://www.shure.com>
 5800 W. Touhy Avenue, Niles, IL 60714-4608, U.S.A.
 Phone: 800-257-4873 Fax: 847-600-1212
 In Europe, Phone: 49-7131-72140 Fax: 49-7131-721414
 In Asia, Phone: 852-2893-4290 Fax: 852-2893-4055
 Elsewhere, Phone: 847-600-2000 Fax: 847-600-6446