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UHF Wireless System

USER GUIDE SUPPLEMENT

UB (692–716 MHz)

CONTENTS

SPECIFICATIONS 2
 Furnished Accessories 4
 Optional Accessories 5
 Replacement Parts 5
 FREQUENCY SELECTION GUIDE 6
 Compatibility Groups 6

SPECIFICATIONS

RF Carrier Frequency Range

692–716 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

UC1B: –6 to 34 dB

UC2B: –6 to 26 dB

Modulation

± 45 kHz deviation compressor-expander system with pre-and de-emphasis

RF Power Output

UC1B: 50 mW effective radiated power, typical

UC2B: 20 mW effective radiated power, typical

Dynamic Range

>100 dB, A-weighted

Receiver Audio Output Level (Maximum)

+5 dBu typical, unbalanced output

+14 dBu typical, balanced output

RF Sensitivity

UC4B: –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

UC1B, UC2B: 9V alkaline battery (Duracell MN1604 recommended); Nicad optional

UC4B: 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

UC1B: 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)

UC2B/58: 247.30 mm L x 50.8 mm Dia. (9–1/2 L x 2 in. Dia.)

UC2B/BETA 58: 241.30 mm L x 50.80 mm Dia. (9–1/2 L x 2 in. Dia.)

UC2B/87: 215.90 mm x 50.80 mm Dia. (8–1/2 L x 2 in. Dia.)

UC2B/BETA 87: 215.90 mm L x 50.8 mm Dia. (8–1/2 L x 2 in. Dia.)

UC4B: 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

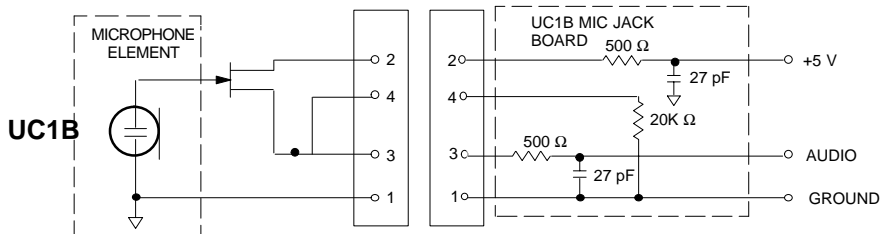
UC1B: 73.50 g (2.59 oz.) without battery
 UC2B/58, U2/BETA 58: 311.9 g (11 oz.) without battery
 UC2B/87, U2/BETA 87: 198.5 g (7 oz.) without battery
 UC4B: 1.22 kg (2 lbs, 11 oz.)

Certification

UC1B, UC2B: Type Accepted under FCC Parts 74. Certified by IC in Canada under TRC-78. FCC ID for UC1B: DD4UC1B. FCC ID for UC2B: DD4UC2B.
 UC4B: UL and cUL Listed to UL 813 and CSA C22.2 No. 1. VDE Certified to EN 60 950. Approved under the Notification provision of FCC Part 15; Certified by IC in Canada under TRC-78. FCC ID: DD4UC4B.

UC1B Transmitter Input (Figure 1)

Connector:	Switchcraft TA4F Tini Q.G. or LEMO connector (optional)
Input Configuration:	Unbalanced, active
Actual Impedance:	18 kΩ with lavalier microphone 1 MΩ with instrument cable
Maximum Input Level:	9 Vp-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 20kΩ Resistor to Ground. (On instrument adapter cable, Pin 4 floats)
LEMO Connector Pin Assignments:	Pin 1: Tied to Pin 3 and 10 kΩ 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.

UC1BL (LEMO 4 PIN) MIC JACK BOARD

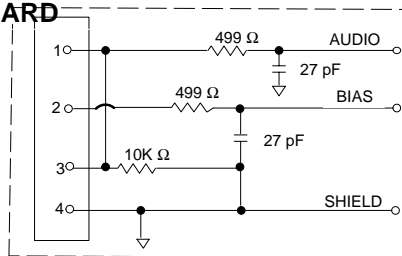


FIGURE 1

UC1B Transmitter Output

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

UC2B 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.

UC2B Transmitter Output

Antenna:	Internal dipole
Actual Impedance:	50 Ω
Nominal Output Level:	+12 dBm, radiated
Maximum Output Level:	+12 dBm, conducted

UC4B 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

UC4B 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

FURNISHED ACCESSORIES

Microphone Stand Adapter (UC2B)	WA370A
Zipper Bag (UC1B)	26A13
Zipper Bag (UC2B)	26A14
Screwdriver	80A498
1/4 Wave Antenna	UA400

OPTIONAL ACCESSORIES

Instrument Adapter Cable (UC1B)	WA302
Switchcraft TA4F Female 4–Pin Connector (UC1B)	WA330
In-Line Audio Switch (UC1B)	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)	UA830C
Antenna/Power Distribution System, 230 Vac	UA845–MB
Directional Antenna for UC4B Receiver	UA870C
Remote Mute Switch for UC1B	UA101
Passive Antenna Splitter/Combiner	UA220
1/2 Wave Omnidirectional Antenna for UC4B 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 Cartridge with Grille (UC2B/58)	R158
BETA 58A Cartridge with Grille (UC2B/BETA 58)	R179
SM87 Cartridge with Grille (UC2B/87)	R165
BETA 87 Cartridge with Grille (UC2B/BETA 87)	R166
Matte Silver Grille (UC2B/58)	RK143G
Matte Silver Grille (UC2B/BETA 58)	RK265G
Matte Silver Grille (UC2B/BETA 87)	RK313G
Black Grille (UC2B/87)	RK214G
Black Grille (UC2B/BETA 58)	RK323G
Black Grille (UC2B/BETA 87)	RK324G
Belt Clip (UC1B)	44A8013
Mounting Brackets, Long	53A8458
Mounting Brackets, Short	53A8454
Mounting Brackets, Link	31A8138
UC4B 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 1	GRP 2	GRP 3	GRP 4	GRP 5	GRP 6	GRP 7	GRP 8	GRP 9	GRP 10
CHANNEL	1	692.500	692.125	692.250	698.250	692.500	692.125	692.125	715.625	715.500	715.125
	2	693.375	692.625	695.125	698.875	693.250	693.500	693.125	714.625	714.250	714.125
	3	694.500	693.375	695.875	700.000	694.250	694.125	693.625	714.000	712.750	713.625
	4	695.000	694.375	697.125	700.625	695.000	695.125	694.625	713.125	712.000	711.875
	5	697.000	695.125	698.625	701.500	695.500	695.750	695.875	712.000	710.875	711.125
	6	698.000	698.875	699.875	702.000	696.250	697.000	696.500	710.250	710.375	709.875
	7	699.250	699.375	700.625	702.750	697.250	697.750	697.875	708.125	708.250	709.000
	8	699.750	700.625	701.625	703.750	698.000	699.125	698.875	707.625	707.125	708.375
	9	702.875	703.125	702.375	704.375	704.500	700.125	700.500	706.750	704.125	707.375
	10	703.750	704.625	703.625	709.000	706.000	701.625	701.500	706.250	702.500	706.625
	11	705.500	706.375	704.375	709.500	706.750	702.250	703.375	703.625	700.625	705.125
	12	707.500	707.125	708.375	710.250	707.250	710.125	703.875	702.625	699.000	700.875
	13	708.500	707.625	709.375	711.250	708.750	710.625	705.875	701.875	698.125	700.000
	14	709.000	708.375	709.875	711.875	709.500	711.500	706.875	699.875	697.625	699.375
	15	709.750	710.875	710.750	712.750	711.250	712.125	707.625	696.375	695.875	697.625
	16	710.250	711.500	711.875	713.250	712.000	713.125	708.125	695.875	694.875	696.875

SHURE

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