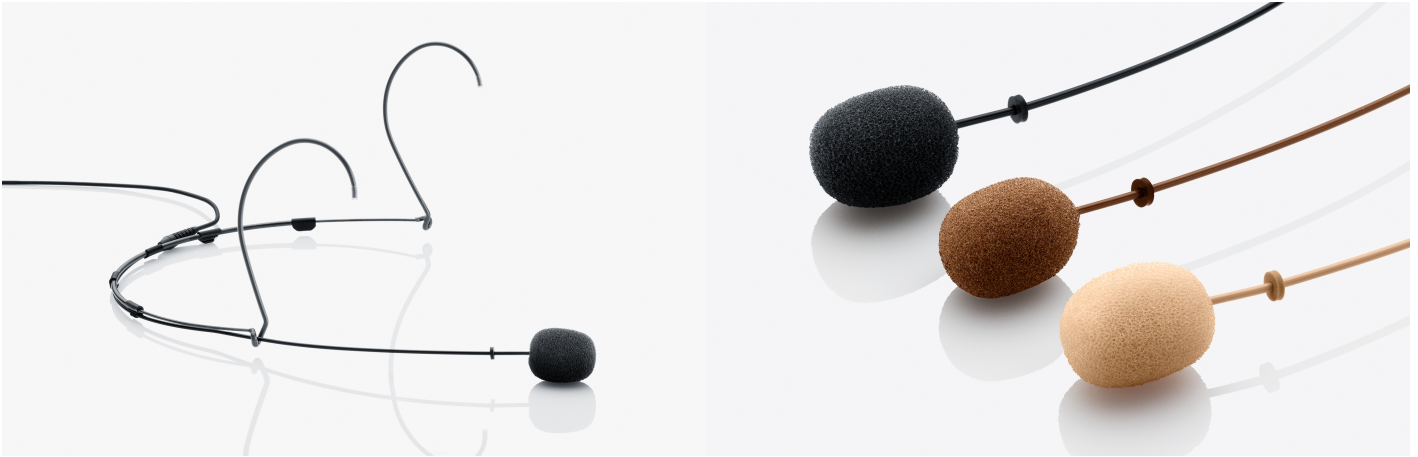


4088-B, 4088 Cardioid Headband



4088-B, 4088 Cardioid Headband

The best sounding directional headworn microphone on the market, the smooth and elegant 4088 is also the most invisible headworn cardioid microphone.

- open and natural sound
- unequalled flexibility and stability
- available in three colors and three sizes

DPA 4088 is a miniature cardioid headband built on the finest DPA experiences in microphone design and manufacturing, providing the best sounding directional headworn microphone available today for performing talent of various sorts.

Open, natural and reliable are the most describing words for this microphone. The high quality of the microphone itself means, that you will hear the sound of the voice right away - not the microphone. In acoustically demanding live performance environments, where background noise and feedback is a concern, the 4088 will tackle these challenges with ease.

The smooth and elegant design of the 4088 makes it the most invisible headworn cardioid microphone today. Sound quality, visual elegance and versatility go hand in hand to transform every show into the performance of a lifetime. The capsule is a pre-polarized first order pressure gradient transducer, hidden in a small and lightweight housing with dimensions just slightly larger than our omni capsules.

The mechanical design is based on the proven build quality of the 4066 headband microphone. The headband mount is exactly the same; the boom however is 3 centimeters longer, to be able to match the need for placement at the corner of the mouth. The flexibility and stability of this construction is unique and has no equal.

Available in three colors: black, beige and brown, and also available with connector.

For more information please visit:
www.dpamicrophones.com

4088-B, 4088 Cardioid Headband

Directional characteristics:

Cardioid

Principle of operation:

Pressure gradient

Cartridge type:

Pre-polarized condenser element with vertical diaphragm

Frequency range, ± 2 dB:

100 Hz – 20 kHz (4 – 6 dB soft boost at 15 kHz)

Sensitivity, nominal, ± 3 dB at 1 kHz:

6 mV/Pa; 44 dB re. 1 V/Pa

Equivalent noise level, A-weighted:

Typ. 26 dB(A) re. 20 μ Pa (max. 28 dB(A))

Equivalent noise level ITU-R BS.468-4:

Typ. 38 dB (max. 40 dB)

S/N ratio, re. 1 kHz at 1 Pa (94 dB SPL):

68 dB (A)

Total harmonic distortion (THD):

< 1 % up to 123 dB SPL peak; < 1 % up to 120 dB SPL RMS sine

Dynamic range:

Typ. 97 dB

Max. SPL, peak before clipping:

144 dB

Output impedance:

30 – 40 ohm

Cable drive capability:

Up to 300 m (984 ft)

Power supply:

For wireless systems: Min. 5 V – max. 50 V through DPA adapter. With DAD6001-BC/DAD6024/DAD4099: 48 V phantom power ± 4 V for full performance.

Connector:

MicroDot

Color:

Black, brown or beige

Microphone weight:

14 g (0.5 oz) incl. cable and MicroDot connector

Microphone diameter:

5.5 mm (0.25 in)

Microphone length:

11 mm (0.5 in)

Cable length:

1.2 m (3.9 ft)

Cable diameter:

1.6 mm (0.06 in)

Polarity:

Positively increasing sound pressure produces positive going voltage on MicroDot pin

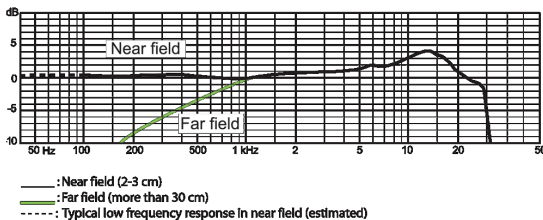
Operating temperature range:

-10 to 45 °C (14 to 113 °F)

Diagrams

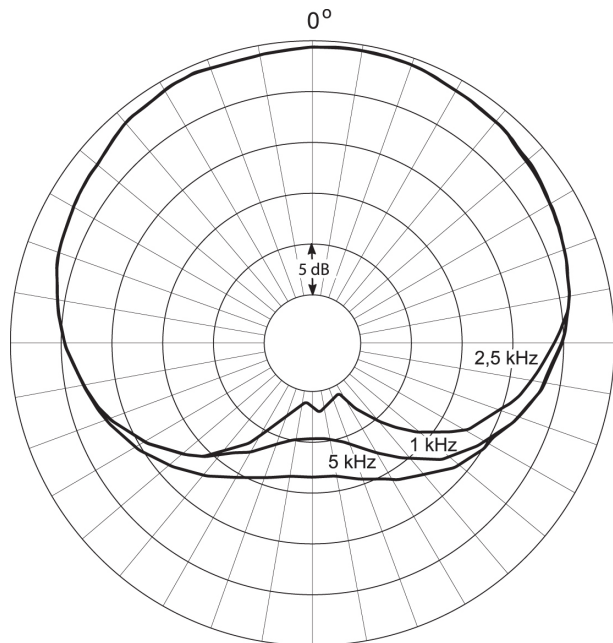
4088-B, 4088 Cardioid Headband

Frequency response of the DPA 4088



Frequency response of the DPA 4088

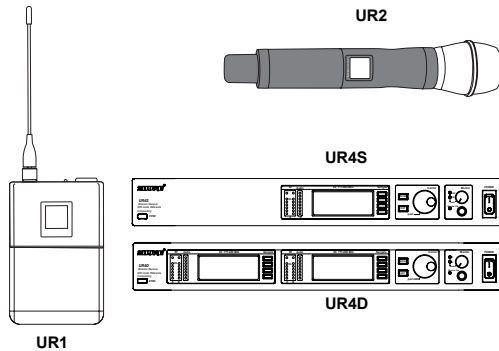
Directional Characteristics of DPA 4088



Directional Characteristics of DPA 4088

Headquarters:
DPA Microphones A/S
Gydevang 42- 44
DK-3450 Allerød, Denmark
Tel: +45 4814 2828
Fax: +45 4814 2700
info@dpamicrophones.com
www.dpamicrophones.com

United States:
DPA Microphones, Inc.
2432 N. Main St., Suite 200
Longmont, CO 80501, USA
Tel: +1 303- 485-1025
Fax: +1 303- 485-6470
info-usa@dpamicrophones.com
www.dpamicrophones.com



DESCRIPTION

The UHF-R® is a professional, wireless technology engineered for the most demanding touring environments and installations. UHF-R® wireless systems offer unprecedented flexibility and versatility. Using multiple frequency bands, over 108 compatible systems can be used simultaneously. Individual frequency bands deliver up to 60 compatible systems per band. The UHF-R also includes infrared synchronization that allows you to configure transmitter settings from the receiver. With multiple system operation and interchangeable components, UHF-R systems also offer a choice of Single or Dual Channel Diversity Receivers.

SYSTEM FEATURES

Shure UHF-R® Wireless Systems offer many exceptional features, including:

Auto Frequency Selection/Scan

- Locates a clear channel instantly

Auto Transmitter Sync

- Infrared (IR) sync automatically synchronizes the transmitter and receiver

Networking

Each receiver has an RJ-45 port on the back that lets you connect to an Ethernet network. Networking receivers provides the following benefits:

- Makes channel setup faster and easier
- Allows you to monitor and control multiple receivers using the Shure Wireless Workbench PC Software

Shure's Wireless Workbench Software

Key benefits of current Wireless Workbench software include:

- Fast network setup of large groups of wireless systems:
- Scans current RF environment.
- Plots RF history, using an individual transmitter to identify potential areas of weak signals and dropouts.
- Remote monitoring and control of multiple wireless systems.
- Wireless Workbench provides faster setup and more complete control.
- Automatic Frequency Selection Wizard: Will scan and select open frequencies, applying them to all Shure UHF-R receivers in network (and ultimately to connected networks of current UHF series receivers as well).

- Comprehensive Infra-Red (IR) Auto Sync/Automatic Transmitter Setup: PC control of transmitter sync with corresponding receiver. Syncs frequency, lockouts, power setting, custom groups.
- Frequency Compatibility Calculator Wizard: By scanning the RF environment and then considering all networked hardware models, Wireless Workbench recommends frequencies for all specified wireless systems (including PSM systems, and competitive product). While this feature has a proprietary slant, a generic hardware "template" will be available for those users who insist on networking with non-Shure products)
- The Band Limiting feature allows manufacturer or service center to set Network frequency band parameters, to align with any country/regional RF usage guidelines that might conflict with the available bandwidth.
- Custom Frequency Group Creation allows customization of frequency groups to be used in specific locations. May require advanced wireless aptitude, or assistance from Shure's Applications departments.

Shure's patented Audio Reference Companding

- Delivers a crystal clear audio transmission, superior to conventional wireless technology

UR4S & UR4D DIVERSITY RECEIVER FEATURES:

- 2,400 Selectable frequencies across 60 MHz bandwidth
- **Track Tuning** Filtering Technology
- Up to 40 preset compatible systems/band (108 with multiple bands).
- Network Automatic Frequency Selection
- Automatic Transmitter sync (**including custom Group Upload**)
- Flash memory to store six 60-channel custom frequency groups
- Shure's Patented Audio Reference Companding
- Multi-function bit-mapped backlit LCD
- Built-in **USB & Ethernet** network Control/Monitoring
- AMX/Crestron Compatible
- Remoteable 1/2 wave antenna
- Temperature-activated fan ensures top performance in high temperature environments. Clean fan screen as needed to remove dust.
- MARCAD® diversity

HANDHELD AND BODYPACK TRANSMITTERS FEATURES

- Switchable RF Power (10/50 & 10/100 mW), country dependent
- Low profile, compact bodypack design
- Frequency and Power Lockout
- Bit-mapped Backlit LCD
- 2 AA Batteries - Up to 9.5 hours continuous use (low power)
- Automatic Transmitter Setup
- All-metal die-cast construction
- Light-weight magnesium bodypack
- Flexible bodypack antenna
- Reversible Belt Clip

UHF-R™ Wireless System Specifications

Frequency Range and Transmitter Output Power

Band	Range	Transmitter power (mW)	
		Handheld	Bodypack
H4E, H4	518-578 MHz	10 / 50 10 / 50	10 / 50 10 / 100
J5E, J5	578-638 MHz (578-608, 614-638)	10 / 50 10 / 50	10 / 50 10 / 100
L3E, L3	638-698 MHz	10 / 50 10 / 50	10 / 50 10 / 100
Q5	740-814 MHz	10 / 50	10 / 50
R9	790-865 MHz	10 / 50	10 / 50
Q6	740-752 MHz	10	10
A24	779-788 / 797-806 MHz	10	10
JBX	806-810 MHz	10	10
Q10	740-798 MHz	10 / 50	10 / 50

NOTE

This Radio equipment is intended for use in musical professional entertainment and similar applications.
This Radio apparatus may be capable of operating on some frequencies not authorized in your region. Please contact your national authority to obtain information on authorized frequencies and RF power levels for wireless microphone products.

RF Carrier Frequency Range

518-865 MHz, depending on region

Working Range

UR1, UR2: 150 m (500 ft.), under typical conditions
500 m (1600 ft) **line-of-sight, outdoors for a single system**

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

Audio Frequency Response

40 – 18,000 Hz, (+1 dB, -3 dB).

NOTE: Overall system frequency response depends on the microphone element

Gain Adjustment Range

UR1: -20 to +35 dB
UR2: -10 to +20 dB

Modulation

FM (45 kHz max. deviation), compander system with pre- and de-emphasis

RF Power Output

See table above.

Dynamic Range

>105 dB, A-weighted

Image Rejection

>110 dB typical

RF Sensitivity

UR4S	UR4D
-110 dBm Typical 12 dB SINAD	-107 dBm Typical 12 dB SINAD
-105 dBm Typical 30 dB SINAD	-102 dBm Typical 30 dB SINAD

Spurious Rejection

>90 dB typical

Ultimate Quieting (ref. 45 kHz deviation)

>100 dB, A-weighted

Signal Polarity

Positive pressure on microphone diaphragm (or positive voltage applied to tip of WA302 phone plug) produces positive voltage on XLR output pin 2 with respect to XLR pin 3 and on the tip of the 1/4-inch output jack.

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

<0.3% Total Harmonic Distortion typical

Power Requirements

UR1, UR2: Two 1.5V AA batteries

UR4: 100 to 240 Vac, 50/60 Hz

Current Drain

UR1, UR2: 180 mA max. (normal RF power setting)
240 mA max. (high RF power setting)

UR4D, UR4S: 0.8 Amps max.

Battery Life (Typical)

UR1, UR2: 9.5 hours (low power)
6 hours (high power)

Operating Temperature Range

-18° to +57° C (0° to +135° F)

NOTE: Battery characteristics may limit this range

NOTE: Electrical safety approval is based on a maximum ambient temperature of 35°C (95°F).

Overall Dimensions

UR1: 98 mm L x 60 mm W x 17 mm D (3.84 x 2.38 x 0.66 in.)

UR2/SM58: 261 mm L x 51 mm Dia. (10.27 x 2 in.)

UR2/SM86: 261 mm L x 51 mm Dia. (10.27 x 2 in.)

UR2/SM87A: 254 mm x 51 mm Dia. (10 x 2 in.)

UR2/BETA 58: 258 mm L x 51 mm Dia. (10.15 x 2 in.)

UR2/BETA 87A, UR2/BETA 87C: 254 mm x 51 mm

Dia. (10 x 2 in.)

UR2/KSM9/BK, UR2/KSM9/SL: 250 mm x 49 mm Dia.

(9 7/8 x 15/16 in.)

UR4S/UR4D: 44 mm H x 483 mm W x 366 mm D

(1.72 x 19.00 x 14.39 in.)

Net Weight

UR1: 97 g (3.4 oz.) without battery

UR2/SM58: 356 g (12.6 oz.) without battery

UR2/BETA 58: 314 g (11.1oz.) without battery

UR2/SM86: 317 g (11.2 oz.) without battery

UR2/SM87A: 298 g (10.5 oz.) without battery

UR2/BETA 87A, U2/BETA 87C: 325 g (11.5 oz) without battery

UR2/KSM9/BK, UR2/KSM9/SL: 410 g (14.4 oz.) without

battery)

UR4S: 4.8 kg (10.6 lbs)

UR4D: 5.0 kg (11.0 lbs)

Housing:

UR1: Cast magnesium

UR2: Aluminum die-cast handle and aluminum machined battery cup

UR4S, UR4D: Galvanized steel

Certification

UR1, UR2: Type Accepted under FCC Parts 74 (FCC ID: "DD4UR1" & "DD4UR2"). Certified by IC in Canada under RSS-123 and RSS-102 ("IC: 616A-UR1" and "IC: 616A-UR2"). Meets the essential requirements of the European R&TTE Directive 99/5/EC (ETSI EN 300-422 Parts 1 & 2, EN 301 489 Parts 1 & 9) and is eligible to carry the CE marking. **CE** 0682 **Ⓢ**

UR4S, UR4D: Authorized under the Declaration Of Conformity provision of FCC Part 15. Certified under Industry Canada to RSS-123 ("IC: 616A-UR4"). Meets the essential requirements of the European R&TTE Directive 99/5/EC (EN 301 489 Parts 1 & 9, EN 300 422 Parts 1 and 2). Eligible to carry the CE marking. **CE**

Conforms to Australian EMC requirements and is eligible for

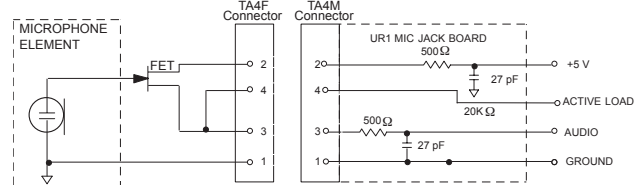
C-Tick marking. **Ⓢ** N108

Have been granted the following Country Safety Approvals:

cULus Mark for US and Canada: Meets UL6500 and CSA/CAN

E60065. UL GS-Certified to EN60065.

Wiring



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

Inputs and Outputs

UR1 Transmitter Audio Input

Connector:	4-Pin male mini connector (TA4M)
Input Configuration:	Unbalanced, active
Actual Impedance:	>1 M Ω
Maximum Input Level: 1 kHz, 1% THD	+10 dBu (sensitivity 0 dB) +20 dBu (sensitivity -10 dB)
TA4M Connector Pin Assignments:	Pin 1: Ground Pin 2: +5 Vdc bias Pin 3: Audio Pin 4: Tied through active load (on main board) to Ground. (On instrument adapter cable, Pin 4 floats)

UR1 Transmitter RF Output

Connector:	SMA
Actual Impedance:	50 Ω
Pin Assignments:	Shell = Ground Center = Signal

UR2 Transmitter Audio Input

Input Configuration:	Unbalanced, active
Actual Impedance:	>1 M Ω
Maximum Input Level: 1 kHz, 1% THD	+4.8 dBu

UR2 Transmitter RF Output

Connector:	SMA
Actual Impedance:	50 Ω
Pin Assignments:	Shell = Ground Center = Signal

Receiver Input

	Antenna	Power
Connector Type:	BNC	IEC
Actual Impedance:	50 Ω	-
Nominal Input Level:	-95 to -30 dBm	100-240 VAC, 50/60 Hz
Maximum Input Level:	-20 dBm	240 VAC, + 10%, 50/60 Hz
Pin Assignments:	Shell = Ground Center = Signal	IEC Standard
Bias Voltage*	12.2 Vdc @ 150 mA maximum	N/A

* For remote antenna amplifiers

Receiver Audio Output

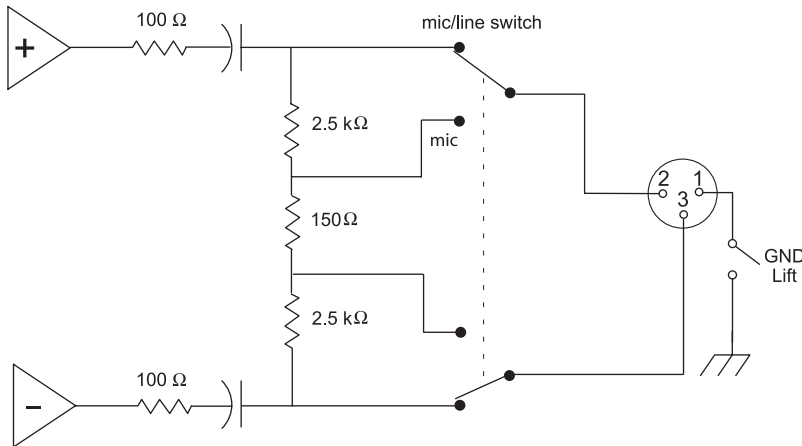
	Monitor (1/4" Headphone)	1/4" Phone	XLR
Output Configuration:	Unbalanced mono, 1/4 inch	Impedance Balanced	Electrically Balanced
Actual Impedance:	50 Ω	200 Ω	200 Ω (active balanced) (150 Ω mic)
Maximum Output Level	1 Watt @ 63 Ω	+18 dBu	+24 dBu (-6 dBu mic) with 100 Hz modulating tone
Pin Assignments:	Tip = Hot Ring = Hot Sleeve = Gnd	Tip = Hot Ring = no signal Sleeve = Gnd	1 = Ground 2 = Audio + 3 = Audio -
Phantom Power Protection?	No	Yes	Yes

Computer/Network Interface

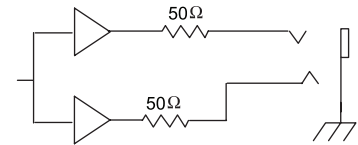
Ethernet	USB*
RJ45	USB Series B Receptacle

* USB-IF logo is a trademark of Universal Serial Bus Implementers Forum, Inc.

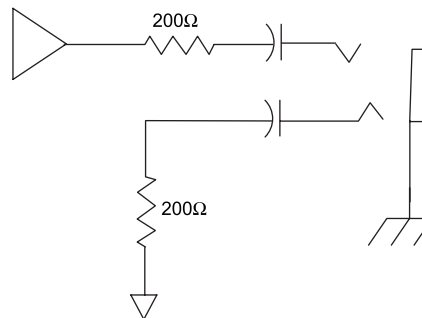
XLR



1/4" Monitor/headphone



1/4" Phone



Replacement Parts and Accessories

Furnished Accessories

Microphone Stand Adapter (UR2)	WA371
Zipper Bag (UR1)	26A13
Zipper Bag (UR2)	26A14
Antenna Extension Cables (2)	95A9023
Hardware Kit, Locking Connector	WA340
Antenna (UR1), 518-578 MHz	UA710
Antenna (UR1), 578-698 MHz	UA720
Antenna (UR1), 740-865 MHz	UA730
Two Antennas (UR4), Band Dependent (see table)	UA820
Transmitter Carrying Case	95A9053

Optional Accessories

SM58 Head with Grille	RPW112
SM86 Head with Grille	RPW114
BETA 58 Head with Grille	RPW118
BETA 87A Head with Grille	RPW120
BETA 87C Head with Grille	RPW122
SM87A Head with Grille	RPW116
KSM9/SL Head with Grille	RPW 180
KSM9/BK Head with Grille	RPW184
Matte Silver Grille (SM58)	RK143G
Matte Silver Grille (SM86)	RPM266
Matte Silver Grille (BETA 58)	RK265G
Black Grille (SM87)	RK214G
Matte Silver Grille (BETA 87A)	RK312
Matte Silver Grille (BETA 87C)	RK312
Black Grille (BETA 58)	RK323G
Black Grille (BETA 87A/BETA 87C)	RK324G
Belt Clip	44A8031
Body-Pack Pouch (Black), UR1	WA580B
Body-Pack Pouch (White), UR1	WA580W
Popper Stopper™ Windscreen	A85WS

Antenna Combiners and Accessories

- Antennas and receivers must be from the same frequency band.
- The supplied 1/2 wave antennas can be remotely mounted or mounted directly to the UA845.
- Antennas and cables for use with the UA845 can also be used with stand-alone UHF-R receivers.

Passive Antenna/Splitter Combiner Kit (recommended for 2 receivers)	UA221
UHF Antenna Power Distribution Amplifier (recommended for 3 or more receivers)	UA845
U.S.A.	UA845US
Europe	UA845E
UK	UA845UK
1/2 Wave, Omnidirectional, Wideband Antenna	UA860WB
Active Directional Wideband Antenna	UA870WB
Wideband In-Line RF Amplifier	UA830WB
Passive Unidirectional Wideband Antenna	PA805WB
1/2 wave antennas (2)	
H4E, H4 Bands	UA820H4
J5E, J5 Bands	UA820J
L3E, L3 Bands	UA820L3
Q5, Q6, Q10 Bands	UA820Q
R9, ABJ, Bands	UA820A
25' Antenna Cable (RG-8/X)	UA825
50' Antenna Cable (RG-8/X)	UA850
100' Antenna Cable	UA8100

Architect's and Engineer's Specifications

The wireless system shall operate in the UHF band between 518 MHz and 865 MHz, with the specific range being dependent on the user's locale. The system shall include the option of changing the operating frequency in order to avoid RF interference, enabling up to 108 systems to operate simultaneously in the same location. Preconfigured group, channel and frequency setups shall be available to ensure that multiple systems in use do not interfere with one another.

All transmitters shall be powered by 2 AA batteries and shall have a power on/off switch. The bodypack will have an LED indicating that power is on. Available transmitters shall include: a body pack for use with electric guitars, basses, and other electric instruments, and a handheld microphone for vocals. The transmitters shall have a DC/DC converter to ensure consistent performance, even if battery voltages change.

The receiver shall have a user-programmable, menu-driven LCD showing group, channel, frequency, name, squelch level, and locked/unlocked status. The system shall use technology such as MARCAD[®] signal combining circuitry to improve reception, minimize signal dropouts, and achieve the best possible signal-to-noise ratio. An equalizer, tone key squelch, and noise squelch circuitry shall be built into the system to provide optimal sound quality and minimize unwanted noise. The receiver shall include dual RF meters (one for each antenna), an audio level meter, and a Networking Interface connector for computer control and monitoring. The receiver shall have a volume control and an adjustable noise squelch control.

The system shall be the Shure UHF-R Wireless.



SHURE Incorporated <http://www.shure.com>
 United States, Canada, Latin America, Caribbean:
 5800 W. Touhy Avenue, Niles, IL 60714-4608, U.S.A.
 Phone: 847-600-2000 U.S. Fax: 847-600-1212 Intl Fax: 847-600-6446
 Europe, Middle East, Africa:
 Shure Europe GmbH, Phone: 49-7131-72140 Fax: 49-7131-721414
 Asia, Pacific:
 Shure Asia Limited, Phone: 852-2893-4290 Fax: 852-2893-4055



Technische Merkmale

- Frequenzagiler Handsender für drahtlose Mikrofonsysteme im UHF Bereich
- Austauschbare Mikrofonkapsel
- Pegelabhängiges „Audio Reference Companding“ (Shure Patent)
- Schaltbare HF-Ausgangsleistung: 10/50 mW*
- Setups mit bis zu 47 kompatiblen Kanälen
- Bis zu 3000 wählbare Frequenzen auf bis zu 75 MHz Bandbreite
- Infrarot-Synchronisation zwischen Empfänger und Sender
- Hintergrundbeleuchtetes LC-Display mit Anzeige für Name, Frequenz, Batteriestand, Gain-Einstellung und Status der Sperrfunktionen
- Sperrfunktionen für Frequenz und Ein/Aus-Schalter
- Leichtes und robustes Aluminium-Druckguss-Gehäuse

* Abhängig von länderspezifischen Nutzungs- und Importbedingungen

Beschreibung

Bei der Shure UHF-R Serie handelt es sich um ein professionelles, drahtloses Mikrofonsystem im UHF-Bereich. Durch das pegelabhängige Audio Reference Companding wird eine herausragende Klangqualität erzielt. Die Trägerfrequenz kann aus bis zu 3000 verschiedenen Frequenzen ausgewählt werden. Sowohl Kanäle in fest vorprogrammierte Gruppen als auch in frei programmierbaren Gruppen, Infrarot-Synchronisation von Sender und Empfänger sowie die Netzwerkfähigkeit und die mitgelieferte Windows® Software (Wireless Workbench®) erleichtern das Setup von sehr komplexen Drahtlos-Installationen.

Der UR2 ist ein Handsender mit austauschbarer Mikrofonkapsel. Zur exakten Pegelanpassung kann die Eingangsverstärkung über das Menü stufenlos eingestellt werden. Eine Anzeige im LC-Display gibt Auskunft über den Namen, den aktuellen Batteriestand, die eingestellte Trägerfrequenz sowie Gain-Einstellung und Status der Sperrfunktionen für den Ein/Aus-Schalter sowie die eingestellte Frequenz. Es besteht die Möglichkeit, den Sender im so genannten „RF Safety Mode“ zu betreiben, wobei eine uneingeschränkte Bedienung bei gleichzeitig deaktivierter Trägerfrequenz gewährleistet ist. Sämtliche Einstellungen können mittels Taster durchgeführt oder komfortabel per Infrarot-Synchronisation mit Hilfe des Empfängers übermittelt werden.

Durch das robuste Aluminium-Druckguss-Gehäuse wird die überragende Leistungsfähigkeit des UR2 auch bei rauer Handhabung gewährleistet.

Modellvarianten

UR2/SM58:	SM58®
	dynamische Kapsel, Niere
UR2/SM86:	SM86
	Elektretkondensatorkapsel, Niere
UR2/SM87:	SM87A
	Elektretkondensatorkapsel, Superniere
UR2/BETA58:	Beta 58A®
	dynamische Kapsel, Superniere
UR2/BETA87C:	Beta 87C™
	Elektretkondensatorkapsel, Niere
UR2/BETA87A:	Beta 87A™
	Elektretkondensatorkapsel, Superniere
UR2/KSM9/BK, UR2/KSM9/SL:	KSM9
	Elektretkondensatorkapsel, umschaltbar zwischen Niere/Superniere, BK = schwarz, SL = champagnerfarben

Ausschreibungstext

Professioneller UHF Handsender zur drahtlosen Audioübertragung inkl. Pilotton (32 kHz) zur verbesserten Betriebssicherheit sowie Vermeidung von Ein- und Ausschaltgeräuschen; austauschbare Mikrofonkapseln; bis zu 3000 anwählbare Frequenzen, vorprogrammierte Frequenzgruppen mit bis zu 47 kompatiblen Kanälen pro Frequenzband. Stufenlos regelbare Eingangsverstärkung, Sperrung des Ein/Aus-Schalters und der Frequenz sowie schaltbare HF Ausgangs-Leistung (10 mW/50 mW)* möglich; hintergrundbeleuchtetes LC-Display mit Anzeige von Name, Frequenz, Batteriezustand und Gain-Einstellung sowie Status der Sperrfunktionen. Infrarotschnittstelle zur Synchronisation sämtlicher Einstellungen über den Empfänger (inklusive der Übertragung von frei programmierbaren Frequenzgruppen).

Technische Daten

Trägerfrequenzbereich

518 – 865 MHz*

Hochfrequenzausgangsleistung

10 mW oder 10/50 mW schaltbar*

Gain Regelbereich

30 dB

Batterielebensdauer

> 8 Stunden mit 2 AA Batterien
(10 mW Einstellung)

Gehäuse

Aluminium-Druckguss

Abmessungen (L x Ø)

UR2/SM58:	253 x 51 mm
UR2/SM86:	246 x 51 mm
UR2/SM87:	245 x 51 mm
UR2/BETA58:	251 x 51 mm
UR2/BETA87A:	246 x 51 mm
UR2/BETA87C:	246 x 51 mm
UR2/KSM9/BK, UR2/KSM9/SL: ..	253 x 51 mm

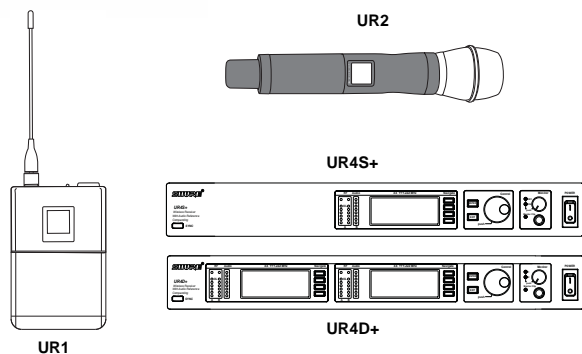
Gewicht (ohne Batterien)

UR2/SM58:	354 g
UR2/SM86:	316 g
UR2/SM87:	313 g
UR2/BETA58:	314 g
UR2/BETA87A:	323 g
UR2/BETA87C:	323 g
UR2/KSM9/BK, UR2/KSM9/SL:	365 g

Mitgeliefertes Zubehör

WA371	Adapter für Mikrofonständer
26A14	Tasche mit Reißverschluss
95A9053	Trage-Etui für Sender

* Die Daten können aufgrund landesspezifischer Nutzungs- und Importvorschriften variieren.



DESCRIPTION

The UHF-R® is a professional, wireless technology engineered for the most demanding touring environments and installations.

UHF-R® wireless systems offer unprecedented flexibility and versatility. Using multiple frequency bands, up to 160 compatible systems can be used simultaneously. Individual frequency bands deliver up to 60 compatible systems per band. The UHF-R also includes infrared synchronization that allows you to configure transmitter settings from the receiver. With multiple system operation and interchangeable components, UHF-R systems also offer a choice of Single or Dual Channel Diversity Receivers.

SYSTEM FEATURES

Shure UHF-R® Wireless Systems offer many exceptional features, including:

Auto Frequency Selection/Scan

- Locates a clear channel instantly

Auto Transmitter Sync

- Infrared (IR) sync automatically synchronizes the transmitter and receiver

Networking

Each receiver has an RJ-45 port on the back that lets you connect to an Ethernet network. Networking receivers provides the following benefits:

- Makes channel setup faster and easier
- Allows you to monitor and control multiple receivers using the Shure Wireless Workbench PC Software

RF Distribution Ports

Use the RF distribution ports to share the signal from a single pair of antennas with up to 10 single or dual receivers within the same frequency band. The RF ports eliminate the need for antenna splitters or distribution amplifiers. Active circuitry minimizes insertion losses, preserving signal quality. Input filtering keeps the signal free from out-of-band interference. Distribution circuitry is active only when additional receivers are connected to the RF distribution ports. When not used, the port circuitry is bypassed, allowing the receiver to be used as a stand-alone component.

Shure's Wireless Workbench Software

Key benefits of current Wireless Workbench software include:

- Fast network setup of large groups of wireless systems:
- Scans current RF environment.
- Plots RF history, using an individual transmitter to identify potential areas of weak signals and dropouts.
- Remote monitoring and control of multiple wireless systems.
- Wireless Workbench provides faster setup and more complete control.
- Automatic Frequency Selection Wizard: Will scan and select open frequencies, applying them to all Shure UHF-R receivers in network (and ultimately to connected networks of current UHF series receivers as well).
- Comprehensive Infra-Red (IR) Auto Sync/Automatic Transmitter Setup: PC control of transmitter sync with corresponding receiver. Syncs frequency, lockouts, power setting, custom groups.
- Frequency Compatibility Calculator Wizard: By scanning the RF environment and then considering all networked hardware models, Wireless Workbench recommends frequencies for all specified wireless systems (including PSM systems, and competitive product). While this feature has a proprietary slant, a generic hardware "template" will be available for those users who insist on networking with non-Shure products)
- The Band Limiting feature allows manufacturer or service center to set Network frequency band parameters, to align with any country/regional RF usage guidelines that might conflict with the available bandwidth.
- Custom Frequency Group Creation allows customization of frequency groups to be used in specific locations. May require advanced wireless aptitude, or assistance from Shure's Applications departments.

Shure's patented Audio Reference Companding

- Delivers a crystal clear audio transmission, superior to conventional wireless technology

UR4S+ & UR4D+ DIVERSITY RECEIVER FEATURES:

- Up to 2,400 selectable frequencies across up to 60 MHz bandwidth
- **Track Tuning** Filtering Technology (on all 60 MHz or greater products).
- Up to 40 preset compatible systems/band (up to 160 with multiple bands).
- Network Automatic Frequency Selection
- Automatic Transmitter sync (**including custom Group Upload**)
- Flash memory to store six 60-channel custom frequency groups
- Shure's Patented Audio Reference Companding
- Multi-function bit-mapped backlit LCD
- Built-in **USB & Ethernet** network Control/Monitoring
- AMX/Creston Compatible
- Remoteable 1/2 wave antenna
- Temperature-activated fan ensures top performance in high temperature environments. Clean fan screen as needed to remove dust.
- MARCAD® diversity

HANDHELD AND BODYPACK TRANSMITTERS FEATURES

- Switchable RF Power (10/50 & 10/100 mW), country dependent
- Low profile, compact bodypack design
- Frequency and Power Lockout
- Bit-mapped Backlit LCD
- 2 AA Batteries - Up to 9.5 hours continuous use (low power)
- Automatic Transmitter Setup
- All-metal die-cast construction
- Light-weight magnesium bodypack
- Flexible bodypack antenna
- Reversible Belt Clip

UHF-R™ Wireless System Specifications

Frequency Range and Transmitter Output Power

Band	Range	Transmitter power (Nominal mW)	
		Handheld	Bodypack
G1	470-530 MHz	10 / 50	10 / 100
G1E	470-530 MHz	10 / 50	10 / 50
H4	518-578 MHz	10 / 50	10 / 100
H4E	518-578 MHz	10 / 50	10 / 50
J5	578-608, 614-638	10 / 50	10 / 100
J5E	578-638 MHz	10 / 50	10 / 50
K4E	606-666	10 / 50	10 / 50
L3	638-698 MHz	10 / 50	10 / 100
L3E	638-698 MHz	10 / 50	10 / 50
Q5	740-814 MHz	10 / 50	10 / 50
R9	790-865 MHz	10 / 50	10 / 50
Q6	740-752 MHz	10	10
A24	779-788 / 797-806 MHz	10	10
JBX	806-810 MHz	10	10
Q10A	740-798 MHz	10 / 50	10 / 50
R16	794-806 MHz	10/50	10/50
R18	794-806 MHz	10 Only	10 Only
X1	944-952 MHz	10/50	10/100

NOTE

This Radio equipment is intended for use in musical professional entertainment and similar applications.

This Radio apparatus may be capable of operating on some frequencies not authorized in your region. Please contact your national authority to obtain information on authorized frequencies and RF power levels for wireless microphone products.

RF Carrier Frequency Range
470-952 MHz, depending on region

Working Range
UR1, UR2: 150 m (500 ft.), under typical conditions
500 m (1600 ft) **line-of-sight, outdoors** for a single system

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

Audio Frequency Response
40 – 18,000 Hz, (+1 dB, –3 dB).

NOTE: Overall system frequency response depends on microphone element

Gain Adjustment Range
UR1: –20 to +35 dB
UR2: –10 to +20 dB

Modulation
FM (45 kHz max. deviation), compander system with pre- and de-emphasis

RF Power Output
See table above.

Dynamic Range
>105 dB, A-weighted

Image Rejection
>110 dB typical

RF Sensitivity

UR4S+	UR4D+
–110 dBm Typical 12 dB SINAD	–107 dBm Typical 12 dB SINAD
–105 dBm Typical 30 dB SINAD	–102 dBm Typical 30 dB SINAD

Spurious Rejection
>90 dB typical

Ultimate Quieting (ref. 45 kHz deviation)
>100 dB, A-weighted

Signal Polarity
Positive pressure on microphone diaphragm (or positive voltage applied to tip of WA302 phone plug) produces positive voltage on XLR output pin 2 with respect to XLR pin 3 and on the tip of the 1/4-inch output jack.

System Distortion (ref. ± 45 kHz deviation, 1 kHz modulation)
<0.3% Total Harmonic Distortion typical

Power Requirements
UR1, UR2: Two 1.5V AA batteries
UR4: 100 to 240 Vac, 50/60 Hz

Current Drain
UR1, UR2: 180 mA max. (normal RF power setting)
240 mA max. (high RF power setting)
UR4D+, UR4S+: 0.8 Amps max.

Battery Life (Typical)
UR1, UR2: 9.5 hours (low power)
6 hours (high power)

Operating Temperature Range
–18° to +57° C (0° to +135° F)

NOTE: Battery characteristics may limit this range

NOTE: Electrical safety approval is based on a maximum ambient temperature of 35°C (95°F).

Overall Dimensions

UR1: 98 mm L x 60 mm W x 17 mm D (3.84 x 2.38 x 0.66 in.)
UR2/SM58: 261 mm L x 51 mm Dia. (10.27 x 2 in.)
UR2/SM86: 261 mm L x 51 mm Dia. (10.27 x 2 in.)
UR2/SM87A: 254 mm x 51 mm Dia. (10 x 2 in.)
UR2/BETA 58: 258 mm L x 51 mm Dia. (10.15 x 2 in.)
UR2/BETA 87A,
UR2/BETA 87C: 254 mm x 51 mm Dia. (10 x 2 in.)
UR2/KSM9/BK,
UR2/KSM9/SL: 250 mm x 49 mm Dia. (9 7/8 x 15/16 in.)
UR4S+/UR4D+: 44 mm H x 483 mm W x 366 mm D (1.72 x 19.00 x 14.39 in.)

Net Weight


UR1: 97 g (3.4 oz.) without battery
UR2/SM58: 356 g (12.6 oz.) without battery
UR2/BETA 58: 314 g (11.1oz.) without battery
UR2/SM86: 317 g (11.2 oz.) without battery
UR2/SM87A: 298 g (10.5 oz.) without battery
UR2/BETA 87A,
UR2/BETA 87C: 325 g (11.5 oz) without battery
UR2/KSM9/BK,
UR2/KSM9/SL: 410 g (14.4 oz.) without battery
UR4S+: 4.8 kg (10.6 lbs)
UR4D+: 5.0 kg (11.0 lbs)

Housing:
UR1: Cast magnesium
UR2: Aluminum die-cast handle and aluminum machined battery cup
UR4S+, UR4D+: Galvanized steel

CERTIFICATION

UR1, UR2, UR4S+, UR4D+

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.
Meets requirements of EMC standards EN 300 422 Parts 1 and 2 and EN 301 489 Parts 1 and 9.

Meets essential requirements of European R&TTE Directive 99/5/EC, eligible to bear the CE mark.  0682 

UR1, UR2

Certified under FCC Part 74. (FCC ID: DD4UR1, DD4UR2). Certified by IC in Canada under RSS-123 and RSS-102. (IC: 616A-UR1, 616A-UR2).

Emission Designator: 120KF3E

UR4S+, UR4D+

Approved under the Declaration of Conformity (DoC) provision of FCC Part 15.
Certified in Canada by IC to RSS-123. (IC: 616A-UR4P). Conforms to Australian EMC requirements and is eligible for C-Tick marking.

Have been granted the following Country Safety Approvals:

cULus Mark for US and Canada: Meets UL6500 and CSA/CAN E60065. UL GS-Certified to EN60065.

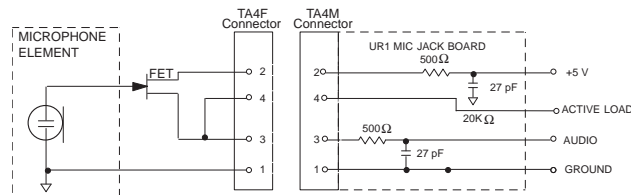
Operation of this device is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

The CE Declaration of Conformity can be obtained from Shure Incorporated or any of its European representatives. For contact information please visit www.shure.com

The CE Declaration of Conformity can be obtained from:

www.shure.com/europe/compliance

Wiring



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

INPUTS AND OUTPUTS

UR1 Transmitter Audio Input

Connector:	4-Pin male mini connector (TA4M)
Input Configuration:	Unbalanced, active
Actual Impedance:	>1 MΩ
Maximum Input Level: 1 kHz, 1% THD	+10 dBu (sensitivity 0 dB) +20 dBu (sensitivity –10 dB)
TA4M Connector Pin Assignments:	Pin 1: Ground Pin 2: +5 Vdc bias Pin 3: Audio Pin 4: Tied through active load (on main board) to Ground. (On instrument adapter cable, Pin 4 floats)

UR1 Transmitter RF Output

Connector:	SMA
Actual Impedance:	50 Ω
Pin Assignments:	Shell = Ground Center = Signal

UR2 Transmitter Audio Input

Input Configuration:	Unbalanced, active
Actual Impedance:	>1 MΩ
Maximum Input Level: 1 kHz, 1% THD	+4.8 dBu

UR2 Transmitter RF Output

Connector:	SMA
Actual Impedance:	50 Ω
Pin Assignments:	Shell = Ground Center = Signal

Receiver Input

	Antenna	Power
Connector Type:	BNC	IEC
Actual Impedance:	50 Ω	-
Nominal Input Level:	-95 to -30 dBm	100-240 VAC, 50/60 Hz
Maximum Input Level:	-20 dBm	240 VAC, + 10%, 50/60 Hz
Pin Assignments:	Shell = Ground Center = Signal	IEC Standard
Bias Voltage*	12.2 Vdc @ 150 mA maximum	N/A

* For remote antenna amplifiers

RF Distribution Ports

	RF IN	RF OUT
Connector Type	BNC	BNC
Vdc Bias	12 Vdc @ 150 mA	N/A

Receiver Audio Output

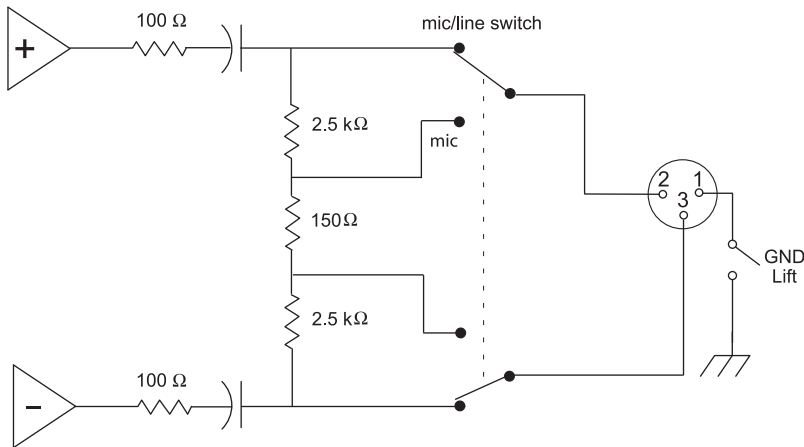
	Monitor (1/4" Headphone)	1/4" Phone	XLR
Output Configuration:	Unbalanced mono, 1/4 inch	Impedance Balanced	Electrically Balanced
Actual Impedance:	50 Ω	200 Ω	200 Ω (active balanced) (150 Ω mic)
Maximum Output Level	1 Watt @ 63 Ω	+18 dBu	+24 dBu (-6 dBu mic) with 100 Hz modulating tone
Pin Assignments:	Tip = Hot Ring = Hot Sleeve = Gnd	Tip = Hot Ring = no signal Sleeve = Gnd	1 = Ground 2 = Audio + 3 = Audio -
Phantom Power Protection?	No	Yes	Yes

Computer/Network Interface

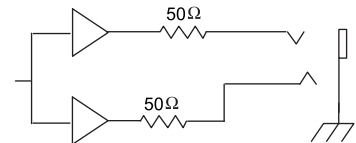
Ethernet	USB*
RJ45	USB Series B Receptacle

* USB-IF logo is a trademark of Universal Serial Bus Implementers Forum, Inc.

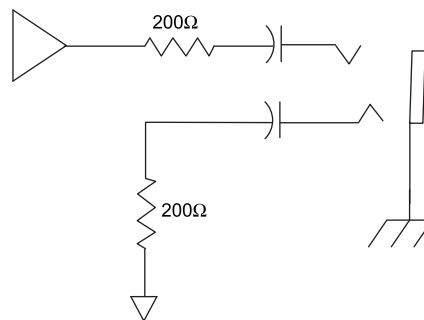
XLR



1/4" Monitor/headphone



1/4" Phone



REPLACEMENT PARTS AND ACCESSORIES

Furnished Accessories

Microphone Stand Adapter (UR2)	WA371
Zipper Bag (UR1)	26A13
Zipper Bag (UR2)	26A14
Antenna Extension Cables (2)	95A9023
RF Distribution Cables (2)	95N2035
Hardware Kit, Locking Connector	WA340
Antenna (UR1), 470-530 MHz	UA700
Antenna (UR1), 944-952 MHz	UA740
Antenna (UR1), 518-578 MHz	UA710
Antenna (UR1), 578-698 MHz	UA720
Antenna (UR1), 740-865 MHz	UA730
Two Antennas (UR4), Band Dependent (see table)	UA820
Transmitter Carrying Case	95A9053

Optional Accessories

SM58 Head with Grille	RPW112
SM86 Head with Grille	RPW114
BETA 58 Head with Grille	RPW118
BETA 87A Head with Grille	RPW120
BETA 87C Head with Grille	RPW122
SM87A Head with Grille	RPW116
KSM9/SL Head with Grille	RPW 180
KSM9/BK Head with Grille	RPW184
Matte Silver Grille (SM58)	RK143G
Matte Silver Grille (SM86)	RPM266
Matte Silver Grille (BETA 58)	RK265G
Black Grille (SM87)	RK214G
Matte Silver Grille (BETA 87A)	RK312
Matte Silver Grille (BETA 87C)	RK312
Black Grille (BETA 58)	RK323G
Black Grille (BETA 87A/BETA 87C)	RK324G
Belt Clip	44A8031
Body-Pack Pouch (Black), UR1	WA580B
Body-Pack Pouch (White), UR1	WA580W
Popper Stopper™ Windscreen	A85WS

Antenna Combiners and Accessories

- Antennas and receivers must be from the same frequency band.
- The supplied 1/2 wave antennas can be remotely mounted or mounted directly to the UA845.
- Antennas and cables for use with the UA845 can also be used with stand-alone UHF-R receivers.

Passive Antenna/Splitter Combiner Kit (recommended for 2 receivers)	UA221
UHF Antenna Power Distribution Amplifier	UA845-
U.S.A.	UA845SWB
Europe	UA845E
UK	UA845UK
1/2 Wave, Omnidirectional, Wideband Antenna	UA860SWB
Active Directional Wideband Antenna	UA870USTV and UA870X*
Wideband In-Line RF Amplifier	UA830USTV and UA830X*
Passive Unidirectional Wideband Antenna	PA805SWB
1/2 wave antennas (2)	
H4E, H4 Bands	UA820H4
J5E, J5 Bands	UA820J
L3E, L3 Bands	UA820L3
Q5, Q6, Q10 Bands	UA820Q
R9, ABJ, Bands	UA820A
G1 Band	UA820G
X1 Band	UA820X
10' Antenna Cable	PA725
25' Antenna Cable (RG-8/X)	UA825
50' Antenna Cable (RG-8/X)	UA850
100' Antenna Cable	UA8100

Note: USTV: 470-698 MHz. X: 944-952 MHz

Architect's and Engineer's Specifications

The wireless system shall operate in the UHF band between 470-865 MHz and 944-952 MHz, with the specific range being dependent on the user's locale. The system shall include the option of changing the operating frequency in order to avoid RF interference, enabling up to 160 systems to operate simultaneously in the same location. Preconfigured group, channel and frequency setups shall be available to ensure that multiple systems in use do not interfere with one another.

All transmitters shall be powered by 2 AA batteries and shall have a power on/off switch. The bodypack will have an LED indicating that power is on. Available transmitters shall include: a body pack for use with electric guitars, basses, and other electric instruments, and a handheld microphone for vocals. The transmitters shall have a DC/DC converter to ensure consistent performance, even if battery voltages change.

The receiver shall have a user-programmable, menu-driven LCD showing group, channel, frequency, name, squelch level, and locked/unlocked status. The system shall use technology such as MARCAD® signal combining circuitry to improve reception, minimize signal dropouts, and achieve the best possible signal-to-noise ratio. An equalizer, tone key squelch, and noise squelch circuitry shall be built into the system to provide optimal sound quality and minimize unwanted noise. The receiver shall include dual RF meters (one for each antenna), an audio level meter, and a Networking Interface connector for computer control and monitoring. The receiver shall have a volume control and an adjustable noise squelch control.

The system shall be the Shure UHF-R Wireless.



United States, Canada, Latin America, Caribbean:
Shure Incorporated
5800 West Touhy Avenue
Niles, IL 60714-4608 USA
Phone: 847-600-2000
Fax: 847-600-1212 (USA)
Fax: 847-600-6446
Email: info@shure.com

Europe, Middle East, Africa:
Shure Europe GmbH
Wannenäckerstr. 28,
74078 Heilbronn, Germany
Phone: 49-7131-72140
Fax: 49-7131-721414
Email: info@shure.de

Asia, Pacific:
Shure Asia Limited
22/F, 625 King's Road
North Point, Island East
Hong Kong
Phone: 852-2893-4290
Fax: 852-2893-4055
Email: info@shure.com.hk

www.shure.com

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Models WL183, WL184 and WL185



GENERAL

Models WL183, WL184 and WL185 are lavalier electret condenser microphones for use with a wireless bodypack transmitter. Each microphone has a 1.2 meter (4 ft.) cable terminated with a miniature 4-pin connector (TA4F). The furnished tie clip can be rotated in 90° intervals for placement flexibility.

APPLICATIONS

WL183 (Omnidirectional): General purpose sound reinforcement, recording, or remote monitoring applications. Low handling noise. Pickup angle is 360°.

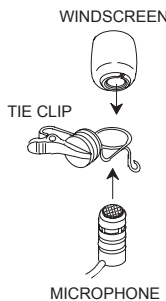
WL184 (Supercardioid): Sound reinforcement applications requiring high rejection of ambient noise and narrow pickup angle. Use of windscreen highly recommended. Pickup angle is 115°.

WL185 (Cardioid): General purpose sound reinforcement applications requiring good rejection of ambient noise. Use of windscreen highly recommended. Pickup angle is 130°.

INSTALLATION

1. Insert the top of the microphone through tie clip loop from below until tie clip loop snaps into place over the lower groove on the microphone. Refer to the following illustration.

2. To install the snap-fit windscreen, press it down on the microphone until it clicks into place inside the upper groove on the microphone. The snap-fit windscreen provides 30 dB of pop protection.



NOTE:

- The snap-fit windscreen can be removed by spreading the slot in the plastic snap-fit ring.
- To install the smaller foam windscreen, slip the windscreen over the top of the microphone so that it covers the side slots. The foam windscreen provides 5 to 10 dB of pop protection.

3. Attach the microphone approximately 76 mm to 152 mm (3 to 6 in.) below the neckline.

NOTE: Do not cover the microphone with your hand or clothing.

CHANGING CARTRIDGES

The WL183, WL184, and WL185 microphones use interchangeable cartridges. To change the cartridge, unscrew it from the microphone base and replace it with one of the replacement cartridges listed below.

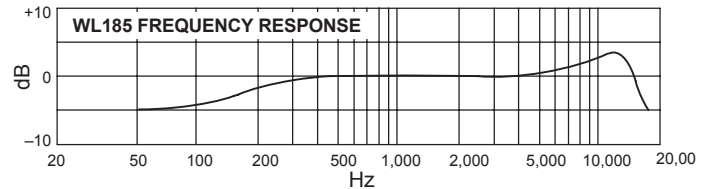
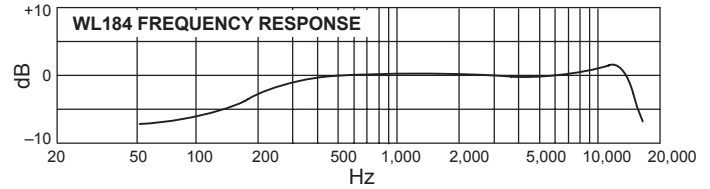
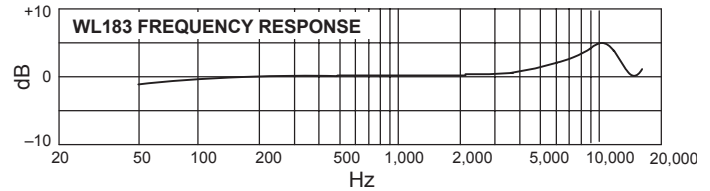
REPLACEMENT PARTS AND ACCESSORIES

Omnidirectional Cartridge	R183B
Supercardioid Cartridge	R184B
Cardioid Cartridge	R185B
Snap-fit Windscreens (4)	RK183WS
Foam Windscreen (4)	RK261WS
Tie Clips (2)	RK183T1
Miniature 4-pin Connector	WA330

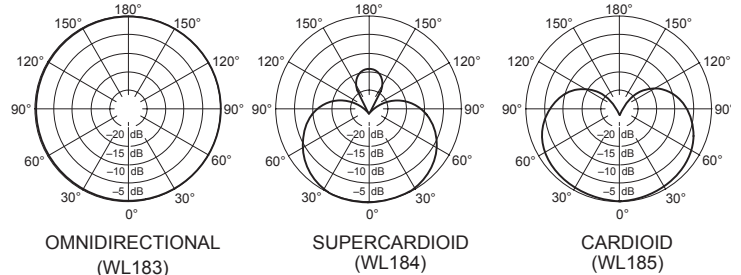
SPECIFICATIONS

Type: Condenser (electret bias)

Frequency Response: 50 to 17,000 Hz



Polar Patterns (at 1 kHz): (see below)



Output Impedance : 1800 Ω

Sensitivity (1 Pa = 94 dB SPL): WL183: -40.0 dBV/Pa

..... WL184: -44.5 dBV/Pa

..... WL185: -45.5 dBV/Pa

Maximum Sound Pressure Level: WL183: 125.0 dB SPL

..... WL184: 129.5 dB SPL

..... WL185: 130.5 dB SPL

Output Noise (A-weighted): WL183: 22.5 dB SPL

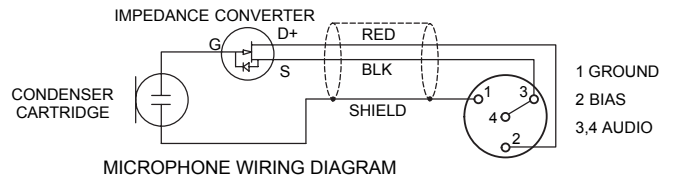
..... WL184: 27.0 dB SPL

..... WL185: 28.0 dB SPL

Dynamic Range: 102.5 dB

Polarity: Positive pressure on diaphragm produces positive voltage on pins 3 and 4 relative to pin 1.

Power Requirements: Regulated nominal +5 Vdc (1.5 Vdc to 10 Vdc) provided at microphone connector pin 2 relative to pin 1 of a Shure wireless microphone transmitter.



Models WL93, WL93T, WL93-6, WL93-6T



GENERAL

Model WL93 Microphones are omnidirectional, subminiature, lavalierelectret condenser microphones designed for use in TV broadcasting, theater, and sound reinforcement applications where a visually unobtrusive microphone is desirable.

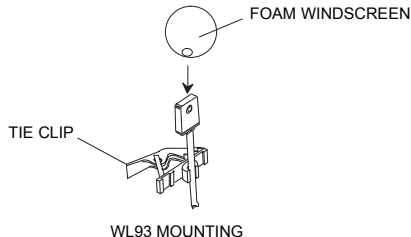
All WL93 models are supplied with a mounting block with attached tie bar, a sew-on mounting bracket, and an acoustic windscreen to minimize wind noise in outdoor applications. All WL93 models include a 1.2 m (4 ft.) cable terminated with a miniature 4-pin connector (TA4F type) which connects directly to a Shure wireless body-pack transmitter.

VARIATIONS

- **WL93:** Black finish; includes 1.2 m (4 ft.) cable
- **WL93T:** Tan finish; includes 1.2 m (4 ft.) cable
- **WL93-6:** Black finish; includes 1.9 m (6 ft.) cable
- **WL93-6T:** Tan finish; includes 1.9 m (6 ft.) cable

INSTALLATION

1. To mount a WL93 to the tie clip, snap the microphone into the mounting bracket and attach the clip to an article of clothing.
2. To install the foam windscreen, slip it over the top of the microphone. The foam windscreen provides 5 to 10 dB of pop protection.



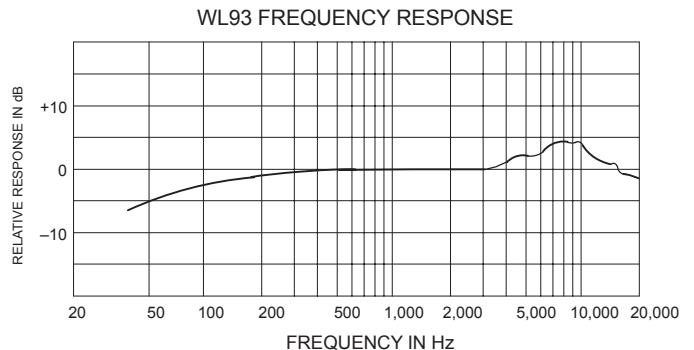
REPLACEMENT PARTS AND ACCESSORIES

Windscreen, Charcoal Gray	RK355WS
Tie Clip, Black (2 each)	RK354SB
Tan Windscreen	RK304T
Double Tie Clip	RK307DB
Tan Tie Clip Assembly	90B4327
Black Sew-on Mounting Bracket	65B1733
Tan Sew-on Mounting Bracket	65B1733A
Zippered Carrying Bag	26A13

SPECIFICATIONS

Type: Condenser (electret bias)

Frequency Response: 50 to 20,000 Hz



Polar Pattern: Omnidirectional, uniform with frequency

Output Impedance: 3000 Ω

Sensitivity: -38 dBV/Pa (1 Pa = 94 dB SPL)

Maximum Sound Pressure Level: 120 dB SPL

Dynamic Range: 102 dB

Output Noise (A-weighted): 18 dB SPL

Polarity: Positive pressure on microphone diaphragm produces positive voltage on pin 3 with respect to pin 1 (ground)

Power Requirements: Regulated nominal +5 Vdc (2 Vdc to 10 Vdc) source provided at microphone connector pin 2 relative to pin 1 of a Shure wireless body-pack transmitter.

SHURE®

SHURE Incorporated <http://www.shure.com>

United States, Canada, Latin America, Caribbean:

5800 W. Touhy Avenue, Niles, IL 60714-4608, U.S.A.

Phone: 847-600-2000 U.S. Fax: 847-600-1212 Intl Fax: 847-600-6446

Europe, Middle East, Africa:

Shure Europe GmbH, Phone: 49-7131-72140 Fax: 49-7131-721414

Asia, Pacific:

Shure Asia Limited, Phone: 852-2893-4290 Fax: 852-2893-4055