

SHURE®



SHURE MODEL UA830 UHF IN-LINE RF AMPLIFIER

GENERAL

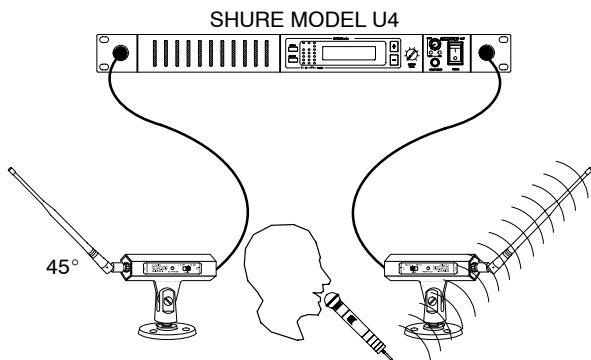
The Shure UA830 is a low-noise, in-line antenna amplifier. The UA830 is intended for remote-mounting antennas to a Shure Model U4 or ULX receiver or Model UA845, or UA844 distribution amplifier in a large installation, effectively shortening the distance from the transmitters. The unit receives power through its output port from the Shure receiver or distribution amplifier. When an antenna is remote-mounted, the UA830 amplifies the received radio signals to compensate for insertion loss in the coaxial cable. A gain selector switch adjusts for longer lengths of coaxial cable.

Features

- ▶ Compatible with the Shure Model U4 or ULX wireless microphone receiver and the Shure Model UA845, or UA844 Antenna Distribution System
- ▶ Mountable on supplied desk-/wall-mount or on a microphone stand
- ▶ Two-position gain selector switch to adjust for longer coaxial cable lengths (3 dB position for cables under 7 1/2 m [25 ft], 10 dB position for cables over 7 1/2 m [25 ft])
- ▶ Isolates antennas from cable interactions
- ▶ Extremely durable under the heaviest use
- ▶ Shure quality, ruggedness, and reliability

APPLICATION

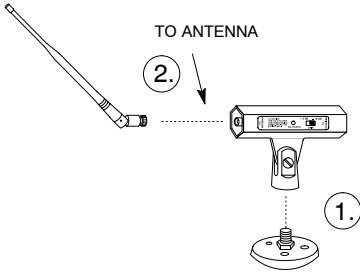
Techniques will vary from setup to setup according to different situations. Usually, the antennas should be as far apart as possible, creating the widest RF field and ensuring signal reception. In a diversity system such as the Shure Model U4, as in the example in Figure 1, Shure recommends that the two antennas be positioned at 45° angles pointing away from each other (Figure 1). This way, the system is guaranteed the widest possible RF field, minimizing the chance of the RF signal dropping out. As a general recommendation, positioning should be tested and adjusted for each individual setup.



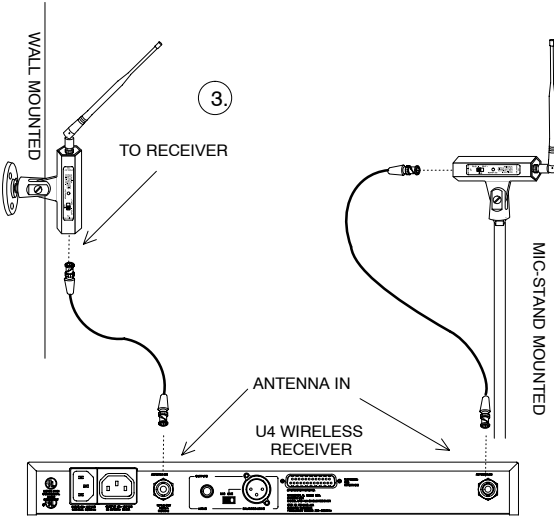
IN A DIVERSITY SYSTEM
FIGURE 1

INSTALLATION

1. Thread the Shure Model UA830 unit on the supplied stand (Figure 2), or on a $\frac{5}{8}$ in.-27 thread microphone stand.
2. Connect the antenna to the TO ANTENNA port on the Model UA830 unit (Figure 2).
3. Using 50 Ω low-loss coaxial cable (purchased separately, Shure UA825 or UA850 or UA8100 recommended), connect the TO RECEIVER port of the UA830 to the Shure Model U4 or ULX wireless receiver or UA845, or UA844 Antenna Distribution System (see Figure 3 for U4 Receiver example).
4. If a second UA830 Line Amplifier is needed for extremely long cable runs (over 15 m [50 ft]), (Shure model U4 and UA845 only) repeat steps 1 to 3. See *Adjusting for Different Cable Lengths*.

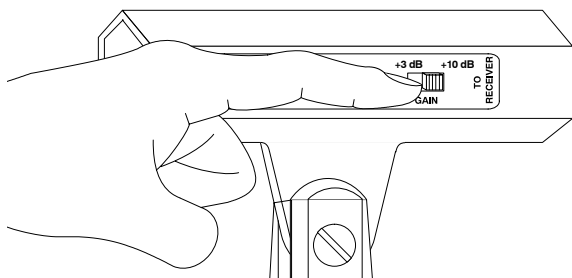


ATTACHING THE BASE AND ANTENNA
FIGURE 2



CONNECTING THE RECEIVER
FIGURE 3

ADJUSTING FOR DIFFERENT CABLE LENGTHS

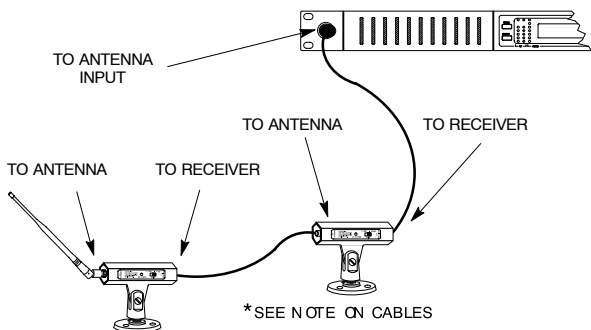


ADJUSTING FOR DIFFERENT CABLE LENGTHS
FIGURE 4

The longer the coaxial cable connecting the UA830 unit and the receiver or distribution amplifier, the greater the possibility for signal loss. The UA830 comes with a GAIN switch that can compensate for signal loss in longer cables. Shure recommends using the Shure UA825 or UA850 or UA8100 coaxial cable when remote mounting antennas. NOTE: Use only 50 Ω low-loss cables (RG-8 or equivalent).

Set the switch according to these guidelines:

- ▶ *UA825 Extension Cable (7.6 m [25 ft])*—Set GAIN switch in 3 dB position.
- ▶ *UA850 Extension Cable (15.2 m [50 ft])*—Set GAIN switch in 10 dB position.
- ▶ *UA8100 Extension Cable (30.4 m [100 ft])*—Set GAIN switch in 10 dB position.
- ▶ If over 15.2 m (50 ft) is required, a maximum of two UA830's (Shure model U4 and UA845 only) may be chained together. See Figure 5. The Gain switches for each UA830 must be adjusted separately. No more than two may be chained.



CHAINING TWO UA830's
FIGURE 5

*To maintain Shure UA825 and UA850 or UA8100 cables in top condition in permanent installations:

1. Avoid sharp bends or kinks in the cables.
2. Do not deform cables with makeshift clamps, such as bending a nail over the cable.
3. Do not use cables in permanent outdoor installations
4. Do not expose cables to extreme moisture

SPECIFICATIONS

RF Frequency Range

UA830A	782–810 MHz
UA830KK	838–862 MHz
UA830C	800–830 MHz
UA830D	774–782 MHz
UA830UB	692–716 MHz
UA830WB	470–900 MHz

Power Consumption (12 Vdc)

0.6 to 0.72 W

Signal Gain

Gain switch at 3 dB: 3.0 dB \pm 2.0 dB

Gain switch at 10 dB: 10 dB \pm 2.0 dB

Third Order Intercept Point (3 OIP)

28 dBm Min.

Connectors

Female, BNC-type

Dimensions (without accessories)

66.7 mm high x 31.75 mm wide x 112 mm deep (2.625 x 1.250 x 4.40 inches), 108 mm (4.25 in.) high w/mounting stand

Case

Aluminum die-casting, black painted

Swivel Adapter

Positive-action, break-resistant, adjustable from 0° to 90°, with standard $\frac{5}{8}$ in.-27 thread

Net Weight (without cable)

Without mounting stand: 0.28 kg (9.8 oz)

With mounting stand: 0.42 kg (14.8 oz)

REPLACEMENT PARTS

Mounting Base A13HDB

For additional service or parts information, please contact Shure's Service department at 1-800-516-2525. Outside the United States, please contact your authorized Shure Service Center.

CERTIFICATION

UA830: Eligible for CE Marking. Meets requirements of EMC Standard EN 301 489 Parts 1 and 9. Meets the essential requirements of the European R&TTE Directive 99/5/EC.

THIS RADIO EQUIPMENT IS INTENDED FOR USE IN MUSICAL PROFESSIONAL ENTERTAINMENT AND SIMILAR APPLICATIONS.

NOTE: 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 FOR WIRELESS MICROPHONE PRODUCTS IN YOUR REGION

EU DECLARATION OF CONFORMITY

We,
of

Shure Incorporated
222 Hartrey Avenue
Evanston, IL 60202-3696, U.S.A

Declare under our sole responsibility that the following products

Model: UA830 Description: In-Line RF Amplifier

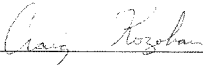
to which this Declaration relates

are in conformity with European R&TTE Directive 1999/5/EC
are in conformity with European CE Marking Directive 93/68/EEC

The product complies with the following product family, harmonized or national standards:

EN 301 489-1 V 1.2.1 08-2000
EN 301 489-9 V 1.1.1 09-2000

Manufacturer: Shure Incorporated

Signed  Date MARCH 27, 2002

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