



When used as an antenna splitter, the Shure Model WA470 Antenna Splitter/Combiner allows two diversity VHF receivers or up to four non-diversity VHF receivers to receive signals from only two antennas. This minimizes the number of antennas required and helps prevent interference problems in installations with multiple receivers.

When used as an antenna combiner, the WA470 routes signals from four antennas to the inputs of a single VHF diversity receiver, while retaining true diversity performance. This is useful in applications where one wireless system must provide coverage in two areas.

Optimum results can be achieved by using Shure WA380 half-wave antennas and WA420 or other 50Ω coaxial cables. The WA470 can be used with the quarter-wave antennas supplied with the wireless systems if the antennas are mounted directly to the WA470.

NOTE: Each wireless system must operate on a different frequency. Frequencies must be selected in accordance with government regulations and system characteristics. Contact your Shure dealer for more information.

Selecting the Proper Antenna

Shure recommends using WA380 half-wave antennas with the WA470 splitter/combiner. Half-wave antennas provide up to 3 dB more gain than quarter-wave antennas. Half-wave antennas *must* be used if antennas are not mounted directly to the WA470. They are available in three configurations, which correspond to three frequency bands:

- WA380A - 169 to 185 MHz
- WA380B - 185 to 200 MHz
- WA380C - 200 to 230 MHz

When using multiple receivers, select antennas for each WA470 as follows:

Installing the WA470 as an Antenna Splitter

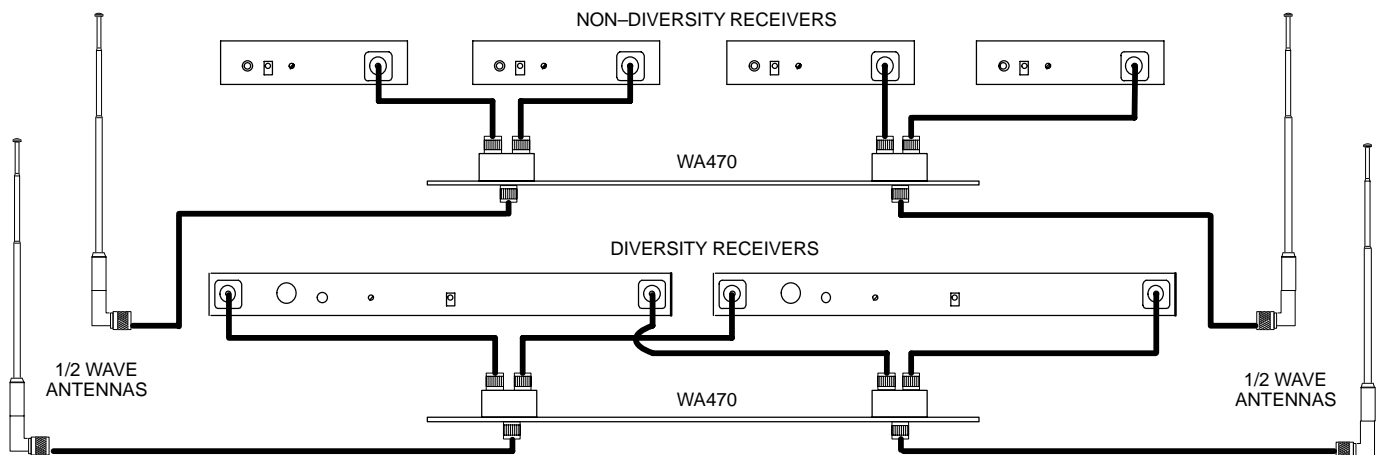
To install the WA470 as an antenna splitter, refer to Figure 1 and proceed as follows:

- If the frequencies are both in the same band, select antennas for that band.
- If the frequencies span two adjacent bands, select antennas for the lowest frequency band.
- If the frequencies span all three bands, use one WA380A antenna and one WA380C antenna. This will cover the entire frequency range with only a slight decrease in system performance.

1. Slide the WA470 into a 19-in. audio equipment rack and secure it using four screws and washers.
2. Mount two half-wave antennas around the installation as desired:
 - To wall mount the antennas, use the mounting brackets supplied with the WA380 antennas.
 - To rack mount the antennas, use a Shure WA440 Rack Mount Kit.
 - To mount the antennas on microphone stands, use Shure A57 swivel adapters (or equivalent).

NOTE: As an alternative, two quarter-wave antennas may be mounted directly on the front of the WA470.

3. Connect each antenna to the WA470 using coaxial cables (WA420 or equivalent).
4. Fully extend the antennas for optimum reception.
5. Using the supplied RF cables, connect the antenna inputs of the receivers to the RF outputs of the WA470.



WA470 INSTALLED AS ANTENNA SPLITTER
FIGURE 2

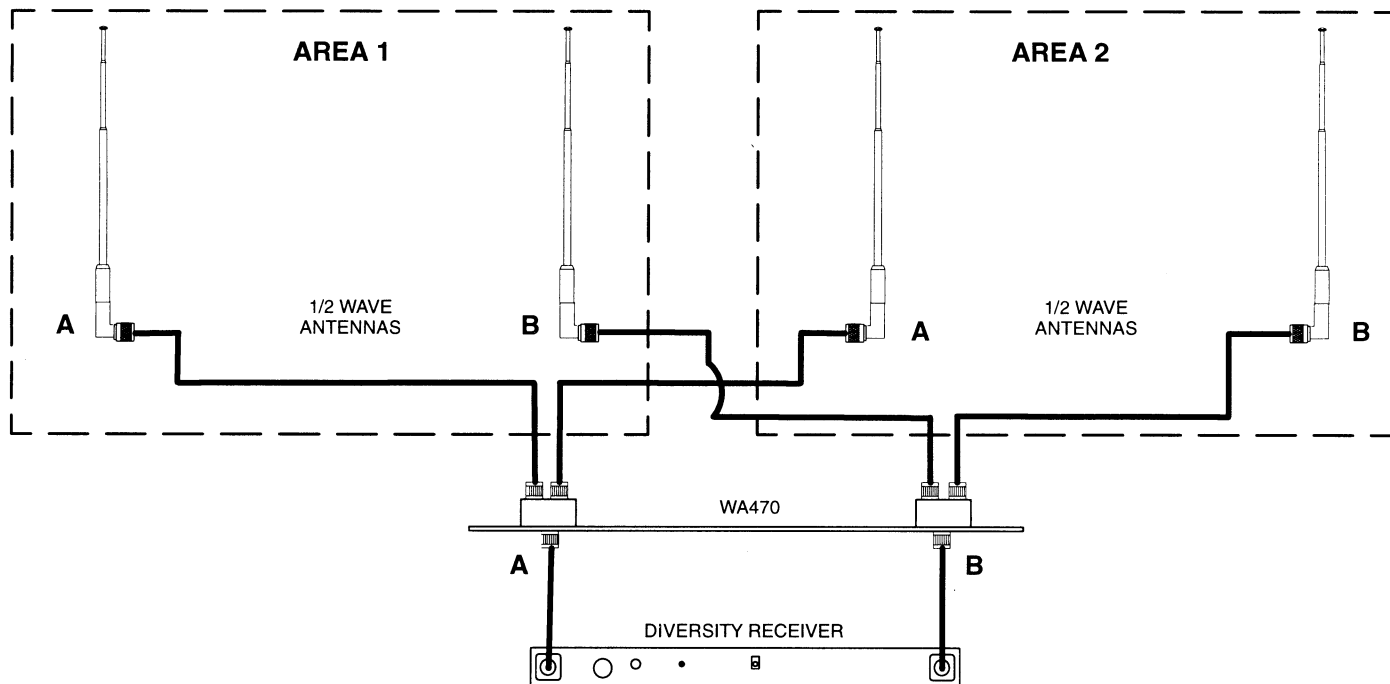
Installing the WA470 as an Antenna Combiner

The WA470 can be used to combine signals from four antennas into the inputs of a single diversity receiver, while retaining true diversity performance. This is particularly useful in applications where two wireless systems must provide coverage in adjacent areas. To install the WA470 as an antenna combiner, refer to Figure 2 and proceed as follows:

6. Slide the WA470 into a 19-inch audio equipment rack.
7. Secure the WA470 to the rack with four screws and washers.

8. Mount four half-wave antennas, two in each area, as desired:

- To wall mount the antennas, use the mounting brackets supplied with the WA420 antennas.
 - To rack mount the antennas, use a Shure WA440 Rack Mount Kit.
 - To mount the antennas on microphone stands, use Shure A57 Swivel Adapters (or equivalent).
9. Connect each pair of antennas to WA470 connectors A and B. Use Shure WA420 Antenna Cable or any 50Ω, low loss antenna cable (RG-8x or equivalent).
 10. Using the supplied interconnecting RF cables, connect the WA470 output connectors to the antenna inputs on the receiver, as shown in Figure 2.



WA470 INSTALLED AS ANTENNA COMBINER
FIGURE 2

SPECIFICATIONS

RF Carrier Frequency Range

169 to 230 MHz

Antenna Input Impedance

50Ω nominal

RF Output Impedance

50Ω nominal

Overall Dimensions

44.45 mm H x 482 mm L x 57.15 mm D

(1-3/4 in. x 19 in. x 2-1/4 in.)

Weight

779.63 g (1 lb, 11.5 oz.)

FURNISHED ACCESSORIES

0.6 m (2 ft.) coaxial Interconnecting RF Cable (4) . . . 95B8217

OPTIONAL ACCESSORIES

169 to 185 MHz Antenna WA380A

185 to 200 MHz Antenna WA380B

200 to 230 MHz Antenna WA380C

6.1 m (20 ft.) Coaxial Cable Assembly WA420

Antenna Rack Mount Kit WA440

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