

# RSA-U5 Two-Way Radio Supervisory Adapter

## DESCRIPTION

The RSA-U5 is used to connect voice logging recorders to two-way radios that do not have an output for recorders, such as a mobile radio that is used as a base station. Radios with wired connections for remote control (tone, DC, or local) can usually be directly connected to most recorders and do not require the RSA-U5.

Since connections must be made inside of the radio, it should only be installed by a radio service technician that is qualified to service the radio.

## FEATURES

- ▶ Adjustable gain amplifiers allow you to independently match transmit and receive audio levels for optimum recordings.
- ▶ Switch selectable mixing of receive and transmit audio at all times or transmit audio that is only present with active PTT.
- ▶ Optically isolated DC sensing mutes the transmitter microphone audio when the radio is not transmitting (push-to-talk is not active).
- ▶ Includes 110vAC power supply, eighteen inch input cables for radio connections and an RJ-11 modular audio output jack.
- ▶ Red LED to indicate PTT (Push To Talk) activity.
- ▶ Green Power LED.

## NOTES

▶ If the receive audio source is the radio speaker, the recorded audio will increase and decrease with the volume control on the radio. To prevent this, it is recommended that the receive audio be sourced from the radios squelched discriminator audio so that the position of the volume control on the radio will not have any control over the recorded audio.

▶ If your connection to the radio's transmit audio is at a point where microphone audio is only present when transmitting, you can place the **Transmit Audio Switch** in the **RX+TX** position and leave the two wire **TX-SENSING** cable disconnected. In this mode, the RSA-U5 will mix transmit audio with receive audio at all times.

▶ If your connection to transmit audio is at a point where microphone audio is present when the radio is not transmitting and the **Transmit Audio Switch** is in the **RX+TX** position, you will record room audio when not transmitting. In this case, the mute control cable should be connected to a place in the radio that provides between 5vDC and 16vDC when transmitting and the switch placed in the **TX-PTT** position. This connection powers an optically isolated sensing circuit so that the output will only have microphone audio when the radio is transmitting (PTT is active).

▶ The RSA-U5 has two screwdriver adjustable audio output adjustments. One adjusts the volume of the receive audio that is fed to its output jack, the other adjusts the volume of transmit audio fed to the output. Adjust these controls as needed to match levels and for the best recorded audio. Adjust clockwise to decrease, counter-clockwise to increase. Do not force these controls.

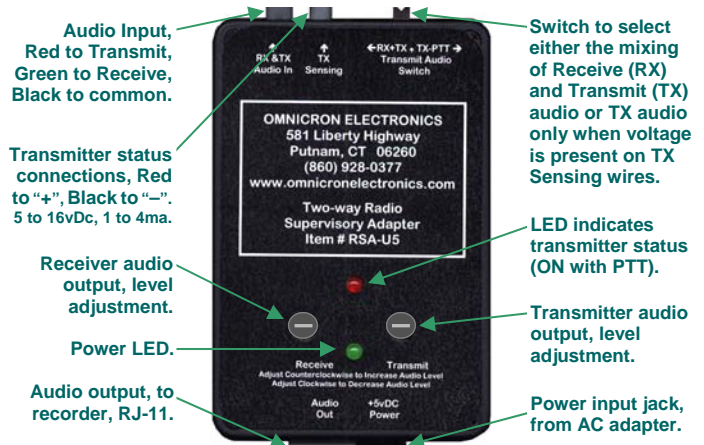
▶ The modular phone jack (RJ-11) on the RSA-U5 provides line level RX+TX audio for your recorder (suitable cables are supplied with Omnicron recorders). Only the center two wires in this jack are used. **WARNING: Connecting this jack to an active phone line could damage the adapter and will void its warranty.**

## INSTALLATION

The RSA-U5 is supplied with cables and connectors wired to meet most standard applications. It can also be customized to meet unusual requirements. Since connections to most radios must be made inside of the radio, only a radio technician familiar with the radio should perform the installation.

1. The short 3 wire gray cable connects to the 2-way radio audio.
  - a) Connect the **BLACK** lead to radio common (chassis ground).
  - b) Connect the **GREEN** lead to receive audio (0.1 to 1.5 vAC).
  - c) Connect the **RED** lead to transmit audio (0.05 to 1vAC).
2. The short two wire gray cable connects to two-way radio transmitter power (DC). If microphone audio is only active when transmitting, this cable does not need to be connected. Place the **Transmit Audio Switch** in the **RX+TX** position.

With the **Transmit Audio Switch** in the **TX-PTT** position, these wires feed an optically isolated sensing circuit that will mute the transmit audio whenever they do not have between 5vDC (1ma) and 16vDC (4ma) present across them. Connect the **BLACK** lead to negative (-) side and the **RED** lead to positive (+) side of switched transmitter power. This voltage also powers a red LED.
3. The RJ-11 telephone style jack on the RSA-U5 is used to connect the audio output from the RSA-U5 to your recorder's audio input. Receive and transmit audio are mixed on the center two pins of this RJ-11 jack. Use the cable supplied with your recorder or other suitable wiring to connect from this jack to your recorder.
4. Plug the supplied AC adapter into the Power (5 to 12vDC) jack and AC power. A green LED on the RSA-U5 lights when power is ON.
5. Check that the recorder is recording both transmit and receive audio properly. If needed, increase or decrease audio levels using the small screwdriver adjustable controls on the RSA-U5. One adjusts the level of receive audio, the other adjusts transmit audio



## IN CASE OF DIFFICULTY

If the unit fails to work properly, check all connections, audio, and DC voltage levels. Test your recorder to see that it is operating properly. Assistance is available from your place of purchase, or directly from Omnicron Electronics.

## SPECIFICATIONS

Audio Inputs:

Receive Audio: >1M ohm DC, >10K ohm AC, 0.1 to 1.5 vAC

Transmit Audio: >1M ohm DC, >10K ohm AC, 0.02 to 1 vAC

Audio Output: RX >10db gain, TX >30db Gain, 600 ohm, RJ-11

Transmitter activity sensing: Between 5 and 16vDC, 1 to 4 ma

Power: 5 to 12vDc, 10 ma, 2.1mm x 5.5mm, AC power adapter

Size & Weight: 3" x 2" x 1" (without cables), 3oz (without PSU)

Warranty: Limited, twelve month

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# OMNICRON ELECTRONICS

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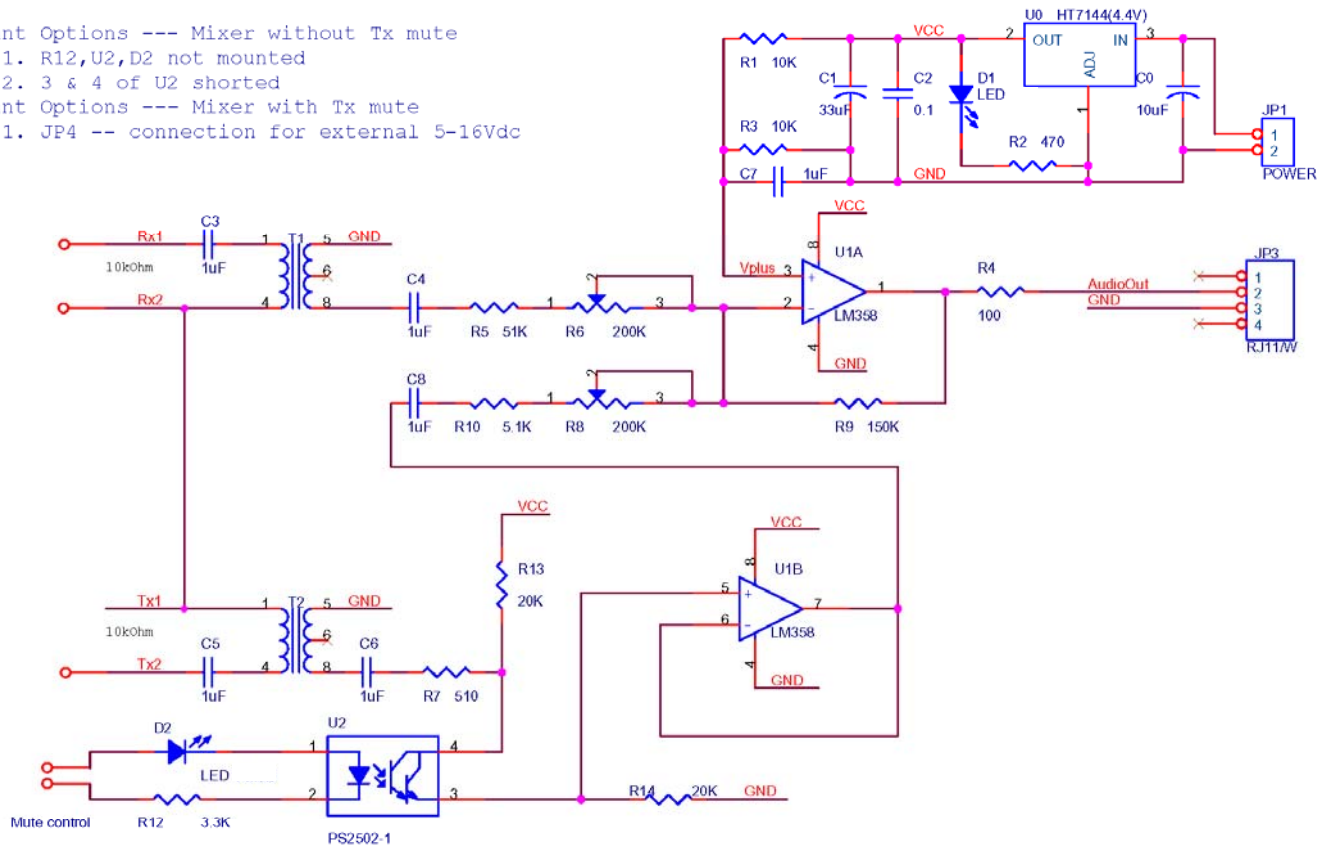


Mount Options --- Mixer without Tx mute

1. R12,U2,D2 not mounted
2. 3 & 4 of U2 shorted

Mount Options --- Mixer with Tx mute

1. JP4 -- connection for external 5-16Vdc



Title	Audio mixing adapter for telephone handset & two-way radio audio	
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A	1	1.0
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