

Part Name/Number: **17-95148-1/2, Audio Panel**

## Description & Specifications

### Description

The Audio Panel is available equipped with one or two Audio Modules:

Audio Panel 17-95148-1 has one Audio Module.

Audio Panel 17-95148-2 has two Audio Modules.

The two Audio Modules of the 17-95148-2 are independent of each other.

The Audio Panel is provided with one external power supply for each Audio Module.

The Audio Panel can be placed in Local or Remote mode. In Local mode, the transmit and receive functions are controlled at the Audio Panel. In Remote mode, transmit and receive audio as well as Remote PTT loops through the Audio Panel. See Figure 3, Block Diagram.

### Specifications

**Receive:** Internally adjustable, factory preset for -20 to +12 dBm, equipped with automatic level control, 600 Ohm impedance

**Transmit:** -25 to +6 dBm, factory preset for nominal 0 dBm on voice peaks, equipped with automatic level control, can drive 600 Ohm load

### Connectors:

Headphone	Front Panel, 2-circuit, Switchcraft N112A or equiv. (1/4" phone, 2 conductor)
Microphone/PTT	3-Circuit Jack, Switchcraft C12B or equiv. ("military" 1/4", 3 conductor)
Audio/Key Lines	25 position "D" type female
DC Power Input	2.1 mm power conn., Pin = +12 V DC, Sleeve = Return
Recorder Output	3-position DIN connector, audio on 1 & 3, shield on 2.

### Local/Remote

A Local/Remote push button on the front panel determines Panel mode. A green LED indicates Remote and a red LED indicates Local. To cause the Audio Panel to go to Remote mode at start-up, jumper together pins 15 & 19 of J2.

### Microphone

Designed to operate with Telex NC450D or equiv.

### Headset

600 Ohm Headphone, such as Telex PH-7

### Loudspeaker

3" waterproof speaker, 1/2 Watt RMS output, min.

### Recorder Output

DIN connector, 3-position, with transmit & receive audio combined. The output is app. -10 dB into a Hi-Z load and app. -17 dB into a 600 Ohm load.

### Power

Operates on 10.5 to 13.5 VDC, 400 mA max per Audio Module

AC adapter operates on 115/230 VAC (+/- 15%), 47-63 Hz

### VOX

Receive VOX, open drain, pull to ground. Releases app. 0.7 seconds after loss of receive signal.

Recorder VOX, open drain, pull to ground. Releases app. 6 seconds after loss of receive or transmit signal.



Figure 1. Front View of Audio Panel with One Audio Module

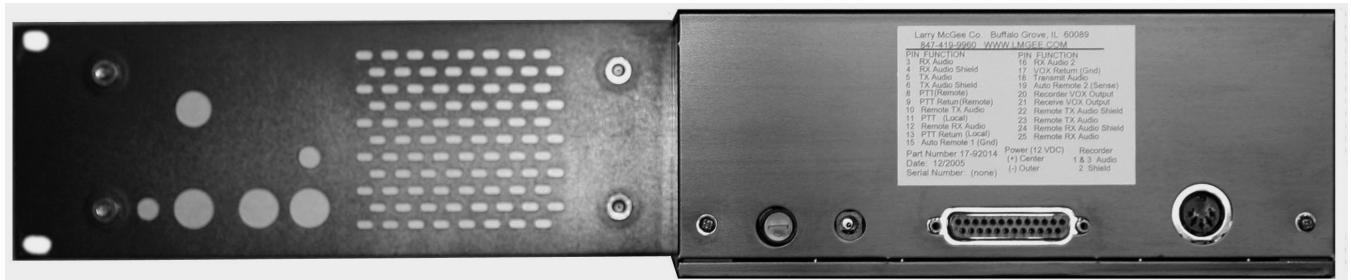


Figure 2. Rear View of Audio Panel with One Audio Module

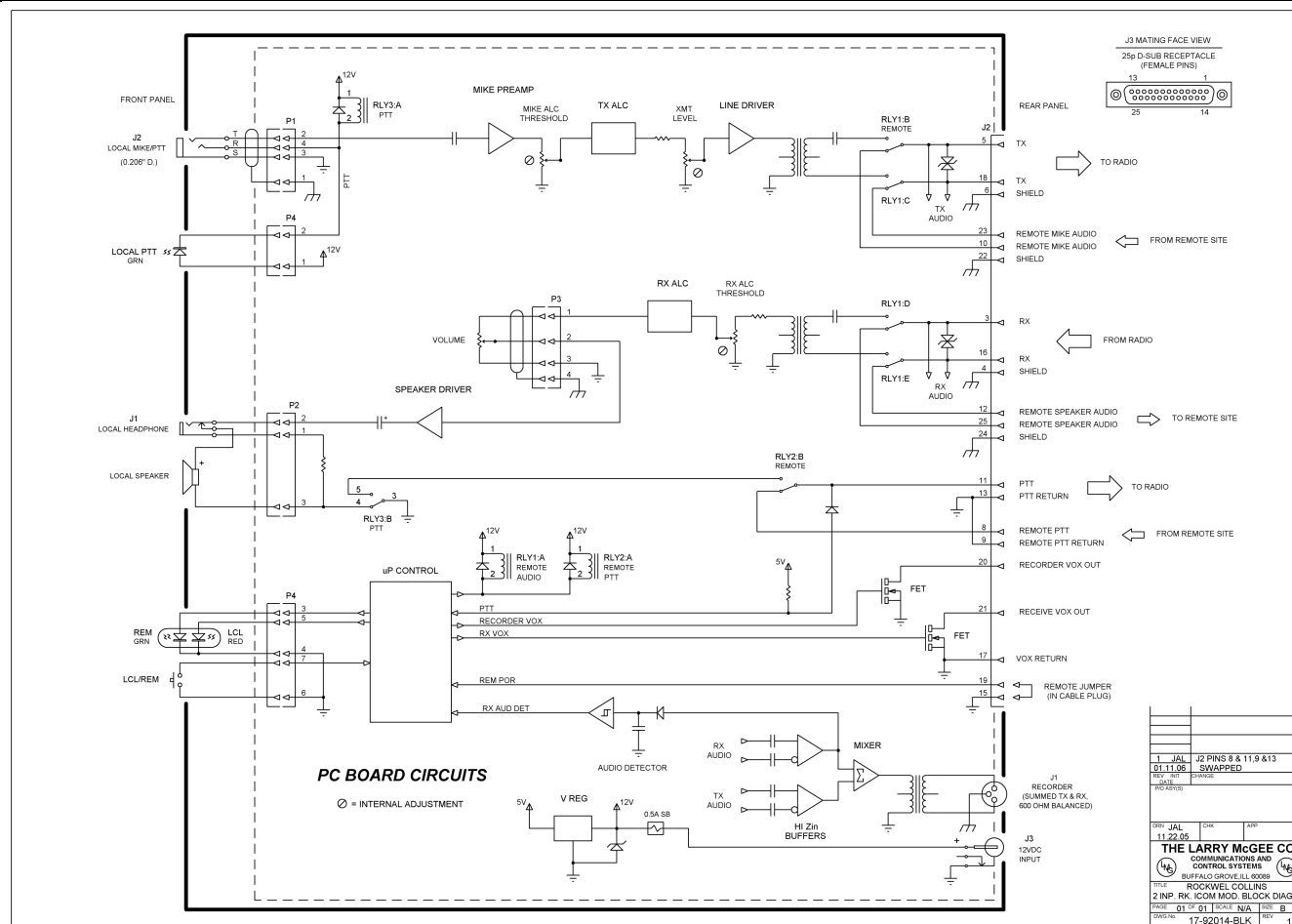


Figure 3. Block Diagram of Audio Panel, 17-94148-1

## Packing List:

The Audio Panel comes with the following:

1. Rack mounting audio panel with one (17-95148-1) or two (17-95148-2) Audio Modules. The p/n of the Audio Module is 17-92014
2. One power supply, p/n 37-91067 (or equiv.), with AC power cord for each audio module.
3. One set of instructions, PI-17-95148-01xx (xx = revision).

Microphone and headphone are not included.

## Installation Instructions:

### Rack Mounting:

The 17-95148-1/2 Audio Panel fits into a standard 19" rack, requiring a 2-U space (3 1/2"). Use four fasteners (customer supplied) to mount the Audio Panel into the rack.

### "D" 25-pin connector:

Each Audio Module is equipped with a female 25-pin "D" connector (J2). Use the following pin-out to make a mating cable:

<b><u>PIN No.</u></b>	<b><u>FUNCTION</u></b>
01	No connection on board
02	No connection on board
03	Receive Audio (from radio)
04	Receive Audio shield (for pins 3 & 16)
05	Transmit Audio (to radio)
06	Transmit Audio shield (for pins 5 & 18)
07	No connection on board
08	Push To Talk (PTT) to radio (from Remote Site)
09	PTT Return (GND) to radio (from Remote Site)
10	Remote TX Audio (to radio)
11	PTT (to radio)
12	Remote RX Audio (from radio)
13	PTT Return (to radio)
14	No connection on board
15	Auto Remote Jumper 1 (ground)
16	Receive Audio (from radio)
17	VOX Return (GND)
18	Transmit Audio (to radio)
19	Auto Remote Jumper 2 (sense)
20	Recorder VOX output (open drain, pull to ground)
21	Receive VOX output (open drain, pull to ground)
22	Remote TX Audio shield (for pins 10 & 23)
23	Remote TX Audio (to radio)
24	Remote RX Audio shield (for pins 12 & 25)
25	Remote RX Audio (from radio)

### **NOTES:**

1. Shield pins 4,6,22, & 24 are connected to chassis ground.
2. To implement Auto Remote, jumper pin 15 to pin 19 in the cable plug.

#### **Power Connector:**

The power connector is a standard 2.1 mm power connector located at the rear of the Audio Module, with +12 V DC in the center and ground on the outside. Plug the power supply into this connector.

#### **Earphone and microphone:**

Connect the headphone & microphone at the front of the Audio Panel. The headphone connects only to the audio. The microphone connections are: tip = PTT, ring = Microphone and sleeve = Ground.

#### **Recorder Connector:**

Transmit & receive audio can be recorded by connecting to J1. Pin 1 & 3 = Audio , Pin 2 = shield.

### **Level Adjustments:**

The Audio Panel is factory adjusted to provide "0 dBm" output on voice peaks from the microphone to the transmit line and to receive nominal -24 to +12 dBm signals on the Receive pair. Automatic Level circuitry in Transmit and Receive paths provide essentially constant levels even with varying microphone and line levels. If it is determined that a level adjustment is required, the adjustment can be made using the pots inside the Audio Module.

To make adjustments, the Audio Module must be opened by removing the screws on the back cover. With the screws removed, carefully open the module, ensuring all of the connectors remain connected. To make the adjustments, you will need a receive signal source.

### Receive Adjustment:

With a signal source on the Receive wire pair (1 kHz at -20 dBm is used at the factory), and the volume control on the front of the unit set at a comfortable level, adjust pot VR3 fully clockwise, then slowly turn it counterclockwise. The speaker level will gradually decrease, then drop off sharply. Set VR3 to a point just before the sharp drop-off occurs. (This adjustment will allow a signal to app. -20dBm to be heard clearly. Adjust as required for your situation.)

### Transmit Adjustments:

Connect a microphone to the front of the unit. Preset VR1 and VR2 to their midpoints. Hold the microphone close to your mouth, key it and speak into it at a normal level. A meter on the transmit pair should indicate the transmit level is following the voice level. Now hold the microphone at arm's length, key it and speak into it at a normal level. While speaking, adjust VR2 counterclockwise until the meter shows a sharp drop-off. Now set VR2 to a point just before the sharp drop-off occurs. Now hold the microphone near your mouth in a normal fashion, key it and speak into it in a normal voice. Adjust VR1 to achieve the desired level (e.g., 0 dBm) on voice peaks.

17-92014 RACK INTERCOM MODULE , REAR VIEW

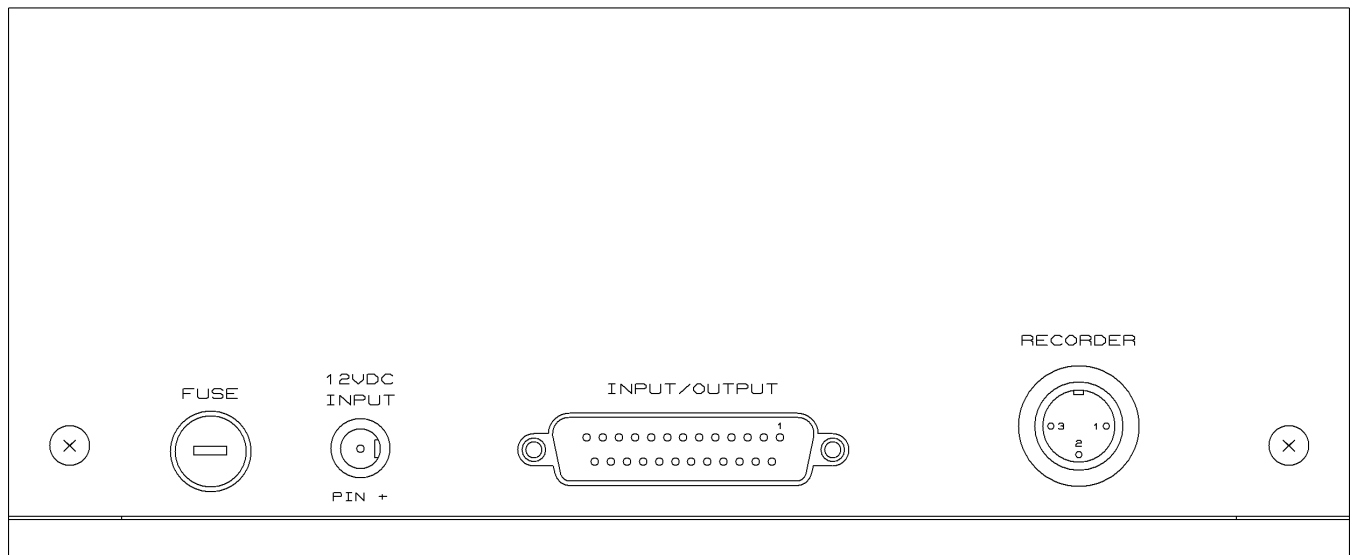


Figure 4. Rear of Audio Module, 17-92014

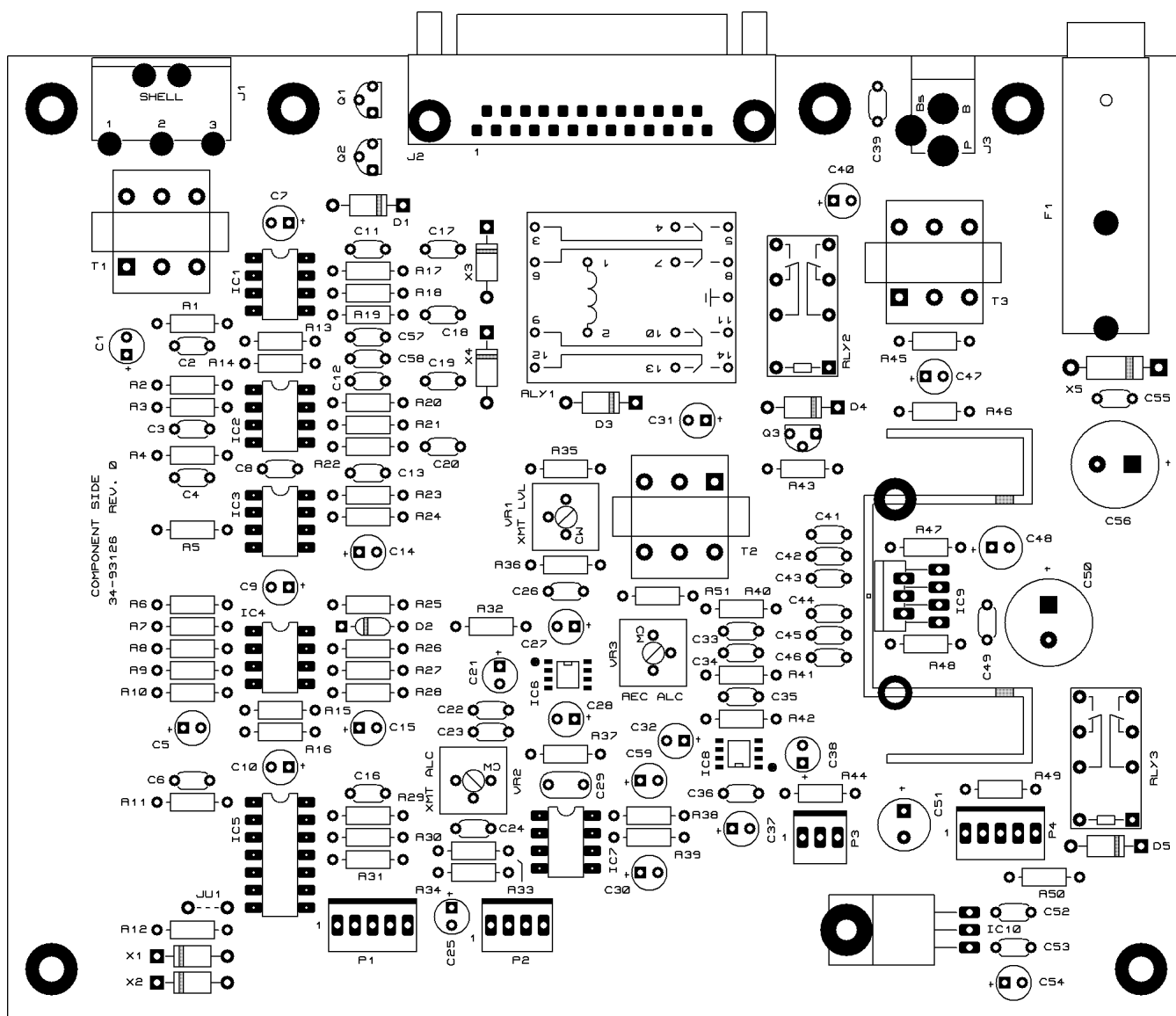


Figure 5. Circuit Board 34-93126 with Adjustment Pots

## Operation:

To operate from the Audio Panel, it must be in Local mode. If necessary, actuate the push button on the front of the panel. The Mode Indicating LED will illuminate red. Adjust volume control to a comfortable level for the environment, using either the speaker or headphone. To transmit, hold the microphone near your mouth, actuate the PTT switch and speak, using a normal speaking level.