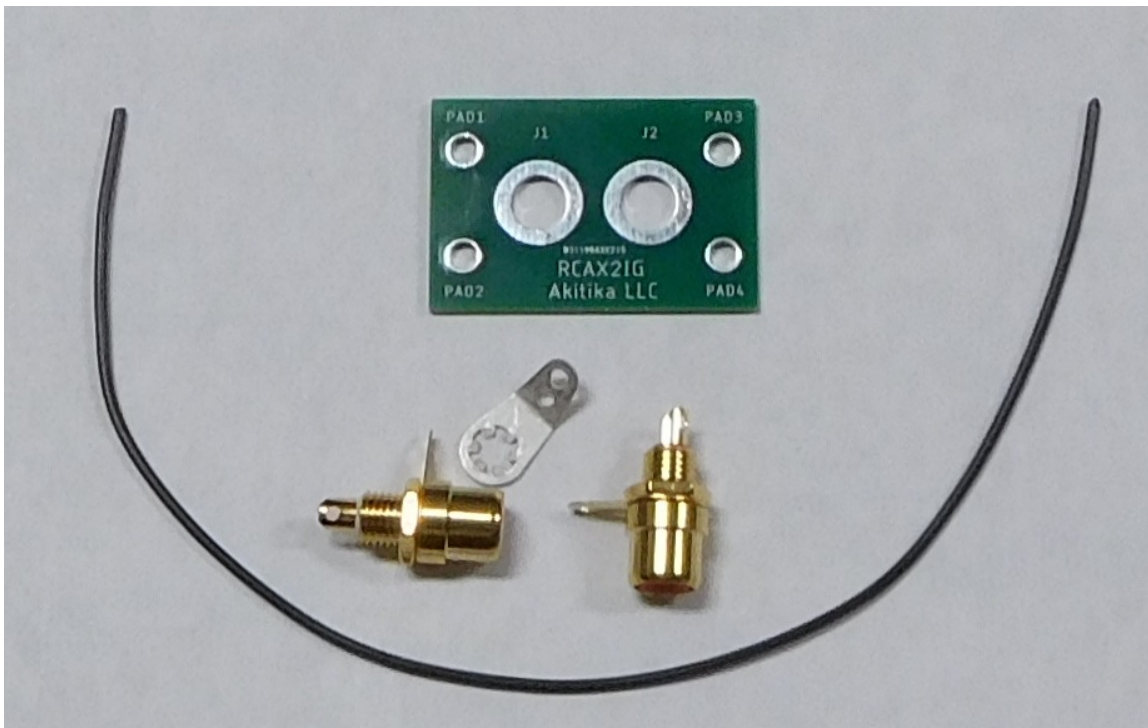


Update my dynaco



Assembling RCAX21G Kit 2-Jack assembly for the left /right channel applications

[RCAX21G]

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Revision 1p0

November 24, 2020

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Section 1: About This Manual

This manual gives the information needed to build and apply a 2-input RCA jack field.

- For the Stereo 70, Dynaco's famous tube amp, you'll need just one of these kits.
- For the AF-6, Dynaco's FM-AM tuner, two kits are required.
- These kits will replace and upgrade 2-jack assemblies in many brands of vintage solid-state and tube equipment.

Who Should Attempt this Project?

You can build this kit if you can:

1. Solder (using normal rosin core solder and a soldering iron).
2. Use simple hand tools like screwdrivers, wire cutters, and pliers.
3. Read and follow directions.

It helps if you:

1. know a bit about electronics, or
2. have a friend who knows a bit about electronics
3. can get to YouTube to watch a few helpful videos about the assembly process (none are posted as of this version of the manual).

Tools you'll need

You'll need the following tools:

1. Phillips screwdriver (#1 and #2), regular screw-drivers.
2. Pliers or nut drivers suitable for #4 and #6 hardware
3. needle nose pliers (helpful, but not strictly necessary)
4. pencil type soldering iron of 25 to 50 Watts (no huge honking soldering guns or blowtorches)
5. wire cutters and strippers

Helpful Tools

These tools aren't strictly necessary, but make building the kit easier.

1. magnifying glass, if you're over 42!

Project Overview

The project consists of the following steps:

1. Building the jack assemblies.
2. A short discussion about grounds.

Important Safety Notes

By purchasing, using, or assembling this kit, you have agreed to hold Akitika LLC harmless for any injuries you may receive in its assembly and/or use. To prevent injuries:

- Wear safety glasses when soldering or clipping wires to prevent eye injuries.
- Always unplug the power before working on the amplifier.
- Large capacitors hold lots of energy for a long time. Before you put your hands into the amplifier:
 - Pull the AC plug!
 - Wait 2 full minutes for the capacitors to discharge!
- Remove jewelry and rings from your hands and wrists, or anything that might dangle into the amplifier.
- If working on the equipment with the power on, keep one hand in your pocket, especially if you're near the power supply or power supply wires. This can prevent serious shocks.
- Build with a buddy nearby. If you've ignored all the previous advice, they can dial 911 or get you to the hospital.
- Read and understand the safety manuals of all the tools you use.

About Components

We reserve the right to make design/or component changes at any time without prior notification.

Recommended Solder

The kit must be assembled with 60/40 Rosin Core solder. 63/37 solder also does a fine job. The recommended diameter is 0.031 or 0.032 inches. Kester 24-6337-0027 does a fine job, but please note it's a 1 pound spool, enough to assemble many many kits.

Warranty

With the exception of fuses, Akitika LLC will replace for free any parts of a correctly assembled product that fails within one year of the date of purchase when the equipment has been used in home stereo applications. It is the responsibility of the kit builder to install the replacement part(s). This warranty applies to the original purchaser only. It does not apply to units that have been physically or electrically abused, modified without prior factory authorization, or assembled with other than 60/40 Rosin Core solder. Akitika LLC's liability shall in no event exceed the cost paid to Akitika LLC for the kit.

Section 2: Kit Building Hints

Yes, I know you want to ignore this section and jump right into building the kit. However, please ***take a minute and read the advice.*** I've condensed it into bullets so that even you guys who are in a hurry can benefit.

- Stop any time you're feeling confused, tired, or anxious. Taking breaks at those strategic times will keep the build enjoyable and greatly enhance your chances of first-time success.
- A soup bowl is your friend. Before you build, carefully empty the parts for just that board into a broad, flat, light colored soup bowl. That makes it easy to find the parts and keeps them from getting lost.
- Is something in this manual confusing? Does something look wrong? Send your questions by email to dan@akitika.com or dan@updatemydynaco.com. You'll help yourself and everyone who builds the kit.

Section 3: Building the Jack Strips

You could be asking why you need step-by-step instructions for this kit. You probably don't. As a result, these instructions may be a bit less detailed than for other kits. Still, you may find valuable hints that will make the process easier.

Building the New Jack Fields

The following drawing shows how all the jacks are assembled onto the jack fields.

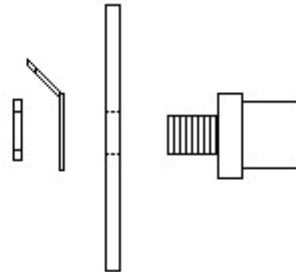


Figure 1-Assembling RCA jacks to the mounting PCB's

Right and Left Channels

Each kit is supplied with 2 RCA jacks:

- 1 red-insulator RCA jack for the right channel
- 1 white-insulator RCA jack for the left channel.

Installing the Jacks onto the mounting PCB's

If you have it, an 11/32" nut driver can make assembly much easier. You'll assemble the following one red and one white insulator jack onto the PCB. Please look at the position of right (RED) and left (white) channel jacks on the equipment you are updating to keep the color code consistent with the indicated left and right channel positions.

Setting the Rotation angle of the jacks and ground lugs

There's a bit of finesse and feel to getting the jacks installed with the signal-lead solder cup facing up and the ground lugs sitting at the desired angle. In these pictures, we've chosen straight up, but you may find another orientation is better for your equipment.

Assume that you want the solder cup facing up and the lug at 12 o'clock.

- Insert the jack and the hardware and finger-tighten it with
 - the cup facing 12 o'clock
 - the lug pointing to 10 o'clock.
- Hold the body of the RCA jack at its widest point with a pair of pliers.
- Rotate and tighten the nut with your nut-driver. It will move about 2 hours on the clock, ending up quite tight when facing 12 o'clock.

It may take a few tries to get the hang of this technique.

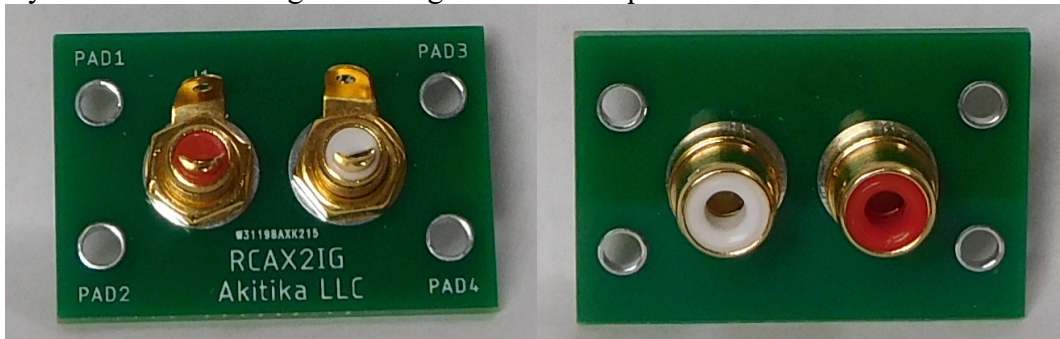


Figure 2-Jack installation

The jack kits are symmetric, and may be built as shown above, or with the board flipped.

About Grounding Lugs

Since this kit can go into a number of different kinds of equipment, you'll have to carefully study the original grounding setup to make a compatible installation. Note that the grounds for J1 and J2 are independent, and may be strapped together as needed for your installation.

- If the two jacks should share a common ground, then you'll need to add a jumper between J1 and J2's grounds.
- Some equipment configurations like to tie the RCA grounds to the mounting panel. You can do that with #6 toothed lug (supplied) under the mounting pads and use the 22 AWG wire to make the needed jumpers.
- Magnetic phono inputs often have jacks that are isolated from the chassis, with 0.01 μF going between the RCA ground and the chassis ground.

Stereo 70 Jack Configuration

The Stereo 70 is Dynaco's famous 35 Watt per channel tube power amplifier.

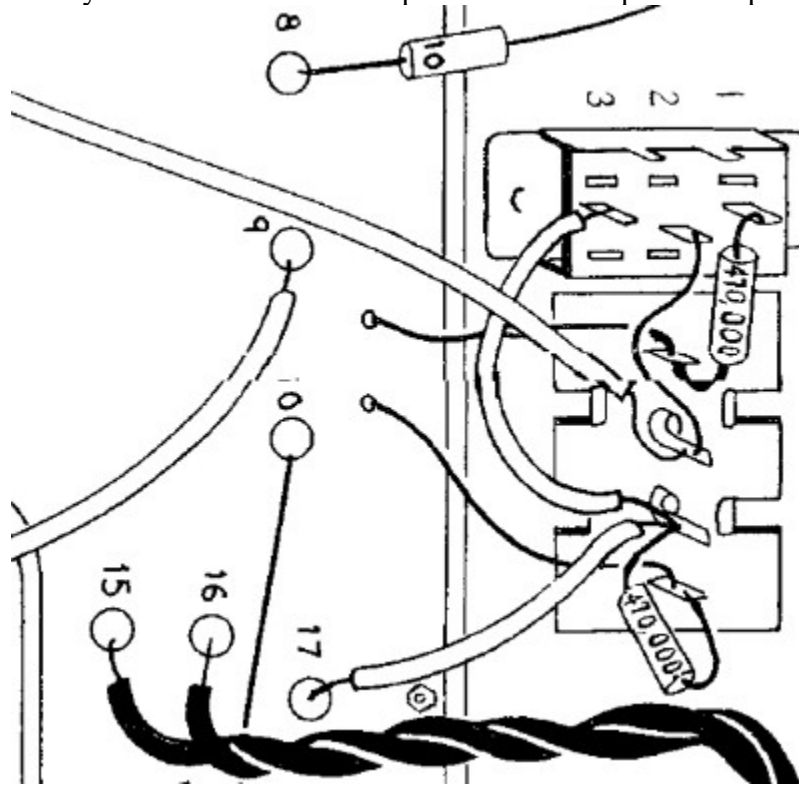


Figure 3-RCA Jack arrangement for Stereo 70

Note that neither RCA jack ground has a chassis connection. There are separate wires that run from each RCA jack to separate nodes on the PCB. Those nodes have 10 Ohm resistors that run to common ground.

AF-6 Jack Configuration

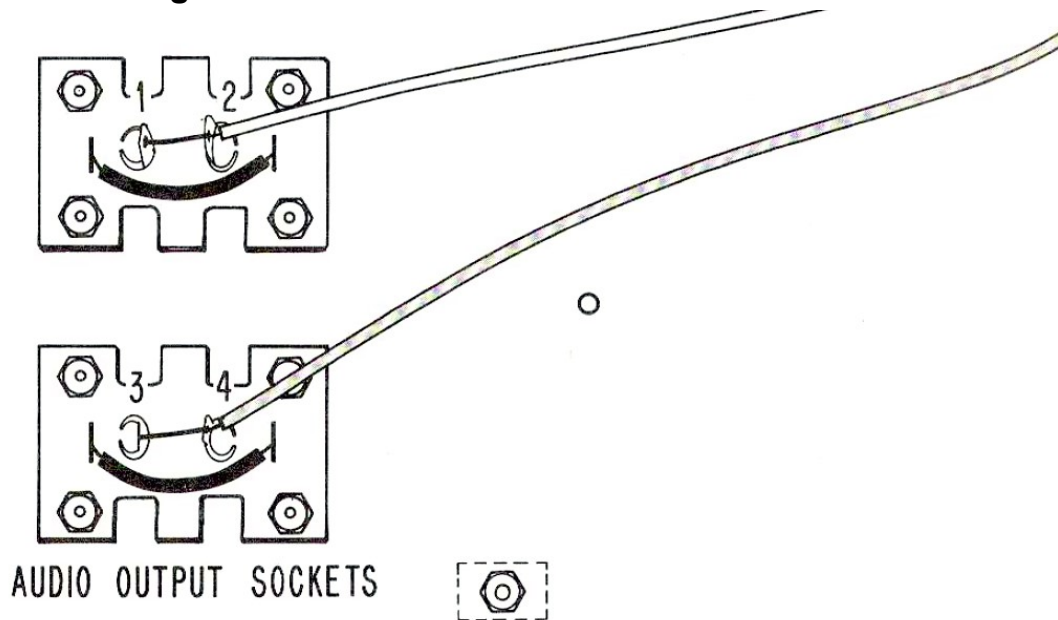


Figure 4-Original AF-6 Jack Configuration

The AF-6 jacks are grounded to the chassis by metal in the ground structure of the original jacks. To replicate that with the new kit, you'll add a #6 lug as shown in Figure 5.

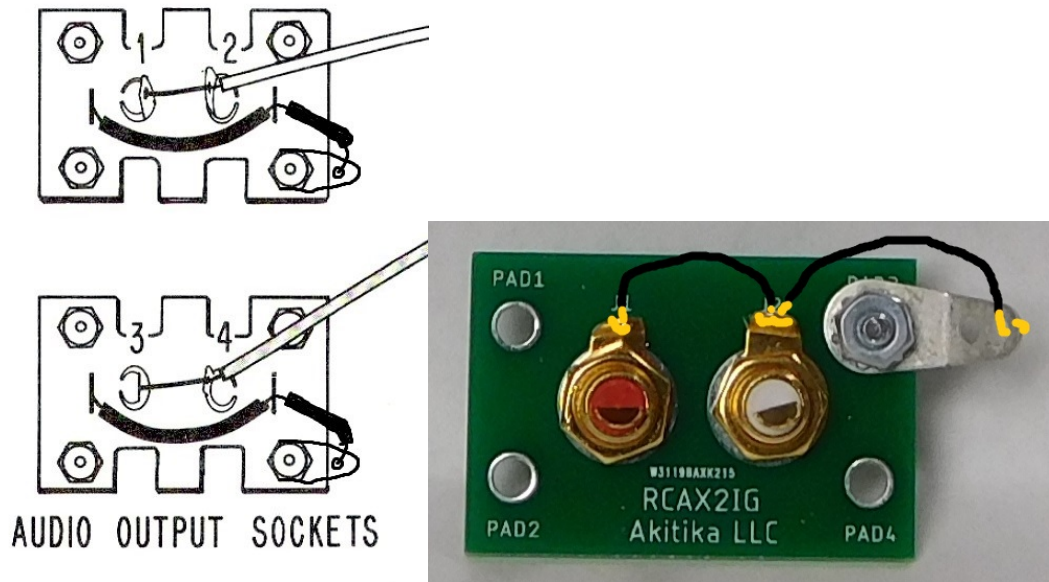


Figure 5-Adding grounds to case using the #6 toothed lug