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Servicing Elecraft's Classic Line of Products

W8FGU K2 Fixed Audio Output Board Installation Addendum

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This document outlines some of the differences in the building and installation of the K2 Fixed Audio Output Board as a kit I now provide solely based on the design by Don Wilhelm, W3FPR and Tom Hammond, N0SS (SK). Please refer to the document w3fpr_K2 audio Fix.pdf for all references to operation and circuit description of this board.

I have received a number of requests to put a kit together that includes all parts necessary to install this board in a K2 or K2/100. Due to part availability and changes in part numbers, there are a few differences in this current kitted version and previous versions described in Don and Tom's previous document. I also changed a couple of the methods to bring the audio output to the rear panel. These changes and pictures of, are documented in the following.

The following is a table of the current bill of materials with current part numbers and vendors:

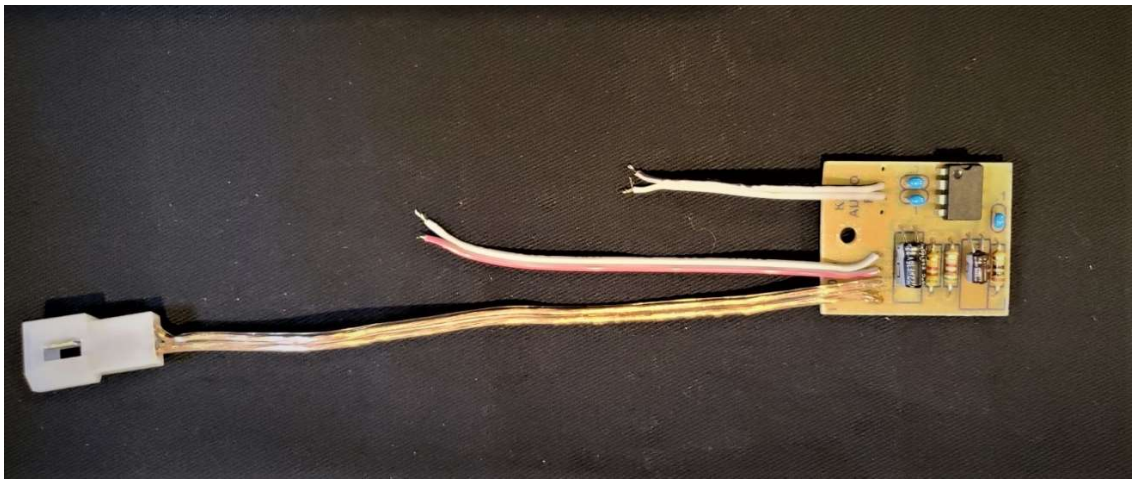
Part Number	Vendor	Description	Quantity
81-RCER71E104K0A2H3B	Mouser	0.1uf (104) 25V	3.00
647-UMF1V010MDD	Mouser	1uf 35V Electrolyte	1.00
80-ESS226M016AC2AA	Mouser	22uf 16V Electrolyte	1.00
603-CFR-25JB-52-10R	Mouser	10 ohm 1/4W	1.00
603-CFR-25JB-52-5K1	Mouser	5.1K ohm 1/4	2.00
926-LM386N-1/NOPB	Mouser	LM386 Mono AF Amp	1.00
164-4215	Mouser	RCA Phone Jack - Black	1.00
538-150176-1021	Mouser	Molex 2-pos plug	1.00
538-150178-1020	Mouser	Molex 2-pos receptacle	1.00
538-150181-1020	Mouser	Molex Female Terminal	2.00
538-150180-1020	Mouser	Molex Male Terminal	2.00
	Amazon	AmerTac - Zenith AS110024C 100-Feet 24 AWG Speaker Wire	1.00
	Amazon	Antrader IDC 1.27mm Grey Color Flat Ribbon Cable for 2.54mm Connectors, 20P-16Ft/5M	0.50

N0SS AUDIO FIX FOR K2	Far Circuits	Fixed Audio Output PCB	1.00
148786	Fastenal	4-40 3/16" pan head black oxide (these are the same screws used as "Chassis screws" on many of Elecraft's products)	2.00
1133705	Fastenal	#4 Zinc internal tooth lockwasher	2.00
145973	Fastenal	3/16" x 1/4" x 4-40 aluminum standoff hex	1.00

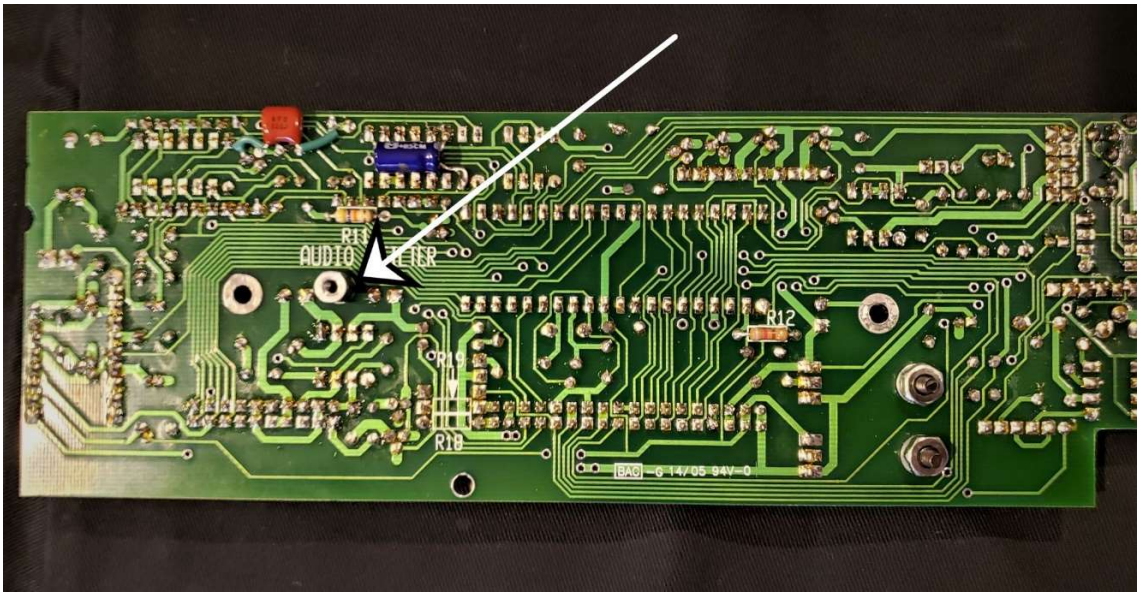
All parts needed for installation are provided in the kit including hardware and hookup wire:

As usual, please use static precautions when handling the LM386 part.

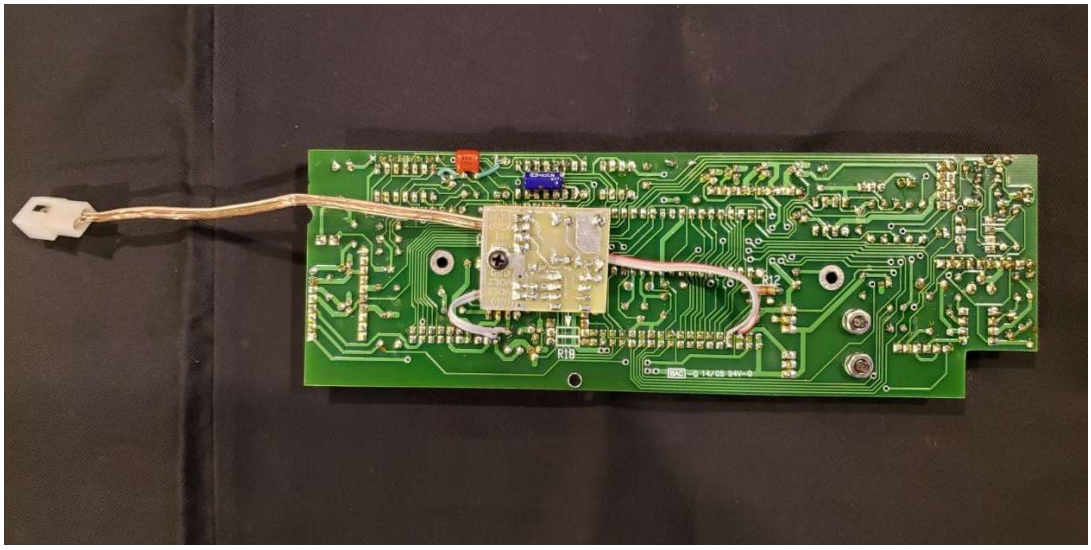
Here is a completed board ready for installation:



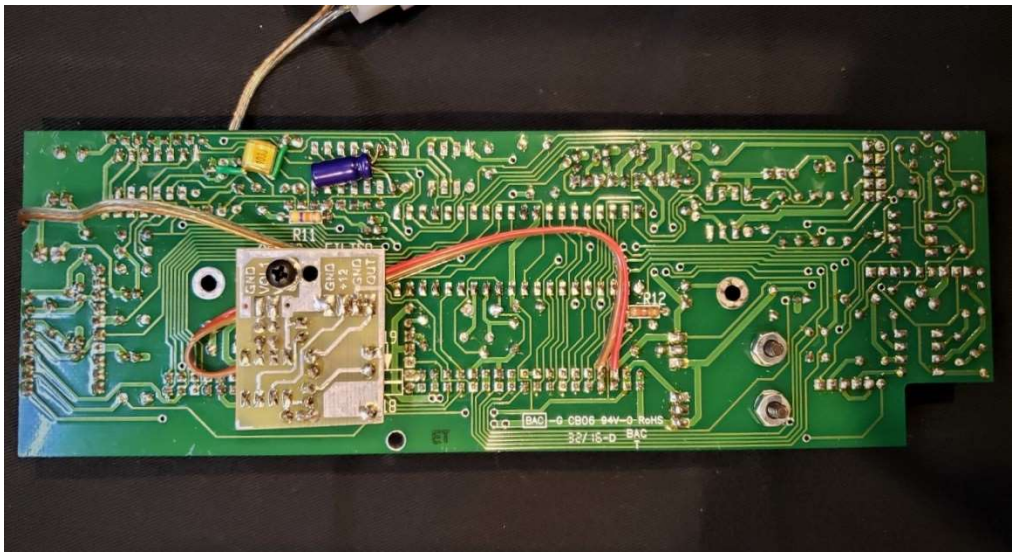
I chose to mount the PCB on a ¼" standoff on the Control Board in the unused hole, similar to the previous installation instructions. Use the provided 4-40 3/16" screws with lock washers to secure the standoff and the PCB as shown below:



The PCB is then mounted upside down to the standoff. The PCB with parts facing up will fit without touching the Front Panel but it is fairly tight. Mounting it upside down provides plenty of clearance and tucks in nicely between the boards:



Here is an alternative mounting method for those with newer K2's that have the encoder PCB mounted behind the Front Panel Board. I drilled another 1/8" in the PCB to offset the board so it won't interfere with the standoff that mounts to the hole to the left of the board:

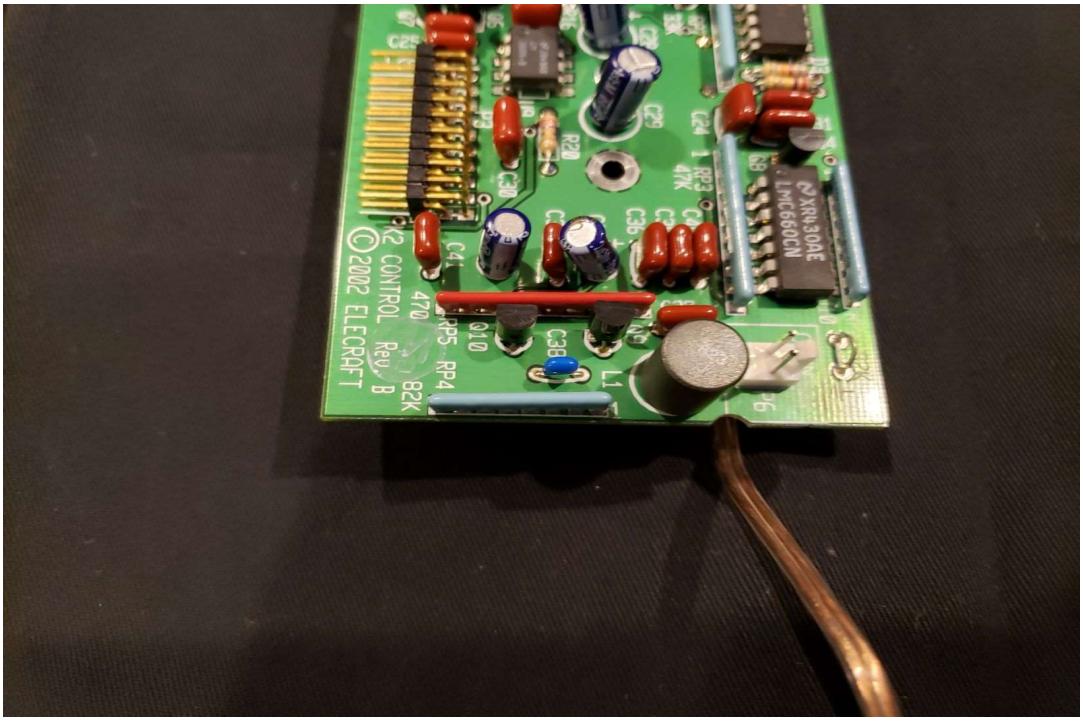


In the previous installation document, the suggested mounting of the RCA jack includes any existing transverter holes or to drill a hole near the serial number plate to accommodate the jack. In my case, I have the K60XV installed so those holes are taken. I also wanted to keep the area of the drilled hole open to bring out a keying RCA jack at some point. My K2 is configured with the KPA100 and KAT100 in a separate EC2 enclosure, therefore I have the standard QRP top installed in my K2 that has two more open transverter holes. This is where I chose to install my RCA audio output jack.

In the kit, I have provided a 2-pin Molex connector with pins. I suggest using it placed in a convenient location to disconnect the audio output cable for convenient service of the K2. I simply cut my audio cable in half and installed the Molex connector there. It rests about half way down the right side of the K2 and allows me to disconnect it whenever I remove the top cover.

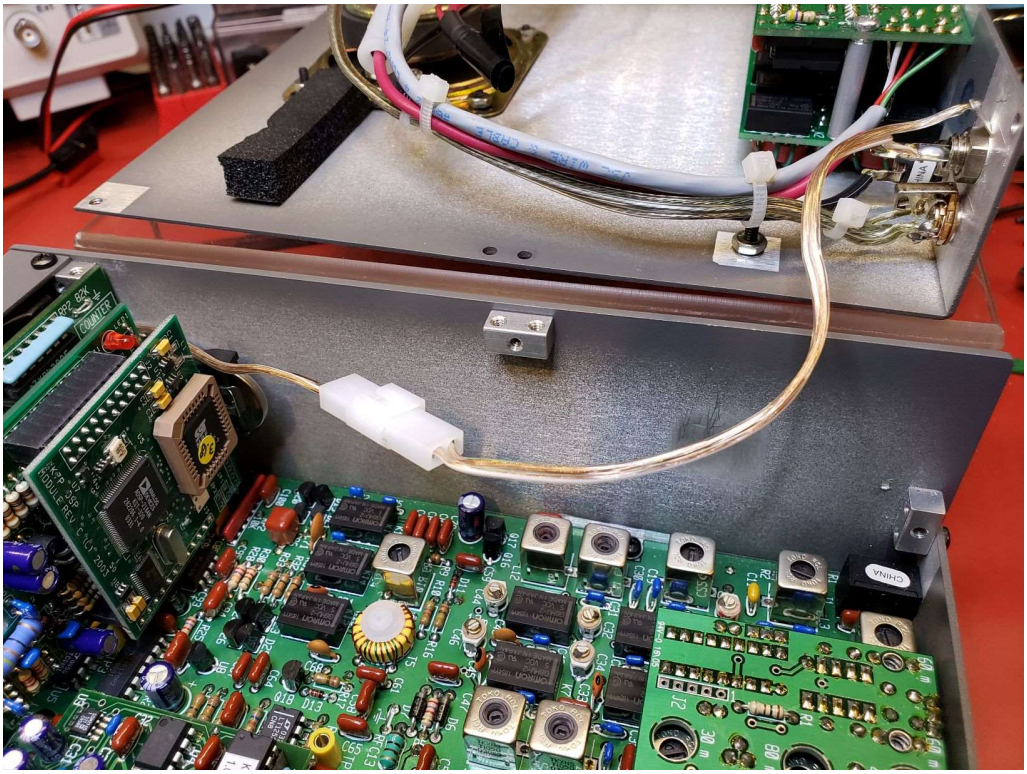
I simply soldered the wires to the Molex pins and hand crimped them with needle nose pliers and they locked right in. Use the male pins on the male housing (the larger half of the connector) and the female pins on the mating housing.

To bring the audio cable out from behind the Control Board, Don has suggested using the lift hole located at the bottom of the Control Board to route the wires. I elected to use a file and provide a little notch on the side of the Control Board near P6 (frequency counter plug). It is mainly ground plane in that area, so I carefully filed a notch big enough to bring the wires through.



Either method of bringing the cable out will make for a nice, clean installation and still provide plenty of flexibility in servicing the K2.

The following pictures show my final installation:




INT. BATTERY
OFF
ON
AUX. I/O
GND
ANT 1
UNBAL
ANT 2
ANTENNA TUNER
EXT. SPKR
IN XVTR OUT
12VDC
ANTENNA
RCV. ANT.
IN
OUT
XVTR
SER. NO. 05099
KEY
ELECRAFT K2