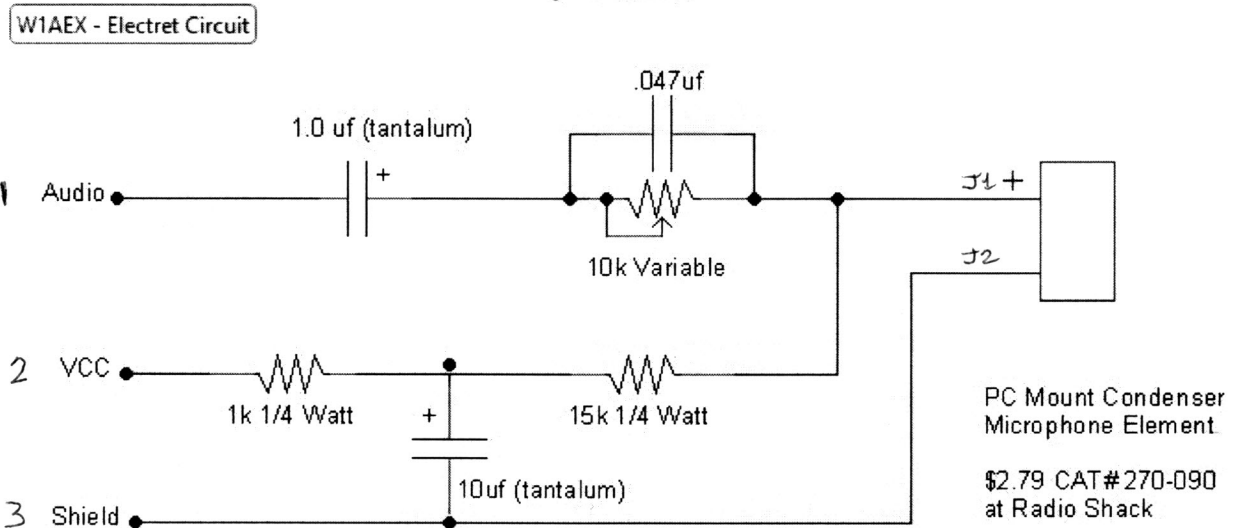


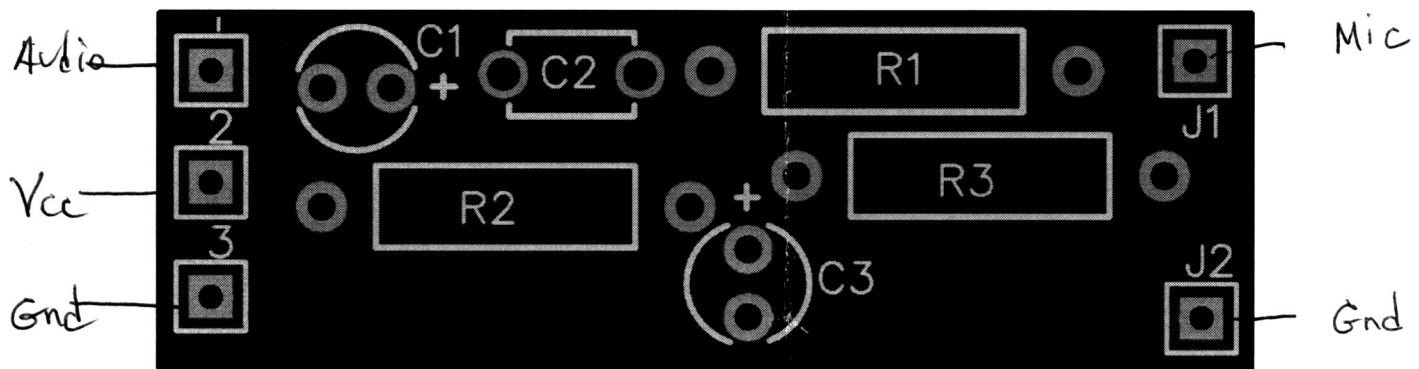
A very nice circuit by W1AEX was tried out with some excellent output audio into a modern ham radio transceiver presenting DC voltage at the microphone jack. Rob's circuit, parts, and general circuit description are conveyed below.

by W1AEX



The .047uf (473) cap across the 10k variable pot creates an adjustable pre-emphasis network that effectively flattens the heavy low frequency response exhibited by these electret elements. The audio input (1) of 1.0uf (105) cap blocks the VCC from getting into the mic input of rigs that do not employ a DC block in their circuit. The (R2) 1K and (R3) 15K series resistors along with the (C3) 10uF (106) tantalum are necessary to decouple audio from the VCC supplied by the rig. Modern rigs provide VCC (2) at the front panel mic connector that ranges from +5-+9V. This is more than enough to power one of these elements. In final build a fixed resistor (R1) of 4.7K was replaced the 10K pot. Leave in the pot if you wish to play around with the frequency tailoring of the mic element. Shield/Gnd is (3)

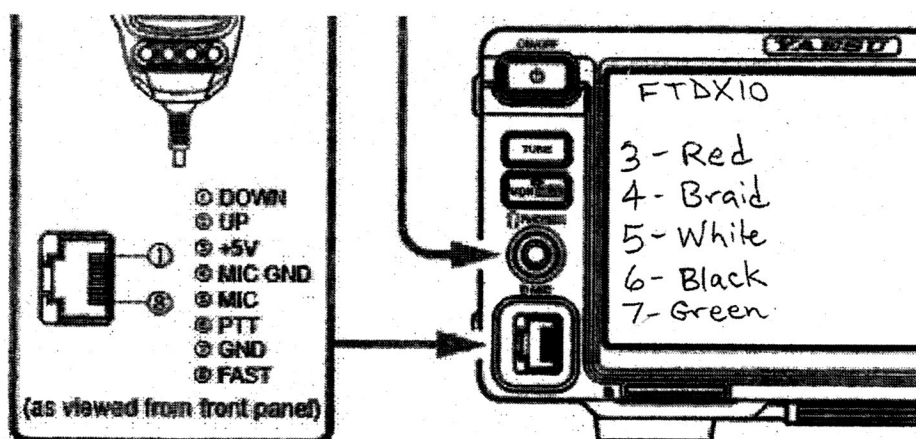
The following circuit board was fabricated (via Oshmark.com) to ease in the construction of this mic in a repeatable manner. It measures 13mm X 40mm, and should fit within most microphone housings. You may order with a search on "Electret Mic"



At this time (Radio Shack defunct) it's hard to find their mic (270-090) element that Rob employed initially. Hamfests or eBay are today's only choice for that exact element, and I've seen their prices escalate up to around \$8 these days.

Digikey seems to have elements that are close in declared specs **CUI Model: CMR-2747PB-A** (Noise Cancelling). This element has a ramped up response on the high end like the R.S. 270-0090 electret mic appeared to have. Other close prospects are: PUI AOM-4546P-R, and Mallory PMO-6027P-40KDQ with standard omni directional pickup pattern.

It is worth clarifying that this board is for the audio portion of your mic, and the ground therein is the mic ground. A separate switch is provided for PTT, separate from this circuit board, which has it's own separate ground in concert with the PTT line from the mic. Do not tie the two grounds together for today's modern transceivers. A sample mic jack pinout for Yaesu modular connectors should make the two separate grounds apparent below.



Original details may still be available here: <http://www.w1aex.com/mic/mic.html>