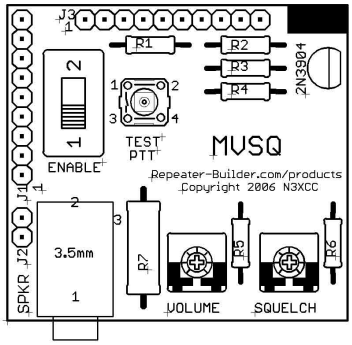
MVSQ
Micor Volume/Squelch Board

Description:
The Repeater-Builder MVSQ board is an easy way to add the volume and squelch pots required when using a Motorola Micor radio without the factory control head. In addition to providing a clean neat way to install the pots, the board also provides a 1/8" headphone jack for a monitor speaker, PTT test and disable switches, and an on-board COS logic level inverter. By connecting the three interface headers as described in the Hookup section below, this board can be the central connection point for a TS-64/32 tone decoder and repeater controller interfacing.

Installation:
Using double stick tape, mount the board in the position shown in the picture below. To make controller wiring easier, remove the netting "switch" metal from the control board. Doing so will leave a nice hole for getting wires from one side of the control board to the other.



Hookup:
Before wiring the MVSQ board into the radio set, some power jumpers need to be installed on the control head plug. These jumpers are necessary for the radio to run without the control head and cables present. Jumper control head pins 3, 8 and 22 together. These will all be connected to +12v through a fuse. Jumper control head pins 9, 11 and 17 together. These pins will be connected to chassis ground through pin 9.

The pinouts of the 3 headers are listed below. Pin 1 for each header is marked in the silk-screen on the circuit board. The bare solder pad on the upper right corner is system ground.

J1 Pinout: (Radio Connections)

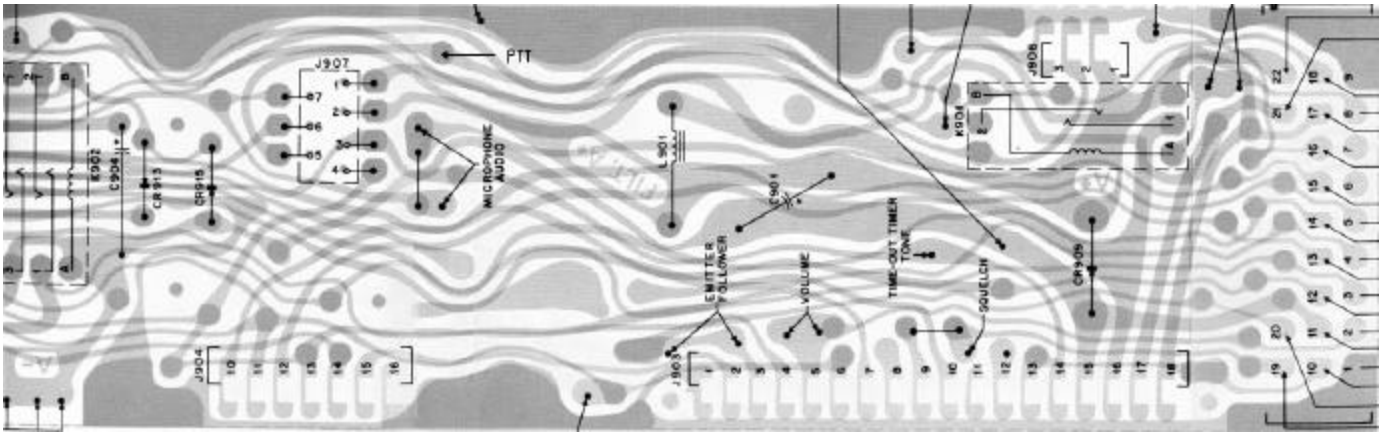
Pin	Function	Connect to
1	Volume Out	Audio/squelch board pin 5
2	Squelch Out	Audio/squelch board pin 9
3	Buffered Discriminator Audio	Audio/squelch board pin 3 (Emitter Follower)
4	PTT Out	Point Marked PTT on control board layout
5	PTT In	Controller PTT output
6	Active High COS Out	Controller COS input
7	Active Low COS In	Audio/squelch pin 8
8	Ground	
9	+12V	Point marked B+ on control board

J2 Pinout: (Speaker Connections)

Pin	Function	Connect to
1	Monitor Speaker Low	Audio/squelch pin 18 (connected to ground above)
2	Monitor Speaker High	Audio/squelch pin 17

J3 Pinout: (Tone Board / Repeater Controller Connections)

Pin	Function	Connect to
1	+12V	Decoder +12v
2	+12V	Controller +12v
3	Ground	Decoder Ground
4	Ground	Controller Ground
5	CTCSS In / Out	CTCSS logic output to controller (4.7k pullup)
6	CTCSS In / Out	CTCSS logic output from tone decoder
7	Filtered Audio In / Out	Tone decoder CTCSS filter output to controller
8	Filtered Audio In / Out	Tone decoder CTCSS filter output from decoder
9	Buffered Discriminator Audio	Tone decoder input
10	Active High COS Out	Controller COS input



Front of radio →