

IC-R75 AM & S-AM mod Ver. 2.0 (upgrade)

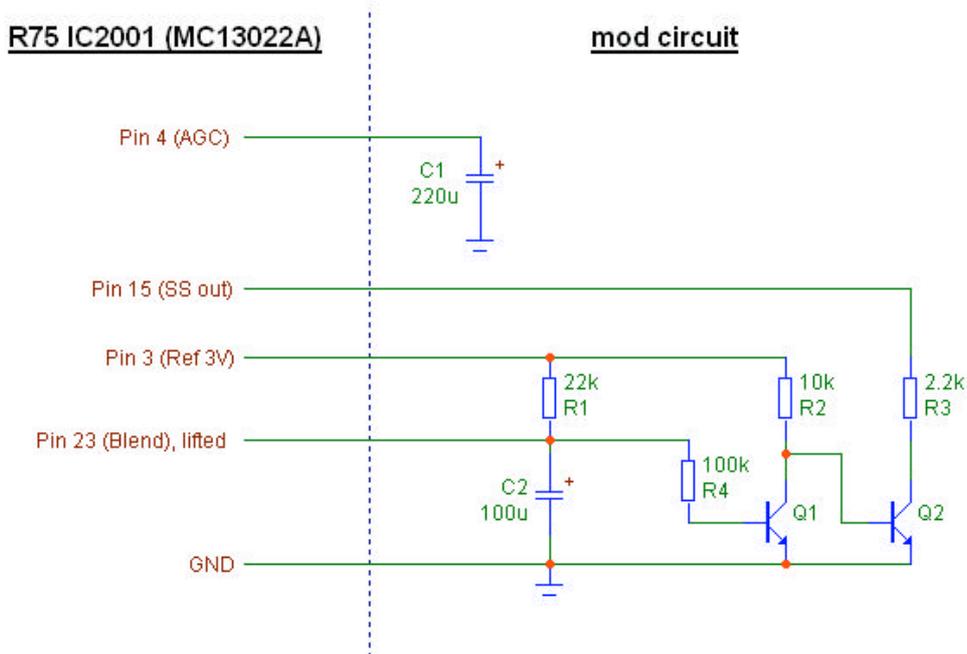
This version of the mod comes as an upgrade to the previous version (Ver. 1.1). If you have not performed the previous version check the instructions for more information. These could be found in the “Files” section of the R75 mailing list at: <http://groups.yahoo.com/group/icomr75> (you have to subscribe in order to be able to access the files).

What’s new in this version: A simple synch lock detection was added (Q1&Q2, check the schematic). This is not true lock detector. It uses the voltage on the “Blend” output of the S-AM IC (pin 23), which correlates to the PLL lock but is also dependant on other factors. The output of the lock detector is connected to the “SS out” (signal strength) pin of the S-AM IC. This is open collector output. R75 switches between S-AM and AM detectors depending on the “SS out” voltage.

The value of R1 was increased to 22k – this seems to work best.

Description: When the synch PLL is locked the voltage on the “Blend” pin (pin23) goes above 0.6V. Q1 opens, Q2 closes and the “SS out” goes high. R75 switches to S-AM detector (if the “SAM SW” setting in the receiver settings is set to “En”). If the PLL loses lock the “Blend” voltage goes below 0.6V. Q1 closes, Q2 opens and the “SS out” goes low. R75 switches to AM detector (if the “SAM SW” setting in the receiver settings is set to “En”). If the “SAM SW” setting in the receiver settings is set to “SA” the S-AM detector will be used all the time.

What’s the result: The amount of “whistles” when tuning around in S-AM mode is greatly reduced (if the “SAM SW” setting in the receiver settings is set to “En”). The “S-“ on the R75 display will blink if the synch is not locked. If the “SAM SW” setting in the receiver settings is set to “SA” the behavior will be similar to mod Ver. 1.1.



People who have performed mod Ver. 1.1 need only to add one more wire to the IC – pin 15 “SS out” (I know you hate this). If your R75 is not modified yet check the instructions of mod Ver. 1.1 for more details.

Transistors Q1&Q2 are general purpose silicon NPN with beta higher than 100 (better about 200). I used 2SC458 (Japanese).

I mounted all the components on a small PCB. Used one of those self-adhesive cable routing brackets to secure it on the back of the front panel.

Good luck!

Rado

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