

706: Tune Control Activator

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DIY Tune Control Activator for the Icom 706MkIIIG

The 706 has circuitry built-in to control an automatic antenna tuner. This is activated by the “Tune/Call” button. If there is no tuner connected, the button does nothing. If one is detected, pressing the Tune button causes the radio to switch CW and transmit carrier at 10 watts. This functionality is also useful for those who use a manual tuner, but to use it we must make the 706 “think” that it has an antenna tuner connected. Commercially-made tune control modules are available - for \$30. We can build one for \$3.

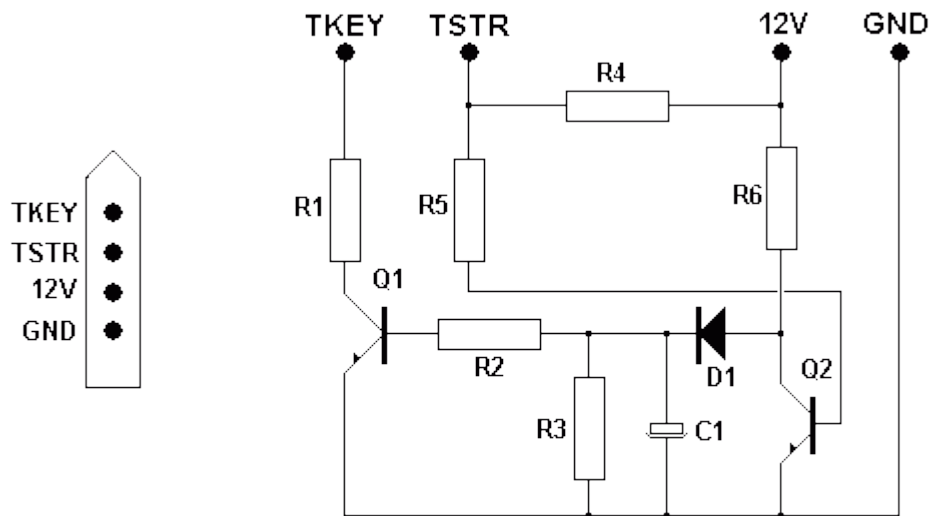
The following circuit, by G4FZN, activates the tune control. Pressing the Tune button once turns carrier on, pressing again turns it off. If you don’t turn it off, this circuit will time it out in about 10 seconds. If the circuit times out, the carrier goes off but the Tune function stays on (red LED lit on the Tune button). Press the Tune button twice quickly to turn Tune function off. If you leave Tune function on, the radio will emit carrier anytime it thinks it needs to retune the autotuner — such as, when you switch bands, or when it detects high SWR. Therefore, when using a Tune Control Activator (not a real autotuner), you always want to turn Tune mode off.

Notes:

1. You can lay the circuit out about like the schematic.
2. C1 sets the timeout time: 100uf = 10 sec, 50uf = 6 sec, 33uf = 4 sec (appx). I used 33uf. Make sure it’s 16v or more.
3. You can buy the 4-pin Molex, or just make your own pins. See photo. My pins are #12AWG wire. Round on both ends with bench grinder, then emory cloth. Progressively mash with Vice-Grips until they fit snugly into the radio’s female connector. Solder to wires. Add heat-shrink tubing. Make sure you get them plugged in correctly.
4. Wrap tape around the PCB, plug it in, and let it dangle.
5. The \$30 commercial units are much more tidy, having a little plastic case that’s molded onto a Molex plug.

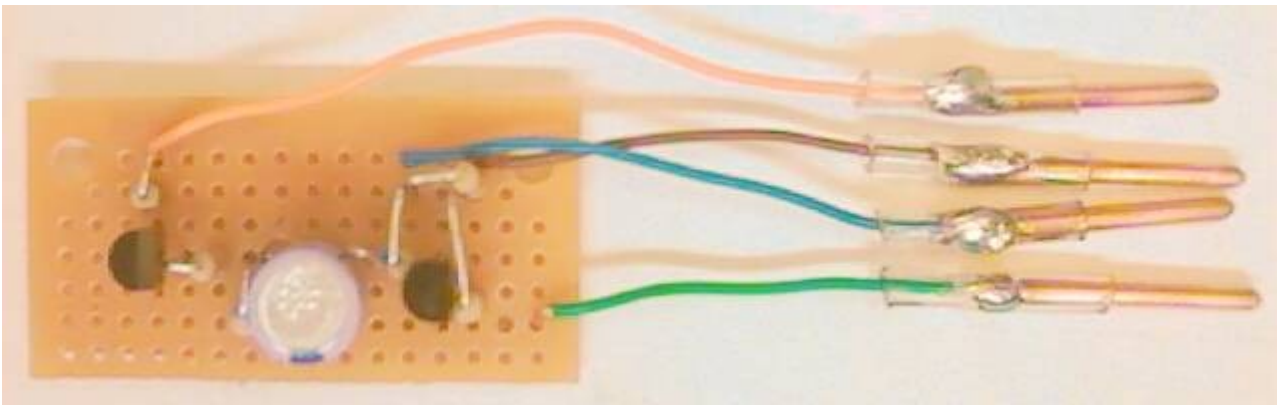
Here is the easy, one-afternoon circuit. NOTE: As always, no one but you are responsible for mistakes/damage!

G4FZN IC706 AUTOTUNE UNIT BY G3VFP



- R1 = 10K
 - R2 = 22K
 - R3 = 220K
 - R4 = 47K
 - R5 = 100K
 - R6 = 15K
 - Q1,Q2 = 2N2222 OR COMMON NPN
 - D1 = 1N4148
 - C1 = 100MFD
- PRESSING THE TUNER/CALL BUTTON WILL GIVE 10 SECS OF 10W OUTPUT.

— Own Risk —



My tune activator.

You can make a Molex by grinding one corner off of an old computer power supply plug.

2005 Update: I no longer use the Tune Control Activator, because I now use the MFJ-993 IntelliTuner. I'm very happy with it.