

Realistic TRC-210, Conversion to "SKIP" (5KHz Jump)

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ED. Note: I did this conversion on a TRC-210 about a year ago.

IT IS NOT FOR THE BEGINNER.... Worked perfectly.....

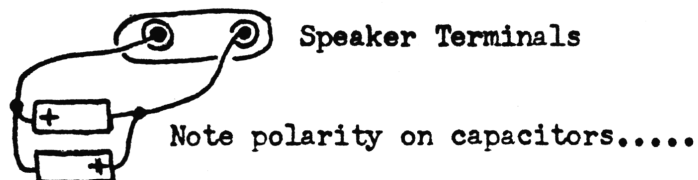
1. Carefully remove black covers and all control knobs.
2. Remove the retaining nut on external speaker jack.
3. Remove antenna carefully and feed out thru Gray top cover.
Note: When replacing antenna, add an additional lock washer between the antenna and bracket.
4. Remove Gray top carefully; tape the RF/Batt meter in place; don't cover the meter face as is permanent.
5. Cut all cable ties carefully.
6. Cut all wires off the External Speaker jack, trace the Black wire back to PCB and remove carefully.
7. Trace the White wire to PCB, re-route to component side via the cut-out near HI-LOW PWR switch.
8. Re-route the Gray wire to middle of component side. Solder and sleeve the Gray and White wires together, use caution to make sure the Gray wire has enough slack to reach the speaker. Tie up the cable bundle carefully, routing the wires into it.
9. It is advisable at this point to jumper both the speaker and battery pack wires to avoid damaging either. Note locations/wire colors before removing.
10. Very carefully unsolder the R.F. Shielding on etch side, after removal clean all excess solder up.
11. Remove screws from LED display, and move assembly so that the PLL cover may be removed.
12. At this time the following parts will be needed:

<u>Quantity</u>	<u>Radio Shack #</u>	<u>Description</u>
1	275-612	Sub-mini SPST Toggle Sw.
1	272-1340	5-60pf trimmer capacitor
2	272-1014	Axial Elec. Cap., 22MFD/35VDC
1	278-208	Coax Adapter; UHF SO-239 Female
6"	278-1276	2-cond. shielded cable
1	271-050	270K $\frac{1}{2}$ W 5% ($\frac{1}{4}$ W 5% is O.K.)
1	272-1024	PC Mount Elec. Cap.; 4.7MFD/35VDC
1	272-1420	PC Mount Elec. Cap.; 2.2MFD/16VDC

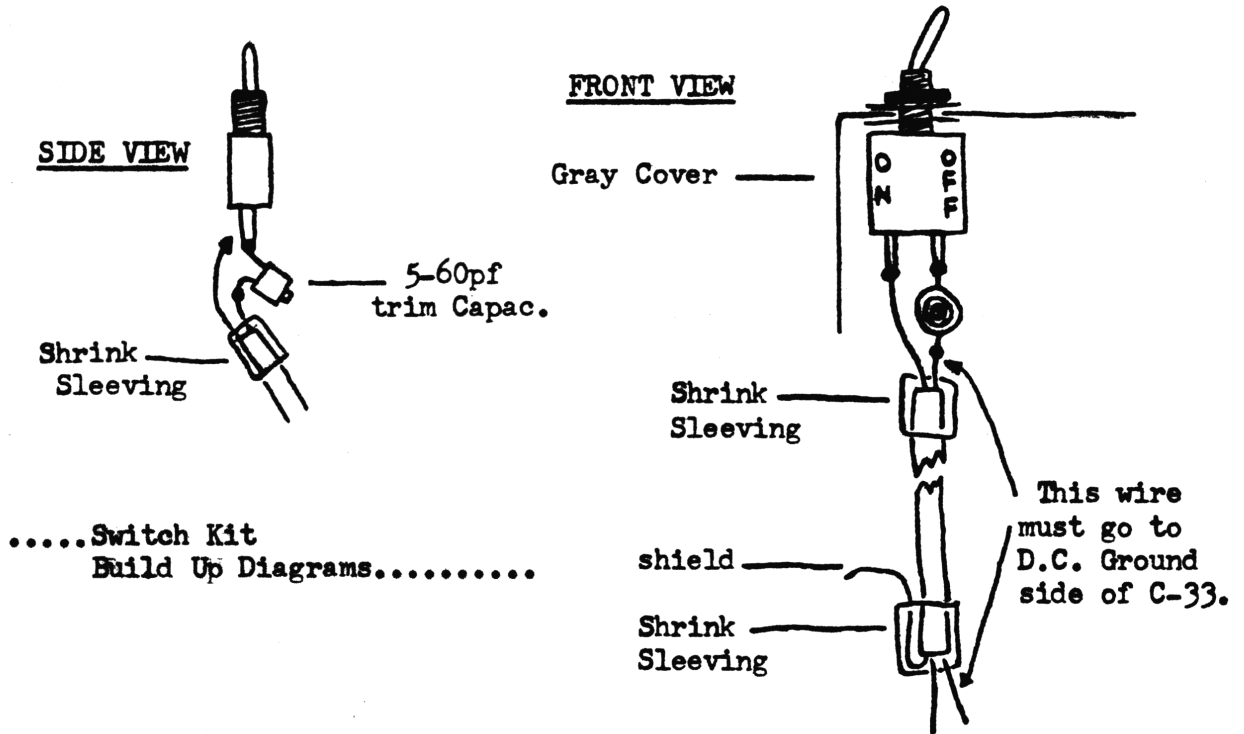
(NOTE: some of these may be found as junk box items, especially the wire, resistors, capacitors..BUY the switch and rest of components needed as space is critical.....)

Realistic TRC-210, 'SKIP' (cont.)...

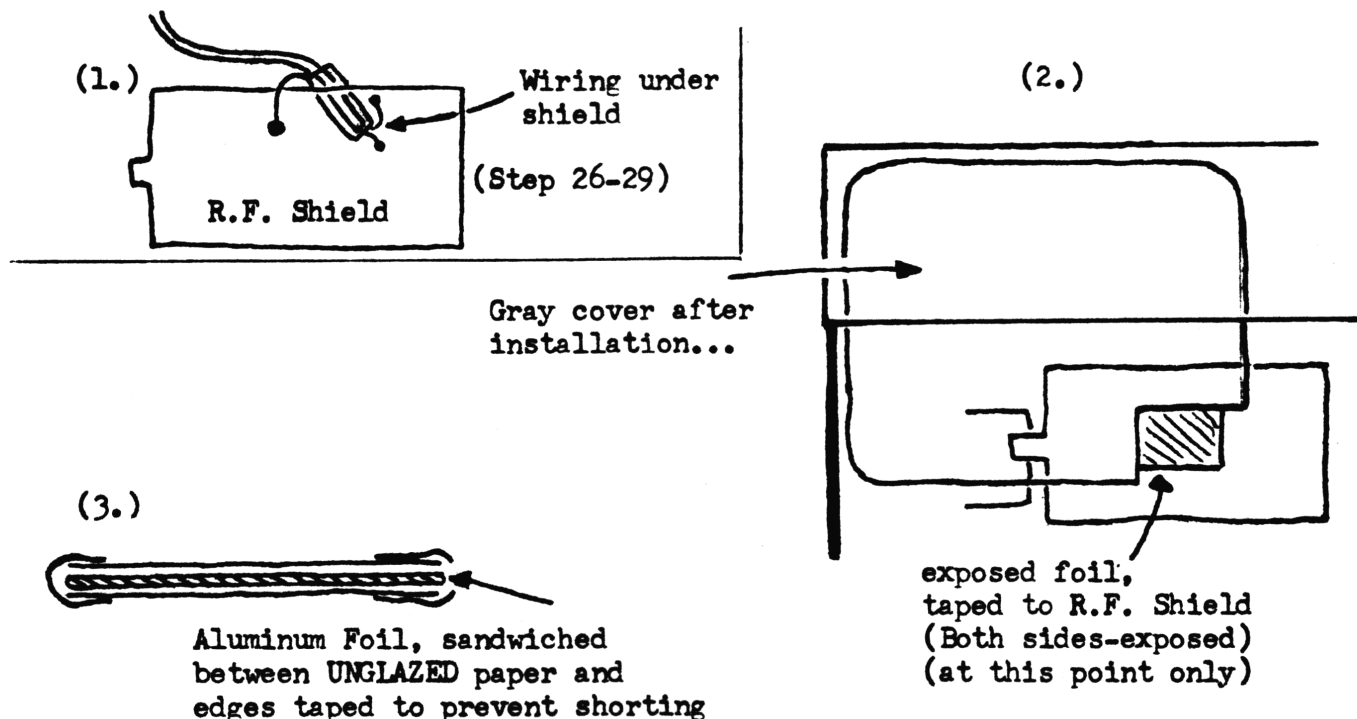
13. Use the SO-239 attached to ext. ant. jack for all further adjustments.
14. Do a complete line-up per Factory Service Manual....
If you have a external power supply capable of 1.5Amps at 12VDC; use it at the ext. power jack. Changes to alignment are: Max out power in High position using VR-3, set Low—for about $1\frac{1}{2}W$ if it will go that low, using VR-2.
15. Check the modulation on unit, if below 50% in the low power position; remove R-77 (1K ohm, located on RF Power switch PCB).
16. Remove R-30 (100K), and replace with a 270K.
Remove C-26 (3.3Mfd/25VDC) and replace with a 4.7Mfd/25VDC; observe the correct polarity on this capacitor when replacing; the positive lead goes to DC Ground! Check out the noise level, should have improved it by 100%.
17. If noise is still a factor replace R-30 again by going to a higher resistance. Some unit require going as high as 560K and also changing C-26 to a higher value of 6.8Mfd. Nominal values were listed in Step 16, as any high does diminish the audio too much.
18. Remove C-30 (10Mfd/16VDC), and replace with a 2.2Mfd/16VDC. This changes the ON time of the LED display to about 1/3 the original, and saves on battery drain. If you want to increase the on time-increase the capacitance, or solder the two wires on switch together to have it permanently on.
19. For high frequency filtering the 2 - 22Mfd axial capacitors may be wired across the speaker terminals. (a single non-polarized electrolytic may be used in place, do not use under a 15VDC rating! Insulate leads and tape to case, see wiring below:



20. Unit is now ready for frequency modification; turn the channel selector to 19..
21. Remove very carefully C-33 (33pf) from PCB, clean out the holes!
22. Key up and adjust TC-1 for 27.190MHz on transmit.
23. Build the switch kit on next page exactly as diagramed, do not deter in any fashion from this point on.....



24. After making up the kit above, pre-tin the left over wires. Feed the cable into the chassis hole and feed up to etch side of the PCB. Note: Be sure to have the adjustment screw of the capacitor facing toward the etch side.
25. Do not push the Gray case straight on, as may have to fit the new switch with capacitor through the old space where the ext. spkr. jack was. In most cases will have to move the coil coming from the ext. mike jack out of the way - just be sure it doesn't short to D.C. ground.
26. Solder the wire coming from capacitor to the D.C. Ground hole. (Stick the wire in hole then solder carefully, all of this to be done on the etch side where C-33 removed).
27. Solder the wire coming directly from the switch to the other hole in same manner.
28. Solder the RF shield back in place at all former places, with the exception of where the new cable located. (Note: make sure the RF shield is insulated on the bottom side, some are not!)
29. Solder the cable shield to the top of RF Shield. Don't push the Gray top all the way on yet, unless it will leave room to reach the capacitor for tuning. If it does-push it in place, and install the screws.
30. Key up unit with the switch towards outside of cover, should transmit at 27.190MHz. Push switch in should read-who knows-? but tune the new capacitor until you get 27.185MHz. Switch back and forth to make sure it stays steady; then put the cover back on PLL cage; re-check the transmit frequencies and readjust if necessary.



31. If you haven't put the gray cover on do it now, use caution and don't tighten down the screws too tight as will break plastic.
32. An extra shield must be made and installed before putting the antenna back into unit. It is installed as in Drawing #2, and constructed per Drawing #3. The newly made shield will be taped to the existing RF shield. (Note: The shield is made to fit between the new capacitor/cable and antenna, to prevent RF Feedback upon transmit).
33. Once the shield is installed; carefully push the antenna back into the case; the shield will require pushing down to fit properly.
34. When re-installing the antenna, don't forget to add a lock washer between the antenna and frame.
35. Remove the SO-239, and test the transmit frequency to see that there is no change in either switch position.. There should not be any! If there is - the shielding is insufficient or you installed it wrong.

Remember: Switch Inward-Regular C.B. Frequencies..
Switch Outward-Transmit and Receive Frequencies are both altered by 5KHz upwards of the original selector frequency. (In-between operation)