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CUSTOM CONVERSION #2

(Code Name: Ancient)

CHASSIS: Midland 76-858; 02A PLL

"This is basic 02A Hygain chassis; so with the exception of wire colors; switch wiring to chip and alignment can be used on any similar chassis."

Parts Cost: $10 +, including SAMS.
Time to Modify: Varies, initial unit-3 Hrs.
Gain in Unit: Frequency coverage range (26.435-27.405MHz)
High Frequency Audio Filter
"Illegal Frequency Alert"
Loss in Unit: P.A. Capability

Follow directions to the letter, and you will have 91 "channel" unit to be proud of..

Use Ancient Code Chart on the previous pages for frequency selection.

Frequency is determined by the main channel selector and the frequency range selectors - at any time you are capable of transmitting on an "Illegal Frequency", the RF/S meter light will be out.

An amplified microphone may be used with CAUTION!
If used as a mobile; the popular "Bandit" antenna; will cover the frequency range with no SWR problems.

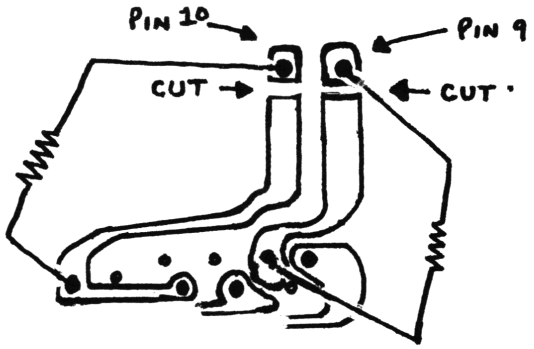
Initial conversion performed on S/N S01026XXX..

Read thru this and write down all parts you will need to perform the conversion before attempting! DO NOT ATTEMPT TO CONVERT WITHOUT THE FOLLOWING: SAMS #177, Dummy Load, Frequency Counter, and Power/Modulation Meter are the minimum needed.

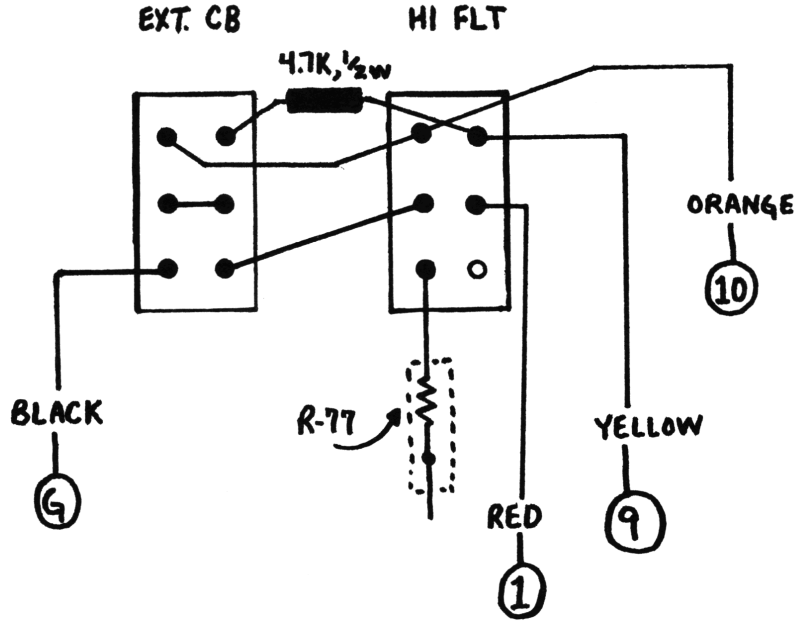
1. Remove Top and Bottom covers (Caution on the speaker terminals!)
2. Plug in an external speaker at EXT jack, will remain till finished with conversion.
3. Check Q-5 (Final); if insulator is grey plastic looking wafer; change to mica washer. (Varies, some are mica!)
4. Do a complete line-up per SAMS-177.
5. Cut all cable ties on wire around PCB.
6. Remove EXT CB switch from chassis.
7. Cut Gray and Brown wires from switch.
8. Trace Gray back to microphone jack-unsolder/delete. (Note: Sams, says Blue wire?)
9. Solder Brown to microphone jack where Gray deleted.
10. Cut Orange and Violet wires at switch.
11. Trace Orange back to microphone jack-unsolder/delete. (Note: Sams, says Gray wire?)
12. Solder Violet to microphone jack where Orange deleted.
13. Cut Pink wire off switch. Trace back to PT. 26 on PCB, delete.
14. Carefully, completely clean switch, set aside.
15. Remove HI FLT switch from chassis.
16. Cut Blue/White wire off switch.
17. Trace Blue/White wire back to Pt. 17 at PCB, strip about 1 1/2" of insulation off cut end. Wirewrap to Pt. G4 on PCB. (Located near Audio chip, black wires on it)
18. Cut Black wire at switch, Label 'G'.
19. Carefully, completely clean switch, set aside.
20. Turn unit on, check all functions (No PA Capability).
21. Remove R-77 carefully from PCB (150 ohm wirewound).
22. Trace Red wire on meter lamp back to PCB; (should have gone to point where R-77 taken out); unsolder.

23. Solder Red wire from meter lamp to one side of R-77 and sleeve joint/resistor with heat shrink. (See below)

24. Go to PLL chip and cut etch EXACTLY as shown below: Bridge cuts with 4.7K 1/2w in exact places.



25. Wire up switches EXACTLY as shown below; Black wire 'G', and R-77 will be soldered last. Red, Yellow, and Orange wires; should be solid wires; 12" long. Switches are labeled as to designation for replacing into chassis. Label the Red, Yellow, and Orange wires.



26. When finished mount switches in chassis in correct correlation with front panel.

27. Turn unit on, both switches down: light on S/RF Meter. Either up or both up, light off on S/RF meter.

28. Run the Red, Yellow and Orange Wire to the PLL Chip and solder to PLL chip pins as labeled. (See step 24 diagram)

29. Both switches down, check for normal 40 ch. frequencies, All!

30. HI FLT switch UP, EXT CB switch DOWN; (Code Green on Freq. chart); Check all frequencies. (See Step 32, if problem).

31. HI FLT switch DOWN, EXT CB switch UP; (Code Red on Freq. chart); Check all frequencies. (See Step 32, if problem).

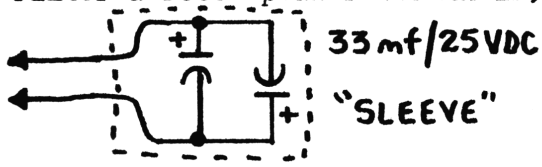
32. If Frequency Range will not go down to 26.435MHz, retune L-1 and L-2. (Slightly, don't over-do it!)

33. Repeak T-4, L-7, L-11, and L-12 for <u>Maximum</u> Power Out; at <u>26.905MHz</u>!

34. Broadband the output power across the entire frequency range using L-5 and T-3.

35. Adjust modulation to 100% using RV-2. DO NOT PULL C-96, OR DEFEAT ALC!

36. Add High Frequency Audio Filter across speaker terminals; in the case: (See below)



37. Lace up all wires carefully!

38. Disconnect external speaker, put unit back into case. (Don't forget to hook up speaker wires)

39. Using colored electrical tape (Red and Green), and paper punch. Punch out Red hole, put over EXT CB on case. Punch out Green hole, put over HI FLT on case.

40. Recheck everything, ENJOY...