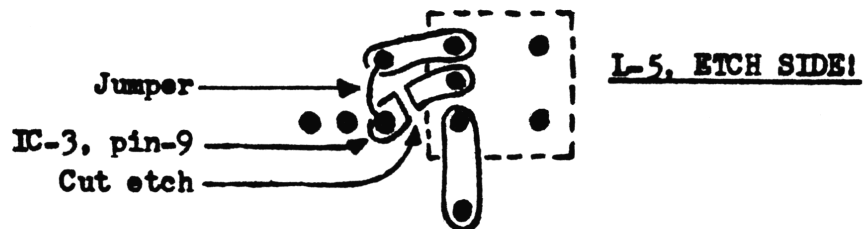


Major M-120, Conversion to 'ALPHA'

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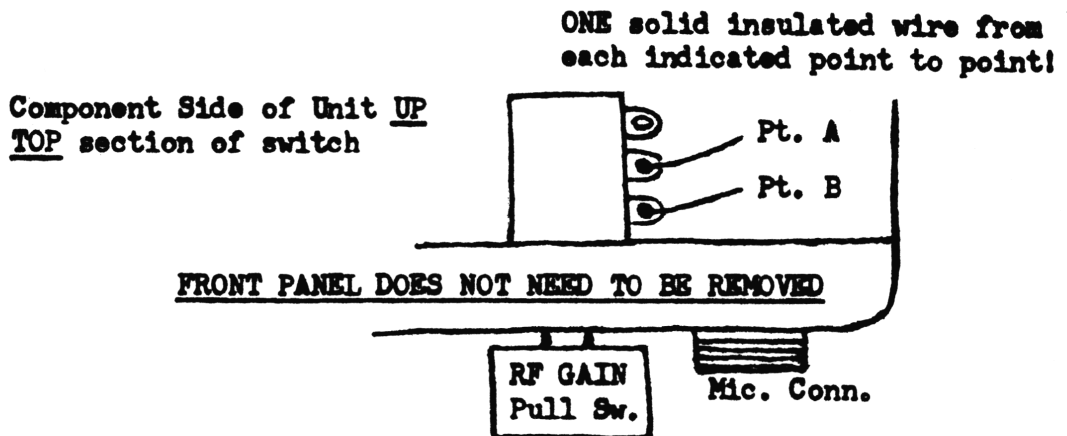
1. Remove covers; mark location of color-coded wires going to speaker; then pull the connectors off. All further work on unit is done with external speaker. Use a dummy load when tuning.....
2. Locate D-1; is found in front of L-1. Carefully remove-clean out holes.
3. Replace D-1 with the 'Super Diode', DO NOT apply excess heat when soldering!
4. Check unit to see that all present frequencies are still operational.
5. Follow diagram below for modification of L-5. Cut etch and jumper where indicated. (All this is done on the etch side of PCB!)



6. Follow diagram below for PLL Chip modification. Cut etch completely and make sure Pin 8 is completely isolated from D.C. Ground. Then install a 5.1K ohm, 1/4W, 5% resistor as shown. (Note: Pt.s A & B, as will use in later steps)

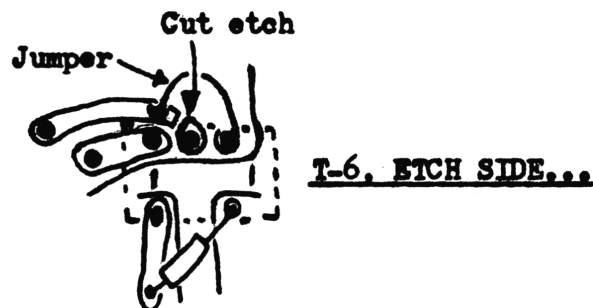


7. Check unit again, see that all present frequencies are still operational.
8. Locate the pull switch portion of the RF Gain Pot/Switch. There are no wires soldered to it, so is utilized to switch logic to Pin 8 of PLL.
9. Using the diagram below, and Step-6: Solder wires from Pt. A to Pt. A, and Pt. B to Pt. B. (Caution: Pre-tin wires before soldering to chip)!



Major M-120, 'ALPHA' (cont.)

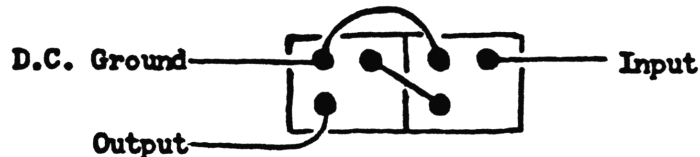
10. When you have completed the wiring, and tied-up into the bundle any excess!
11. Push switch IN, and check all frequencies! (At this time you may align L-5 for peak power at 26.965). Re-check to make sure the top Fo is OK..
12. Go to 27.865, (Hi Band, 1); pull switch out - should now have 26.585.. If not re-align L-1 slightly until it comes up. If it doesn't come up try a 'slight' re-alignment of L-2... (NOTE: In 8 different units have only had to adjust L-2 in 3 of them.)
13. Using the new 'Alpha Fo Conversion Chart'; for switching and outputs: Adjust L-1, L-2, T-2, and L-5 at this time only to get all the frequencies up. Don't bother adjusting for maximum power at this time!
14. When all the Fo's from 25.685 to 28.305 are obtained you then adjust the following for PEAK LINEAR POWER. (As flat as possible across the whole band). Adjust T-4, L-7, L-11, and L-12.
15. IN SOME CASES: L-1, L-5, L-7, L-11, and L-12 must all be used and the last 3 adjustments slightly 'stagger-tuned'.
16. With NO changes in the RF Power section; all units worked on achieved a minimum of 4W across the whole band. By taking your time, can get it to do 5W with no trouble...
17. If you are slightly off-frequency, the small capacitors next to the crystals will get you back on.
18. The receive is no problem in this unit. If you want may 'peak-tune' T-9 and T-10. Use a RF Sig Gen and 'stagger-tune', T-6, L-14, and and T-7. (Have not found this necessary in any unit to date!)..
19. If you have to only...T-6 may be broad-banded by moving input to the 'un-used leg' of coil, and cutting the etch to center. See below..



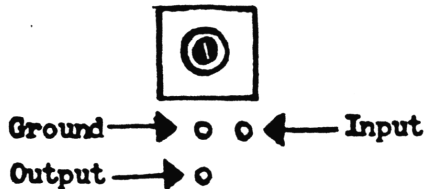
20. Additional adjustments: RV1-Sq Rng; RV2-AMC (DO NOT DEFEAT); RV3-S Mtr; RV4-RF Mtr; There is one additional adjustment pot located on small PCB.  
\*This is for FM deviation - IF YOU DON'T HAVE THE EQUIPMENT TO ALIGN--STAY OUT OF CIRCUIT!  
The two coils are for FM-RX. (Techs. Deviation should be 1.7KHz.)

Major M-120, 'ALPHA' (cont.)

21. Rejection Was A Problem! Remove the 455KHz filter (CF2); obtain another from local electronics outlet; or from a 'junked' out C.B.
22. Glue or tape the two filters together, then re-wire as below.



23. Carefully reinstall the new filter on the component side in the cleaned out holes as follows below:



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ICOM 735, Full TX Coverage  
G.L.

"A Beauty of a Unit!" ..... Carefully follow directions for full TX coverage:

1. Remove Top cover.
2. VERY CAREFULLY, remove P.A. unit and lean to one side.
3. Approximately 2" from front center and 'hair' to left, you will find D34 and D35.
4. Carefully remove or clip.
5. Replace the P.A. unit being careful not to pinch any wires.
6. Replace the top cover.

Unit will now transmit over the entire readout range.....