TMC SPECIFICATION

NO. S 1120

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APPD:

SHEET 1 OF 6

TITLE:

SPECIFICATIONS

FOR THE

KIT-305-1

I. This modification affects all model STR-1 receivers. It involves changes to the I.F. board A3189 to improve the gain stability, and AGC action.

II. LIST OF MATERIALS SUPPLIED:

ITEM NO.	SYMBOL	QTY	TMC PART NO.	DESCRIPTION
1	Z1601	1	A4469	IF ASSEMBLY
2	R1670	1	RV111U103A	VAR. RESISTOR
3	R1603	1	RC20GF103J	RESISTOR
4	R1669	1	RV111U503A	VAR. RESISTOR
5		1	CK1218	SCHEMATIC
6	C1603	1	CM100-11	CAPACITOR
7	R1602	1	RC20GF101J	RESISTOR
8		1	NP-362-69	NAME PLATE
9	R1601	1	RC20GF822J	RESISTOR
10	C1640	1	CE105-200-15	ELEC. CAP
11	R1671	1	RC20GF562J	RESISTOR
12	Q1601	1	TX109	TRANSISTOR

III. MODIFICATION INSTRUCTIONS

A. PREPARING THE UNIT FOR THE MODIFICATIONS:

1. Turn the power OFF.

2. Remove the top cover and the right side plate.

3. Loosen the screws on the IF board and remove T1601, C1603, R1603, C1658 R1634, C1640 and, if other than 100 ohms, R1602, and R1601 if other than 8.2K ohms. Also Q1601 (if other than TX109).

B. MODIFICATION ON THE A3189 BOARD:

1. Mount the 5.6Kohm resistor, Item 11, across diode CR1607. Solder it.

2. Mount the variable resistor, Item 2, R1670, in the two holes formerly occupied by R1634 and solder.

3. Mount the 8.2K ohms resistor, Item 9, in place of R1601 (if applicable) and solder.

4. Mount the 1600 pf. capacitor, Item 6, in place of C1603. Solder it.

5. Mount the assembly A4469, Item 1, in place of T1601 with the transistor, facing towards Q1602.

6. With a #56 drill, make two holes next to R1632 (10K ohm) approximately ¼ inch center to center. (SEE FIG 1)

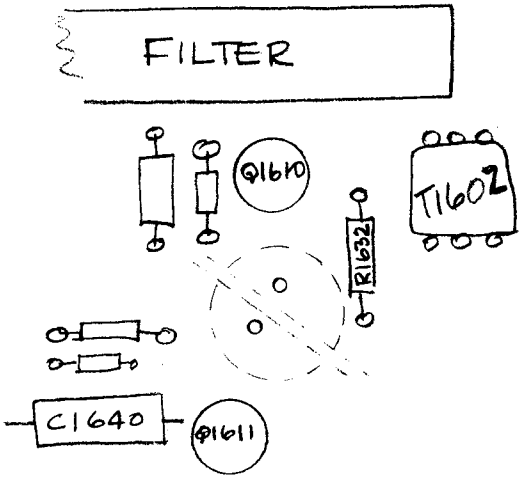

FIG. 1

7. Connect a 50K potentiometer RV111U503A, Item 4, in holes drilled in step 6 and connect between the EMITTER of Q1601 and any point in the AGC line.

8. Mount the 100 ohm resistor, Item 7, in place of R1602. (Note: this step is not necessary if R1602 was found to be 100 ohms. See step III A 3.)

9. Connect positive side of 200 mf electroytie on terminal strip #2. Solder lead from terminal #2 to positive side of C1640. The negative side of C1662, 200mf elect cap, is soldered to grounding post near variable squelch pot.

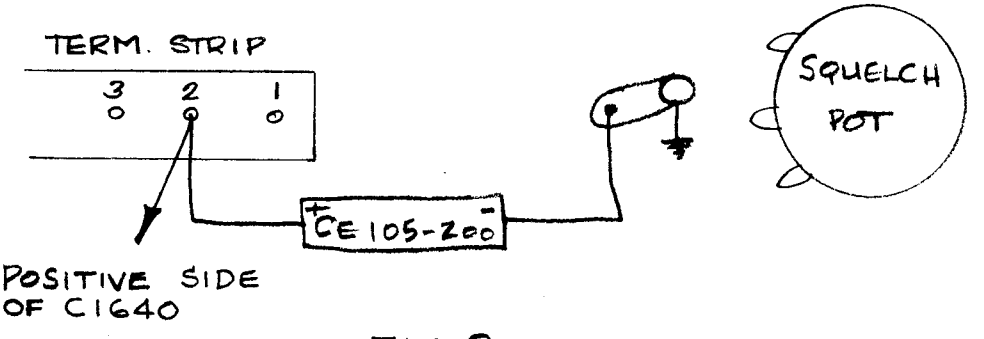

FIG 2

10. Mount the TX109 transistor, Item 6, in place of Q1601. This step is not neccessary if Q1601 was found to be TX109. See step 3.

11. Mount the 10K ohm resistor Item 3 in place of R1603.

11. RECEIVER IF ALIGNMENT

a. Test Equipment Required:

1. HP Model 606A RF signal generator or equivalent.
2. HP Model 524G frequency counter or equivalent.
3. HP Model 410 VTVM or equivalent.
4. Ballantine Model 314 A.C. VTVM or equivalent.

b. Procedure:

1. Set the RCVR sideband switch to LSB and remove the 1.5 mc crystal Y1603.
2. Connect the Ballantine between the base of Q1602 and GND.
3. Connect the HP 606A RF GENERATOR between Terminals 1 and 2 on the RCVR IF board with the generator's output control at zero.
4. Set potentiometer R1612 on the RCVR IF board maximum counter-clockwise.
5. Set the generator frequency at 1.75 mc using the frequency counter, and increase the generator output to approximately 1.0 mv. The Ballantine should indicate some voltage present at the base of Q1602.
6. Adjust C1602 for a peak indication on the Ballantine meter. Peak reading should be 10 mv minimum.
7. Reduce generator output to zero and remove meter.

8. Replace the 1.5 mc crystal, Y1603.

9. Connect the Ballantine across terminals 10 and 11 on the RCVR IF board.

10. Set the HP 606A RF GENERATOR to 1.75 mc +1KC as indicated on the frequency counter.

11. Check that the SQUELCH control on the rear apron is maximum counter-clockwise.

12. Increase the SIGNAL GENERATOR output for an indication on the Ballantine. Use the 10 mv scale on the meter.

13. Adjust C1655 and C1656 for a peak indication on the meter. Do not allow the meter reading to exceed 10 mv.

14. Set R1554 and R1555 maximum clockwise.

15. Set the SIGNAL GENERATOR output at 260 microvolts and adjust R1612 for a reading of 10 mv on the Ballantine. Remove meter.

16. Connect the Ballantine across terminals 3 and 5 on TB1501. The meter should read .78V with the VOLUME control maximum clockwise. Re-adjust R1612 to obtain this reading if necessary.

17. Set the VOLUME Control maximum counter-clockwise and the SQUELCH control maximum clockwise.

18. Slowly rotate the VOLUME control clockwise. A 1 KC note should be heard through the speaker.

19. Remove HP 606A R.F. GENERATOR from terminals 1 and 2 of IF board, and connect generator to antenna BNC.

20. Insert an RF TTRR head, one which has already been tuned, and set the 606A to the TTRR heads receiving frequency.

21. Set the 606A generators output to 1μv and adjust R1670 (10K VAR. RESISTOR) to read approximatly +1.65 V DC on terminal 9 (AGC line terminal) of IF board. Use Simpson 260 or HP 410B to measure the AGE voltage. Ballantine should indicate .7V. Slight adjustment of R1670 may be neccessary to obtain .7V.

22. Increase 606A GENERATOR output voltage to 100mv. Adjust R1669 to give you approximatly 1.0V on the Ballantine meter.

23. Return 606A GENERATOR voltage back to 1μv and observe Ballantine meter indication. If meter indicates less than .7V readjust R1670 to give you optimum condition. It may be neccessary to adjust back and forth between R1670 and R1669 until a satisfactory condition of AGC is obtained.

24. Remove the SIGNAL GENERATOR input connections.

25. Affix adhesive name plate, Item 8, to rear apron of STR-1.

REVISION SHEET	THE TECHNICAL MATERIEL CORP. MAMARONECK NEW YORK	S 1120 LIST NO.

DATE	REV.	SHEET	EMN #	DESCRIPTION	APP.
7/13/66	Ø			ORIGINAL RELEASE FOR PRODUCTION	
9/22/66	A	2,3	16880	Revised per EMN	
10/4/66	B	-----	16983	Revised completely per EMN	
11/3/66	C	2	17194	Revised per EMN	
1/6/67	D	2,4	17602	Revised per EMN	