KIT-203
S860

TMC SPECIFICATION

NO. S-860

REV: A B

COMPILED: RRH

CHECKED:

APPD:

SHEET 1 OF 4

TITLE:

MSR-8 MODIFICATION KIT

KIT-203

A. PURPOSE

To provide instructions for modification of Sideband Adapter, MSR-8, from an input of 500 kcs to 455 kcs.

B. PARTS REQUIRED

ITEM	QTY.	TMC PART NO.	DESCRIPTION	SYMBOL
1.	1	A1387	1st Osc. Ass'y	Z3
2.	1	CR47A/U - 438.000 KC	Xtal Unit, 438 kcs	Y1
3.	1	CR47A/U - 472.000 KC	Xtal Unit, 472 kcs	Y2
4.	1	NP362-22	Identification Plate	
5.	1	CK782	Schematic Diagram	
6.	1	CM15F101J03	Capacitor, 100 pf	C37
7.	1	RC20GF101J	Resistor, 100 ohms	R68
8.	1	RC20GF104J	Resistor, 100K ohms	R47
9.	1	CB135-4	Capacitor, Variable	C28

C. INSTALLATION INSTRUCTIONS

1. Unsolder and remove First Oscillator Assembly, TT122, (Z3) and replace with A1387 (Item 1).

2. Remove crystal CR47/U-483P (Y1) and replace with CR47A/U-438.000 KC (Item 2).

3. Remove CR47/U-517P (Y2) and replace it with CR47A/U-472.000 KC (Item 3).

4. Remove variable capacitor CB135-13 (C28) and replace with CB135-4 (Item 9).

5. Remove 150 pf mica capacitor CM15C151K (C37) and replace with 100 pf capacitor, CM15F101J03 (item 6)

6. Insert 100 ohm resistor (item 7) RC20GF101J(R68)in series with connection to Pin 6 of 1st Osicllator Tube V7.

7. Remove RC20GF823K , 82000 ohms resistor (R47) from reactance modulator circuit and substitute RC20GF104J, 100000 ohms (Item 8).

8. Affix identification plate, NP362-22 (Item 4) to the front panel.

D. TEST PROCEDURE

1. It is assumed that the MSR-8 was operating properly before conversion. The tests listed below are intended to verify correct installation of changes to the first oscillator circuitry.

2. Variable Oscillator Test

a. Energize MSR-8. Set MANUAL/XTAL switch to MANUAL.

b. Set sideband switch for UPPER.

c. Measure bias on Pin 1 of V7 with a-c vtvm. Value should be approximately -2 to -3v.

d. Tune RF Signal Generator to 472 kcs and connect to Pin 7 of V3. Connect oscilloscope to Pin 5 of V3.

e. Place reactance balance and bandspread controls in mid-position.

f. Tune core of Z3 for zero beat indication on the oscilloscope.

g. Switch sideband to LOWER.

h. Measure bias on Pin 1 of V7 as in Step c, above.

i. Set signal generator on 438 kcs and tune trimmer, C29, for zero beat indication on the oscilloscope.

3. Crystal Oscillator Test

a. Turn MANUAL/XTAL switch to XTAL.

b. Measure bias on Pin 1 of V7 should be between 5 and 5.5v for both UPPER and LOWER positions of sideband switch.

c. Switch sideband set for UPPER; tune signal generator for z ro beat as indicated on oscilloscope. Should be 472 kcs.

d. With sideband set for LOWER; tune signal generator for zero beat as indicated on oscilloscope. Should be 438 kcs.

REVISION SHEET

THE TECHNICAL MATERIEL CORP.
MAMARONECK NEW YORK

S860
LIST NO.

DATE	REV.	SHEET	EMN #	DESCRIPTION	APP.
10/22/64	A	all	12712	Revised all shts. per EMN	LG
1/12/66	B	2,3,4	15575	Revised per EMN	[illegible]