TMC SPECIFICATION

NO. S 10173			
REV:			
COMPILED:	CHECKED:	APPD:	SHEET 1 OF 5
TITLE: TEST PROCEDURE FOR SMR5 (A, U or L)			

TMC (CANADA) LTD.

DATE May 21/69 SH. 2 OF 5 COMPILED BY	TMC SPECIFICATION NO. S 10178	
	TITLE: TEST PROCEDURE FOR SMR5 (A, U, or L)	JOB
APPROVED		

EQUIPMENT NEEDED

Simpson Model 260 Multimeter or equivalent to measure 12V DC
R.F. Signal Generator H.P. Model 606 or equivalent
Frequency counter H.P. Model 524 or equivalent
Audio Line-Level meter (-20dbm to +10dbm)
Two 600 ohm dummy loads
Oscilloscope Tektronix 545 or equivalent

PROCEDURE

1. Make up dummy load and Jumper plug by making following connections to mating plug to J16 supplied with unit

   a) Jumper pins 24 and 25

   b) Jumper pins 12 and 13

   c) Jumper pins 1 and 2

   d) Connect a 600 ohm resistor between pins 16 and 18, and a 600 ohm resistor between pins 19 and 21

D.C VOLTAGE TESTS

2. Apply power to unit, and check that indicator lamp lights

3. Check for +12V at pin 25, J16

4. a) Plug jumper plug (step 1) into J16

   b) Check +12V at pin 5, J13, pin 5, J14, pin 5, J15 pin 5 of A-10699-5, pin 5 J4 to J11
   Check for +12V at pin 3 of J19 (unless Mode switch is at AM)

5. a) With channel switch set to channel 1 check +12V at pin 9 J4, repeat this test for all channels checking for +12V at pin 9 of J4 through J11

   b) With channel switch set to channel 1 check clarifier voltage range on pin 4 of J4. With clarifier control set to mid-position, rotation of R8 on rear panel should give 0 to +12V at this point. Repeat test for each channel varying appropriate potentiometer as follows:

Channel 1 - R8
Channel 2 - R7
Channel 3 - R6
Channel 4 - R5
Channel 5 - R4
Channel 6 - R3
Channel 7 - R2
Channel 8 - R1

6. BFO DISTRIBUTION

a) Set mode selector to USB
Connect an oscilloscope to pin 15 of J15 and adjust R2 to deliver between 0.2 and 0.5 volts, peak to peak.

b) Repeat at pin 15 of J14 with mode selector set to LSB.

7. IF BOARD ALIGNMENT

a) Connect the R.F. signal generator to terminal 1 of the IF board and adjust it to deliver a 30μV signal at 1750 KHz. This signal should be modulated when aligning an AM type IF board.

b) Connect VOM to terminal 3 of the IF board.
Tune T2 and T3 for maximum voltage at terminal 3(AGC).

c) Connect audio VTVM to pin 7 and pin 9 on the IF board, and adjust R18 for Odbm on audio VTVM.

8. SENSITIVITY TEST

a) Connect R.F. Signal generator to J1.
Select USB with mode selector.
Adjust signal generator to 1μV unmodulated at the operating frequency of module in channel 1.
With the audio VTVM, check for Odbm (1 milliwatt) across pin 16 and 18 of the jumper plug made in step 1. Select LSB, Odbm should be observed across pins 19 and 21 of J-16

b) Select LSB with mode selector, Odbm should be observed on audio VTVM across pins 16 and 18
Select LSB Odbm should be observed across pin 19 and 21 of J16

c) If receiver has an A.M. board, connect R.F. signal generator to J1. Select A.M. with mode selector switch, set signal generator to 3μV, 30% modulation at the operating frequency of channel 1,

with audio VTVM check for 0dbm across pins 16 and 18 of the jumper plug made on step 1

d) Repeat step 8(a, b, c) for each channel

9. DYNAMIC RANGE

a) For a receiver using an upper and (or) lower sideband board, connect signal generator and audio VTVM as in 8(a);and (or)8(b), and increase R.F. signal at J1 by 100dB. (0.1 volt). Increase in VTVM reading should be no greater than 10dB

b) For a receiver using an A.M. board, connect R.F. signal generator and audio VTVM as in 8(c) and increase R.F. signal at J1 by 70dB). Increase in VTVM reading should be no greater than 10dB

10. SIGNAL PLUS NOISE TO NOISE RATIO TEST

a) For receivers with upper and (or) lower sideband board, connect R.F. signal generator and audio VTVM as in 8(a) and (or) 8(b) and note VTVM reading. Remove modulation of the input signal and observe drop in VTVM reading. This should be 10dB or greater

b) For receivers with an A.M. board, connect R.F. signal generator and VTVM as in 8(c) and note VTVM reading. Remove modulation of the input signal and observe drop in VTVM reading. This should be 10dB or greater

11. METER CALIBRATION

a) Connect R.F. signal generator and VTVM as in 8(a). Observe reading on audio VTVM. Adjust R.5 on metering board for same reading on M1

b) Check operation of HIGH/LOW switch

12. OSCILLATOR FREQUENCY ADJUSTMENT

a) Connect frequency counter to J.12
With clarifier control set to mid-position adjust appropriate control on rear panel for a frequency corresponding to receiver frequency plus 1.75MHz.

b) Check that rotation of clarifier control on front panel varies H.F.O. frequency.

c) Repeat 12(a)(b) for each channel

13. SQUELCH ADJUSTMENT

a) Connect R.F. signal generator as in 8(a). Set squelch control fully clockwise, the monitor lamp should come on. Adjust volume control for audible signal. Remove signal from J1 and turn squelch control counter-clockwise until the noise from the speaker disappears and the monitor lamp goes out.