TMC SPECIFICATION			NO. S 1248
REV: Ø			
COMPILED: R.R.	CHECKED:	APPD:	SHEET OF
TITLE:			
9/15/66			

TEST PROCEDURE

FOR

THE TMC MODEL CSS-1C

PARTS 1

&

PARTS 2

TMC SPECIFICATION				NO. S 1248
REV: Ø				
COMPILED:	CHECKED:	APPD:	SHEET 1	OF 4
TITLE: TEST PROCEDURE FOR CSS-1C PART 1				

I. TEST EQUIPMENT REQUIRED:

A. Ballantine Model 314 AC VTVM, or equivalent.
B. 68 ohm Non-Inductive Resistor 1/2 watt.
C. Simpson Model 260 Multi-meter, or equivalent.

II. PRELIMINARY:

1. Inspect unit for obvious mechanical imperfections.
2. Inspect unit for obvious wiring errors.
3. Check for proper orientation of transistors. The index tab on the transistor should match the keyway on the socket. All transistor sockets should be mounted with the keyway toward the rear of the unit.
4. Make sure that the terminal board is screwed down securely; if not, the unit will not operate properly.
5. Connect unit to 115VAC power source. Check operation of I601 and I602.

   a. STANDBY position; I601 should be on
   b. POWER-ON position; I602 should be on

6. Check voltage across CR601. A value of 27 VDC ±10% should be obtained.
7. Disconnect 115VAC power source from J605.

III. TESTING OF THE CSS-1C:

1. Install frequency test standard into socket Z602.
2. Connect unit to 115VAC power source.
3. Set switch S601 to ON position.
4. Allow unit to warm up, (approximately 30 minutes).
5. Check voltage at CR601. A minimum value of 24.3VDC shall be obtained.
6. Check the output of the frequency test standard at C 612 with an AC VTVM. Voltage should be 1.4VAC, ±10%.
7. Connect 68 ohm load at J602 or J606.
8. Connect AC VTVM to arm of R617. Adjust R617 for 1 volt AC.
9. Check the following DC voltages with the Multi-meter.

   a. Q601 Pin 1 to ground and Q602 Pin 1 to ground. (Green Leads). Tolerance ±0.1VDC.
   b. Q601 Pin 2 to ground and Q602 Pin 2 to ground. (Yellow leads). Tolerance ±0.1VDC.

10. Connect the AC VTVM to J606. Tune T603 for Maximum peak. Start with slug all the way out to avoid wrong peak.
11. The output of the CSS-1C should be at least .8VAC at this point.
12. Readjust R617 for 1.0VAC at J606. Observe same voltage at J602.
13. Place the AC VTVM probe on the yellow dot terminal of Z601. Tune Z601 for maximum. (Start with slug all the way out to avoid wrong peak.)
14. Place R616 sensitivity control to maximum. Adjust R614 phase detector balance for a 0 center scale reading of M601. When this has been accomplished the modulators are balanced.
15. If Step 14 is performed correctly, then with R616 at minimum sensitivity, M601 should still read 0.
16. To check phase comparator circuit, connect a stable external lmc signal (1 volt max) to the "PRI STD IN" connector on CSS-1C. Phase comparator Meter will vary in accordance with phase relationship between CSS under test and the external lmc signal.
17. Check test records and verify that lmc standard unit has undergone stability check. Record standard serial number on Test Data Sheet.
18. Proceed to Part 2 of this procedure to check the lmc switch over device.

I. TEST EQUIPMENT REQUIRED:

A. Standard signal generator, Model 82 generator
B. Hewlett-Packard Model 410B VTVM.

II. PRELIMINARY CHECK

1. Inspect unit for mechanical imperfection, correct placement of parts and obvious wiring defects.

III. CHECK OUT

1. Connect a short coax cable from J602, Int. Std., to J3, Int. In.
2. Connect the external 1mc 1.0V source to J1, Ext. In.
3. Connect the 47 ohm load to J2, Out.
4. Connect the VTVM across J602, INT STD Meter should read 1.0 volt.
5. Turn R1 counter-clockwise.
6. Connect the multimeter, RX1 scale, across terminals 8 and 9. The meter should read short.
7. Turn R1 slowly clockwise until the multimeter reads open. Check to see that the VTVM still reads 1.0 Volt.
8. Using R617, reduce the level of the 1.0Mc output until the multimeter reads short again. The VTVM must not read below 0.707 volts.
9. Raise the level of the 1.0Mc output to 1.0 volt. The multimeter should read open at 1.0 volt.
10. A slight readjustment of R1 may be necessary to have the multimeter read open at 1.0 volt. Repeat Steps 8 and 9.
11. Set R617 to have the VTVM read 1.0 volt and lock R617 and R1.
12. Connect AC VTVM across the load.
13. With 1.0 volt applied to J3, the AC VTVM should read 1.0 V. On TB1, terminal 9 and 10 should be shorted, terminal 8 and 9 should be open. On TB601, terminal 1 and 2 should be open.
14. Disconnect the cable from J3.
15. The AC VTVM should still read 1.0V. On TB1, terminal 8 and 9 should be shorted, terminal 1 and 2 should be open. On TB601, terminal 1 and 2 should be shorted.

TECHNICAL MATERIEL CORPORATION
MAMARONECK, N.Y.
CSS-1C TEST DATA SHEET

SERIAL NO. _____

MFG. NO. _____

READINGS

Voltage at CR601, unloaded	_____	VOLTS
Voltage at CR601, loaded	_____	VOLTS
Q601 pin 1--Q602 pin 1	_____	VOLTS
Q601 pin 2--Q602 pin 2	_____	VOLTS
Output at J602, J606	_____	VOLTS
Automatic lmc Switch over	_____	OK

Date _____

Tester _____ lmc Std. Serial # _____

REVISION SHEET	THE TECHNICAL MATERIEL CORP. MAMARONECK NEW YORK	S 1248 LIST NO.

DATE	REV.	SHEET	EMN #	DESCRIPTION	APP.
2/25/69	ø			ORIGINAL RELEASE FOR PRODUCTION	