

# TMC SPECIFICATION

NO. S 1273

REV:

0

COMPILED: L.K.

CHECKED: F.B.

APPD: LK

SHEET

OF

TITLE:

TEST PROCEDURE FOR TMC FREQUENCY STANDARD

DISTRIBUTION SYSTEM

FOR

SYM1200

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## A. TEST EQUIPMENT

1. Oscilloscope, Tekronix, 545 or equivalent
2. Variac, General Radio W-10MT-3W
3. Frequency Standard, TMC house standard
4. Frequency Corporator, TMC PFCB-1

## B. MECHANICAL INSPECTION

1. Inspect the distribution rack to assure;
  - a. All cables are harnessed and routed to preclude pinching, cutting or chafing when a chassis is withdrawn on its slides and tilted for inspection or maintenance.
  - b. Chassis tilting and locking facilities lock the chassis on the servicing position.
  - c. All pointed surfaces are free of scratches or pitting.
  - d. All workmanship conforms to existing TMC standards.

## C. ELECTRICAL INSPECTION

1. Inspect the distribution rack to assure:
  - a. Proper installation of and application of AC Power Strip.
  - b. Correct termination of all interconnecting cables and plugs.
  - c. Adequate protection of all cables from damage.

## D. OPERATIONAL TESTS

1. Set the battery switch (S904) on the CSS-2 frequency standards to the "in" position. The Red Battery lights DS902 should go on.
2. Set the meter switch (S1001) on the BSPA units to the "condition" position & record the battery condition.
3. Set the CSS-2 amplifier switch to the on position.
4. Set the CSS-2 meter switch to the voltage position and record on the BSPA the voltage.

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5. Set the meter switch (S1001) to the "discharge" position & record the discharge rate.
6. Calculate the DC voltage for steps 4 & 5 above.
7. Connect AC power strip. The green power lights (DS901) on the CSS-2 should go on the red power lights will go off.

(NOTE: Allow a sufficient amount of time for the CSS-2 standard to stabilize before proceeding)

8. Connect the oscilloscope probe to the 100 kHz output jack of standard No. 1 (without releasing the switch) a 100 Kc sinewave of at least 2.8 volt peak to peak should be observed.
9. Connect the oscilloscope probe to the 100 kHz output jack of standard No. 1 (without releasing the switch) a 10 Mc sinewave of at least 2.8 volt peak to peak should be observed.
10. Connect the oscilloscope probe to the 100 kHz output jack of standard No. 2 (without releasing the switch) a 100 Kc sinewave of at least 2.8 volt peak to peak should be observed.
11. Connect the oscilloscope probe to the 100 kHz output jack of standard No. 2 (without releasing the switch) a 10 Mc sinewave of at least 2.8 volt peak to peak should be observed.
12. Connect the oscilloscope probe to multicoupler No. 1 output jack No. 1 & observe an open circuit. Release the switch and observe an 1 Mc sinewave output.
13. Repeat step 12 for output 2-32.
14. Repeat steps (12) and (13) for multicoupler No. 2 outputs jack 9-12, 17-32.
15. Connect the oscilloscope probe to multicoupler No. 2 jacks 1 to 8 and 13 to 16 and observe a 1Mc output sinewave.

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16. Connect the metered variac between the power strip and CA-1068-1-12 of CSS-2 No. 1 and record the AC power

17. Repeat step 16 for CSS-2 No. 2.

(NOTE: Allow the CSS-2 to warm up for fourteen (14) days before proceeding)

18. Connect the 1 Mc output of CSS-2 No. 1 to the test input of the frequency comparator. Connect the 1 Mc output of the house standard to the reference input. Set the PFCB for  $\pm 1$  part in 109 and record the frequency error for a 24 hours period.

19. Repeat step 18 for CSS-2 No. 2.

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## TEST DATA SHEET - CSS-2

- B. Electrical Inspection \_\_\_\_\_ OK
- C. Mechanical Inspection \_\_\_\_\_ OK
- D. Operation
1. With battery connected, and a-c power disconnected from the unit, the battery light should be on, and the proper light should be out. \_\_\_\_\_ OK
  2. (a) Discharge current \_\_\_\_\_ Amps.  
       (b) Voltage \_\_\_\_\_ Volts  
                     Drain \_\_\_\_\_ Watts
  3. With a.c power connected to the unit, the power light should be on. \_\_\_\_\_ OK
  4. (a) CSS-2 No. 1
    1. 100 Kc output \_\_\_\_\_ OK
    2. 10 Mc output \_\_\_\_\_ OK
 (b) CSS-2 No. 2
    1. 100 Kc output \_\_\_\_\_ OK
    2. 10 Mc output \_\_\_\_\_ OK
  5. (a) Multicoupler No. 1  
       Outputs 1 to 32 \_\_\_\_\_ OK  
       Multicoupler No. 2  
       Outputs 1 to 32 \_\_\_\_\_ OK
  6. (a) AC Power CSS-2 No. 1 \_\_\_\_\_ WATTS  
       (b) AC Power CSS-2 No. 2 \_\_\_\_\_ WATTS

