

TMC SPECIFICATION

NO. S 1026

REV: A B

COMPILED: RRH CHECKED: APPD: *M/May* SHEET 1 OF 8

TITLE:

Typed by mtp 10/26/65

10/27/65

AUTOMATIC CHANGEOVER FROM INTERNAL 1 MC. STANDARD

TO

EXTERNAL 1 MC STANDARD

KIT-270

KIT-270

S1026

TMC SPECIFICATION

NO. S 1026

REV:

Q AB

COMPILED: RRR

CHECKED:

APPD:

SHEET 2 OF 8

TITLE: AUTOMATIC CHANGEOVER FROM INTERNAL 1 MC STANDARD TO EXTERNAL 1 MC. STANDARD

Typed by mtp 10/26/65

KIT-270

I. EQUIPMENT AFFECTED

A. TMC Model CSS-1, CSS-1A or CSS-1B Primary Frequency Standard.

II. PURPOSE

A. Modification of Frequency Standard to provide automatic changeover upon loss of INTERNAL frequency standard input.

III. MATERIALS SUPPLIED IN KIT

| <u>ITEM NO.</u> | <u>AMOUNT</u> | <u>DESCRIPTION</u> |
|-----------------|---------------|---|
| 1 | one ea. | TMC No. NP-362-49 Name Plate |
| 2 | one ea. | TMC No. AX619, , Switching Unit |
| 3 | one ea. | TMC No. MS-4339, Mtg. Plate for AX619 |
| 4 | two ea. | TMC No. EY-102-2, Grommet |
| 5 | one ea. | TMC No. CA-1050, Power Cable |
| 6 | one ea. | 5/16" Drill Bit |
| 7 | one ea. | TMC No. CA-480-312, Interconnecting Coaxial Cable |
| 8 | four ea. | TMC No. SCBPO632BN5, Screw, Mach. for MS-4339 |
| 9 | four ea. | TMC No. LWEO6MRN, Washer, Lock, for MS-4339 |
| 10 | 3 feet | TMC No. CD-101-1-MW, Lacing Cord |
| 11 | one ea. | TMC No. SCFPO632BN5, Screw, Mach. |

IV. TOOLS REQUIRED

To be supplied by the installing activity:

1. Soldering iron, medium and 1 foot solder.
2. Pliers, 6" Longnose.
3. Pliers, 6" Diagonal.
4. Screwdriver, 6" Phillips.
5. Tin-snips, 12".
6. Hewlett-Packard 410-BR
7. Simpson 260

V. PROCEDURE

1. Turn CSS front panel STANDBY/ON switch to STANDBY.
2. Disconnect power plug, J-605 from rear of unit.
3. Disconnect all coaxial connecting cables from rear of unit.

TMC SPECIFICATION

NO. S 1026

REV: Q A B

COMPILED: RRH

CHECKED:

APPD:

SHEET 3 OF 8

TITLE: AUTOMATIC CHANGEOVER FROM INTERNAL 1 MC STANDARD TO EXTERNAL 1 MC STANDARD

Typed by mtp 10/26/65

KIT-270

V. PROCEDURE - Cont'd

4. Remove the CSS to a convenient work area.
5. Remove top and bottom covers from CSS.
6. Remove the four #6 Phillips machine screws that hold the marked A-2352-8 terminal board from the top of the chassis.
7. Carefully push back the terminal board from the chassis.
8. Mark, and carefully drill a hole from the top of the CSS chassis with Item 6 supplied in kit, per Figure #1.
9. Insert Item #4 supplied in kit in hole drilled in Step 8.
10. Using the existing holes and hardware, mount Item #3 supplied in kit in the location shown on Figure 4 (NOTE: The 45° angle on the mounting plate clears J-605 for proper orientation of the plate. [Note screw exchange].).
11. Install Item #4 in center hole of mtg. plate just installed in Step 10.
12. Attach the green wire of Item #5 to the (+24V D-C) point located on Figure #2, and the black (ground) wire of Item #5 to the ground point located on Figure #2. Solder these connections.
13. Route Item #5 just installed in Step 12 to rear of chassis and along existing cable, run up through grommet hole drilled in Step 8, then through grommet hole of Item #3.

NOTE: There now should be a green & black wire protruding from the rear of MS-4339.

14. Remount the terminal board marked "A-2352-8" with the four #6 machine screws removed in Step 6, in its original location.

NOTE: Carefully check that no pinched wiring occurs during reinstallation of terminal board.

15. Connect and solder the remaining wires of CA-1050, Item #5 to Item #2 supplied in kit, as follows:
 - a. green wire to 24 volt terminal of AX619 (located inside unit).
 - b. black wire to the ground lug of AX619 (located inside unit).
16. Mount Item #2 on Item #3 with Items #8 and #9.

NOTE: The 3 BNC connectors of the AX619 must be located in a horizontal plane nearest the bottom rear of the CSS.

TMC SPECIFICATION

NO. S 1026

REV: Q A B

COMPILED: RRH

CHECKED:

APPD:

SHEET 4 OF 8

TITLE: AUTOMATIC CHANGEOVER FROM INTERNAL 1 MC STANDARD TO EXTERNAL 1 MC STANDARD

Typed by mtp 10/26/65

KIT-270

V. PROCEDURE - Cont'd

17. Replace bottom cover on the CSS.
18. Cut out the rear section of the top cover to accommodate the newly installed unit. Refer to Figure #5.
19. Replace top cover of CSS.
20. Replace CSS in ~~SBG assembly~~ and reconnect power plug to J-605.
21. Reconnect the BNC connectors at the rear of the unit as follows:
 - a. RG-174/U plug which originally connected to EXT. 1 MC STD now connects to EXT. STD. IN of AX619.
 - b. RG-174/U plug which originally connected to 1 MC out of CSS now connects to 1 MC out of AX619.
 - c. Connect one end of Item #7, supplied in kit, to J-602 located on rear of CSS, and connect the other end of Item 7 to INTERNAL STD. IN of AX619.
22. Place the CSS front panel STANDBY/ON switch to ON.
23. This completes TMC No. KIT-270 modification of CSS-1, 1A, or 1B.
24. Apply Item #1 directly below name plate of CSS-1, 1A, or 1B.

VI. ALIGNMENT

1. On AX619, turn R1 counter-clockwise.
2. Connect the VTVM across the output of the CSS at J602 and set the output for 1.0 Volt using R617, Output Adjust.
3. Connect the Simpson to read Ohms across terminals 8 & 9 of TB1. Meter should read short.
4. Slowly turn R1 clockwise until the terminals 8 & 9 open. Check to see that the 1MC output is still 1.0 Volt.
5. Reduce the output of the CSS using R617 until terminals 8 & 9 show a short again. The output level should not fall below 0.707 Volts.
6. Raise the output to 1.0 Volt again. Terminals 8 & 9 should open. A slight adjustment of R1 may be necessary.
7. Repeat Steps 5 and 6.
8. Set R617 for 1.0 Volt and lock R1 and R617.

TMC SPECIFICATION

NO. S 1026

REV: Q A B

COMPILED: RRH

CHECKED:

APPD:

SHEET 5 OF 8

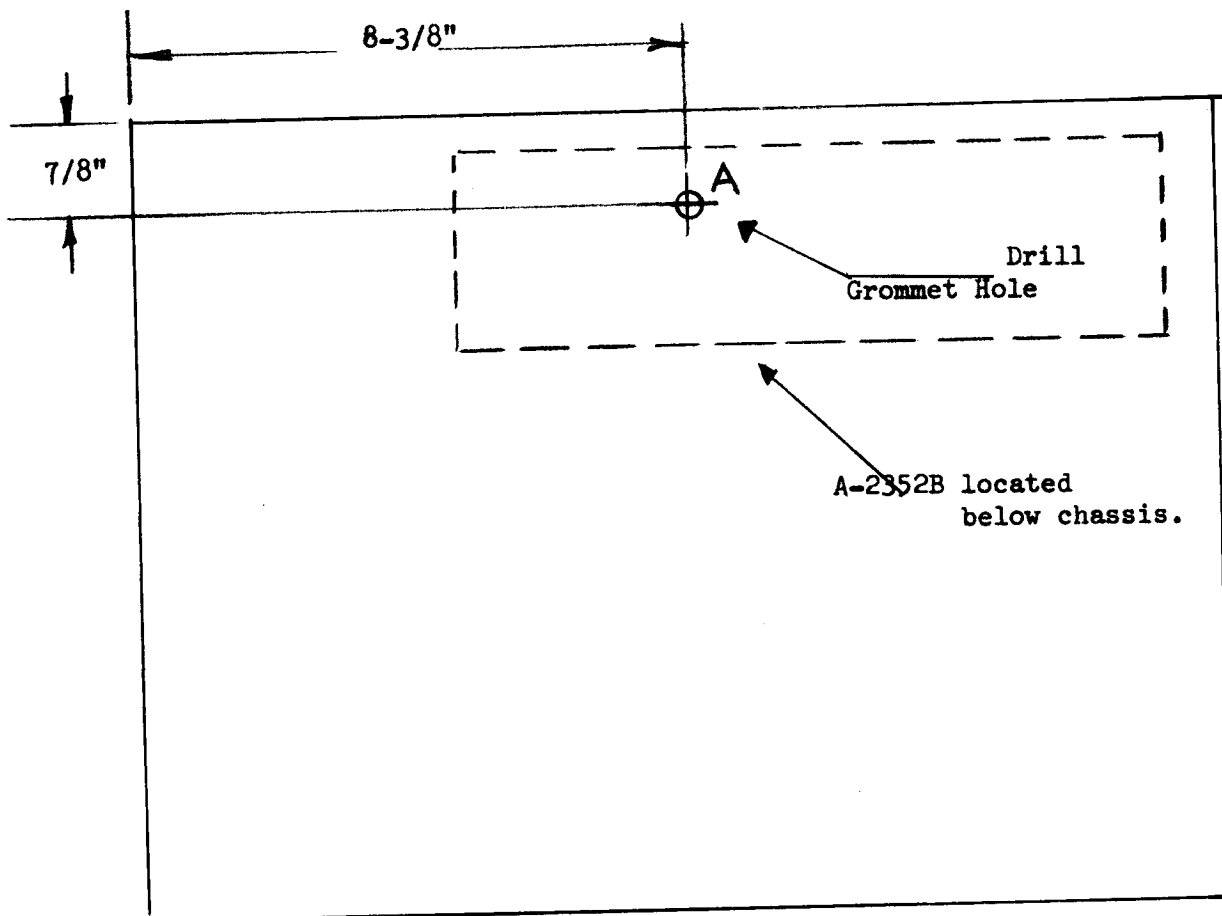
TITLE: AUTOMATIC CHANGEOVER FROM INTERNAL 1 MC. STANDARD TO EXTERNAL 1 MC. STANDARD

Typ d by mtp 10/26/65

KIT-270

FIGURE # 1

REAR (TOP) OF CSS CHASSIS



HOLES: A-5/16" DIA.

TMC SPECIFICATION

NO. S 1026

REV: A B

COMPILED: RRH

CHECKED:

APPD:

SHEET 6 OF 8

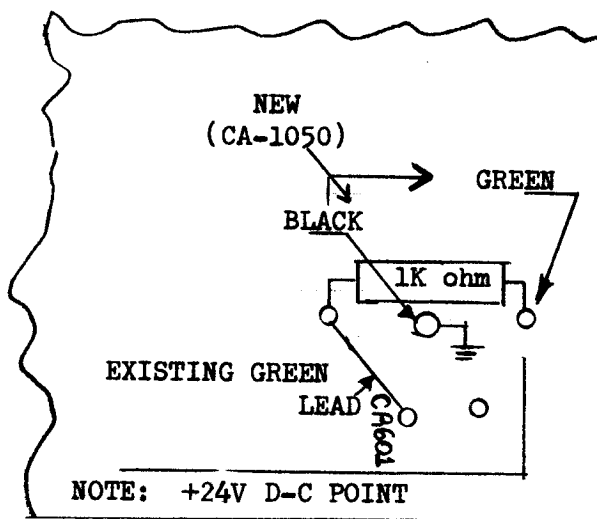
TITLE: AUTOMATIC CHANGEOVER FROM INTERNAL 1 MC STANDARD TO EXTERNAL 1 MC STANDARD

Typed by mtp 10/26/65

KIT-270

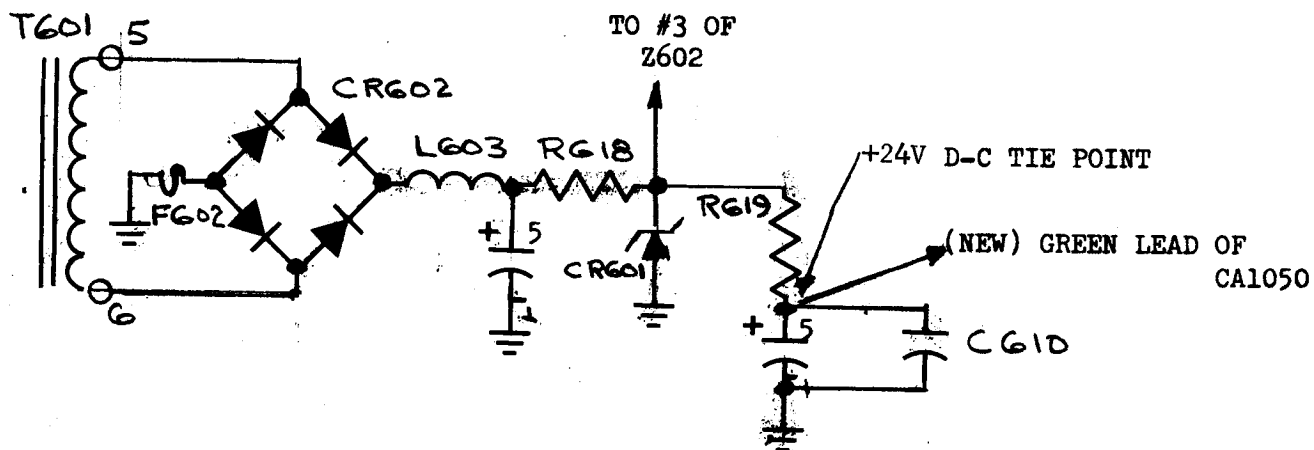
FIGURE # 2

BOTTOM VIEW



FRONT OF CSS

FIGURE # 3



TMC SPECIFICATION

NO. S 1026

REV: Q A B

COMPILED: RRH

CHECKED:

APPD:

SHEET 7 OF 8

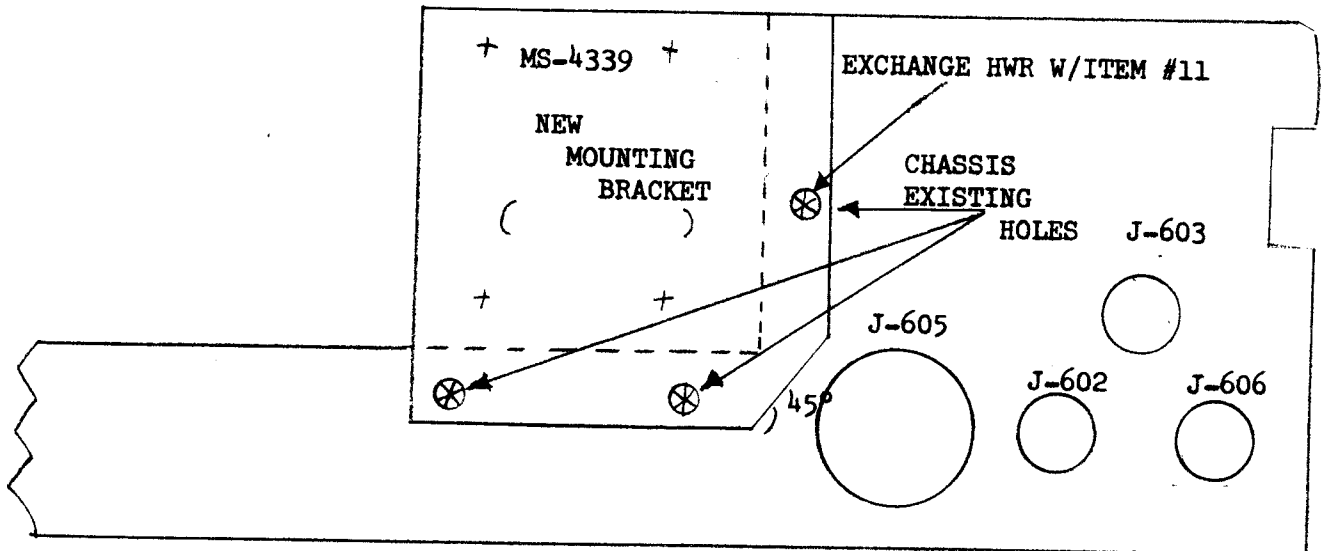
TITLE: AUTOMATIC CHANGEOVER FROM INTERNAL 1 MC. STANDARD TO EXTERNAL 1 MC STANDARD

TYPED BY MTP 10/26/65

KIT-270

FIGURE # 4

REAR VIEW OF CSS CHASSIS



TMC SPECIFICATION

NO. S 1026

REV: ~~Q~~ A B

COMPILED: RRH

CHECKED:

APPD:

SHEET 8 OF 8

TITLE: AUTOMATIC CHANGEOVER FROM INTERNAL 1 MC STANDARD TO EXTERNAL 1 MC STANDARD

Typed by mpt 10/26/65

KIT-270

FIGURE # 5

REAR VIEW OF TOP COVER

