TMC. SPECIFICATION NO. S-542

| SH. 1 OF 5 | COMPILED BY | TEST PROCEDURE, SBT-350R & S | JOB 1084E

APPROVED

NOTE: THIS SPEC IS APPLICABLE TO THE SBT-350R AND S, THE ONLY DIFFERENCE BEING THE SBT-350R USES THE SBE-2 AND THE SBT-350S USES THE SBE-3.

A. INTRODUCTION

The SBT-350R is a general purpose radio transmitter system providing SSB, ISB, DSB, AM and CW operation throughout a frequency range of 2 to 32 MC. The rated power output of this unit is 350 WATTS PEP and 200 WATTS CW.

B. MAIN COMPONENTS

The SBT-350R consists of separate units integrated to form the transmitter system. These components are:

- 1. rack assembly RAK- 19A.
- 2. auxiliary power panel APP-5.
- 3. power supply P.S.P.-350
- 4. linear RF amplifier RFA-1.
- 5. mode selector SBE-2.
- 6. variable frequency oscillator VOX.
- 7. standing wave ratio indicator SWR-1K.

C TEST PROCEDURE

The test procedure for the SBT-350R system is outlined on the following pages. Before the system can be tested correctly, all components except the RAK-19A rack assembly must be tested and passed by the test department as per the specific test requirements for each unit.

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I. EQUIPMENT REQUIRED

- 1. 52 Adummy load, 500W dissipation.
- 2. AC power cable.
- 3. Test equipment rack TMC model PTE.
- 4. RF output cable, RG-8/U.

TITLE:

- 5. MWC24(7)S3, cable insulated shielded, 5 ft...
- 6. CA-409 cable assembly, jumper 6 in.
- 7. H.P. VTVM, Model 410B, or equivalent.
- 8. Test cable assembly #106.
- 9. Test Chart, SBT-350A (S542 page 5 (2 size dw'g.)
- 10. Voltmeter, Simpson 260 or equivalent.

II. PROCEDURE-

- 1. Install AC input power cable from J701 of RAK-19 to AC line.
- 2. Connect Fanning strips of test cable assembly to E502 on rear of APP-5 chassis.
- 3. Connect shielded lead from output of TTG mounted in test equipment rack PTE to CHANNEL 1 and CHANNEL 2 input terminals on test cable assembly.
- 4. Connect dummy load MONITOR OUTPUT to SIGNAL INPUT jack of PTE analizer.
- 5. Connect cable from OUTPUT jack of RFA to dummy load input.
- 6. Connect jumper from terminal 5 on test cable terminal board T601 to terminal 8. This completes external interlock circuit.
- 7. Connect a jumper from terminal 21, T602 to terminal 22. This completes the KEY LINE circuit to the SBE.
- 8. Set MAIN POWER switch on APP-5 to ON position. The red MAIN POWER indicator lamp should light, and rack blowers should start running.
- 9. Set MAIN LINE switch on PSP-350 to ON position. The MAIN POWER indicator lamp should light and RFA-1 blower should start running.

 NOTE: PSP-350 TRANSMITTER PLATES switch should be in STANDBY-REMOTE position; H.V. LINE switch in OFF position.
- 10. Turn on POWER switch on SBE. The red lamp on power supply and OVEN lamp should light.

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PROCEDURE CONT'D.

- Turn on POWER switch on VOX. The red MAIN POWER lamp and INNER 11. OVEN and OUTER OVEN lamps should light.
- 12. After a warm-up time of approximately 5 minutes, set the TRANSMITTER PLATES switch to ON position. The indicator lamp should light. The HV LINE OVERLOAD indicator should also light. Set TRANSMITTER PLATES switch to STANDBY-REMOTE position.
- 13. Set XMTR switch on SBE to ON position. The TRANSMITTER PLATES & HV LINE OVERLOAD indicator lamps on PSP-350 should light.
- 14. Turn VOX METER switch to HFO position.
- 15. Set VOX HFO switch to ON position.
- 16. Set VOX MASTER OSCILLATOR FREQUENCY as required.
- 17. With SBE MF XTAL SW in the VMO position, adjust the SBE for two tone test at req. output frequenby using the TTG supplied with the PTE test equipment rack.
- 18. Set SBE OUTPUT control to zero.
- Set HV LINE switch on PSP-350 to ON position. Red indicator should light and amber OVERLOAD indicator should go out.
- Using the tuning chart, adjust the RFA-1 for 350W PEP at required frequency (132 VRMS across 52 ohms.)
- Adjust RFA-1 to obtain 40db third order distortion at 350W PEP.
- 22. Adjust RFA-1 to obtain 200W CW. (100 VRMS @ 52 ohms.)
- 23. Place voltmeter across terminals 3 and 4 of T601 on test cable. Meter should read 115 volts A.C. This is transmitter antenna relay voltage, and may vary + 10%.
- With voltmeter connected as in (23) above, set XMTR switch and EXCITER switch on SBE to OFF position.
 - a. Voltmeter should read zero volts.
 - b. HV LINE and TRANSMITTER PLATES indicators on PSP-350 should go out.
- 25. Place a jumper across terminals 1 and 2 on T601. TRANSMITTER PLATES and HV LINE indicators should light. Remove jumper.

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PROCEDURE CONTOD.

- 26. Turn all switches OFF. Remove AC input cable and test cable assembly.
- 27. This completes operational testing of system SBT-350R.
- 28. Check cables, hardware and slides for ease of movement. Units should tilt without obstruction.
- 29. This completes testing of system SBT-350R.

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REVISION SHEET THE TECHNICAL MATERIEL CORP.

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