| | | |
|---|---|---|
| DATE 2/15/63<br>SHEET 1 OF 5 | TMC SPECIFICATION NO. S-747 | A |
| N.P.<br>COMPILED / N.P.<br>CHECKED | TITLE: DRP-1 TEST PROCEDURE | |
| APPROVED BP | | |

DRP-1 TEST PROCEDURE

OGILVIE PRESS, INC., BROOKLYN 17, N. Y. STOCK NO. 459M

| DATE 2/15/63 SHEET 2 OF 5 | TMC SPECIFICATION NO. S -747 | A |
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## I INTRODUCTION

The DRP-1 is a Diversity receiving system designed for the reception of Frequency Shift Teletype signals in the frequency range of 2 to 32 megacycles. With slight modification the system is also capable of receiving AM, CW and MCW signals in the same frequency range. It may be utilized in either Space or Frequency Diversity receiving systems.

## II COMPONENT UNITS

1. 2-FFR Receivers.
2. 2-FFRD-5 Tuning Drawer, 2 to 4MC.
3. 2-FFRD-6 Tuning Drawer, 4 to 8MC.
4. 2-FFRD-7 Tuning Drawer, 8 to 16MC.
5. 2-FFRD-8 Tuning Drawer, 16 to 32MC.
6. 3-FFR-DPH Tuning Drawer, Storage panel.
7. 1-SFP-2 Filter panel.
8. 1-CFA-1 Frequency Shift Converter.
9. 1-PSP-1 Power Supply Assembly.

NOTE: THIS SYSTEM SHOULD NOT BE TESTED UNLESS ALL THE UNITS NOTED IN SECTION II, HAVE BEEN TESTED AS PER THE INDIVIDUAL TEST PROCEDURE..

## III TEST EQUIPMENT REQUIRED

1. 1-Set of earphones.
2. 1-2000 ohm 20 watt resistor.
3. 1-A.C. line cord.
4. 1-457.550KC type CR-46/U. BFO crystal.
5. 1-VOM Simpson Model 260 or equivalent.

## IV PRELIMINARY

1. Check rack for mechanical defects.
2. Check rack for wiring defects.

## V PROCEDURE

1. Plug earphones into PHONES jack of appropriate receiver when tuning. Connect one antenna to each receiver.
2. Connect 2000 ohm 20 watt resistor across terminals 8 and 9 of E1 on the CFA unit. Turn the LINE CURRENT control to full counter-clockwise direction.

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3. Set toggle switch on rear of PSP-1 unit, to plus position.
4. Connect the A.C. line cord. Switch on all units.
5. Switch CHANNEL 1 and CHANNEL 2 on SFP-2 to FILTER OUT.
6. Set test switch on front panel of CFA to MARK position. Adjust LINE CURRENT control on the CFA unit, and, or the OUTPUT CURRENT control on the PSP unit, for 60MA on the PSP meter. Return test switch to LINE position.
7. The upper receiver is classified as the MASTER. It provides both HFO and BFO signal voltages to the lower receiver which is classified as the SLAVE.
8. Insert BFO crystal into the BFO crystal socket of the MASTER receiver.
9. The control settings for the MASTER receiver should be as follows:

   HFO switch on HFO.
   BFO switch on XTAL.
   BFO toggle switch to ON.
   NOISE LIMITER toggle switch to ON.
   RF GAIN to suit.
   AUDIO GAIN to .7V. across terminals 2 and 3 of E101.
   AVC-MANUAL toggle switch to AVC.

10. The control settings for the SLAVE receiver should be as follows:

    HFO switch on EXT HFO.
    BFO switch on EXT BFO.
    BFO toggle switch to ON.
    NOISE LIMITER toggle switch to ON.
    RF GAIN none (controlled by MASTER).
    AUDIO GAIN to .7V. across terminals 2 and 3 of E101.
    AVC-MANUAL toggle switch to AVC.

11. Plug in appropriate tuning drawers and tune to a teletype signal. For proper adjustment of the teletype signal tune the receivers as follows:

    Set CH. 1 switch on CFA to ON.
    Set CH. 2 switch on CFA to OFF.
    Tune Channel 1 receiver (MASTER) until it is properly centered on the CFA scope.
    When properly centered on a keyed signal, the pattern approaches a vertical line on the face of the scope. As the receiver is tuned to one side of the discriminator the pattern will open into a rectangle to the left or right depending upon the direction of the tuning. The operator should so tune the receiver that he may see one rectangle appear after the other rectangle disappears upon passing

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through the discriminator center. Only then may he be certain that he is operating in the region of the discriminator center rather than on one of its outer slopes.
Similarly, when drift occurs, the center line will expand into a rectangle as in the case of tuning.
Set CH. 1 switch on CFA to OFF.
Set CH. 2 switch on CFA to ON.
Repeat the tuning process for channel 2 receiver (SLAVE).
Set CH. 1 switch on CFA to ON.
For normal operation not exceeding 100WPM, the SPEED switch in the rear of the CFA should be in the LOW position.

12. The meter on the front panel of the PSP-1 unit, should fluctuate in time with the signal received.
13. Switch CHANNEL 1 and CHANNEL 2 on SFP-2 to FILTER IN.
14. The meter should react in the same manner as in step 12. If the signal is cut off, the receivers should be retuned with the SFP-2 in the circuit.
15. Check the rest of the tuning drawers for AM reception to see that they are functioning properly.
16. Check the three FFR-DFH tuning drawer storage panels to see that they are functioning properly. This will be in evidence, that when the tuning drawers are extracted they will be hot.

| DATE 2/15/63 SHEET 5 OF 5 | TMC SPECIFICATION NO. S-747 | A |
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| APPROVED | | |

THE TECHNICAL MATERIEL CORPORATION
MAMARONECK, N.Y.

DRP-1 TEST DATA SHEET

SERIAL NO._____
MFG. NO._____

MECHANICAL CHECK_____OK
WIRING CHECK_____OK

2-FFR Receivers checked_____OK
2-FFRD-5 Tuning Drawers checked_____OK
2-FFRD-6 Tuning Drawers checked_____OK
2-FFRD-7 Tuning Drawers checked_____OK
2-FFRD-8 Tuning Drawers checked_____OK
3-FFR-DPH Tuning Drawers checked_____OK
1-SFP-2 Filter Panel Checked_____OK
1-CFA-1 Frequency Shift Converter checked_____OK
1-PSP-1 Power Supply Assembly checked_____OK

FFR SER #_____
FFRD-5 SER #_____
FFRD-6 SER #_____
FFRD-7 SER #_____
FFRD-8 SER #_____
FFR-DPH SER#_____
FFR-DPH SER #_____
CFA-1 SER #_____

FFR SER#_____
FFRD-5SER #_____
FFRD-6SER #_____
FFRD-7SER #_____
FFRD-8SER#_____
FFR-DPH SER #_____
SFP-2 SER #_____
PSP-1 SER #_____

DATE_____

TESTER_____

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# REVISION SHEET

THE TECHNICAL MATERIEL CORP.
MAMARONECK NEW YORK

S-747
LIST NO.

| DATE | REV. | SHEET | EMN # | DESCRIPTION | APP. |
|---|---|---|---|---|---|
| 2/28/63 | A | 2 | 8423 | On Sect. III: Test Equip Req'd. | |
| | | | | Chg. Item 4 from: 1-457.975KC to 1457.550KC | 16 |
| | | | | Chg. Type from: CR-18/U to: CR-46/U | |