

DATE <u>7/24/62</u>	TMC SPECIFICATION NO. S 702	
SHEET <u>1</u> OF <u>5</u>		
RK COMPILED	RKoh CHECKED	TITLE:
<u>RK</u> APPROVED	<u>BP</u>	

PRODUCTION TEST PROCEDURE FOR
TMC MODEL DDR-6B DUAL DIVERSITY RECEIVER

DATE 7/24/62

SHEET 2 OF 5

TMC SPECIFICATION NO. S 702

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DDR-6B DUAL DIVERSITY RECEIVER

I INTRODUCTION: The DDR-6B is a dual diversity receiving system designed primarily for the reception of radioteletype signals throughout the frequency range of .54 to 31.5MC. The system is also capable of receiving AM, CW, MCW and SSB transmissions.

II COMPONENT PARTS: The DDR-6B consists of the following rack mounted units:

- 1) RAK-12B; Cabinet, Electrical Equipment
- 2) LSP-7; Loudspeaker Assembly
- 3) GPR-90RXD; 2 per; General Coverage Receiver
- 4) SFP-2; Filter Panel
- 5) CFA-1; Frequency Shift Converter
- 6) VOX-5; Variable Frequency Oscillator
- 7) PSP-1; Power Supply
- 8) DCP-1; Diversity Control Power Panel

III EQUIPMENT REQUIRED:

- 1) RF Signal Generator, Measurements Model 82 or Equiv.
- 2) A.C. Line Cord 500VA minimum capacity.
- 3) R.F. Cable RG-174/U or RG-58/U.
- 4) Teleprinter, if available, and interconnect cable.
- 5) Antenna.

NOTE: THIS SYSTEM SHOULD NOT BE TESTED UNLESS ALL THE UNITS NOTED IN SECTION II, WITH THE EXCEPTION OF THE RAK-12B, HAVE BEEN TESTED AND PASSED BY THE TEST DEPT. AS/PER THE SPECIFIC REQUIREMENTS FOR EACH.

IV PROCEDURE:

1. Connect the A.C. line cord.
2. Set the POWER switch on the VOX-5 to ON. The red MAIN POWER indicator and the INNER OVEN and OUTER OVEN indicators should light.
3. Set the MAIN POWER circuit breaker on the DCP-1 to ON. The green MAIN POWER indicator on the DCP-1 should light and the rack fans should start running.
4. Connect the SIGNAL GENERATOR output to the ANT. 72 ohm jack on the topmost GPR-90RXD.
5. Set the SIGNAL GENERATOR output at 5MC, modulated by an audio tone.
6. Turn on the two GPR-90RXD units.
7. Set the SFP-2 to the PANEL OUT position for both channels.
8. Set the HFO selector switch on both GPR-90RXD units to the VAR. position.

DATE 7/24/62
SHEET 3 OF 5

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9. Using the procedures outlined within the GPR-90RXD technical manual, adjust the topmost unit to receive a 5MC AM signal. A tone should be heard in loudspeaker LS-1 on the LSP-7 equal in frequency to the tone set on the SIGNAL GENERATOR.
10. Vary the volume control on the LSP-7 corresponding to LS-1. The volume of the tone should vary.
11. Repeat steps 4, 9 and 10 using the other GPR-90RXD and LS-2 on the LSP-7.
12. Set S-105 on the VOX-5 to the Y102 position.
13. Set the HFO selector on both GPR-90RXD units to EXT. position.
14. Using the ~~instruction manual for the~~ VOX-5 as a reference, use the VOX-5 as a master oscillator for the bottom GPR-90RXD and tune in the signal generator output.
15. Repeat steps 4, 14 for the top GPR-90RXD.
16. Set the SIGNAL GENERATOR for an RF unmodulated output at 5mc.
17. Set the HFO switch on the GPR-90RXD units to VAR. position.
18. Using the procedures outlined within the GPR-90RXD manual, adjust the topmost GPR-90RXD to receive a 5mc. CW signal.
19. Set the HFO switch on the topmost GPR-90RXD to the EXT. position.
20. Using the procedures outlined in the VOX-5 manual, adjust the VOX-5 as an HFO, IFO and BFO for the topmost GPR-90RXD at 5mc.
21. Repeat steps 4, 19 and 20 for the bottom GPR-90RXD.
22. Set the SIGNAL GENERATOR output at 10mc, CW.
23. Using the VOX-5 as the HFO, IFO and BFO, adjust the bottom GPR-90RXD to receive a 10mc CW signal.
24. Repeat steps 4 and 23 for the top GRP-90RXD.
25. Disconnect the SIGNAL GENERATOR.
26. Set the HFO selector on both GPR-90RXD units to the VAR. position.
27. Connect the 60MA TTY loop from terminals 8 and 9 on the CFA-1 to the teleprinter.
28. Set the POWER switch on the CFA-1 to ON. The red indicator should light.
29. Set the POWER switch on the PSP-1 to ON. The red indicator should light.
30. Adjust the meter on the PSP-1 for 60MA reading.

DATE 7/24/62

SHEET 4 OF 5

TMC SPECIFICATION NO. S 702

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DDR-6B DUAL DIVERSITY RECEIVER

31. Set the CH. 1 switch on the CFA-1 to ON and the selector switch to LINE.
32. Connect the antenna to the topmost GPR-90RXD.
33. Set S105 on the VOX-5 to the Y101 position.
34. Tune the GPR-90RXD through the different bands for an intelligible teletype signal. After determining the operating frequency of this signal, the HFO switch on the GPR-90RXD should be placed in the EXT. position and the VOX-5 used as the HFO for greater stability and accurate reception.
35. Repeat steps 32 and 33 using the bottom GPR-90RXD with the CH. 1 switch on the CFA-1 in the OFF position and the CH. 2 switch ON. Reference should be made to the instruction manual for the CFA-1 for any adjustments to this equipment.
36. Remove all test equipment after shutting off the individual units. Set the MAIN POWER circuit breaker on the DCP-1 to OFF.
37. Check and fill in the chart. This completes testing of the DDR-6B system.

DATE 7/24/62
SHEET 5 OF 5

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DDR-6B DUAL DIVERSITY RECEIVER

CHECK SHEET

- | | | | | |
|-----|--------------|-------------------------|------------|---------|
| 1. | AC POWER TO | VOX-5 | _____ | |
| 2. | AC POWER TO | DCP-1 | _____ | |
| 3. | AC POWER TO | GPR-90RXD (1) | _____ | |
| 4. | AC POWER TO | GRP-90RXD (2) | _____ | |
| 5. | AC POWER TO | PSP-1 | _____ | |
| 6. | AC POWER TO | CFA-1 | _____ | |
| 7. | Operation of | LSP-7 | _____ | |
| | | | | |
| | | | W/INT. HFO | W/VOX-5 |
| 8. | Operation of | GPR-90RXD (1) AM | _____ | _____ |
| | | CW | _____ | _____ |
| | | RTTY | _____ | _____ |
| 9. | Operation of | GPR-90RXD (2) AM | _____ | _____ |
| | | CW | _____ | _____ |
| | | RTTY | _____ | _____ |
| 10. | Operation of | Vox-5 | _____ | _____ |
| | | HFO | _____ | _____ |
| | | 3.5MC XTAL IFO | _____ | _____ |
| | | Y102 452.450KC XTAL BFO | _____ | _____ |
| | | Y101 457.550KC XTAL BFO | _____ | _____ |

TESTED BY _____

- DDR-6B SER #
- RAK-12B SER #
- LSP-7 SER #
- GPR-90RXD (1) SER #
- GRP-90RXD (2) SER #
- SFP-2 SER #
- CFA-1 SER #
- VOX-5 SER #
- PSP-1 SER #
- DCP-1 SER #