DATE 9/11/62 SHEET 1 OF 8	TMC SPECIFICATION NO. S 710	
S.DM COMPILED / N.P. CHECKED	TITLE: TEST PROCEDURE DDR-6D	
APPROVED BP		

TEST PROCEDURE DDR-6D

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

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I INTRODUCTION: The DDR-6D is 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, EXALTED CARRIER AM, CW, MCW, FSK, SSB, AND ISB transmissions.

II COMPONENT PARTS: The DDR-6D consists of the following rack mounted units.
1) RAK-12D; Cabinet, Electrical Equipment.
2) LSP-9; Loudspeaker Assembly.
3) GPR-90RXD; 2 per; General Coverage Receiver.
4) MSR-4; 2 per; Single Sideband Converter.
5) SFP-2; Filter Panel.
6) CFA-1; Frequency Shift Converter.
7) VOX-5; Variable Frequency Oscillator.
8) LPP-3; Line Patch Panel
9) DCP-1; Diversity Control Power Panel.

III EQUIPMENT REQUIRED:
1) RF Signal Generator; Measurements Model 82 or Equivalent.
2) A.C. Line Cord; 500 VA minimum capacity.
3) RF Cable; RG-174/U or RG-58/U.
4) Teleprinter; If available and interconnect cable.
5) Antenna.
6) 60 MA power supply TMC. PSP-1 or Equivalent.
7) AC VTVMBallantine Model 314 or Equivalent.
8) VOM Simpson Model 260 or Equivalent.
9) Shorting plug, A-3103.

NOTE: THIS SYSTEM SHOULD NOT BE TESTED UNLESS ALL THE UNITS NOTED IN SECTION II, WITH THE EXCEPTION OF THE RAK-12D HAVE BEEN TESTED AND PASSED BY THE TEST DEPARTMENT. 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 andOUTER OVEN indicators should light.
3. Set the MAIN POWER circuit breaker on the DCP-1 to ON.
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 POWER switch on the two MSR-4 units to ON. The red power indicators should light.
8. Set the SFP-2 to the PANEL OUT position for both channels.
9. Set the LSP-9, RECEIVER 1 AND RECEIVER 2 controls in the following manner.
   a) Audio sel ctor switch to REC.
   b) Volume control approximately mid position.
10. S t the controls on the topmost GPR-90RXD unit as per CHART 1 (page 5) for AM operation. A tone should b heard in loudspeak r RECEIVER 1 on th LSP-9, equal in fr qu ncy to the audio tone s t on th SIGNAL GENERATOR.

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11. Vary the volume control on the LSP-9 corresponding to RECEIVER 1. The volume of the tone should vary.
12. Repeat steps 4, 5, 10 and 11 using the other GPR-90RXD and RECEIVER 2 loudspeaker on the LSP-9.
13. Set the HFO selector switch on the bottom GPR-90RXD unit to the EXT position.
14. Set the controls on the VOX-5 as per, CHART II. (page 6). Use the VOX-5 as a master oscillator for the bottom GPR-90RXD and tune in the SIGNAL GENERATOR output.
15. Repeat steps 4, 5, 13 and 14 for the top GPR-90RXD.
16. Set the SIGNAL GENERATOR for an RF unmodulated output at 5MC.
17. Set the controls on the topmost GPR-90RXD unit to receive a 5MC CW signal as per CHART 1 (page 5) using internal HFO.
18. Set the controls on the topmost GPR-90RXD unit to receive a 5MC CW signal as per CHART I (page 5) using external HFO.
19. Using the procedures autlined in CHART II (page 6) operate the VOX-5 as a HFO, IFO and BFO for the topmost GPR-90RXD to receive a 5MC CW signal.
20. Repeat steps 4, 16, 17, 18, and 19 for the bottom GPR-90RXD.
21. Set the SIGNAL GENERATOR output at 10MC CW.
22. Set the controls on both GPR-90RXD units to receive a 10MC CW signal as per CHART I (page 5) using internal HFO.
23. Set the controls on both GPR-90RXD units to receive a 10MC CW signal as per CHART I (page 5) using external HFO.
24. Using the procedures outlines in CHART II (page 6) operate the VOX-5 as a HFO, IFO and BFO for each GPR-90RXD to receive a 10MC CW signal.
25. Set the LSP-9 audio selector controls to CONV.
26. Set the controls on the topmost MSR-4 as per CHART III (page 7)
27. Repeat steps 4, 21 and 22.
28. Set the SSB switch on both GPR-90RXD units to ON and BFO OFF.
29. With the MSR-4 in the LSB position adjust the SIGNAL GENERATOR frequency until on audio tone is heard in loudspeaker RECEIVER 1.
30. Switch the MSR-4 to USB operation . No audio tone should be heard.
31. Adjust the SIGNAL GENERATOR frequency until an audio tone is heard.

NOTE: THERE SHOULD ONLY BE A SLIGHT SHIFT IN FREQUENCY IN ORDER TO PRODUCE AN AUDIO TONE. THE SIDE BAND HEARD WILL BE CHARACTERIZED BY THE DIAL SETTING OF THE SIGNAL GENERATOR.
FOR EXAMPLE: USB 10.002MC
LSB 9.998MC

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32. Check for ODBM at term 4 and 5 of E-2 on LPP-3 with Ballantine.
33. Repeat steps 4, 21, 22, 29, 30, and 31 for the bottom GPR-90RXD, MSR-4, RECEIVER, 2 loudspeaker in the LSP-9.
34. Check for ODBM at term 1 and 2 E-2 on LPP-3 with B allantine.
35. Set the SSB switch on both GPR-90RXD units to OFF.
36. Disconnect the SIGNAL GENERATOR.
37. Connect the 60 MA TTY loop from terminals 1 and 2 of E-1 on the LPP-3 to the teleprinter. Set SFP to filter out position for both channels.
38. Set the POWER switch on the CFA-1 to ON. The red power indicator should light. Remove short from terminals 6 & 7 of CFA and insert PSP-1.
39. Set the POWER switch on thePSP-1 to ON. The red power indicator should light.
40. Adjust the meter on the PSP-1 for 60MA reading.
41. Set the CH-1 switch on the CFA-1 to ON and the selector switch to line.
42. Connect the antenna to the topmost GPR-90RXD.
43. Set S105 on the VOX-5 to the Y101 position.
44. Tune the topmost 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. Observe CFA screen for normal display.
45. Repeat steps 42 and 44 using the bottom GPR-90RXD with the CFA-1 CH-1 switch off and the CH-2 on.
46. Remove all test equipment after shutting off the individual units. Set the MAIN POWER circuit breaker on the DCP-1 to OFF.
47. Put shorting plug in Jacks 33 and 34 of LPP-3 and check for continuity between term's 2 of E-3 of the two GPR'S.
48. Put shorting plug in Jacks 37 and 38 of LPP-3 and check for continuity between term's 4 of E-3 of both GPR'S.
49. Check and fill in the CHECK SHEET. This completes testing of the DDR-6D system.

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S710

CHART I
GPR-90RXD

5

CONTROLS	MODES OF RECEPTION					
	AM W/INT HFO	5MC CW W/INT HFO	5MC CW W/EXT HFO	10MC CW W/INT HFO	10MC CW W/EXT HFO	SSB
HFO	VAR	VAR	EXT	VAR	EXT	VAR OR EXT
XTAL PHASE	0	*	*	*	*	*
RF SELECTIVITY	NON XTAL	*	*	*	*	*
AUDIO GAIN	NORMAL LEVEL	*	*	*	*	*
CAL	OFF	*	*	*	*	*
MAIN TUNING	5MC DIAL SETTING	5MC DIAL SETTING	5MC DIAL SETTING	10MC DIAL SETTING	10MC DIAL SETTING	DESIRED FREQUENCY
SEND-REC	REC	*	*	*	*	*
MANUAL-AVC	AVC	MANUAL	MANUAL	MANUAL	MANUAL	AVC
ANT. TUNE	TUNE TO MAX	*	*	*	*	*
RANGE SELECTOR	3.2-5.6MC	3.2-5.6MC	3.2-5.6MC	9.4-17.8MC	9.4-17.8MC	DESIRED BAND
LIMITER	OFF	*	*	*	*	*
BFO	OFF	ON	OFF	ON	OFF	OFF
BAND SPREAD	100 LOG SCALE SETTING	*	*	*	*	*
AUDIO SPREAD	SHARP	*	*	*	*	*
RF GAIN	FULLY CW	*	*	*	*	*
BFO PITCH	0	ADJUST TO AUDIO TONE	N/A	ADJUST TO AUDIO TONE	N/A	N/A
AUDIO SELECTOR	NORMAL	*	*	*	*	*
XTAL ADJ.	0	*	*	*	*	*
SSB	OFF	*	*	*	*	ON
RADIO-PHONO	RADIO	*	*	*	*	*

* CONTROL SETTING DOES NOT CHANGE

N/A NOT APPLICABLE

CHART II
VOX-5

CONTROLS	GPR-90RXD MODE OF RECEPTION		
	5MC AM	5MC CW	10MC CW
POWER	ON	*	*
HFO	ON	*	*
IFO	ON	*	*
BFO	OFF	ON	ON
BEAT ON OFF	OFF	*	*
METER	HFO	HFO OR IFO OR BFO	HFO OR IFO OR BFO
TUNING	TUNE TO MAX.	*	*
OUTPUT LEVEL OR HFO	.1MA OUTPUT METER	*	*
BAND MCS	4-8MC	4-8MC	8-16
XTAL FREQ.	N/A	*	*
CALIBRATE	N/A	*	*
MASTER OSCILLATOR FREQUENCY	APPROX. 2727	APPROX. 2727	APPROX. 3488
XTAL	VMO	*	*
BFO XTAL	Y102	*	*

* CONTROL SETTING DOES NOT CHANGE

N/A NOT APPLICABLE

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CHART III
MSR-4

CONTROLS	MODES OF RECEPTION	
	CW	SSB
BANDSPREAD	TUNE TO AUDIO TONE	TUNE TO AUDIO
MANUAL/XTAL	MANUAL	MANUAL
BFO ON/OFF	ON	ON
AVC ON/OFF	ON	ON
AVC FAST/SLOW	SLOW	SLOW
AUDIO GAIN	NORMAL LEVEL	NORMAL LEVEL
POWER/OFF	ON	ON
SIDEBAND	USB OR LSB	USB OR LSB

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SERIAL NO._____ MFG. NO._____

1.	AC POWER TO VOX-5	_____ OK.	
2.	AC POWER TO DCP-1	_____ OK.	
3.	AC POWER TO GPR-90RXD (1)	_____ OK.	
4.	AC POWER TO GPR-90RXD (2)	_____ OK.	
5.	AC POWER TO MSR-4 (1)	_____ OK.	
6.	AC POWER TO MSR-4 (2)	_____ OK.	
7.	AC POWER TO PSP-1	_____ OK.	
8.	AC POWER TO CFA-1	_____ OK.	
9.	OPERATION OF LSP-9	_____ OK.	
		W/INT HFO	W/VOX-5
10.	OPERATION OF GPR-90RXD (1) AM	_____ OK.	_____ OK.
	CW	_____ OK.	_____ OK.
	RTTY	_____ OK.	_____ OK.
11.	OPERATION OF GPR-90RXD (2) AM	_____ OK.	_____ OK.
	CW	_____ OK.	_____ OK.
	RTTY	_____ OK.	_____ OK.
12.	OPERATION OF VOX-5 HFO	_____ OK.	
	3.5 MC XTAL IFO	_____ OK.	
	Y102 452.450KC XTAL BFO	_____ OK.	
	Y101 457.550KC XTAL BFO	_____ OK.	
13.	OPERATION OF MSR-4 (1) SSB	_____ OK.	
14.	OPERATION OF MSR-4 (2) SSB	_____ OK.	
15.	MSR-4 (1) AUDIO LINE LEVEL	_____ OK.	
16.	MSR-4 (2) AUDIO LINE LEVEL	_____ OK.	
17.	CONTINUITY, AGC LINES COMMON	_____ OK.	
18.	CONTINUITY, DIODE LINES COMMON	_____ OK.	
19.	CFA-1 OPERATION	_____ OK.	

DDR-6D SER #
RAK-12D SER #
LSP-9 SER #
GPR-90RXD (1) SER #
GPR-90RXD (2) SER #
MSR-4 (1) SER #
MSR-4 (2) SER #
SFP-2 SER #
CFA-1 SER #
VOX-5 SER #
LPP-3 SER #
DCP-1 SER #

TESTED BY _____

DATE _____

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