DDRR-10( )

REMOTE SYSTEM TEST PROCEDURE

I. EQUIPMENT REQUIRED:

A.   COPB-2   -   Remote Console complete with
   1 ea. RTIH-3   (tested)
   1 ea. RTPH-3   (tested)
   1 ea. RSSA-10   (tested)

B.   DDRR-10K   RECEIVER complete with
   1 ea. HFRR-4   (tested)
   1 ea. MSAR-4   (tested)
   1 ea. HFSR-4   (tested)
   1 ea. RTTD-4   (tested)
   1 ea. RTMU-41   (tested)

   or DDRR-10M   RECEIVER complete with
   2 ea. HFRR-4   (tested)
   2 ea. MSAR-4   (tested)
   2 ea. HFSR-4   (tested)
   2 ea. RTTD-4   (tested)
   1 ea. RTMU-42   (tested)

C.   AK-102 Power Supply

D.   Interconnect Test Cables

E.   VOM, Simpson Model 260 or equivalent

F.   Electronic Counter, Hewlett Packard 5244 or equivalent

II. PRELIMINARY ELECTRICAL PROCEDURE:

A. Connect interconnect cables to system being tested.

B. Set AC Power to all the equipment ON.

C. Allow equipment to warm up for about fifteen (15) minutes.

D. Recheck clock timing on all remote units as follows:

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1. RTPH-3 (PROGRAMMER)
    a. Set AC power on RTPH-3 to OFF.
    b. Remove PC375/A4598 from A4 and set AC power ON.
    c. Connect frequency counter to TP8 of PC333/A4518 and adjust R1 for 27.00 milliseconds. Record on test data sheet.
    d. Set AC power off and replace PC375/A4598 into A4.
    e. Set AC power ON.
2. RTMU-( ) (MEMORY UNIT)
    a. Set AC power on RTMU-( ) to OFF.
    b. Remove PC358/A4566 from A3 and set AC power ON.
    c. Depress any button on the RTPH-3. The reason for this is that the RTMU-( ) requires an input pulse to start its timing circuit.
    d. Connect frequency counter to TP15 on PC357/A4565 and adjust R2 for 27.00 milliseconds. Record on test data sheet.
    e. Set AC power off and replace PC358/A4566 into A3.
    f. Set AC power ON.
3. RTTD-4 (DECODER)
    a. Connect frequency counter to TP8 on PC333/A4518 and adjust R1 for 27.00 milliseconds. Record on test data sheet.
4. RTIH-3 (READOUT)
    a. Set power on RTIH-3 to OFF.
    b. Remove PC319/A4530 from A8 and set AC power ON.
    c. Connect frequency counter to TP8 on PC318/A4496 and adjust R1 for 27.00 milliseconds. Record on test data sheet.
        NOTE: THE RTTD-4 (DECODER) MUST BE ON, AS AN INPUT PULSE IS NECESSARY IN ORDER TO START THE TIMING CIRCUIT IN THE RTIH-3.
    d. Set AC power OFF and replace PC319/A4530 into A8.
    e. Set AC power ON.

III. SYSTEM OPERATION

It must be assumed that all switches and controls that are not automated must be in their proper positions for automation operation.

A. Equipment Selection and Readback
1. Depress A (black and then 1 (white) pushbuttons on the RTPH-3 in the EQUIPMENT SELECTION row. EQUIPMENT SELECTED indicator (green) on RTPH-3 should now light.
2. Depress the TUNE (green) button. The EQUIPMENT SELECTED indicator should now go out.
3. Repeat the above for program A,1 and then push the CLEAR (red) button. The EQUIPMENT SELECTED indicator should come on with A,1 program and go off when CLEAR is pushed. RECORD on test data sheet.

B. Frequency Selection and Readback
1. Program the receiver for the following frequencies insuring that the receiver goes to SYNC with each frequency. SEE CHART I.
2. The TUNING indicator should light when the servo is tuning. When the receiver is in SYNC the READY light will light. Record on test data sheet.

CHART I

FREQUENCY SELECTION PROGRAMS

PROGRAM	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
EQUIP SEL	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1
FUNCTION	10MC	10MC	10MC	10MC	10MC	10MC	10MC	10MC	10MC	10MC	10MC	10MC
FREQ	0	3	1	2	0	0	0	0	0	0	0	1
FUNCTION	1MC	1MC	1MC	1MC	1MC	1MC	1MC	1MC	1MC	1MC	1MC	1MC
FREQ	2	2	1	2	3	4	5	6	7	8	9	0
FUNCTION	100KC	100KC	100KC	100KC	100KC	100KC	100KC	100KC	100KC	100KC	100KC	100KC
FREQ	0	0	1	2	3	4	5	6	7	8	9	0
FUNCTION	10KC	10KC	10KC	10KC	10KC	10KC	10KC	10KC	10KC	10KC	10KC	10KC
FREQ	0	0	1	2	3	4	5	6	7	8	9	0
FUNCTION	1KC	1KC	1KC	1KC	1KC	1KC	1KC	1KC	1KC	1KC	1KC	1KC
FREQ	0	0	1	2	3	4	5	6	7	8	9	0
FUNCTION	.1KC	.1KC	.1KC	.1KC	.1KC	.1KC	.1KC	.1KC	.1KC	.1KC	.1KC	.1KC
FREQ	0	0	1	2	3	4	5	6	7	8	9	0
PROGRAM	TUNE	TUNE	TUNE	TUNE	TUNE	TUNE	TUNE	TUNE	TUNE	TUNE	TUNE	TUNE

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C. Mode Selection and Readback
1. Program the receiver for all of its MODE functions and verify the readback for all of the MODE positions.
    a. AM   2.5KC
    b. AM   6KC
    c. CW   2.5KC
    d. CW   6KC
    e. ISB
    f. AM   2.5KC
2. Record on test data sheet.

D. AGC Time Constant Control and Readback
1. Program the receiver for all of its AGC TIME CONSTANT functions and verify the readback for all of the TIME CONSTANT positions.
    a. $\frac{SYM}{B2}$, B1, A1, A2 - SLOW
    b. "   "   "   " - MED
    c. "   "   "   " - FAST
    d. "   "   "   " - SLOW
2. Record on test data sheet.

E. Function Control and Readback
1. Program the receiver FUNCTION control to AFC. The AFC indicator (RTPH-3) will light. The AFC ALARM indicator will also light. SYNC the receiver on AFC and the AFC alarm will go out.
2. Program the receiver FUNCTION control to SYN. The SYNTH Indicator will light.
3. Manually set the FUNCTION control to local, neither AFC nor SYNTH should indicate.
4. The servo should be deactivated when the FUNCTION switch is not in SYN.
5. Set the FUNCTION switch to SYN. The Servo will be activated and the receiver should SYNC.
6. Record on test data sheet.

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F. Fault Indicators
1. Grasp the servo motor control and move the servo out of SYNC. Hold it firmly and do not allow the servo to SYNC in. In about twenty (20) seconds the FAULT INDICATOR should come ON in the RTTD-4. The FAULT indicator on the RTIH-3 will light and the servo motor will be deactivated.
2. Depress the FAULT pushbutton on the RTTD-4. The servo should energize, the receiver should SYNC and the READY indicator should come on.
3. Repeat step 1 and after the FAULT light comes on program A,1, TUNE. The servo should energize and SYNC the receiver.
4. Record on test data sheet.

G. Non Automatic Check
1. Set the BAND SWITCH to any band but AUTO. The RTIH-3 should indicate NON AUTOMATIC.
2. Set the BAND SWITCH back to AUTO. The NON AUTOMATIC indicator should go out.
3. Record on test data sheet.

H. Decoder Power Check
1. Set the AC power to the RTMU-( ) to OFF. The DECODER POWER indicator (RTIH-3) should light.
2. Set the AC power to the RTMU-( ) back ON. The DECODER POWER indicator should go out.
3. Set the AC power to the RTTD-4 to OFF. The DECODER POWER indicator should light.
4. Set the AC power to the RTTD-4 to ON. The DECODER POWER indicator should go out.
5. Record on test data sheet.

I. The RSSA-10 should be indicating the digit 1. Record on test data sheet. This concludes the tests for the DDRR-10K. The next section will describe the exceptions necessary when a RTMU-42, DDRR-10M system is being tested.

Follow instructions given in Sections I and II.

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Section III should be as follows:

A. Equipment Selection and Readback
    1. Depress A (black) and then 1 (white) pushbuttons on the RTPH-3, in the EQUIPMENT SELECTION row. As there are now two receivers (DUAL) you have to determine which receiver you want to program. If it is the upper receiver, push the $\frac{9}{A}$ pushbutton next $(A,1,\frac{9}{A})$. If it is the lower receiver, push the $\frac{10}{B}$ pushbutton $(A,1,\frac{10}{B})$.

        All other instructions are the same. Keep in mind that a dual program requires three (3) characters. The readback lines are switched at the COPB-2 so if you want to readback the A receiver set the readback switch on the COPB-2 to REC. #A. If you want to readback the B receiver, set the readback switch on the COPB-2 to REC. #B.

        A test data sheet would be required for each receiver.

        Although it is possible to program both receivers at the same time, it is advisable to handle each receiver separately.

TEST DATA SHEET

I. CLOCK TIMING ADJUSTMENTS

A. RTPH-**3** _____ milliseconds
B. RTMU-41,42 _____ milliseconds
C. RTTD-4 _____ milliseconds
D. RTIH-3 _____ milliseconds

II. SYSTEM OPERATION

A. Equipment Selection and Readback
    1. PROGRAM A, 1, TUNE _____ O.K.
    2. PROGRAM A, 1, CLEAR _____ O.K.

B. Frequency Selection and Readback

    1.) 02.0000 MC _____ O.K.   SYNC _____ O.K.

    2.) 32.0000 MC _____ O.K.   SYNC _____ O.K.
    3.) 11.1111 MC _____ O.K.   SYNC _____ O.K.
    4.) 22.2222 MC _____ O.K.   SYNC _____ O.K.
    5.) 03.3333 MC _____ O.K.   SYNC _____ O.K.
    6.) 04.4444 MC _____ O.K.   SYNC _____ O.K.
    7.) 05.5555 MC _____ O.K.   SYNC _____ O.K.
    8.) 06.6666 MC _____ O.K.   SYNC _____ O.K.
    9.) 07.7777 MC _____ O.K.   SYNC _____ O.K.
  10.) 08.8888 MC _____ O.K.   SYNC _____ O.K.
  11.) 09.9999 MC _____ O.K.   SYNC _____ O.K.
  12.) 10.0000 MC _____ O.K.   SYNC _____ O.K.

C. Mode Selection and Readback
    1. AM 2.5KC _____ O.K.
    2. AM   6KC _____ O.K.
    3. CW 2.5KC _____ O.K.
    4. CW   6KC _____ O.K.
    5. ISB   _____ O.K.

TEST DATA SHEET

D. AGC Time Constant Control and Readback

	SLOW	MED	FAST
SYM			
B2	_____O.K.	_____O.K.	_____O.K.
B1	_____O.K.	_____O.K.	_____O.K.
A1	_____O.K.	_____O.K.	_____O.K.
A2	_____O.K.	_____O.K.	_____O.K.

E. Function Control and Readback

1. AFC _____O.K.
2. SYN _____O.K.

F. Fault Check _____O.K.

G. Non Automatic Check _____O.K.

H. Decoder Power Check _____O.K.

I. RSSA-10 IND _____O.K.

RTPH-3 SERIAL NO._____

RTIH-3 SERIAL NO._____

RTMU-( )SERIAL NO._____

RTTD-4 SERIAL NO._____

TESTED BY:_____

DATE: _____

REVISION SHEET				THE TECHNICAL MATERIEL CORP. MAMARONECK NEW YORK	S 1278 LIST NO.	
DATE	REV.	SHEET	EMN #	DESCRIPTION		APP.
3/31/71	Ø			ORIGINAL RELEASE FOR PRODUCTION		
				THE TECHNICAL MATERIEL CORP. MAMARONECK NEW YORK		
3/31/71	Ø			ORIGINAL RELEASE FOR PRODUCTION		