TMC SPECIFICATION

NO. S 960

REV: 0 A

COMPILED: FEE | CHECKED: FCC | APPD: [signature] 5/27/65 | SHEET 1 OF 8

TITLE:

Typed by mtp 5/27/65

RTID-1 TEST PROCEDURE

A. EQUIPMENT REQUIRED

1. VOM, Simpson 260 or equivalent.

2. Oscilloscope, Tektronix Model 545 or equivalent.

3. Electronic Counter, Hewlett-Packard 5244 or equivalent.

B. PRELIMINARY

* 1. Voltage Check

a. Before placing any cards in the unit, turn the a-c power switch to ON, and with the VOM, check for -12 volts (blue wires) +12 volts (red wires) and +180 volts (yellow wires).

* 2. Keying Pins

a. Before any cards are placed in the unit, check to see that each connector is keyed properly to receive the PC card intended for it.

3. Initial Reset

a. Insert card extender, PC129/A3699 into Z-2028 and insert PC127/A3694 into the card extender.

* b. Connect the oscilloscope to pin 40 of PC127/A3694, and turning the power switch to ON and OFF slowly. Observe a positive pulse of short duration.

* c. Connect the oscilloscope to pin 42 and repeat.

d. Turn the power OFF. Remove the extender card and insert PC127/A3694 into Z-2028.

4. Frequency Adjust

a. Insert card extender PC129/A3696 into Z-2030 and insert PC220/A4295 into it.

b. Feed intelligence from an operating RTMU into the input connector at the rear of the unit.

c. Set the oscilloscope on 50 mil-sec. cm and 1 volt cm rang , and connect the oscilloscope probe to CLOCK test point 2 in the front of the RTID-1.

* d. Turn power switch to ON and obs rve a continuous line of positive pulses.

e. Remove the oscilloscope probe from test point 2, and conn ct the frequency counter. Set for a 1 volt sensitivity.

* Record on Test Data Sheet

B. PRELIMINARY - Cont'd

4. Period Adjust

* f. By adjusting potentiometer R5 on PC220/A4295, adjust the period of the clock to 22 mil-sec. as indicated by the frequency counter.

g. Turn the power OFF, but do not remove the card or extender card from Z-2030.

C. TEST PROCEDURES

1. Insert another extender card PC129/A3696 into Z2029, and insert PC221/A4294.

2. Set the oscilloscope for .1 sec./cm and 1 volt/cm range, and connect the probe to pin 10 of PC220/A4295.

* 3. Turn the power switch to ON and observe at least one -12 volt square wave pulse.

* 4. Connect the oscilloscope probe to pin 6 of PC220/A4295 and observe a continuous string of negative pulses of random length.

* 5. Connect the oscilloscope probe to TP2 of PC220/A4295, and by turning the power switch OFF and ON, observe six pulses, a break, and then a continuous string of pulses.

6. Turn the power switch to OFF. Disconnect the oscilloscope prob , r move the card extender PC129/A3696 from Z-2029 and insert PC221/A4294 into Z-2029.

7. Insert PC160/A3794 into Z-2026.

* 8. Connect the oscilloscope probe to test point 2 in the front of the RTID and, upon turning the power switch to ON, observe a continuous string of positive pulses.

* 9. Connect the oscilloscope probe to the SHIFT test point in the front of the RTID, and observe positive pulses about 160 mil-sec. apart.

10. Turn the power switch to OFF. Remove card extender PC129/A3696 from Z-2030, and insert PC165/A3806 into Z-2030.

* 11. Insert PC139/A3756 into Z-2027. Connect the oscilloscope probe to the SYNC test point in the front of the RTID, and upon turning the power switch to ON, observe positive going pulses about every two (2) seconds.

12. Turn the power switch to OFF, and disconnect the oscilloscope probe.

13. Insert PC144/A3761 into Z-2001 and turn the power switch to ON.

* Record on Test Data Sheet

C. TEST PROCEDURES - Cont'd

* 14. With the oscilloscope probe connected to the RESET test point, near the front panel of the RTID, observe a negative going pulse about every 160 mil-sec.

* 15. With the oscilloscope connected to the SET test point, near th front panel, observe a negative going pulse about every 160 mil-sec.

16. Turn the power switch to OFF, and disconnect the oscilloscope probe.

17. Insert three (3) extender cards, PC129/A3696, into Z-2025, Z-2002 and Z-2009. Insert PC142/A3759 into Z-2025, and insert two (2) PC141/A3758's into Z-2002 and Z-2009.

* 18. Turn the power switch ON. With the oscilloscope, observe a negative square wave every two to three seconds on connector pin 10 of Z-2025, and pin 20 of Z-2002 and Z-2009.

19. Turn the power switch OFF. Remove the three (3) extender cards and insert PC142/A3759, and the two (2) PC141/A3758's into the bins.

20. Insert all six (6) of the megacycle cards, as follows:

PC121/A3688 into Z-2024
PC143/A3760 into Z-2023
PC140/A3757 into Z-2022
PC140/A3757 into A-2021
PC145/A3764 into Z-2020
PC138/A3755 into Z-2019 and turn power switch to ON.

* 21. Using a DDRR-5 system, rotate the megacycles knob on the HFSR-1 and observe the megacycle reading on the RTID-1 match the megacycle reading on the HFSR-1.

22. Turn the power switch to OFF.

23. Insert 100 KC and 10 KC PC boards as follows:

PC121/A3688 into Z-2018
PC121/A3688 into Z-2017
PC124/A3691 into Z-2016 and turn the power switch to ON.

* 24. Rotate the 100 KC and 10 KC knobs on the HFSR-1, and observe that the RTID displays the same numbers that appear on the HFSR-1.

* Record on Test Data Sheet.

C. TEST PROCEDURES - Cont'd

25. Insert the 1 KC and .1 KC PC boards as follows:

PC121/A3688 into Z-2003
PC121/A3688 into Z-2004
PC124/A3691 into Z-2005 and turn power switch to ON.

* 26. Rotate the 1 KC and .1 KC knobs on the HFSR-1, and observe that the RTID displays the same numbers as those appearing on the HFSR-1.

27. Turn the power switch to OFF.

28. Insert the IF BW and detection cards as follows:

PC121/A3688 into Z-2006
PC121/A3688 into Z-2007
PC123/A3690 into Z-2008 and turn the power switch to ON.

* 29. Rotate the Channel B IF BW knob on the HFIA-1 and Channel B DETECTION knob on the HFAR-1 and observe that the RTID displays the correct knob positions.

30. Turn the power switch to OFF.

31. Insert the PC boards used with the Low Pass Filter, High Pass Filter, In Tune Process, Fault, and Ready displays as follows:

PC121/3688 into J2010
PC121/3688 into J2011
PC126/A3693 into J2012
PC121/A3688 into J2013
PC126/A3693 into J2014 and turn the power switch to ON.

* 32. Rotate the Channel B Low Pass Filter knob and Channel B High Pass Filter knob on the HAFR-1 and observe that the RTID displays the correct knob positions.

* 33. Detune the HFRR-2 from the HFSR-1 until the SYNC light on the HFSR-1 is out, and observe that the RTID FAULT display is illuminated.

* 34. Retune the HFRR-2 until it is in SYNC with the HFSR-1, and observe that the RTID FAULT indication is extinguished and the READY display is illuminated.

35. Slide the RTTD out of the DDR-5BR cabinet. Turn the power switch to ON and depress the BOY relay in the rear of the RTTD so that the RTTD is placed in the operate condition.

* 36. Observe that the RTID READY light is extinguished, and the IN TUNE PROCESS display is illuminated.

* Record on Test Data Sheet.

C. TEST PROCEDURES - Cont'd

* 37. After about thirty (30) seconds, the RTTD will automatically turn off at which time, observe that the RTID IN TUNE PROCESS display is extinguished, and the RTID-1 READY display is illuminated.

38. Turn the RTID-1 power switch to OFF.

THIS COMPLETES THE CHECK-OUT OF THE RTID-1.

* Record on Test Data Sheet.

THE TECHNICAL MATERIEL CORP.
MAMARONECK, N.Y.

TEST DATA SHEET
RTID-1

SERIAL NO._____
MFG. NO._____

B. 1. Voltage Check

-12 Volts_____OK
+12 Volts_____OK
+180 Volts_____OK

2. Keying Pins_____OK

3. Initial Reset
PC127/Pin 40_____OK
PC127/Pin 42_____OK

4d Positive pulses_____OK
4f Clock Frequency_____(22 milli-sec)

C. 3. Square wave_____(-12V min)
4. Negative pulses_____OK
5. Pulse Sequence_____OK
8. Positive pulses_____OK
9. Shift test_____(160 milli-sec approx)
11. SYNC test_____(2 sec. interval approx)
14. RESET test_____(160 milli-sec approx)
15. SET test_____(160 milli-sec approx)
18. Square wave
Z2025/Pin 10_____(2-3 sec approx)
Z2002/Pin 20_____(2-3 sec approx)
Z2009/Pin 20_____(2-3 sec approx)
21. Megacycle Match_____OK
24. 100KC Match_____OK
10KC Match_____OK
26. 1 KC Match_____OK
0.1KC Match_____OK
29. Ch B BW Match_____OK
Ch B DET Match_____OK
30. Ch B LP Filter Match_____OK
Ch B HP Filter Match_____OK
33. SYNC Light off
FAULT Light on_____OK

TEST DATA SHEET (CONT)

C. 34. FAULT Light off
READY Light on _____ OK

36. READY Light off
IN TUNE PROCESS Light on _____ OK

37. INTUNE PROCESS Light off
READY Light on _____ OK

DATE: _____

TESTER: _____

REVISION SHEET	THE TECHNICAL MATERIEL CORP. MAMARONECK NEW YORK	S-960 LIST NO. 0

DATE	REV.	SHEET	EMN #	DESCRIPTION	APP.
5/28/65		1 of 6		O= ORIGINAL RELEASE FOR PRODUCTION.	
10/22/65	A	all	15039	Revised per EMN	