typed by vab   10-6-65

RTIF-1 TEST PROCEDURE

TMC SPECIFICATION

REV:	∅	A																					

NO. S 1022

COMPILED: GF CHECKED: APPD: SHEET 1 OF 6

TITLE: RTIF-1 TEST PROCEDURE

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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, Power Supply

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/A3696 into Z-2028 and insert PC127, A3694 in to the card extender.

b. Connect the oscilloscope to pin 40 of PC137/A3694 and turn 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. Period Adjust

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

b. Feed intelligence from an operating RTMU-1 into the input connector at the rear of the unit.

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

d. Turn power switch to ON and observe a continous line of positive pulses.

e. Remove the oscillscope probe from test point 2, and connect the frequency counter. Set for a 1 volt sensitivity.

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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 PROCEDURE

1.   Insert another extender card PC129/A3696 into Z-2029, 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 pin 6 of PC220/A4295 and observe a continous 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 continous string of pulses.

6.   Turn the power switch to OFF. Disconnect the oscilloscope probe, remove the card extender PC129/A3696 from Z-2029 and insert PC221/4294 into Z-2029.

7.   Insert PC160/A3794 into Z-2026.

8.   Connect the oscilloscope probe to test point 2 in the front of the RTIF-1 and, upon turning the power switch to ON, observe a continous string of positive pulses.

9.   Connect the oscilloscope probe to the SHIFT test point in the front of the RTIF-1, and observe positive pulses about 160 mil-sce. apart.

10.   Turn the power switch to OFF. Remove card extender PC129/A3696 from Z-2030, and insert PC220/A4295 into Z-2030.

11.   Insert PC139/A3756 into Z-2027. Connect the oscilloscope probe to the SYNC test point in the front of the RTIF-1, 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.

C.   TEST PROCEDURE - Cont'd

14.   With the oscilloscope probe connected to the RESET test point, near the front panel of the RTIF-1,observe a negative going pulse about every 160 mil-sec.

15.   With the oscilloscope connected to the SET test point, near the 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 RTIF-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 RTIF-1 displays the same numbers that appear on the HFSR-1.

TMC SPECIFICATION

| | | NO. S 1022 |

REV: ∅ A

COMPILED: GF   CHECKED: APPD: SHEET 4   OF 6

TITLE: RTIF-1 TEST PROCEDURE

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C. TEST PROCEDURE - 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 RTIF-1 displays the same numbers as those appearing on the HFSR-1.

27. Turn the power switch to OFF.

28. Insert READY, INTUNE, FAULT, AFC & SYN cards as follows:

PC121/A3688 into Z-2012
PC123/A3690-Z into Z-2013

29. Set the AFC, SYN control on the MCG-1 to SYN and observe that the SYN indicator on the RTIF lights.

30. Set the AFC, SYN control on the MCG-1 to AFC and observe that the AFC indicator lamp on the RTIF lights.

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

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

33. Slide the RTTD-1out 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.

34. Observe that the RTIF-1 READY light is extinguished, and the IN TUNE PROCESS display is illuminated.

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

36. Turn the RTIF-1 power switch to OFF.

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

THE TECHNICAL MATERIEL CORP.
700 FENIMORE RD.
MAMARONECK, N.Y.

<u>TEST DATA SHEET</u>
for
<u>RTIF-1</u>

A. POWER SUPPLY NO LOAD CHECKS

    1. +12 volt supply   _____volts
    2. -12 volt supply   _____volts
    3. +180 volt supply   _____volts

B. INITIAL RESET

    1. PC 127/A3694   _____

C. CLOCK CARD & PERIOD ADJUST

    1. Clock Card   _____
    2. Period adjusted to   _____ us

D. TEST POINT CHECK
    1. Input   _____
    2. Clock   _____
    3. Shift   _____
    4. Sync.   _____
    5. Set   _____
    6. Reset   _____

E. MEGACYCLE READOUT CHECK

    1. 10 meg.   _____
    2. 1 meg.   _____

F. KILOCYCLE READOUT CHECK

    1. 100 KC   _____
    2. 10 KC   _____
    3. 1 KC   _____
    4. .1 KC   _____

| COMPILED: FEE | CHECKED: 57 | APPD: | SHEET 6 OF 6 |

TITLE: TEST PROCEDURE FOR RTIF-1

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TEST DATA SHEET FOR RTIF-1 - Cont'd

G. INDICATOR CHECK

    1. AFC   _____

    2. SYN.   _____

    3. FAULT   _____

    4. IN TUNE   _____

    5. READY   _____

MFG. NO.:_____

SERIAL NO.:_____

TESTER:_____

    DATE:_____

REVISION SHEET

THE TECHNICAL MATERIEL CORP.
MAMARONECK   NEW YORK

S 1022
LIST NO.

DATE	REV.	SHEET	EMN #	DESCRIPTION	APP.
10-8-5	Ø			ORIGINAL RELEASE FOR PRODUCTION	
11/4/65	A	A11	15108	Revised per EMN	