TMC SPECIFICATION

NO. S 1130			
REV:			
COMPILED: GF	CHECKED: [illegible]	APPD: [illegible]	SHEET 1 OF 11
TITLE:			

typed by vab 8/3/66

TEST PROCEDURE

FOR THE

RTIH

2M 9-65—AINS.

A. EQUIPMENT REQUIRED:

1. VOM Simpson 260 or equivalent.
2. Oscilloscope, Tektronix Dual Trace.
3. Electric counter, Hewlett-Packard 5244 or equivalent.
4. RSSA-16
5. Test Fixture
6. Interconnect cables.
7. Two extender cards A4412/PC279.

B. PRELIMINARY:

1. Power Supply Checks:
   a. Insert A4390/PC265 into Z2022. Do not insert any logic cards in bins.
   b. On PC265 check TP4 and TP2.

      TP4 -12VDC

      TP2 +12VDC

   c. Check any pin 12 on nixie readouts for +180V. All voltage checks are ground referenced.

C. 1. Interconnect test fixture.
2. Connect output leads of test fixture to RTIH.
3. Connect RSSA-16 to J2020 on RTIH.

D. INPUT TIMING AND GATING CIRCUITS:

1. Insert extender card A4412/PC279 into Z2002. Insert A4398/PC264 into extender card.
2. Turn AC Power ON test set and RTIH and observe signal input light flashing ON and OFF.

3. Place scope probe on Pin N of extender card and observe positive going square wave pulses.
4. Turn AC Power OFF on RTIH and insert and extender card PC279 into Z2001. Insert A4397/PC263 into extender.
5. Turn AC Power ON and connect counter to TP7 and ground.
6. Adjust clock period to 22 MS.
7. Disconnect counter and connect scope probe to Pin X on extender card in Z2001. Upon turning AC Power OFF and ON observe at least one 22 MS negative going pulse.
8. Place scope probe on Pin W on extender card in Z2001 and observe a continous string of negativegoing pulses approximately 22 MS apart.
9. Turn AC Power OFF, remove extender card from Z2001 and insert PC263 into Z2001.
10. Adjust test set to 9 MC.

E. RESET TIMING CIRCUIT:

1. Insert extender card PC279 into Z2003 and insert A4399/PC277 into extender. Turn AC Power ON and with scope probe observe negative going pulses on C, B, K, 8, S, 14, X and 19 approximately 20 us. in pulse width. On U, H and Pin 3 with scope probe observe positive going pulses approximately 2 us. in pulse width. On Pin Y, N and T with scope probe observe negative going pulses approximately 22 MS in pulse width.
2. Turn AC Power OFF, remove extender card from Z2003 and insert PC277 into Z2003.

3. Turn AC Power ON. Place scope probe on Pin S of extender card in Z2002 and observe negative going pulses approximately 75 us. in pulse width. Place scope probe on Pins 3, C and observe negative pulse approximately 80 MS in pulse width. Monitor J and 7 and observe negative going pulses approximately 60 MS in pulse width. Monitor R and 14 and observe negative going pulses approximately 34 MS in pulse width. Monitor 17 and 18 and observe negative going pulses approximately 14 MS in pulse width.

4. Turn AC Power OFF, remove extender card from Z2002 and insert PC264 into Z2002.

F. MEMORY GATING CIRCUIT (MC):

1. Insert A4376/PC257 into Z2004.
2. Insert A4395/PC261 into Z2005 and turn AC ON.
3. Rotate MC knob on test set and observe that RTIH follows test set MC positions 2 thru 31.
4. Turn power OFF.

G. GATING CIRCUIT (KC^S)

1. Insert A4379/PC259 into Z2006.
2. Insert A4377/PC258 into Z2007 and turn AC ON.
3. Rotate 100KC knob on test set and observe that RTIH follows 100KC positions 0 thru 9.
4. Rotate 10KC knob on test set and observe that RTIH follows 10KC positions 0 thru 9.
5. Turn power OFF.

6. Insert another A4377/PC258 into Z2008 and turn AC ON.

7. Rotate 1KC knob on test set and observe that RTIH follows 1KC positions 0 thru 9.

8. Rotate CPS knob on test fixture and observe that RTIH follows CPS positions 0 thru 9. Turn AC Power OFF.

NOTE: THE REMAINDER OF THIS PROCEDURE INCLUDES ALL 9 FUNCTIONS WHICH MAY OR MAY NOT BE REQUIRED, DEPENDING ON THE MODEL RTIH BEING TESTED. TEST CARDS AND TEST PROJECTION READOUTS MUST BE USED TO CHECK ALL FUNCTIONS. AFTER TEST OF FUNCTION HAS BEEN COMPLETED INSERT REQUIRED READOUT AND CHECK FOR PROPER INDICATIONS AS OUTLINED ON CHARTS OF CK1113 SHEET 1 of 2.

H. GATING CIRCUIT FUNCTION #5 AND INTUNE, READY, AND FAULT LIGHTS

1. Insert A4381/PC260 into Z2010 and turn AC ON. Rotate the 5th function knob on test fixture thru positions 1-12. Observe on RTIH the following indications when using a test projection readout in the XDS2017 position.

TEST SET POSITIONS	FUNCTION INDICATION	LAMP LIGHT
1	1	FAULT
2	--	INTUNE
3	3	FAULT
4	1	READY
5	1	INTUNE
6	3	INTUNE
7	--	READY
8	1	INTUNE
9	--	INTUNE
10	3	INTUNE
11	3	READY
12	--	READY

2. Turn power OFF.

I. GATING CIRCUIT EQUIPMENT SELECT:

1. Insert A4396/PC262 into Z2009 and turn AC Power ON. Using equipment select switches on test fixture in the following sequence RSSA-16 will read from 1 thru 16.

RSSA	A ON	A OFF	B ON	B OFF	C ON	C OFF	D ON	D OFF
1	X			X		X		X
2		X	X			X		X
3	X		X			X		X
4		X		X	X			X
5	X			X	X			X
6		X	X		X			X
7	X		X		X			X
8		X		X		X	X	
9	X			X		X	X	
10		X	X			X	X	
11	X		X			X	X	
12		X		X	X		X	
13	X			X	X		X	
14		X	X		X		X	
15	X		X		X		X	
16		X		X		X		X

2. Turn AC Power OFF.

J. MEMORY GATING CIRCUIT FUNCTION #1:

1. Insert A4375/PC256 into Z2011 and turn AC Power ON. On the RTIH observe readout in XDS2013 position while rotating function #1 knob on test set, indications should follow 1 thru 12.

2. Turn AC Power OFF.

K. MEMORY GATING CIRCUIT FUNCTION #2:

1. Insert A4375/PC256 into Z2012 and turn AC ON. On RTIH observe readout in XDS2014 position while rotating function #2 knob on test set, indications should follow 1-12. Turn AC Power OFF.

L. MEMORY GATING CIRCUIT FUNCTION #3:

1. Insert A4375/PC256 into Z2013 and turn AC Power ON. On RTIH observe readout in XDS2021 position while rotating function #3 knob on test set, indications should follow 1-12. Turn AC Power OFF.

M. MEMORY GATING CIRCUIT FUNCTION #4:

1. Insert A4375/PC256 into Z2014 and turn AC ON. On RTIH observe readout in XDS2020 position while rotating Function #4 knob on test set, indication should follow 1-12. Turn AC Power OFF.

N. MEMORY GATING CIRCUIT FUNCTION #6:

1. Insert A4375/PC256 into Z2015 and turn AC Power ON. On RTIH observe readout in XDS2015 position while rotating function #6 knob on test s t, indications should follow 1-12. Turn AC Power OFF.

O. MEMORY GATING CIRCUIT FUNCTION #7:

1. Insert A4375/PC256 into Z2016 and turn AC Power ON. On RTIH observe readout in XDS2016 position while rotating Function #7 knob on test set, indications should follow 1-12. Turn AC Power OFF.

P. MEMORY GATING CIRCUIT FUNCTION #8:

1. Insert A4375/PC256 into Z2017 and turn AC Power ON. On RTIH observe readout in XDS2019 position while rotating function #8 knob on test set, indications should follow 1-12. Turn AC Power OFF.

Q. MEMORY GATING CIRCUIT FUNCTION #9:

1. Insert A4375/PC256 into Z2018 and turn AC Power ON. On RTIH observe readout in XDS2018 position. While rotating function #9 knob on test set, indications should follow 1-12. Turn AC Power OFF.

R. 1. After inserting proper readouts and checking then with the charts on CK113 sheet 1 of 2 remove test cards and readouts not required.

2. This concludes all electrical tests necessary to make RTIH operational.

TEST DATA SHEET

FOR THE

RTIH-1

1. POWER SUPPLY CHECKS:

   A. -12 VDC _____ VDC

   B. +12 VDC _____ VDC

   C. +180 VDC _____ VDC

2. INPUT TIMING AND GATING CIRCUITS:

   A. A4398/PC264 _____

   B. A4397/PC263 _____

   C. PERIOD ADJUSTED TO _____ MS

3. RESET TIMING CIRCUIT:

   A. A4399/PC277 _____

4. MEMORY GATING CIRCUIT (MC)

   A. A4376/PC257 _____

   B. A4395/PC261 _____

5. GATING CIRCUIT (KC^S):

   A. A4379/PC259 _____

   B. A4377/PC258 _____

   C. A4377/PC258 _____

6. GATING CIRCUIT EQUIPMENT SELECT:

   A. A4396/PC262 _____

7. GATING CIRCUIT FUNCTIONS #5 AND INTUNE, FAULT AND READY INDICATORS:

   A. A4381/PC260 _____

   B. READY INDICATOR _____

   C. FAULT INDICATOR _____

   D. INTUNE INDICATOR _____

8. FUNCTION #1 _____

9. FUNCTION #2 _____

10. FUNCTION #3 _____

11. FUNCTION #4 _____

12. FUNCTION #6 _____

13. FUNCTION #7 _____

14. FUNCTION #8 _____

15. FUNCTION #9 _____

TESTED BY: _____

DATE: _____

REVISION SHEET	THE TECHNICAL MATERIEL CORP. MAMARONECK NEW YORK	S 1130 LIST NO.

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