TECHNICAL MANUAL

ORGANIZATIONAL MAINTENANCE MANUAL
MAGNETIC TAPE UNIT

EXPANDED TROUBLESHOOTING
(LOGIC DIAGRAMS)

GUIDED MISSILE AIR DEFENSE SYSTEM
AN/TSQ-73

HEADQUARTERS, DEPARTMENT OF THE ARMY

30 MAY 1984

CHANGE
No. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, D.C., 8 April 1991

**ORGANIZATIONAL MAINTENANCE MANUAL: MAGNETIC TAPE UNIT
EXPANDED TROUBLESHOOTING
(LOGIC DIAGRAMS)**

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TM 9-1430-655-20-5-3, 30 May 1984, is changed as follows:

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i and ii	i and ii
FO-24	FO-24
Cover	Cover

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PIN: 055557-001

WARNING

DANGEROUS VOLTAGE

is used in the operation of this equipment

DEATH ON CONTACT

may result if personnel fail to observe safety precautions

Never work on electronic equipment unless there is another person nearby who is familiar with the operation and hazards of the equipment and who is competent in administering first aid. When the technician is aided by operators, he must warn them about dangerous areas.

Whenever possible, the power supply to the equipment must be shut off before beginning work on the equipment. Take particular care to ground every capacitor likely to hold a dangerous potential. When working inside the equipment, after the power has been turned off, always ground every part before touching it.

Be careful not to contact high-voltage connections when installing or operating this equipment.

Whenever the nature of the operation permits, keep one hand away from the equipment to reduce the hazard of current flowing through vital organs of the body.

WARNING

Do not be misled by the term "low voltage." Potentials as low as 50 volts may cause death under adverse conditions.

EXTREMELY DANGEROUS POTENTIALS

greater than 500 volts exist in the following units:

Display console high voltage power supply

Display console CRT

WARNING

For emergencies requiring immediate shutdown of system power, press SYSTEM POWER OFF switch located on power cabinet power transfer unit. Observe that SYSTEM POWER ON indicator light goes off.

LIST OF EFFECTIVE PAGES

Insert latest change pages, dispose of superseded pages in accordance with applicable regulations.

NOTE: On a changed page, the portion of the text affected by the changes is indicated by a vertical line in the outer margins of the page.

Dates of issue for original and change pages are:
Original .....0 .....30 May 84
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TOTAL NUMBER OF PAGES IN THIS PUBLICATION IS 43, CONSISTING OF THE FOLLOWING:

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A	1
B Blank	1
i	1
ii-v	0
vi Blank	0
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FO-2	0
FO-3 (2 sheets)	0
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FO-7	0
FO-8	0
FO-9 (2 sheets)	0
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GUIDED MISSILE AIR DEFENSE SYSTEM AN/TSQ-73

REPORTING OF ERRORS

You can help improve this publication. If you find any mistakes, or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in back of this manual direct to: Commander, U.S. Army Missile Command, ATTN: AMSMI-LC-ME-P, Redstone Arsenal, AL 35898-5238. A reply will be furnished to you.

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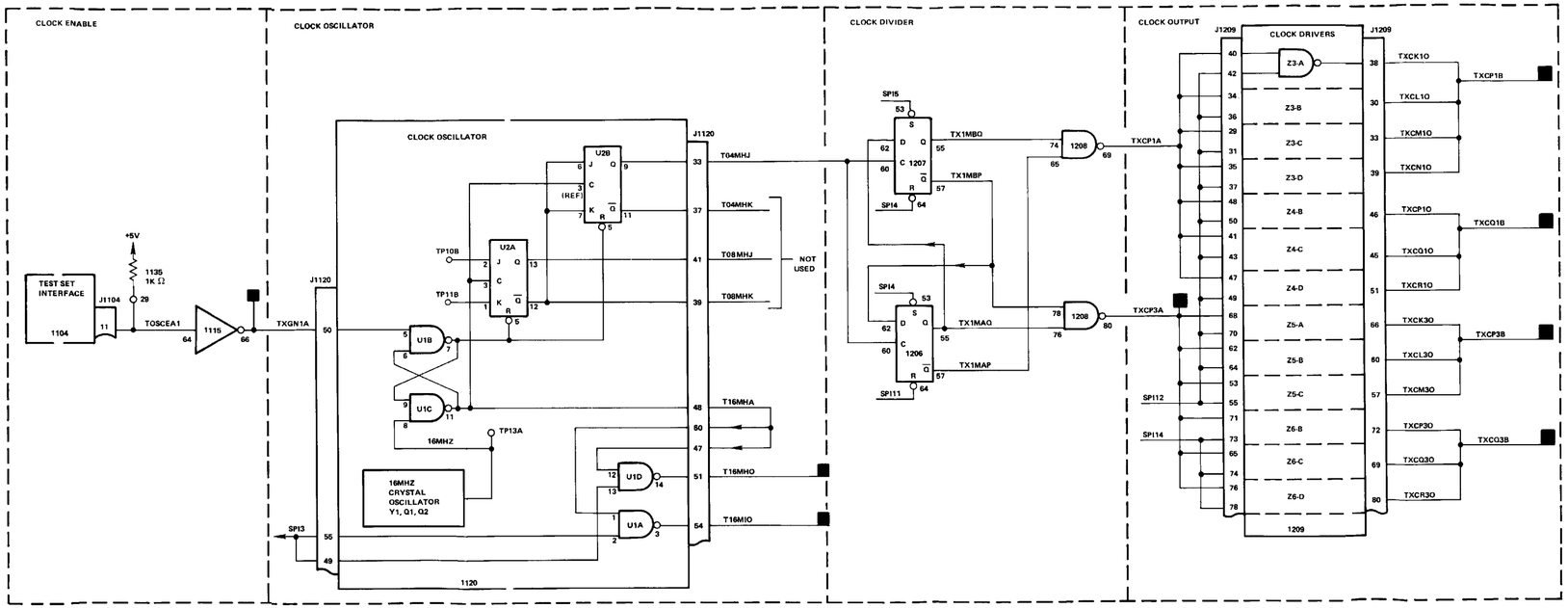
LIST OF ILLUSTRATIONS

LIST OF ILLUSTRATIONS - Continued

LIST OF TABLES

INPUT		OUTPUT	
	SOURCE		DESTINATION
SIGNAL	FO-SH	SIGNAL	FO-SH
NONE		T16MHO	0600, 0700
		T16MIO	0600, 2000
		TXCP1B	1001, 1002, 1201, 1202 1400
		TXCP3A	0200, 1100
		TXCP3B	0800, 0901, 1001, 1002, 1201, 1500, 1600, 1700 1801, 1802, 1900
		TXCQ1B	0800, 0901, 0902, 1002, 1201, 1202, 1400, 1500, 1600, 1801, 1900
		TXCQ3B	0901, 0902, 1001, 1002 1201, 1202, 1400, 1500 1600, 1801, 1900
		TXGN1A	0500, 0600, 0800, 0901 0902, 1400



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   - C. REFER TO APPROPRIATE TABLE IN TM 9-1430-655-20-9 FOR CARD PIN/TEST POINT FOR MTS TESTABLE CARDS.

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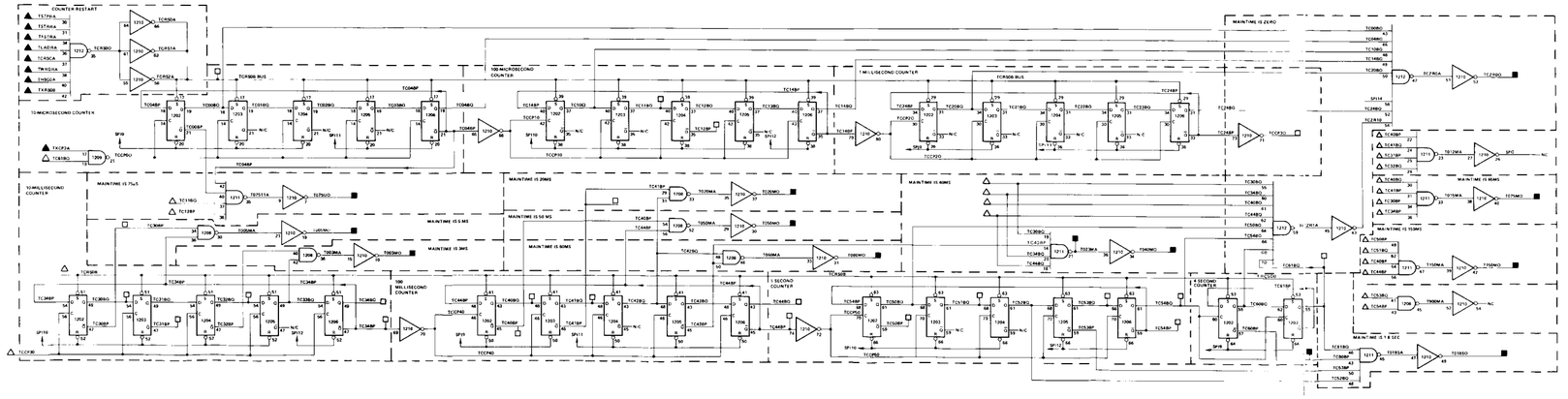
FO-1. Two-Phase Clock Generator Logic Diagram.

INPUT	
SIGNAL	SOURCE PO-SH
TCHSCA	1500
TFSTRA	1002
TNAGRA	1600
TLADRA	1001
TSTPRA	1001
TSTRRA	1001
TWHGRA	1201
TXCP3A	0100
TXRS0B	0700

OUTPUT	
SIGNAL	DESTINATION PO-SH
T003MO	1600
T005MO	1001
T01SSO	1002
TO20MO	1600
T023MA	1600
T040MO	1001
T050MO	1002
T075MO	1201
T075UO	1600
T080MO	0901, 1001, 1201
T150MO	1001, 1002
TC60BP	1002
TC1R0O	1001, 1001, 1002, 1201



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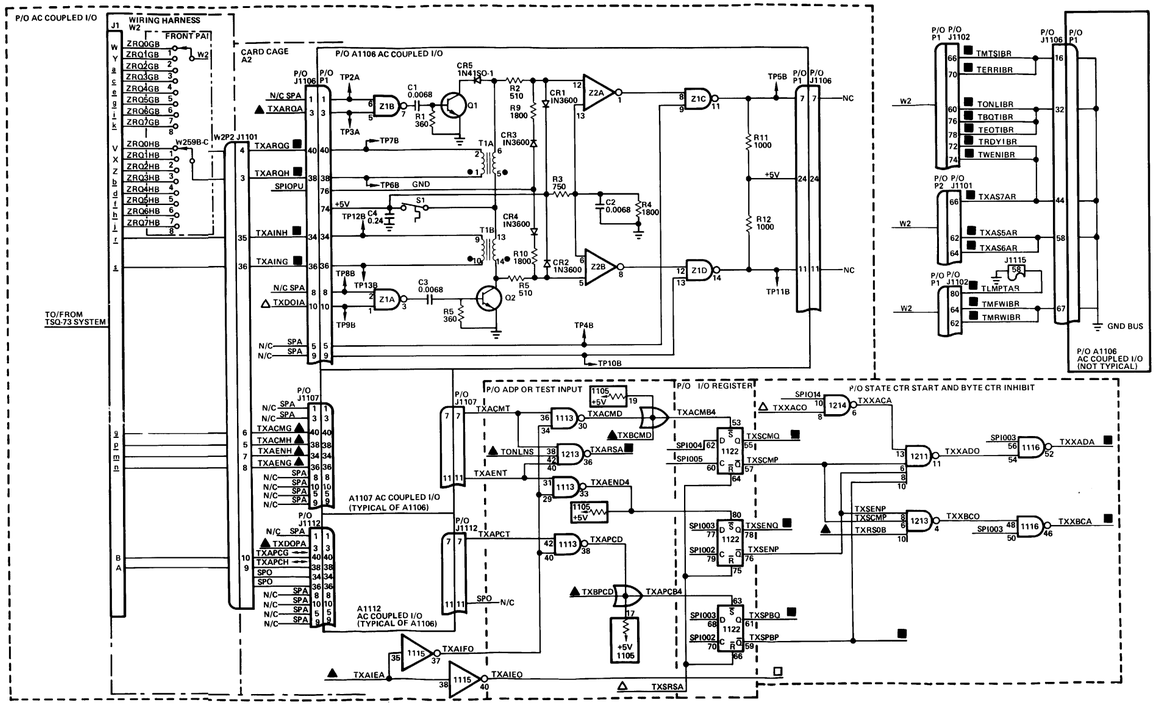
FO-2. Main Timing Counter Logic Diagram.

INPUT	
SIGNAL	SOURCE FO-SH
DEVIN1	2502
TONLNS	2000
TXACMG	2502
TXACMH	2502
TXAENG	2502
TXAENH	2502
TXAIEA	0500
TXARQA	0600
TXB0CD	2000
TXB3CD	2000
TXB4CD	2000
TXB5CD	2000
TXB7CD	2000
TXBCMD	2000
TXBPCD	2000
TXDB0O	0500
TXDB1O	0500
TXDB2O	0500
TXDB3O	0500
TXDB4O	0500
TXDB5O	0500
TXDB6O	0500
TXDB7O	0500
TXDDCA	0500
TXDOPA	0600
TXRS0B	0700
TXXA1P	0700
TXXA2Q	0700
TXXC2P	0600
TXXCS0	0600

INPUT/OUTPUT	
SIGNAL	FO-SH
TXA0CG	2502
TXA0CH	2502
TXA1CG	2502
TXA1CH	2502
TXA2CG	2502
TXA2CH	2502
TXA3CG	2502
TXA3CH	2502
TXA4CG	2502
TXA4CH	2502
TXA5CG	2502
TXA5CH	2502
TXA6CG	2502
TXA6CH	2502
TXA7CG	2502
TXA7CH	2502
TXAPCG	2502
TXAPCH	2502

OUTPUT	
SIGNAL	DESTINATION FO-SH
DEVINH	0600, 0700
TBOTIBR	2501
TEOTIBR	2501
TERRIBR	2501
TMFWIBR	2501
TMRWIBR	2501
TMTSIBR	2501
TONLIBR	2501
TRDYIBR	2501
TWENIBR	2501
TXAING	2502
TXAINH	2502
TXARQG	2502
TXARQH	2502
TXARSA	0700
TXS0BP	1802
TXSOBQ	0400, 0800, 0901, 1700, 1802
TXS1BP	0901, 1802
TXS1BQ	0400, 0800, 1700, 1802
TXS2BP	0901, 1802
TXS2BQ	0400, 0800, 1700, 1802
TXS3BP	0901, 0902, 1802
TXS3BQ	0400, 0800, 0901, 1700, 1802
TXS4BP	0901, 0902, 1802
TXS4BQ	0400, 0800, 0901, 1802
TXS5BP	0901, 0902, 1802
TXS5BQ	0400, 0800, 0901, 0902, 1802
TXS6BP	0901, 0902, 1802
TXS6BQ	0400, 0800, 0901, 0902, 1802
TXS7BP	0901, 0902, 1802
TXS7BQ	0400, 0800, 0901, 1802,
TXSCMQ	0800
TXSENQ	0800
TXSPBP	1802
TXSPBQ	0400, 0901, 1802
TXXADA	0700
TXXBCA	0700



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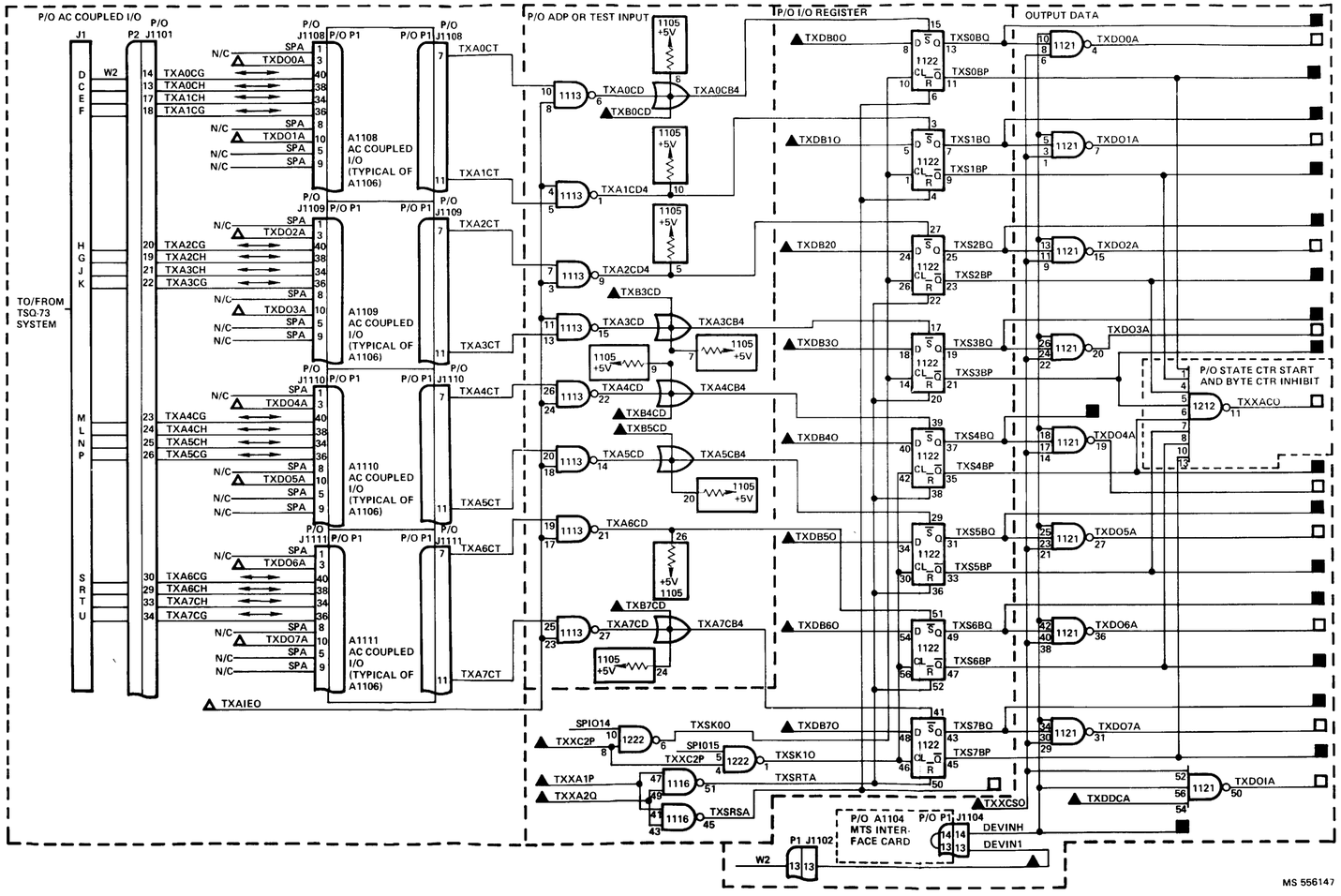
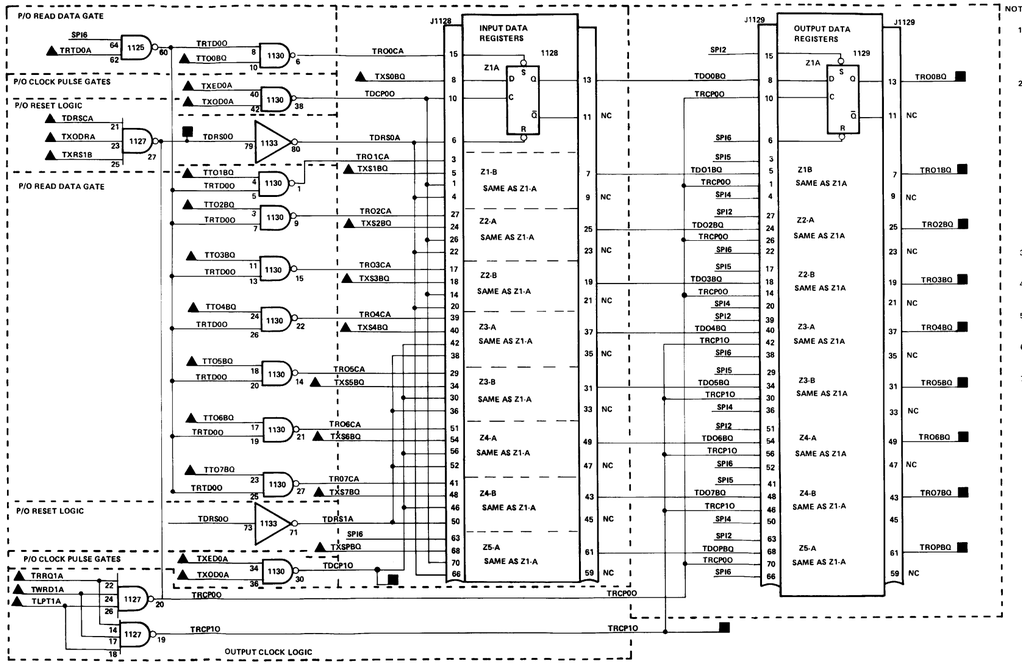
FO-3. Input/Output Interface Logic Diagram (Sheet 1 of 2).



FO-3. Input/Output Interface Logic Diagram (Sheet 2 of 2).

INPUT		OUTPUT	
SIGNAL	SOURCE FO-SH	SIGNAL	DESTINATION FO-SH
TDRSCA	1500	TDCP10	1400, 1802
TLPT1A	0901	TDRS0O	1400
TRRQ1A	1400	TRCP1O	1400
TRTD0A	1500	TRO0BQ	0500, 1202
TRO0BQ	1300	TRO1BQ	0500, 1202
TTO1BQ	1300	TRO2BQ	0500, 1202
TTO2BQ	1300	TRO3BQ	0500, 1202
TTO3BQ	1300	TRO4BQ	0500, 1202
TTO4BQ	1300	TRO5BQ	0500, 1202
TTO5BQ	1300	TRO6BQ	0500, 1202
TTO6BQ	1300	TRO7BQ	0500, 1202
TTO7BQ	1300	TROPBQ	1202
TWRD1A	0800		
TXED0A	0800		
TXOD0A	0901		
TXODRA	0901		
TXRS1B	0700		
TXS0BQ	0302		
TXS1BQ	0302		
TXS2BQ	0302		
TXS3BQ	0302		
TXS4BQ	0302		
TXS5BQ	0302		
TXS6BQ	0302		
TXS7BQ	0302		
TXSPBQ	0301		



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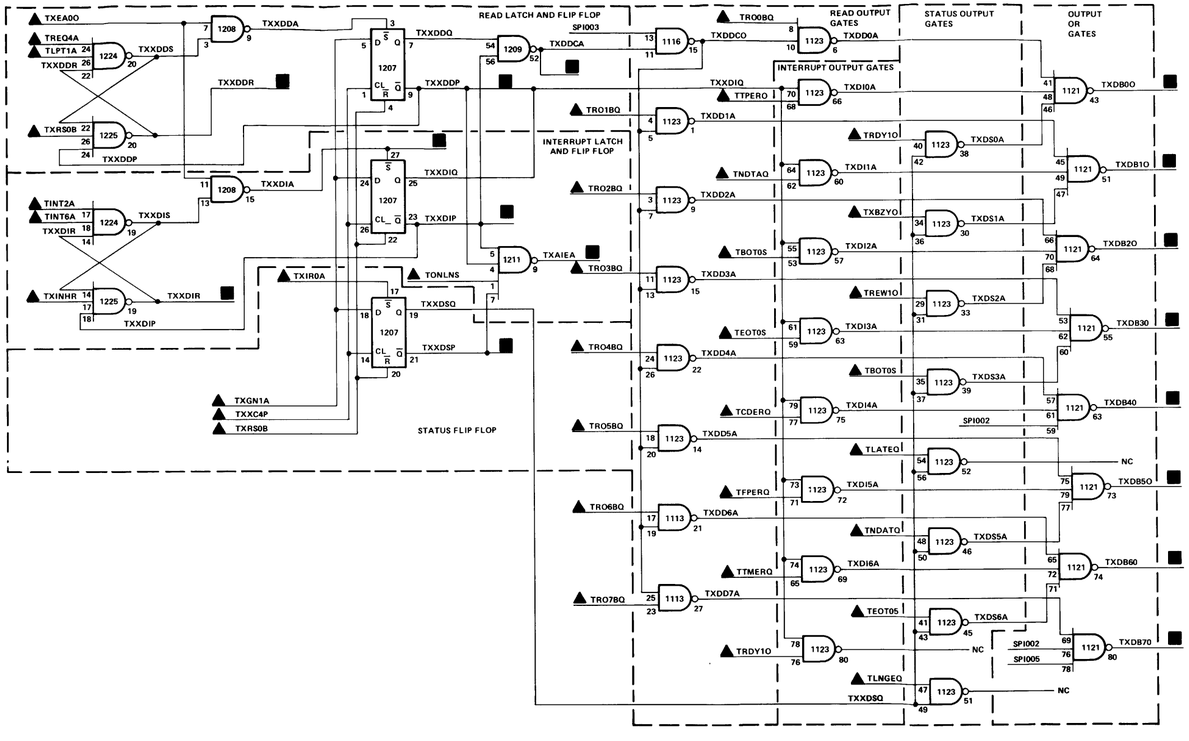
FO-4. Input/Output Data Buffer Logic Diagram.

INPUT	
SIGNAL	SOURCE FO-SH
TBOT0S	1900
TCDERQ	1802
TEOT0S	1900
TFPERQ	1802
TINT2A	1001
TINT6A	1001
TLATEQ	1802
TLNGEQ	1802
TLPT1A	0901
TNDATQ	1802
TONLNS	2000
TRDY1O	1001
TREQ4A	1400
TRO0BQ	0400
TRO1BQ	0400
TRO2BQ	0400
TRO3BQ	0400
TRO4BQ	0400
TRO5BQ	0400
TRO6BQ	0400
TRO7BQ	0400
TREW1O	1202
TSBZYO	1001
TTMERQ	1802
TTPERO	1802
TXEA0O	0800
TXGN1A	0100
TXINHR	0800
TXIR0A	0902
TXRS0B	0700
TXXC4P	0600

OUTPUT	
SIGNAL	DESTINATION FO-SH
TXAIEA	0301
TXDB0O	0302
TXDB1O	0302
TXDB2O	0302
TXDB3O	0302
TXDB4O	0302
TXDB5O	0302
TXDB6O	0302
TXDB7O	0302
TXDDCA	0302
TXXDDP	0600
TXXDDR	1001
TXXDIA	1400
TXXDIP	0600, 0800
TXXDIR	1001
TXXDSP	0600



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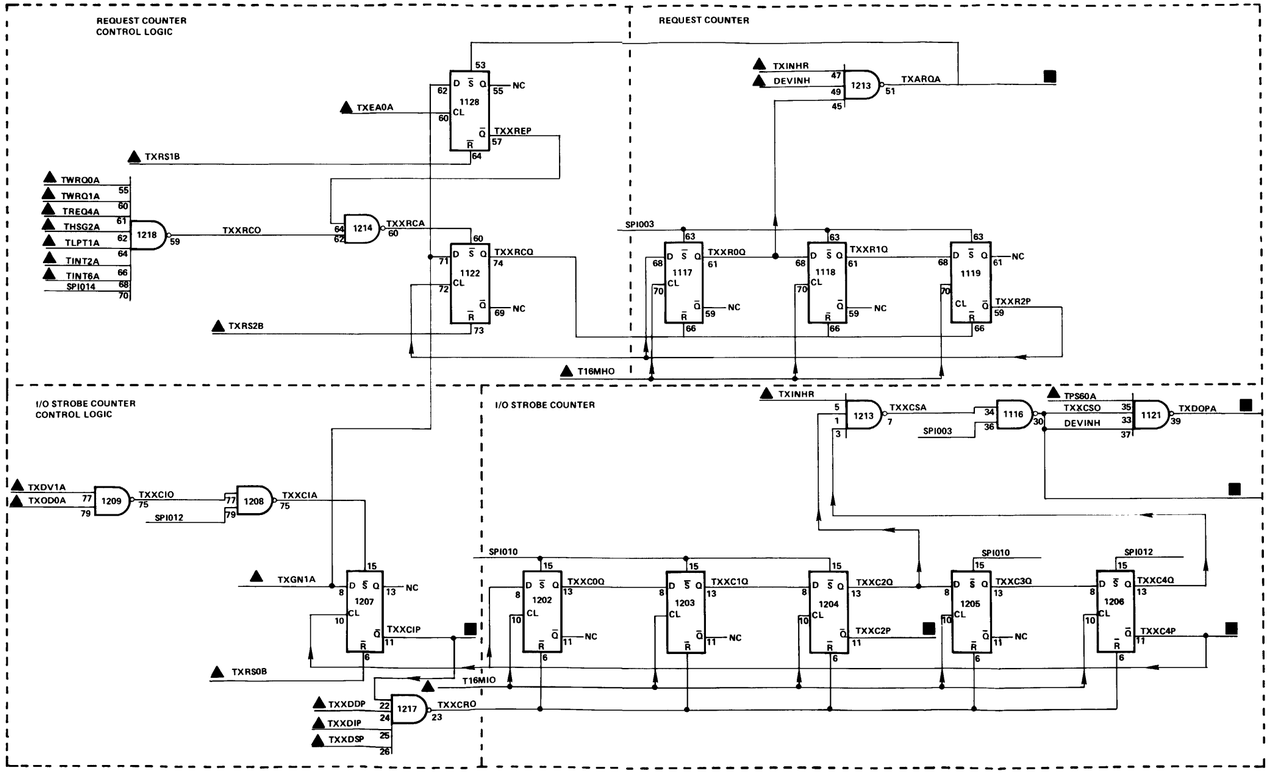
FO-5. Read, Status, or Interrupt Output Logic Diagram.

INPUT		OUTPUT	
SIGNAL	SOURCE FO-SH	SIGNAL	DESTINATION FO-SH
DEVINH	0302	TXARQA	0301
T16MHO	0100	TXDOPA	0301
T16M1O	0100	TXXC2P	0302
THSG2A	1600	TXXC4P	0500
TINT2A	1001	TXXCIP	1802
TINT6A	1001	TXXCSO	0302
TLPT1A	0901		
TPS60A	1802		
TREQ4A	1400		
TWRQ0A	1201		
TWRQ1A	1201		
TXDV1A	0901		
TXEA0A	0800		
TXGN1A	0100		
TXINHR	0800		
TXOD0A	0901		
TXRS0B	0700		
TXRS1B	0700		
TXRS2B	0700		
TXXDDP	0500		
TXXDIP	0500		
TXXDSP	0500		



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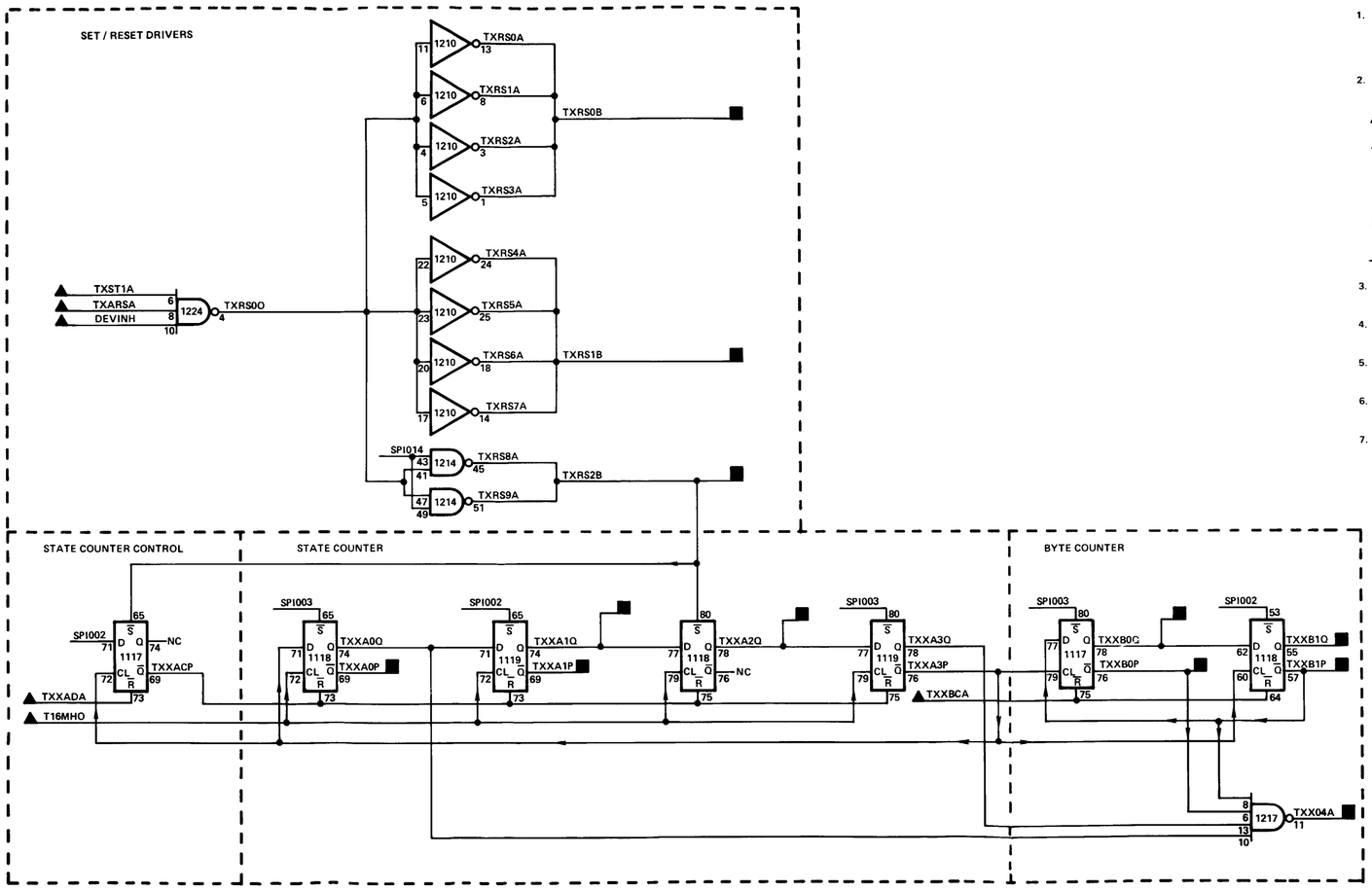
FO-6. IO Strobe and Request Counter Logic Diagram.

INPUT		OUTPUT	
SIGNAL	SOURCE FO-SH	SIGNAL	DESTINATION FO-SH
DEVINH	0302	TXRS0B	1002, 1201, 1202, 1400
T16MHO	0100		1600, 1802, 2000, 0200
TXARSA	0300		0201, 0301, 0500, 0600,
TXST1A	0902		0800, 1001
TXXADA	0301	TXRS1B	0400, 0600, 0800, 0901
TXXBCA	0301		1001, 1002, 1100, 1201
			1400, 1500, 1600
		TXRS2B	0600, 0901, 0902
		TXX04A	0800
		TXXA0P	0800, 0901, 1802
		TXXA1P	0302
		TXXA1Q	0800, 0901, 1802
		TXXA2Q	0302
		TXXB0P	0800
		TXXB0Q	0800, 0901
		TXXB1P	0901
		TXXB1Q	0901



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   - B. REFER TO APPROPRIATE TABLE IN TM 9-1430-655-20-5 FOR CARD PART NUMBER
   - C. REFER TO APPROPRIATE TABLE IN TM 9-1430-655-20-9 FOR CARD PIN/TEST POINT FOR MTS TESTABLE CARDSS

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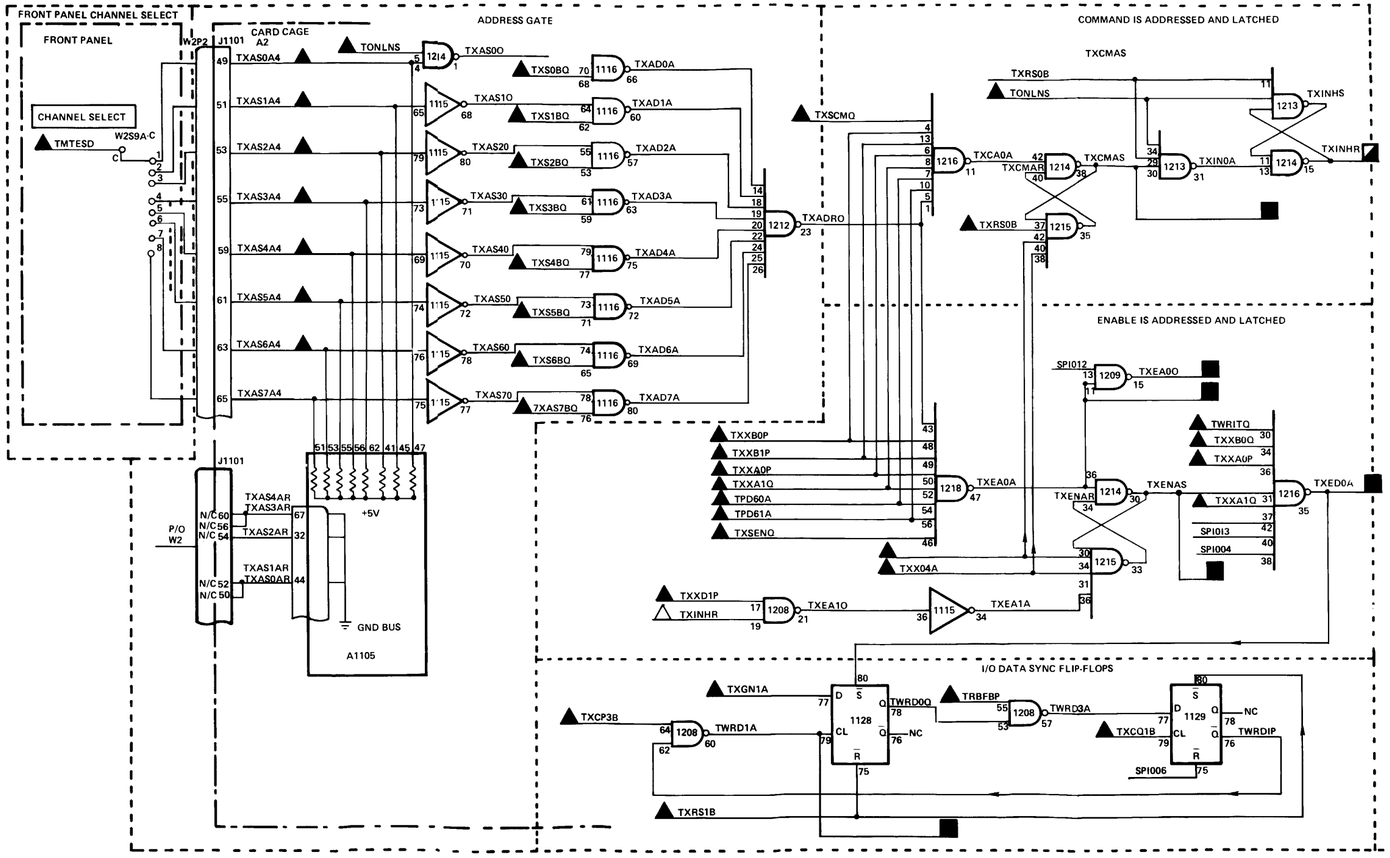
FO-7. State and Byte Counters Logic Diagram.

INPUT		OUTPUT	
SIGNAL	SOURCE FO-SH	SIGNAL	DESTINATION FO-SH
TMTESD	2000	TWRD1A	0400, 1201, 1400
TONLNS	2000	TXCMAS	0901
TPD60A	1802	TXEA0A	0600
TPD61A	1802	TXEA0O	0500, 1400
TRBFBP	1400	TXED0A	0400
TWRITQ	0901	TXENAS	1802
TXAS0A4	2502	TXINHR	0500, 0600, 1500
TXAS1A4	2502		
TXAS2A4	2502		
TXAS3A4	2502		
TXAS4A4	2502		
TXAS5A4	2502		
TXAS6A4	2502		
TXAS7A4	2502		
TXCP3B	0100		
TXCQ1B	0100		
TXGN1A	0100		
TXRS0B	0700		
TXRS1B	0700		
TXS0BQ	0302		
TXS1BQ	0302		
TXS2BQ	0302		
TXS3BQ	0302		
TXS4BQ	0302		
TXS5BQ	0302		
TXS6BQ	0302		
TXS7BQ	0302		
TXSCMQ	0301		
TXSENQ	0301		
TXX04A	0700		
TXXA0P	0700		
TXXA1Q	0700		
TXXB0P	0700		
TXXB0Q	0700		
TXXB1P	0700		
TXXD1P	0500		

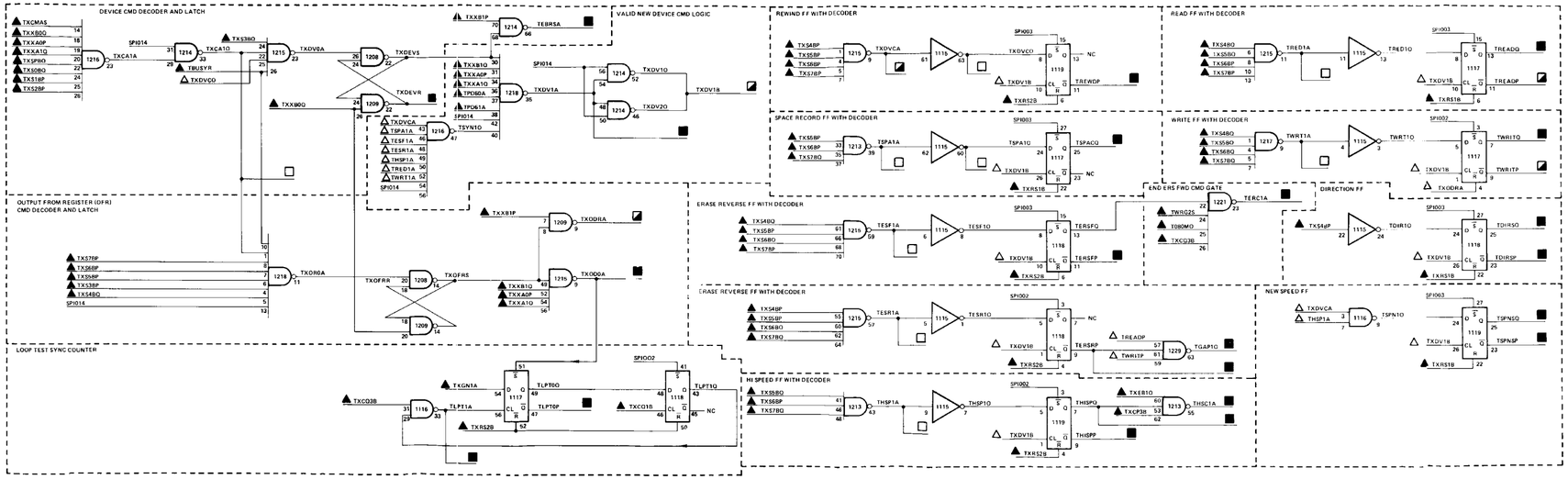


FO-8. Address, Command, and Enable Logic Diagram.

NOTES: UNLESS OTHERWISE SPECIFIED

1. PARTIAL REFERENCE DESIGNATIONS ARE SHOWN; FOR COMPLETE DESIGNATIONS, PREFIX WITH APPLICABLE UNIT NUMBER AND ASSEMBLY DESIGNATOR.
2. DEFINITIONS FOR SYMBOLS SHOWN ARE AS FOLLOWS:
   - ▲ INDICATES INPUT FROM ANOTHER FIGURE.
   - △ INDICATES INPUT FROM THE SAME FIGURE.
   - ■ INDICATES OUTPUT TO ANOTHER FIGURE.
   - □ INDICATES OUTPUT TO THE SAME FIGURE.
   - ◪ INDICATES OUTPUT TO THE SAME AND ANOTHER FIGURE.
   - ⟷ INDICATES BIDIRECTIONAL SIGNAL FLOW.
3. REFER TO TABLE 5-1 FOR CIRCUIT CARD LOCATION IN LOGIC DIAGRAMS INDEX.
4. REFER TO TABLE 5-2 FOR KEY SIGNAL LOOKUP LISTING.
5. REFER TO POWER DISTRIBUTION FOR DC POWER AND GROUND CIRCUITS.
6. CIRCUIT SYMBOLS INCLUDE CARD LOCATION AND CIRCUIT PIN NUMBERS.
7. TO DETERMINE CIRCUIT CARD PIN/TEST POINT PERFORM THE FOLLOWING:
   - A. FROM CIRCUIT SYMBOL NOTE CARD LOCATION AND CIRCUIT CARD PIN NUMBER
   - B. REFER TO APPROPRIATE TABLE IN TM 9-1430-655-20-5 FOR CARD PART NUMBER
   - C. REFER TO APPROPRIATE TABLE IN TM 9-1430-655-20-9 FOR CARD PIN/TEST POINT FOR MTS TESTABLE CARDS.

INPUT SIGNAL	SOURCE FO-SH	OUTPUT SIGNAL	DESTINATION FO-SH
T080MO	0200	TDIRSP	1001, 1002
TBUSYR	1001	TDIRSQ	1001, 1002
TPD60A	1802	TEBRSA	1700
TPD61A	1802	TERC1A	1001
TWRG2S	1201	TERSFP	1201, 1202, 1802
TCXMAS	0800	TERSRP	1202
TXCP3B	0100	TGAP1Q	1600
TXCQ1B	0100	THISPP	1001
TXCQ3B	0100	THISPQ	1600
TXEB1Q	0902	THSC1A	1001
TXGN1A	0100	TLPT0P	0901
TXRS1B	0700	TLPT1A	0400, 0500, 0600
TXRS2B	0700	TREADP	1700
TXS0BQ	0302	TREADQ	1400, 1500
TXS1BP	0302	TREWDP	0901
TXS2BP	0302	TSPACQ	1600
TXS3BP	0302	TSPNSP	1002, 1001, 1802
TXS3BQ	0302	TSPNSQ	1002, 1001, 1802
TXS4BP	0302	TWRITP	1202, 1201, 1700
TXS4BQ	0302	TWRITQ	0800, 1201, 1802
TXS5BP	0302	TXDEVR	1700
TXS5BQ	0302	TXDV1A	0600, 1001
TXS6BP	0302	TXDV1B	1700
TXS6BQ	0302	TXEB1Q	0901, 1201, 1400, 1700
TXS7BP	0302	TXS7BQ	0902
TXS7BQ	0302	TXIR0A	0500
TXSPBQ	0301	TXOD0A	0400, 0600
TXXA0P	0700	TXODRA	0400, 1802
TXXA1Q	0700	TXST1A	0700
TXXB1P	0700		
TXXB1Q	0700		



NOTES UNLESS OTHERWISE SPECIFIED

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2. DEFINITIONS FOR SYMBOLS SHOWN ARE AS FOLLOWS
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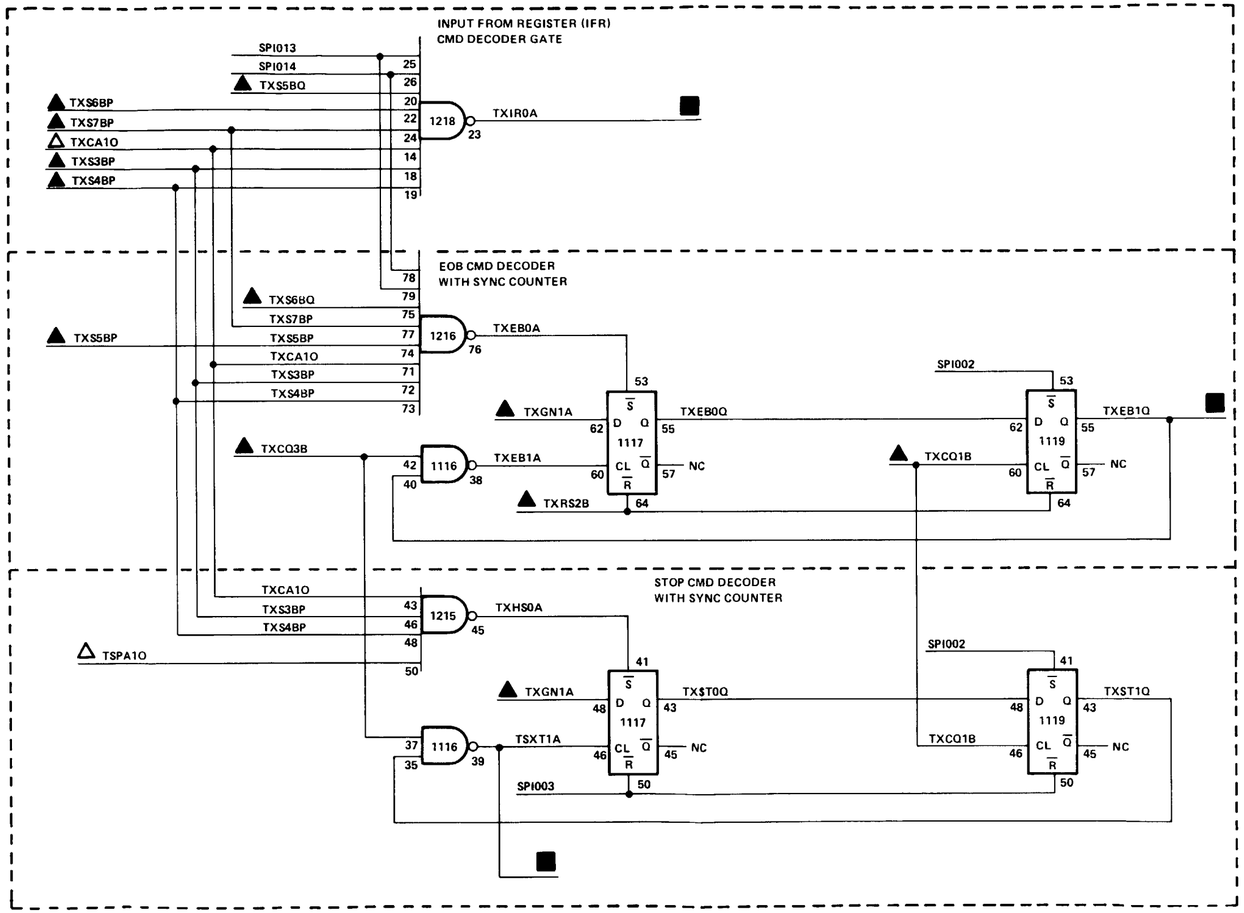
   - △ INDICATES INPUT FROM THE SAME FIGURE
   - ■ INDICATES OUTPUT TO ANOTHER FIGURE
   - □ INDICATES OUTPUT TO THE SAME FIGURE
   - ◪ INDICATES OUTPUT TO THE SAME AND ANOTHER FIGURE
   - ◄► INDICATES BIDIRECTIONAL SIGNAL FLOW
3. REFER TO TABLE 5.1 FOR CIRCUIT CARD LOCATION IN LOGIC DIAGRAMS INDEX
4. REFER TO TABLE 5.2 FOR KEY SIGNAL LOOKUP LISTING.
5. REFER TO POWER DISTRIBUTION FOR DC POWER AND GROUND CIRCUITS.
6. CIRCUIT SYMBOLS INCLUDE CARD LOCATION AND CIRCUIT PIN NUMBERS.
7. TO DETERMINE CIRCUIT CARD PIN/TEST POINT PERFORM THE FOLLOWING.
   - A. FROM CIRCUIT SYMBOL NOTE CARD LOCATION AND CIRCUIT CARD PIN NUMBER
   - B. REFER TO APPROPRIATE TABLE IN TM 9-1430-655-20-5 FOR CARD PART NUMBER
   - C. REFER TO APPROPRIATE TABLE IN TM 9-1430-655-20-5 FOR CARD PIN/TEST POINT FOR MTS TESTABLE CARDS

FO-9. MTU Commands and Enable Logic Diagram (Sheet 1 of 2).



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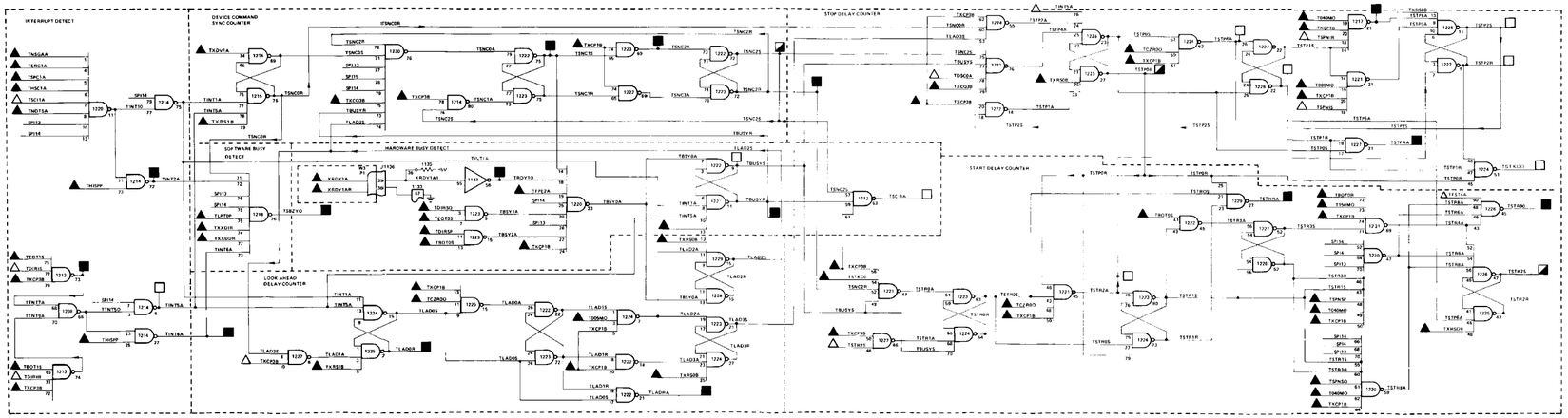
FO-9. MTU Commands and Enable Logic Diagram (Sheet 2 of 2).

INPUT SIGNAL	SOURCE FO-SH
T005MO	0200
T040MO	0200
T050MO	0200
T080MO	0200
T150MO	0200
TBOTOR	1900
TBOTRS	1900
TBOTSS	1900
TBOTCO	1900
TC2RRO	0200
TDIRSP	0901
TDIRSQ	0901
TEOTRS	1900
TEOTSS	1900
TEOTCO	1900
TENC1A	0901
TFFE2A	1202
THISPP	0901
THSC1A	0901
TLMPTO	2000
TLPT0P	0901
TNDT5A	1902
TNSGAA	1600
TSPC1A	1600
TSPNSP	0901
TSPNSQ	0901
TXCP1B	0101
TXCP3B	0100
TXCQ1B	0100
TXCQ3B	0100
TXDV1A	0901
TXRS0B	0700
TXRS1B	0700
TXXD0R	0500
TXXD1M	0500
XRDY1A	2102
XRDY1AR	2102

OUTPUT SIGNAL	DESTINATION FO-SH
TBUSYR	0901
TDIRCA	2101
TFSTRA	0200
TINT2A	0500
TINT6A	0600
TINT7A	1201
TLADBR	1400
TLADRA	0200
TMFWIB	2501
TMRWIB	2501
TRDY1P	0500, 1202, 2000
TRUNCA	2101
TRUNCAR	2101
TSBBYO	0500
TERC1A	0901
TSNC1A	1202, 1801
TSNC2A	1802
TSNC2R	1201
TSNC2S	1202
TSPDCA	2101
TSPDCAR	2101
TSPN1R	1300
TSPN1S	1600
TSTPOR	1900
TSTPRA	2000
TSTPRA	0200
TSTR2S	1600
TSTR90	1201, 1400
TSTRRA	0200



NOTES UNLESS OTHERWISE SPECIFIED

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□ INDICATES OUTPUT TO THE SAME FIGURE

◪ INDICATES OUTPUT TO THE SAME AND ANOTHER FIGURE

⟷ INDICATES BIDIRECTIONAL SIGNAL FLOW

3 REFER TABLES 5-1 FOR CIRCUIT CARD LOCATION IN LOGIC DIAGRAMS INDEX

4 REFER TO TABLE 5-2 FOR KEY SIGNAL LOOKUP LISTING

5 REFER TO POWER DISTRIBUTION FOR DC POWER AND GROUND CIRCUITS

6 CIRCUIT SYMBOLS INCLUDE CARD LOCATION AND CIRCUIT PIN NUMBERS

7 TO DETERMINE CIRCUIT CARD PIN/TEST POINT PERFORM THE FOLLOWING

A FROM CIRCUIT SYMBOL NOTE CARD LOCATION AND CIRCUIT CARD PIN NUMBER

B REFER TO APPROPRIATE TABLE IN TM 9 1430 655 20 5 FOR CARD PART NUMBER

C REFER TO APPROPRIATE TABLE IN TM 9 1430 655 20 5 FOR CARD PIN/TEST POINT FOR MITS TESTABLE CARDS

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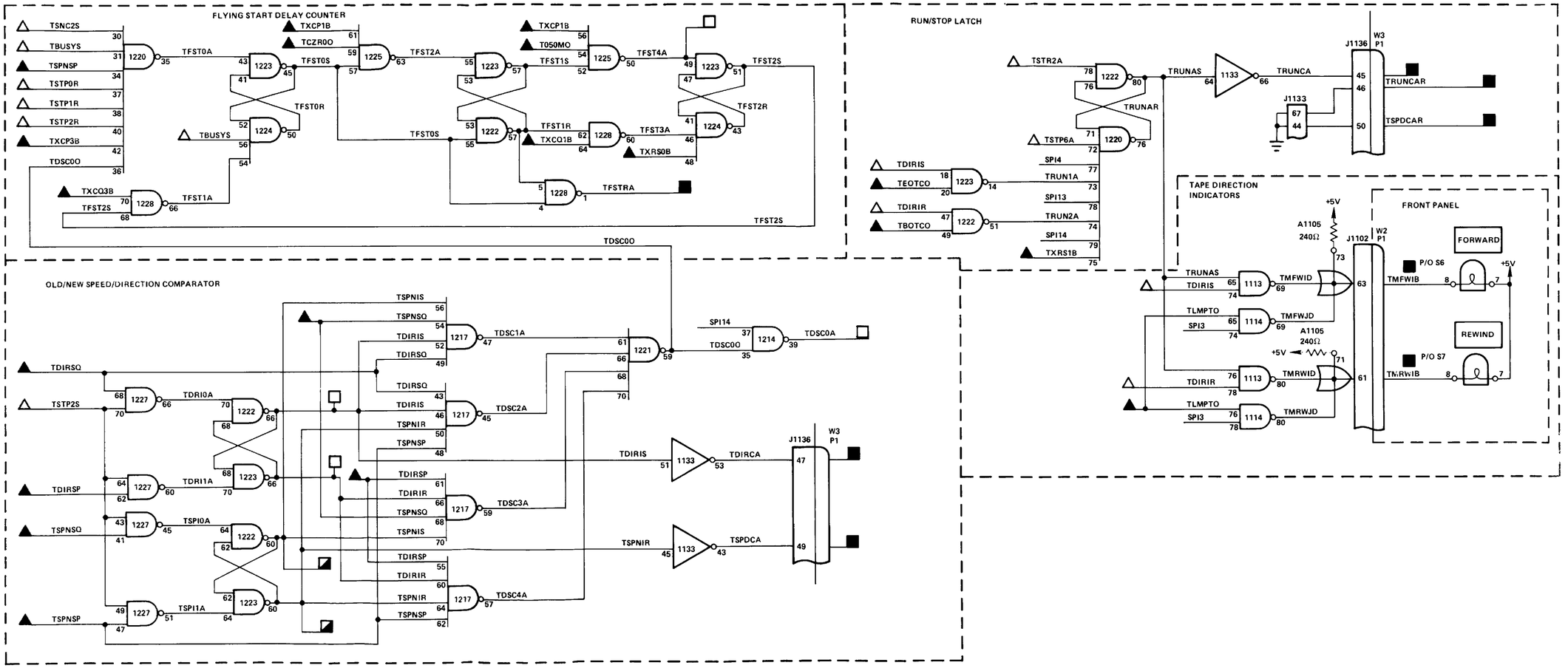
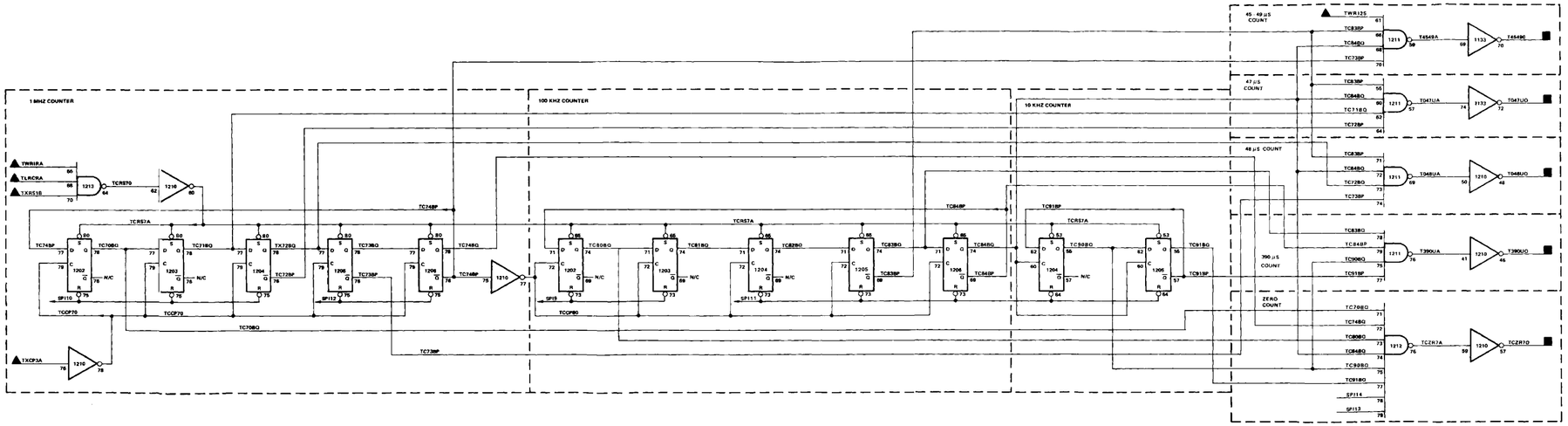
FO-10. Start/Stop Control Logic Diagram (Sheet 1 of 2).



FO-10. Start/Stop Control Logic Diagram (Sheet 2 of 2)

INPUT		OUTPUT	
SIGNAL	SOURCE FO-SH	SIGNAL	DESTINATION FO-SH
TLRCRA	1201	TO47UO	1202, 1201
TWRI2S	1202	TO48UO	1202
TWRIRA	1202	T39QUO	1201
TXCP3A	0108	T4549O	1201
TXRS1B	0708	TC2R7O	1202, 1201



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   - ■ INDICATES OUTPUT TO ANOTHER FIGURE.
   - □ INDICATES OUTPUT TO THE SAME FIGURE.
   - ◪ INDICATES OUTPUT TO THE SAME AND ANOTHER FIGURE.
   - ◄► INDICATES BIDIRECTIONAL SIGNAL FLOW.
3. REFER TO TABLE 5-1 FOR CIRCUIT CARD LOCATION IN LOGIC DIAGRAMS INDEX.
4. REFER TO TABLE 5-2 FOR KEY SIGNAL LOOKUP LISTING.
5. REFER TO POWER DISTRIBUTION FOR DC POWER AND GROUND CIRCUITS.
6. CIRCUIT SYMBOLS INCLUDE CARD LOCATION AND CIRCUIT PIN NUMBERS.
7. TO DETERMINE CIRCUIT CARD PIN/TEST POINT PERFORM THE FOLLOWING:
   - A. FROM CIRCUIT SYMBOL NOTE CARD LOCATION AND CIRCUIT CARD PIN NUMBER.
   - B. REFER TO APPROPRIATE TABLE IN TM 9-1430-655-20-5 FOR CARD PART NUMBER.
   - C. REFER TO APPROPRIATE TABLE IN TM 9-1430-655-20-9 FOR CARD PIN/TEST POINT FOR MTS TESTABLE CARDS.

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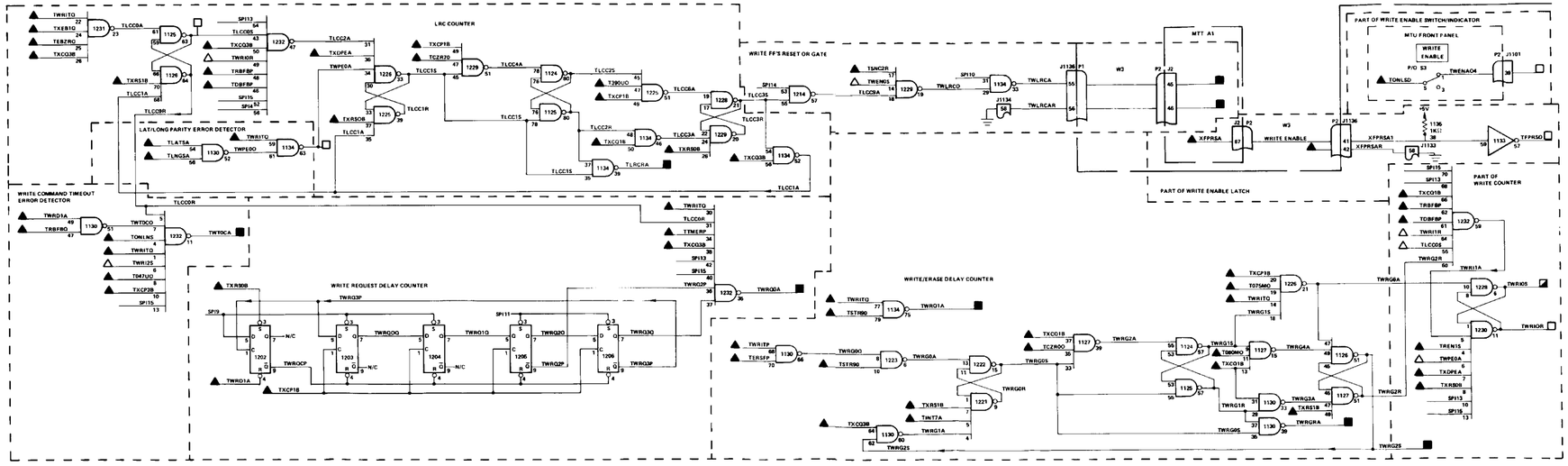
FO-11. Write Timing Counter Logic Diagram

INPUT SIGNAL	SOURCE FO-SH
TWRD1A	0800
TWRITP	0901
TWRITQ	0901
TXCP1B	0100
TXCP3B	0100
TXCQ1B	0100
TXCQ3B	0100
TXDPEA	1802
TXEB1Q	0902
TXRS0B	0700
TXRS1B	0700
XFPRSA	2102
XFPRSAR	2102
TFPE1A	1202
TFPE2A	1202
TLRCRA	1201
TRWE1Q	1202
TWD00A	1202
TWDB0AR	1202
TWDB1A	1202
TWDB1AR	1202
TWDB2A	1202
TWDB2AR	1202
TWDB3A	1202
TWDB3AR	1202
TWDB4A	1202
TWDB4AR	1202
TWDB5A	1202
TWDB5AR	1202
TWDB6A	1202
TWDB6AR	1202
TWDB7A	1202
TWDB7AR	1202
TWDBEB	1202
TWDBPA	1202
TWDBPAR	1202
TWDBSA	1202
TWDBSAR	1202
TWEN1B	1202
TWLRCA	1201
TWLRCAR	1201
TWRG2S	1201
TWRGRA	1201

OUTPUT SIGNAL	DESTINATION FO-SH
TFPE1A	1802
TFPE2A	1801
TLRCRA	1100
TRWE1Q	0500
TWDB0A	2200
TWDB0AR	2200
TWDB1A	2200
TWDB1AR	2200
TWDB2A	2200
TWDB2AR	2200
TWDB3A	2200
TWDB3AR	2200
TWDB4A	2200
TWDB4AR	2200
TWDB5A	2200
TWDB5AR	2200
TWDB6A	2200
TWDB6AR	2200
TWDB7A	2200
TWDB7AR	2200
TWDBEB	2102
TWDBPA	2200
TWDBPAR	2200
TWDBSA	2200
TWDBSAR	2200
TWEN1B	2501
TWLRCA	2102
TWLRCAR	2102
TWRG2S	0901
TWRGRA	0200
TWRI0S	1802
TWRI2S	1100
TWRI3A	1400
TWRIRA	1100
TWRQ0A	0600
TWRQ1A	0600
TWTOCA	1802



NOTES UNLESS OTHERWISE SPECIFIED

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2 DEFINITIONS FOR SYMBOLS SHOWN ARE AS FOLLOWS

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3 REFER TO TABLE 5-1 FOR CIRCUIT CARD LOCATION IN LOGIC DIAGRAMS INDEX

4 REFER TO TABLE 5-2 FOR KEY SIGNAL LOOKUP LISTING

5 REFER TO POWER DISTRIBUTION FOR DC POWER AND GROUND CIRCUITS

6 CIRCUIT SYMBOLS INCLUDE CARD LOCATION AND CIRCUIT PIN NUMBERS

7 TO DETERMINE CIRCUIT CARD PIN-TEST POINT PERFORM THE FOLLOWING

- A FROM CIRCUIT SYMBOL NOTE CARD LOCATION AND CIRCUIT CARD PIN NUMBER
- B REFER TO APPROPRIATE TABLE IN TM 9-1430-655-20-5 FOR CARD PART NUMBER
- C REFER TO APPROPRIATE TABLE IN TM 9-1430-655-20-9 FOR CARD PIN/TEST POINT FOR MTS TESTABLE CARDS

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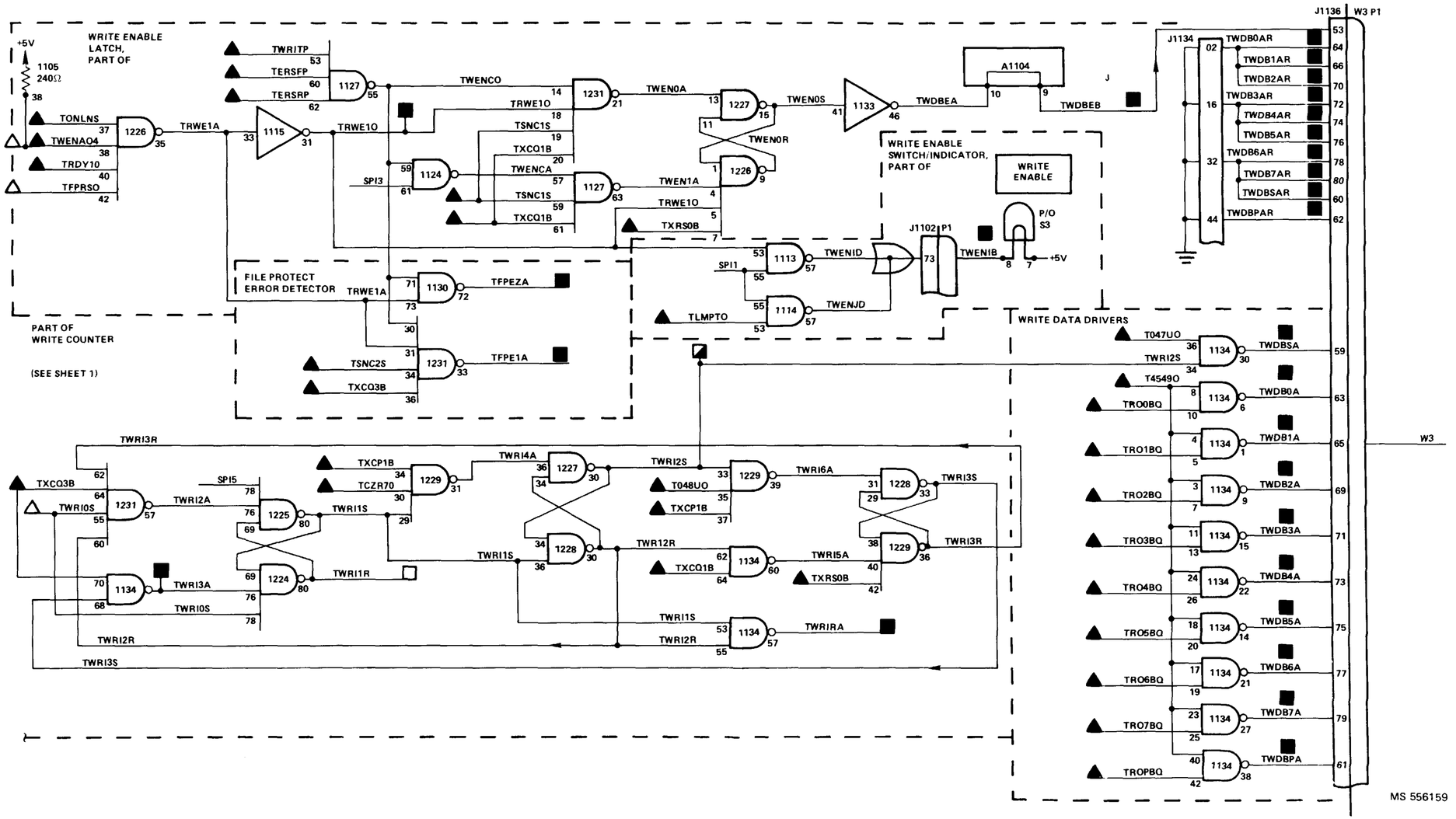
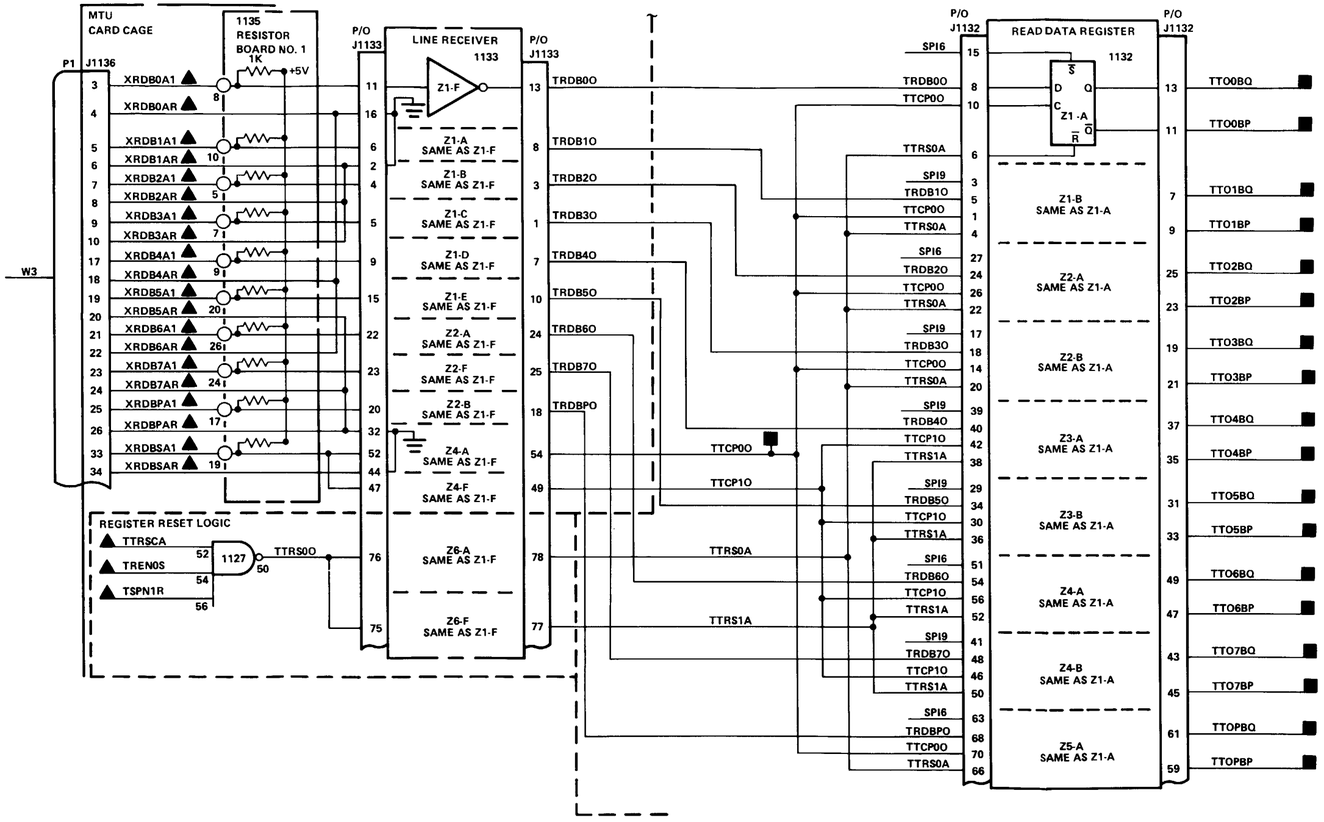
FO-12. Write Data/Control Logic Diagram (Sheet 1 of 2)



FO-12. Write Data/Control Logic Diagram (Sheet 2 of 2)

INPUT		OUTPUT	
SIGNAL	SOURCE FO-SH	SIGNAL	DESTINATION FO-SH
TREN0S	1400	TTCP0O	1600
TSPN1R	1002	TTO0BP	1500
TTRSCA	1500	TTO0BQ	0400
XRDB0AR	2300	TTO1BP	1500
XRDB1A1	1300	TTO1BQ	0400
XRDB1AR	2300	TTO2BP	1500
XRDB2AR	2300	TTO2BQ	0400
XRDB3AR	2300	TTO3BP	1500
XRDB4AR	2300	TTO3BQ	0400
XRDB5AR	2300	TTO4BP	1500
XRDB6AR	1300	TTO4BQ	0400
XRDB7AR	2300	TTO5BP	1500
XRDBPAR	2300	TTO5BQ	0400
XRDBSAR	2300	TTO6BP	1500
		TTO6BQ	0400
		TTO7BP	1500
		TTO7BQ	0400
		TTOPBP	1500
		TTOPBQ	1500



NOTES: UNLESS OTHERWISE SPECIFIED

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2. DEFINITIONS FOR SYMBOLS SHOWN ARE AS FOLLOWS:
   - ▲ INDICATES INPUT FROM ANOTHER FIGURE.
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   - ◪ INDICATES OUTPUT TO THE SAME AND ANOTHER FIGURE.
   - ◄► INDICATES BIDIRECTIONAL SIGNAL FLOW.
3. REFER TO TABLE 5-1 FOR CIRCUIT CARD LOCATION IN LOGIC DIAGRAMS INDEX.
4. REFER TO TABLE 5-2 FOR KEY SIGNAL LOOKUP LISTING.
5. REFER TO POWER DISTRIBUTION FOR DC POWER AND GROUND CIRCUITS.
6. CIRCUIT SYMBOLS INCLUDE CARD LOCATION AND CIRCUIT PIN NUMBERS.
7. TO DETERMINE CIRCUIT CARD PIN/TEST POINT PERFORM THE FOLLOWING:
   - A. FROM CIRCUIT SYMBOL NOTE CARD LOCATION AND CIRCUIT CARD PIN NUMBER
   - B. REFER TO APPROPRIATE TABLE IN TM 9-1430-655-20-5 FOR CARD PART NUMBER
   - C. REFER TO APPROPRIATE TABLE IN TM 9-1430-655-20-9 FOR CARD PIN/TEST POINT FOR MTS TESTABLE CARDS.

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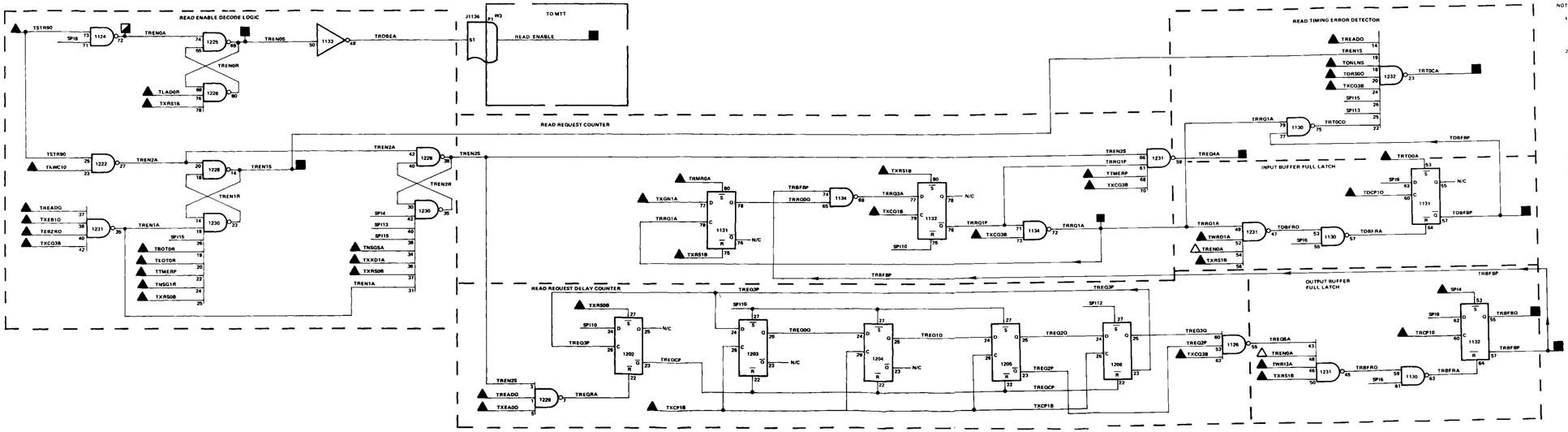
FO-13. Read Data Logic Diagram

INPUT		OUTPUT	
SIGNAL	SOURCE FO-SH	SIGNAL	DESTINATION FO-SH
TBOT0R	1900	TDBFBP	1201
TDCP1O	0400	TRBFBP	0800
TDRS0O	0400	TRBFBQ	1201
TEBZRO	1700	TRDBEA	2102
TEOT0R	1900	TREN0A	1500
TLAD0R	1001	TREN0S	1300, 1600
TNSG1R	1600	TREN1S	1201, 1500, 1801
TNSG5A	1600	TREQ4A	0500, 0600
TONLNS	2000	TRRQ1A	0400
TRCP1O	0400	TRT0CA	1802
TREADQ	0901		
TRMR0A	1500		
TRTD0A	1500		
TRWC1O	1700		
TSTR9Ø	1001		
TTMERP	1802		
TWRD1A	0800		
TWR13A	1202		
TXCP1B	0100		
TXCQ1B	0100		
TXCQ3B	0100		
TXEA0O	0800		
TXEB1Q	0902		
TXGN1A	0100		
TXRS0B	0700		
TXRS1B	0700		
TXXD1A	0500		



NOTES UNLESS OTHERWISE SPECIFIED

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4 REFER TO TABLE 5-2 FOR KEY SIGNAL LOOKUP LISTING

5 REFER TO POWER DISTRIBUTION FOR DC POWER AND GROUND CIRCUITS

6 CIRCUIT SYMBOLS INCLUDE CARD LOCATION AND CIRCUIT PIN NUMBERS

7 TO DETERMINE CIRCUIT CARD PIN, TEST POINT PERFORM THE FOLLOWING

A FROM CIRCUIT SYMBOL NOTE CARD LOCATION AND CIRCUIT CARD PIN NUMBER

B REFER TO APPROPRIATE TABLE IN TM 9 1430 655 20 5 FOR CARD PART NUMBER

C REFER TO APPROPRIATE TABLE IN TM 9 1430 655 20 5 FOR CARD PIN/TEST POINT FOR MTS TESTABLE CARDS

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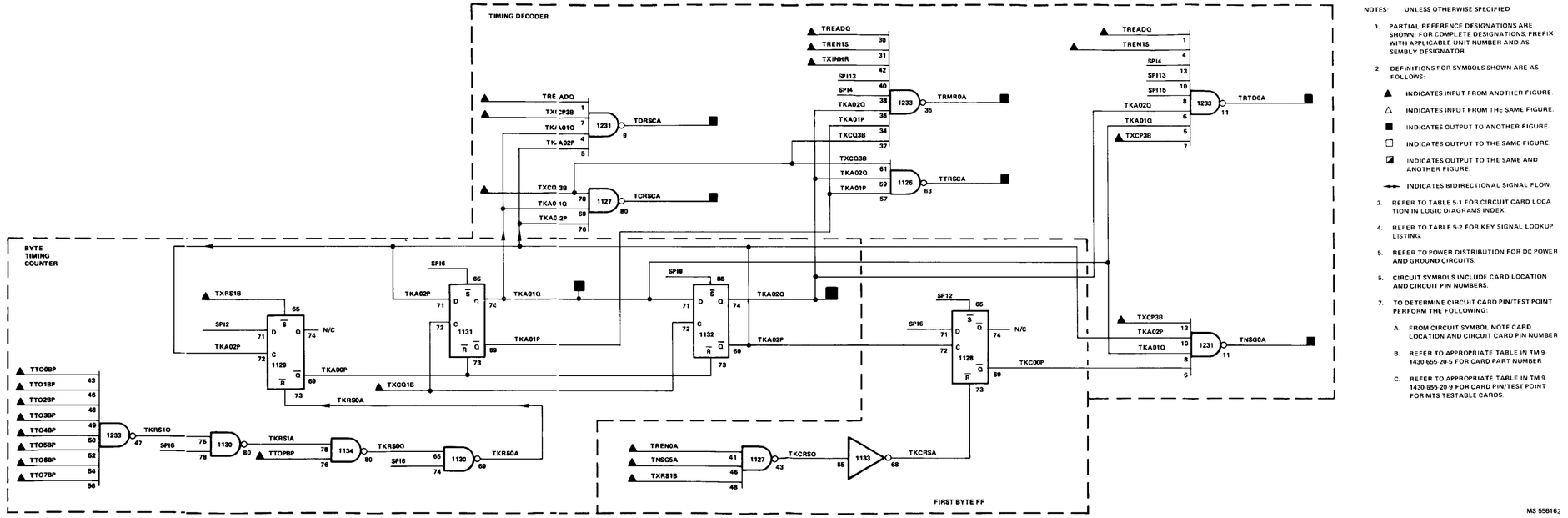
FO-14. Read Control Logic Diagram

INPUT		OUTPUT	
SIGNAL	SOURCE FO-SH	SIGNAL	DESTINATION FO-SH
TNSG5A	1600	TCRSCA	0200
TREADQ	0901	TDRSCA	0400
TREN0A	1400	TKA01Q	1801
TREN1S	1400	TKA02Q	1801
TTO0BP	1300	TNSG0A	1600
TTO1BP	1300	TRMR0A	1400
TTO2BP	1300	TRTD0A	0400, 1400
TTO3BP	1300	TTRSCA	1300
TTO4BP	1300		
TTO5BP	1300		
TTO6BP	1300		
TTO7BP	1300		
TTOPBP	1300		
TXCP3B	0100		
TXCQ1B	0100		
TXCQ3B	0100		
TXINHR	0800		
TXRS1B	0700		



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5. REFER TO POWER DISTRIBUTION FOR DC POWER AND GROUND CIRCUITS.
6. CIRCUIT SYMBOLS INCLUDE CARD LOCATION AND CIRCUIT PIN NUMBERS.
7. TO DETERMINE CIRCUIT CARD PIN/TEST POINT PERFORM THE FOLLOWING:
   - A. FROM CIRCUIT SYMBOL NOTE CARD LOCATION AND CIRCUIT CARD PIN NUMBER
   - B. REFER TO APPROPRIATE TABLE IN TM 9-1430-655-20-5 FOR CARD PART NUMBER
   - C. REFER TO APPROPRIATE TABLE IN TM 9-1430-655-20-9 FOR CARD PIN/TEST POINT FOR MTS TESTABLE CARDS.

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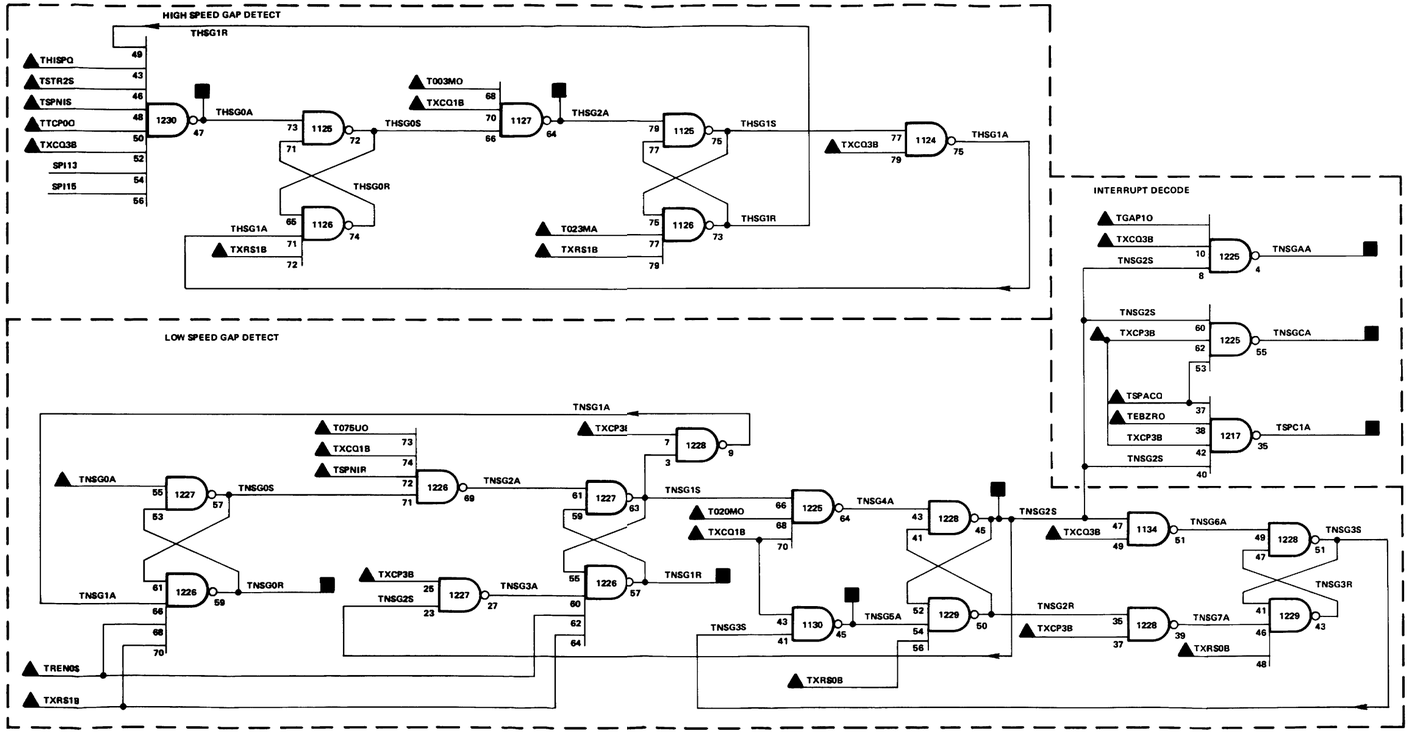
FO-15. Read Byte Timing Logic Diagram.

INPUT		OUTPUT	
SIGNAL	SOURCE FO-SH	SIGNAL	DESTINATION FO-SH
T003MO	0200	THSG0A	0200
T020MO	0200	THSG2A	0600
T023MA	0200	TNSG0R	1802
T075UO	0200	TNSG1R	1400
TEBZRO	1700	TNSG2S	1801
TGAP10	0901	TNSG5A	1400, 1500
THISPQ	0901	TNSGAA	1001
TNSG0A	1500	TNSGCA	1700
TRENOS	1400	TSPC1A	1001
TSPACQ	0901		
TSPN1R	1002		
TSPN1S	1002		
TSTR2S	1001		
TTCP0O	1300		
TXCP3B	0100		
TXCQ1B	0100		
TXCQ3B	0100		
TXRS0B	0700		
TXRS1B	0700		



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   - ◪ INDICATES OUTPUT TO THE SAME AND ANOTHER FIGURE.
   - ◄► INDICATES BIDIRECTIONAL SIGNAL FLOW.
3. REFER TO TABLE 5-1 FOR CIRCUIT CARD LOCATION IN LOGIC DIAGRAMS INDEX.
4. REFER TO TABLE 5-2 FOR KEY SIGNAL LOOKUP LISTING.
5. REFER TO POWER DISTRIBUTION FOR DC POWER AND GROUND CIRCUITS.
6. CIRCUIT SYMBOLS INCLUDE CARD LOCATION AND CIRCUIT PIN NUMBERS.
7. TO DETERMINE CIRCUIT CARD PIN/TEST POINT PERFORM THE FOLLOWING:
   - A. FROM CIRCUIT SYMBOL NOTE CARD LOCATION AND CIRCUIT CARD PIN NUMBER
   - B. REFER TO APPROPRIATE TABLE IN TM 9-1430-655-20-5 FOR CARD PART NUMBER
   - C. REFER TO APPROPRIATE TABLE IN TM 9-1430-655-20-9 FOR CARD PIN/TEST POINT FOR MTS TESTABLE CARDS.

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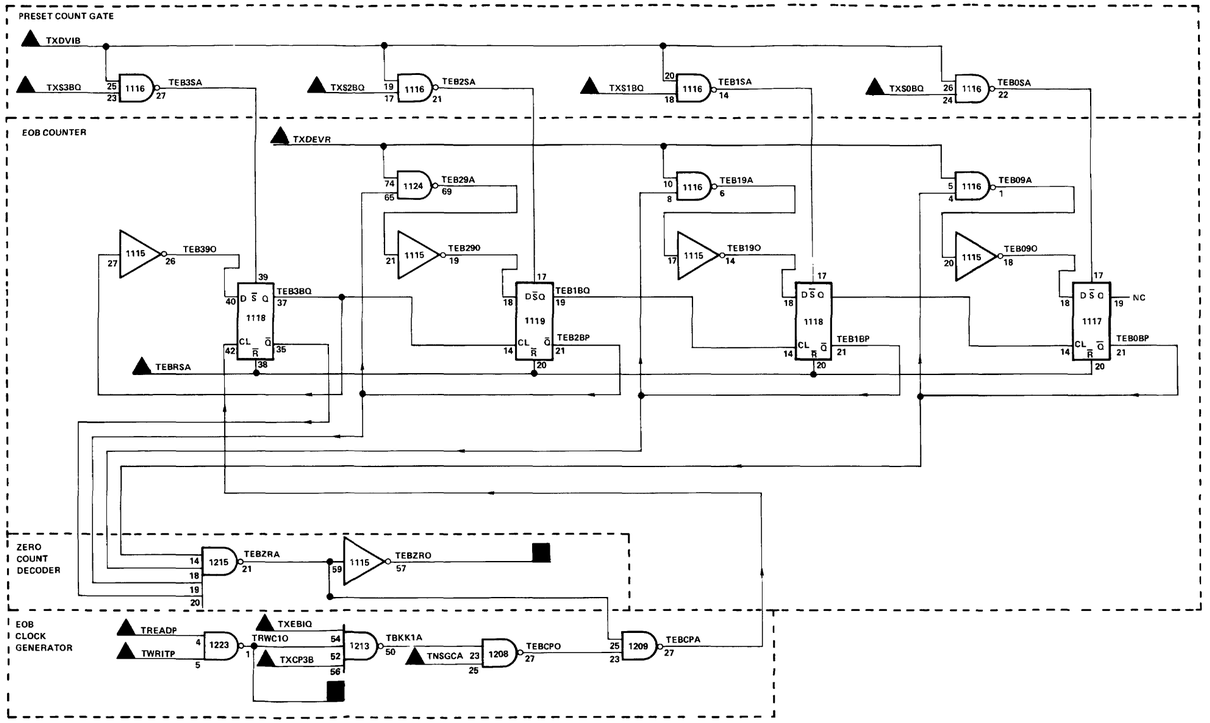
FO-16. Record Gap Detect Logic Diagram.

I/O TABLES FOR FO-17

INPUT	
SIGNAL	SOURCE FO-SH
TEBRSA	0901
TNSGCA	1600
TREADP	0901
TWRITP	0901
TXCP3B	0100
TXDEVR	0901
TXDV1B	0901
TXEB1Q	0902
TXSØBQ	0302
TXS1BQ	0302
TXS2BQ	0302
TXS3BQ	0302

OUTPUT	
SIGNAL	DESTINATION FO-SH
TEBZRO	1201, 1400, 1600
TRWC1O	1400, 1801



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   - △ INDICATES INPUT FROM THE SAME FIGURE
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   - □ INDICATES OUTPUT TO THE SAME FIGURE.
   - ◪ INDICATES OUTPUT TO THE SAME AND ANOTHER FIGURE.
   - ⟷ INDICATES BIDIRECTIONAL SIGNAL FLOW
3. REFER TO TABLE 5-1 FOR CIRCUIT CARD LOCATION IN LOGIC DIAGRAMS INDEX.
4. REFER TO TABLE 5-2 FOR KEY SIGNAL LOOKUP LISTING.
5. REFER TO POWER DISTRIBUTION FOR DC POWER AND GROUND CIRCUITS.
6. CIRCUIT SYMBOLS INCLUDE CARD LOCATION AND CIRCUIT PIN NUMBERS.
7. TO DETERMINE CIRCUIT CARD PIN/TEST POINT PERFORM THE FOLLOWING:
   - A. FROM CIRCUIT SYMBOL NOTE CARD LOCATION AND CIRCUIT CARD PIN NUMBER
   - B. REFER TO APPROPRIATE TABLE IN TM 9-1430-655-20-5 FOR CARD PART NUMBER
   - C. REFER TO APPROPRIATE TABLE IN TM 9-1430-655-20-9 FOR CARD PIN/TEST POINT FOR MTS TESTABLE CARDS.

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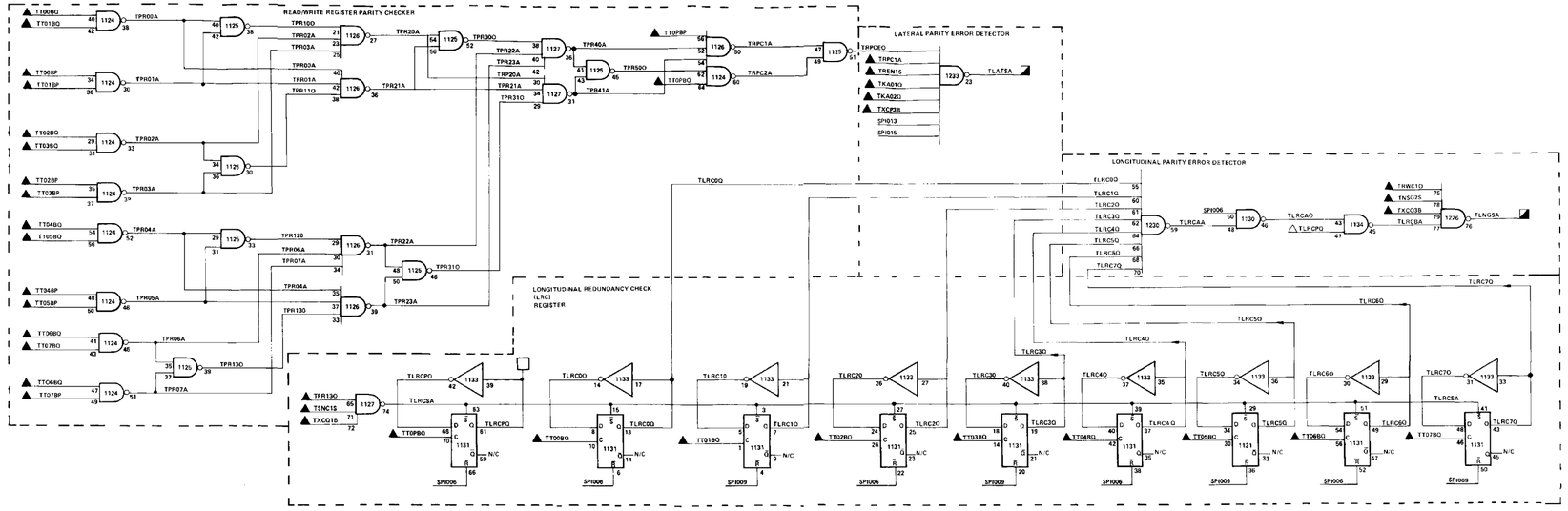
FO-17. End of Block Counter Logic Diagram.

INPUT SIGNAL	INPUT SOURCE FO-SH	INPUT SIGNAL	INPUT SOURCE FO-SH	OUTPUT SIGNAL	OUTPUT DESTINATION FO-SH
T018SO	0200	TT05BQ	1300	TCDERQ	0500
T150MO	0200	TT06BP	1300	TFPERQ	0500
TC60BP	0200	TT06BQ	1300	TLATEQ	0500
TDCP10	0400	TT07BP	1300	TLATSA	1201
TERR1B	2501	TT07BQ	1300	TLNGEQ	0500
TERSPP	0901	TT0PBP	1300	TLNGSA	1201
TERSTO4	2501	TT0PBQ	1300	TNDATQ	0500
TERSTA4	2501	TWRI0S	1201	TNDTSA	1001
TFPE1A	1202	TWRITQ	0901	TPD60A	0800, 0901
TKA01Q	1500	TWT0CA	1201	TPD61A	0800, 0901
TKA02Q	1500	TXCP3B	0100	TPS60A	0600
TLMPTA1	2501	TXCQ1B	0100	TTMERP	1201, 1400
TNSG0R	1600	TXCQ3B	0100	TTMERQ	0500
TNSG2S	1600	TXENAS	0800	TTPERO	0500
TONLNS	2000	TXODRA	0901	TWENSD	2501
TREN1S	1400	TXRS0B	0700	TXDPEA	1201
TREWDP	0901	TXS0BP	0302		
TRT0CA	1400	TXS0BQ	0302		
TRWC1O	1700	TXS1BP	0302		
TSNC1S	1001	TXS1BQ	0302		
TSNC2A	1001	TXS2BP	0302		
TSPNSP	0901	TXS2BQ	0302		
TSPNSQ	0901	TXS3BP	0302		
TSTR2S	1001	TXS3BQ	0302		
TT00BP	1300	TXS4BP	0302		
TT00BQ	1300	TXS4BQ	0302		
TTP1BP	1300	TXS5BP	0302		
TT01BQ	1300	TXS5BQ	0302		
TT02BP	1300	TXS6BP	0302		
TT02BQ	1300	TXS6BQ	0302		
TT03BP	1300	TXS7BP	0302		
TT03BQ	1300	TXS7BQ	0302		
TT04BP	1300	TXSPBP	0301		
TT04BQ	1300	TXSPBQ	0301		
TT05BP	1300	TXXA0P	0700		
		TXXA1Q	0700		
		TXXCIP	0600		



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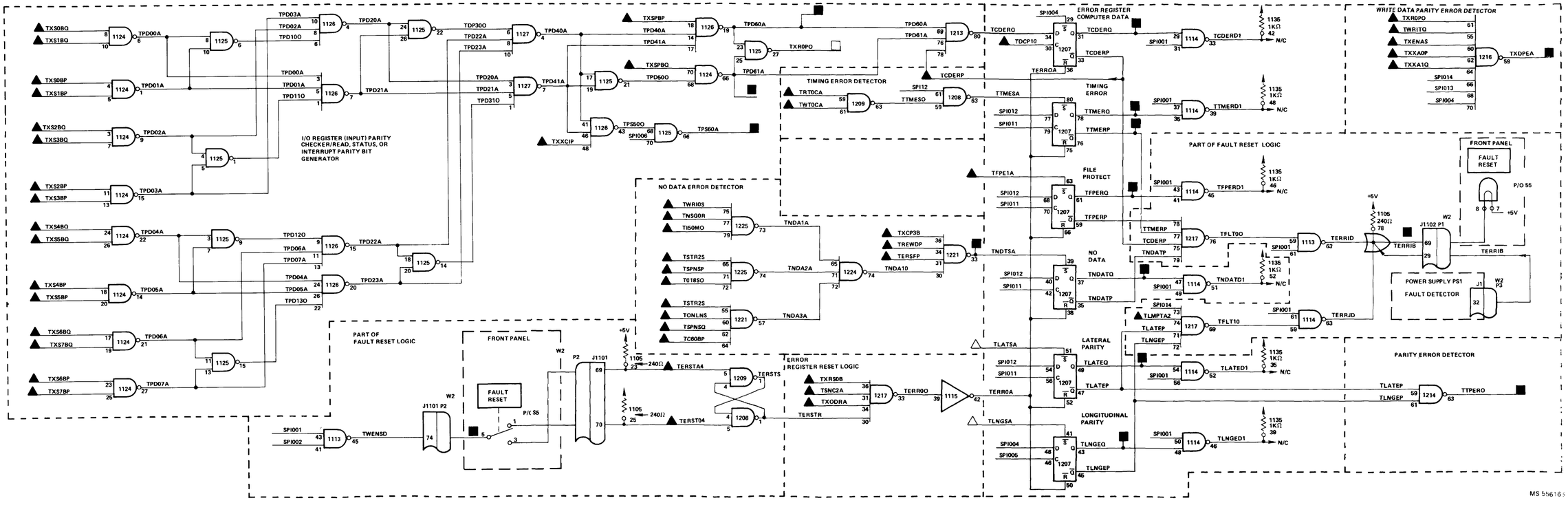
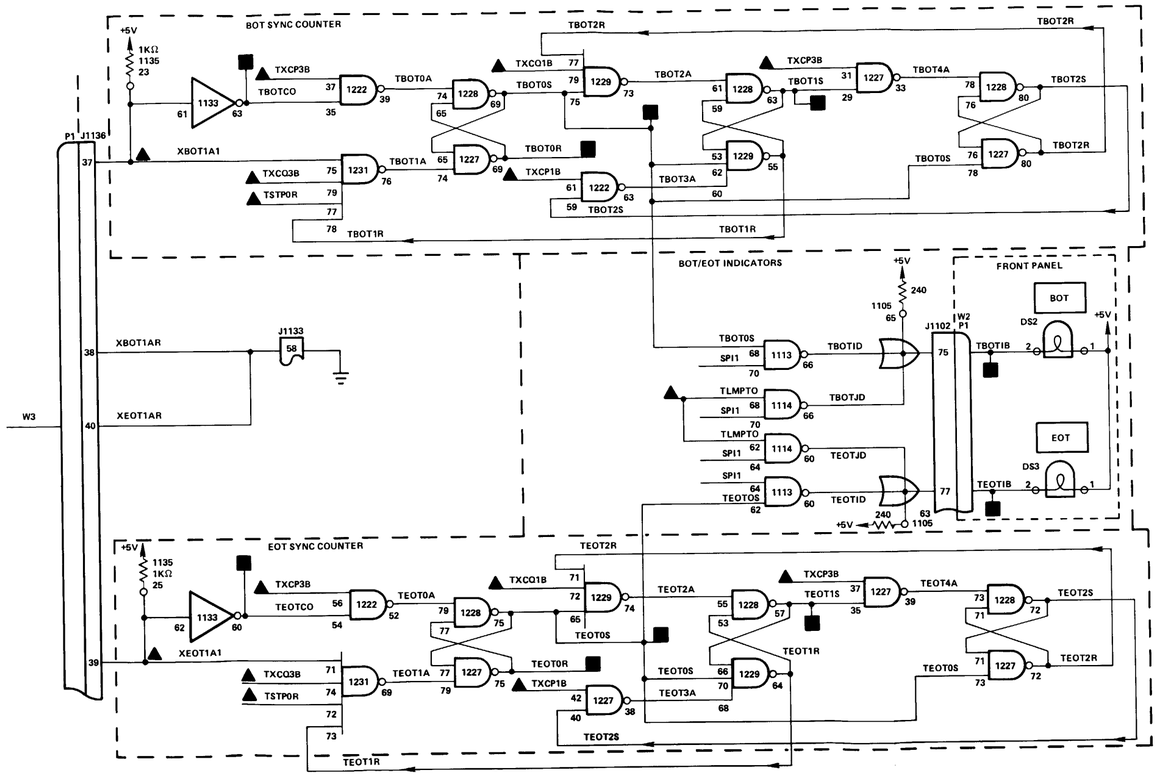
   - □ INDICATES OUTPUT TO THE SAME FIGURE
   - ◪ INDICATES OUTPUT TO THE SAME AND ANOTHER FIGURE
   - ◄► INDICATES BIDIRECTIONAL SIGNAL FLOW
3. REFER TO TABLE 5.1.1 FOR CIRCUIT CARD LOCATION IN LOGIC DIAGRAMS INDEX.
4. REFER TO TABLE 5.2.2 FOR KEY SIGNAL LOOKUP LISTING.
5. REFER TO POWER DISTRIBUTION FOR DC POWER AND GROUND CIRCUITS.
6. CIRCUIT SYMBOLS INCLUDE CARD LOCATION AND CIRCUIT PIN NUMBERS.
7. TO DETERMINE CIRCUIT CARD PIN/TEST POINT PERFORM THE FOLLOWING:
   - A. FROM CIRCUIT SYMBOL NOTE CARD LOCATION AND CIRCUIT CARD PIN NUMBER.
   - B. REFER TO APPROPRIATE TABLE IN TM 9 1430 655 20 5 FOR CARD PART NUMBER.
   - C. REFER TO APPROPRIATE TABLE IN TM 9 1430 655 20 9 FOR CARD PIN/TEST POINT FOR MTS TESTABLE CARDS.

FO-18. Error Detect Logic Diagram (Sheet 1 of 2).



FO-18. Error Detect Logic Diagram (Sheet 2 of 2).

INPUT		OUTPUT	
SIGNAL	SOURCE FO-SH	SIGNAL	DESTINATION FO-SH
TLMPTO	2000	TBOT0R	1001, 1400
TSTP0R	1001	TBOT0S	0500, 1001
TXCP3B	0100	TBOT1S	1001
TXCQ1B	0100	TBOTCO	1002
TXCQ3B	0100	TBOTIB	2501
XBOT1AR	2102	TEOT0S	0500, 1001
XEOT1AR	2102	TEOTCO	1002
		TEOTIB	2501



FO-19. BOT/EOT Detect Logic Diagram.

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2. DEFINITIONS FOR SYMBOLS SHOWN ARE AS FOLLOWS:
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   - □ INDICATES OUTPUT TO THE SAME FIGURE.
   - ◪ INDICATES OUTPUT TO THE SAME AND ANOTHER FIGURE.
   - ◂▸ INDICATES BIDIRECTIONAL SIGNAL FLOW.
3. REFER TO TABLE 5-1 FOR CIRCUIT CARD LOCATION IN LOGIC DIAGRAMS INDEX.
4. REFER TO TABLE 5-2 FOR KEY SIGNAL LOOKUP LISTING.
5. REFER TO POWER DISTRIBUTION FOR DC POWER AND GROUND CIRCUITS.
6. CIRCUIT SYMBOLS INCLUDE CARD LOCATION AND CIRCUIT PIN NUMBERS.
7. TO DETERMINE CIRCUIT CARD PIN/TEST POINT PERFORM THE FOLLOWING:
   - A. FROM CIRCUIT SYMBOL NOTE CARD LOCATION AND CIRCUIT CARD PIN NUMBER
   - B. REFER TO APPROPRIATE TABLE IN TM 9-1430-655-20-5 FOR CARD PART NUMBER
   - C. REFER TO APPROPRIATE TABLE IN TM 9-1430-655-20-9 FOR CARD PIN/TEST POINT FOR MTS TESTABLE CARDS.

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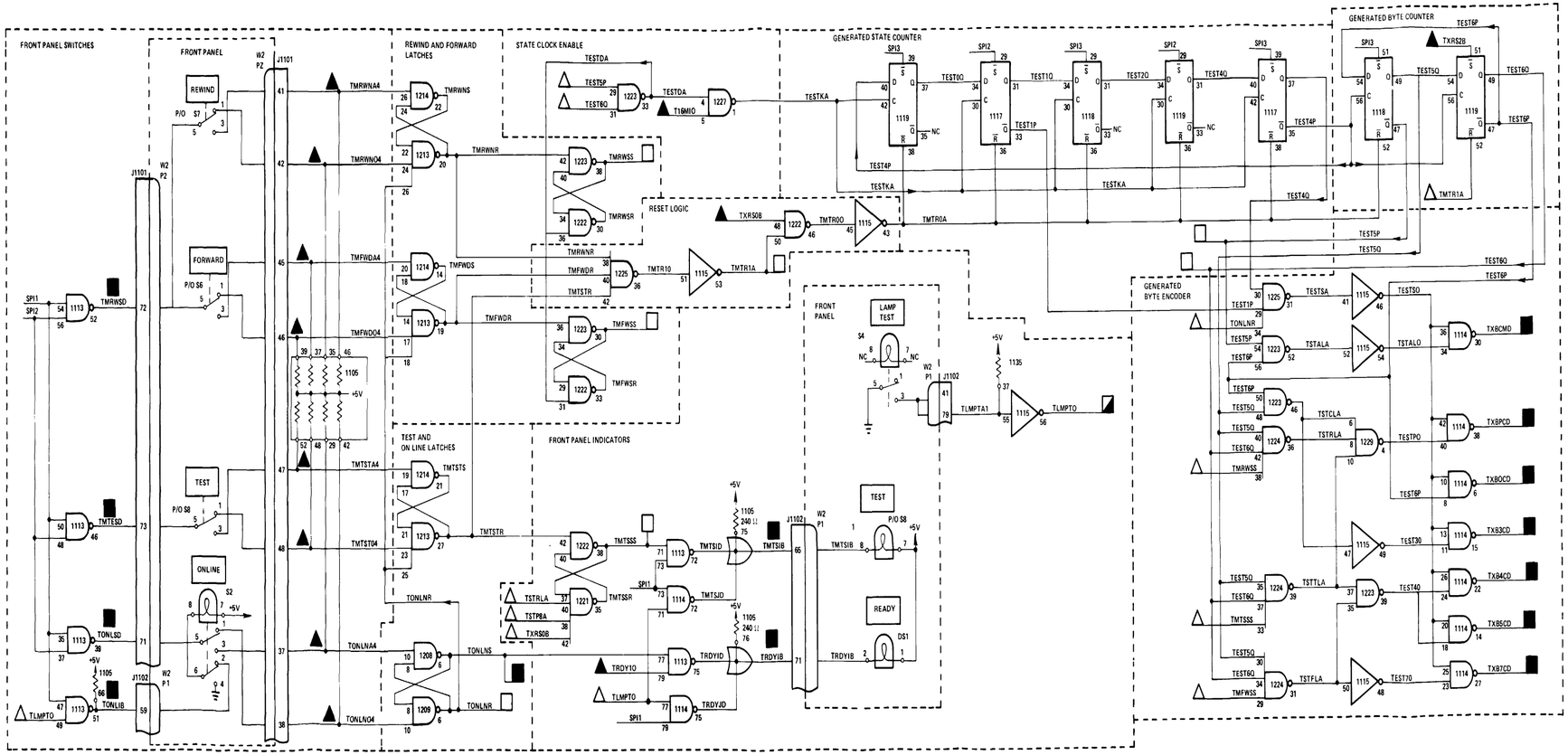
INPUT		OUTPUT	
SIGNAL	SOURCE FO-SH	SIGNAL	DESTINATION FO-SH
T16MIO	0100	TLMPTO	1002, 1202, 1900
TMFWDA4	2502	TMRWSD	2501
TMFWDO4	2501	TMTESD	0800, 2501
TMRWNA4	2501	TMTSIB	2501
TMRWNO4	2501	TONLIB	2501
TMTSTA4	2501	TONLNS	0301, 0500, 0800, 1202, 1201, 1400, 1802
TMTSTO4	2501		
TONLNA4	2501	TRDYIB	2501
TONLNO4	2501	TXB0CD	0302
TRDY1O	1001	TXB3CD	0302
TSTPBA	1001	TXB4CD	0302
TXRS0B	0700	TXB5CD	0302
		TXB7CD	0302
		TXBCMD	0301
		TXBPCD	0301



FO-20. Test Command Generator Logic Diagram

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   - ■ INDICATES OUTPUT TO ANOTHER FIGURE
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   - ◪ INDICATES OUTPUT TO THE SAME AND ANOTHER FIGURE.
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3. REFER TO TABLE 5.1 FOR CIRCUIT CARD LOCATION IN LOGIC DIAGRAMS INDEX.
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5. REFER TO POWER DISTRIBUTION FOR DC POWER AND GROUND CIRCUITS.
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   - C. REFER TO APPROPRIATE TABLE IN TM 9-1430-655-20-9 FOR CARD PIN/TEST POINT FOR MTS TESTABLE CARDS.

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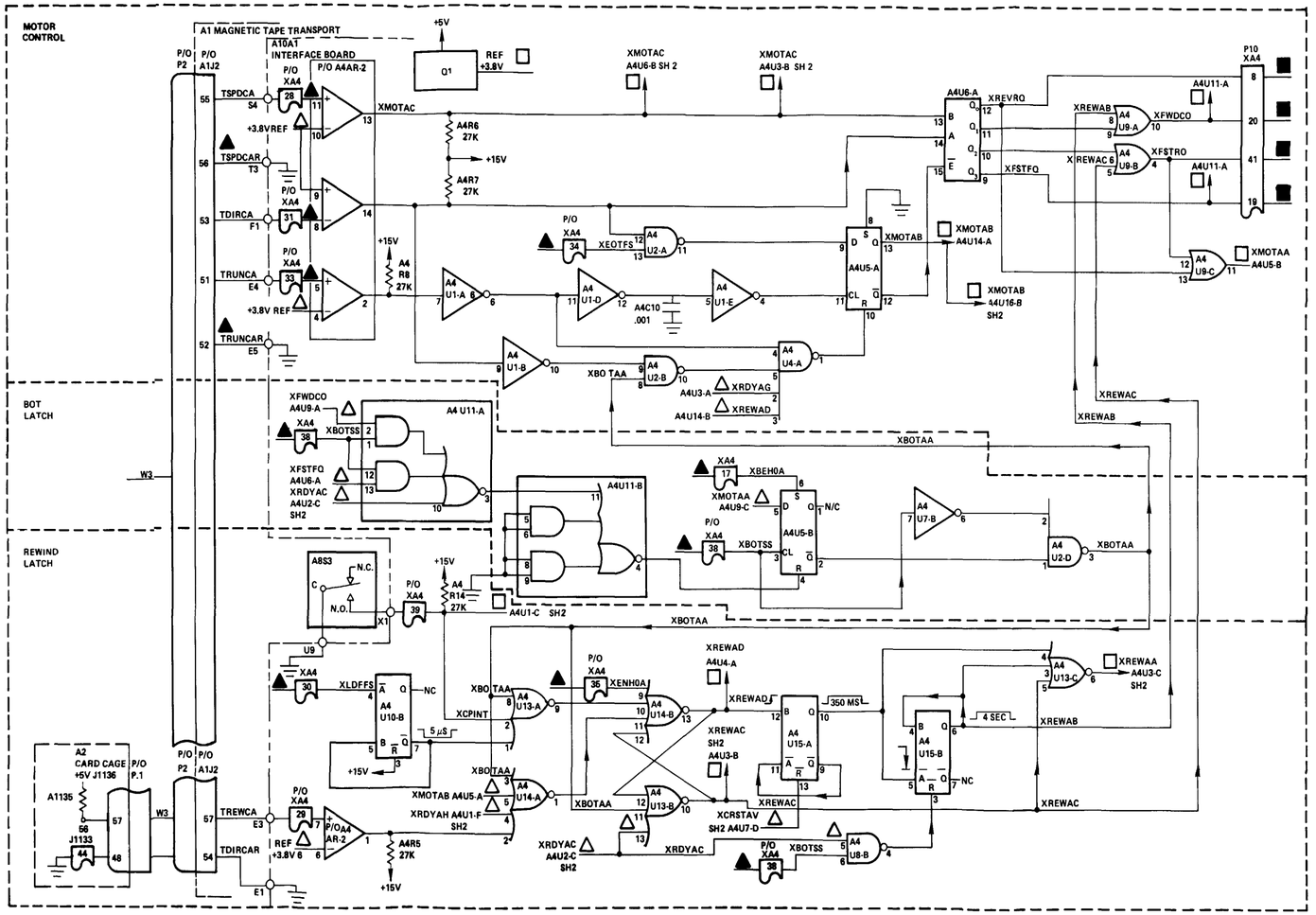
INPUT		OUTPUT	
SIGNAL	SOURCE FO-SH	SIGNAL	DESTINATION FO-SH
TDIRCA	1002	XBOT1AR	1900
TRDBEA	1400	XCRSTAV	2400
TRUNCA	1002	XEOT1AR	1900
TRUNCAR	1002	XFPRSA	1201
TSPDCA	1002	XFPRSAR	1201
TSPDCAR	1002	XFSTFQ	2400
TWDBEB	1202	XFSTRO	2400
TWLRCA	1201	XFWDCO	2400
TWLRCAR	1201	XRDCLAV	2300
XBEH0A	2400	XRDY1A	1001
XBOTSS	2400	XRDY1AR	1001
XENH0A	2400	XREVRQ	2400
XEOTFS	2400	XRRSTAV	2300
XLDFFS	2400	XRSTBOV	2300
XRNODE	2300	XSGATA	2300
		XWRERC	2200
		XWRITE	2200
		XWRSTA	2200



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   - C. REFER TO APPROPRIATE TABLE IN TM 9-1430-655-20-9 FOR CARD PIN/TEST POINT FOR MTS TESTABLE CARDS.

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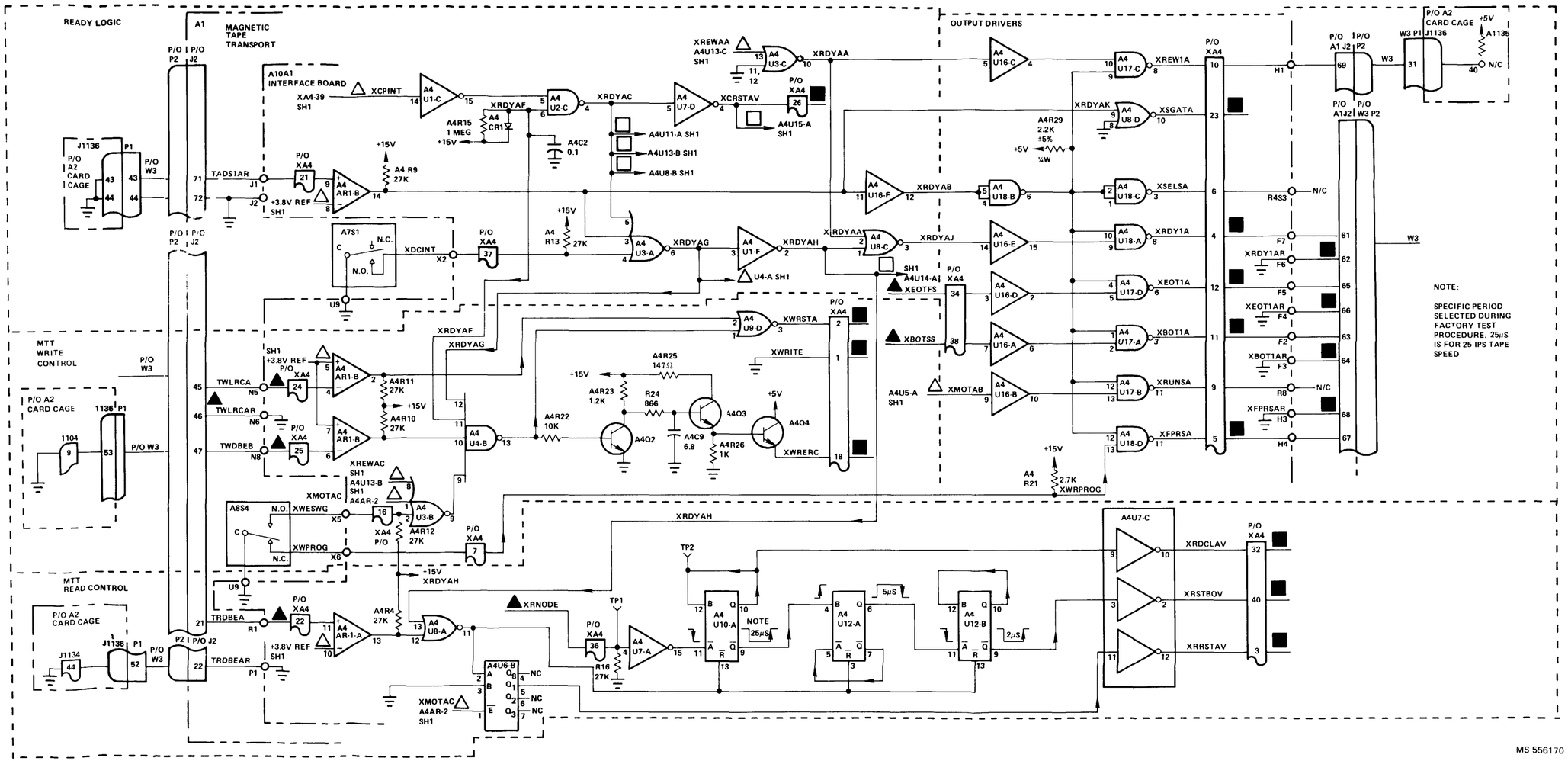
FO-21. MTT Control Logic Diagram (Sheet 1 of 2)



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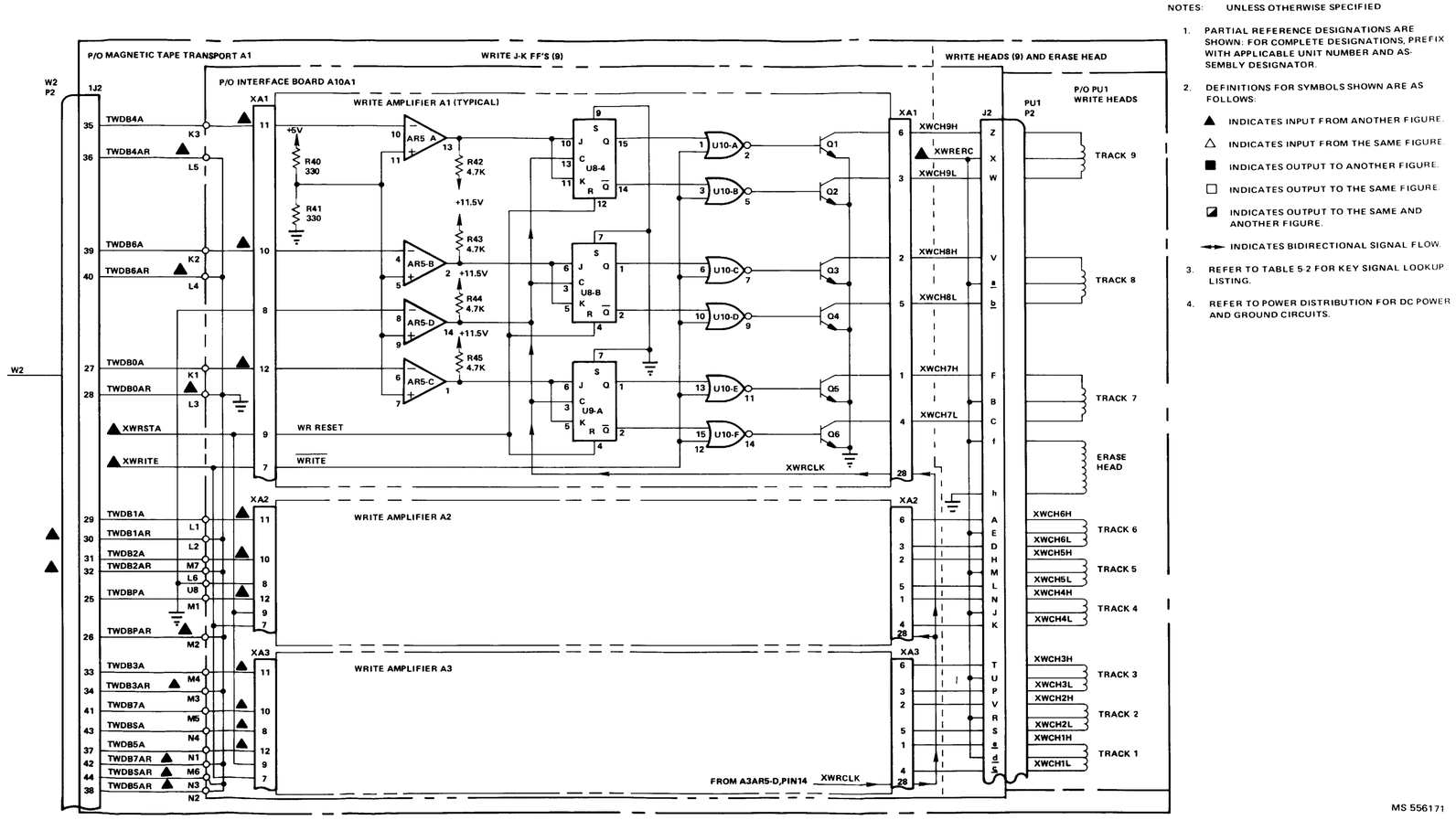
FO-21. MTT Control Logic Diagram (Sheet 2 of 2)

INPUT		OUTPUT	
SIGNAL	SOURCE FO-SH	SIGNAL	DESTINATION FO-SH
TWDB0A	1202	NONE	
TWDB0AR	1202		
TWDB1A	1202		
TWDB1AR	1202		
TWDB2A	1202		
TWDB2AR	1202		
TWDB3A	1202		
TWDB3AR	1202		
TWDB4A	1202		
TWDB4AR	1202		
TWDB5A	1202		
TWDB5AR	1202		
TWDB6A	1202		
TWDB6AR	1202		
TWDB7A	1202		
TWDB7AR	1202		
TWDBPA	1202		
TWDBPAR	1202		
TWDBSA	1202		
TWDBSAR	1202		
XWRERC	2102		
XWRITE	2102		
XWRSTA	2102		



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   - ◄► INDICATES BIDIRECTIONAL SIGNAL FLOW.
3. REFER TO TABLE 5-2 FOR KEY SIGNAL LOOKUP LISTING.
4. REFER TO POWER DISTRIBUTION FOR DC POWER AND GROUND CIRCUITS.

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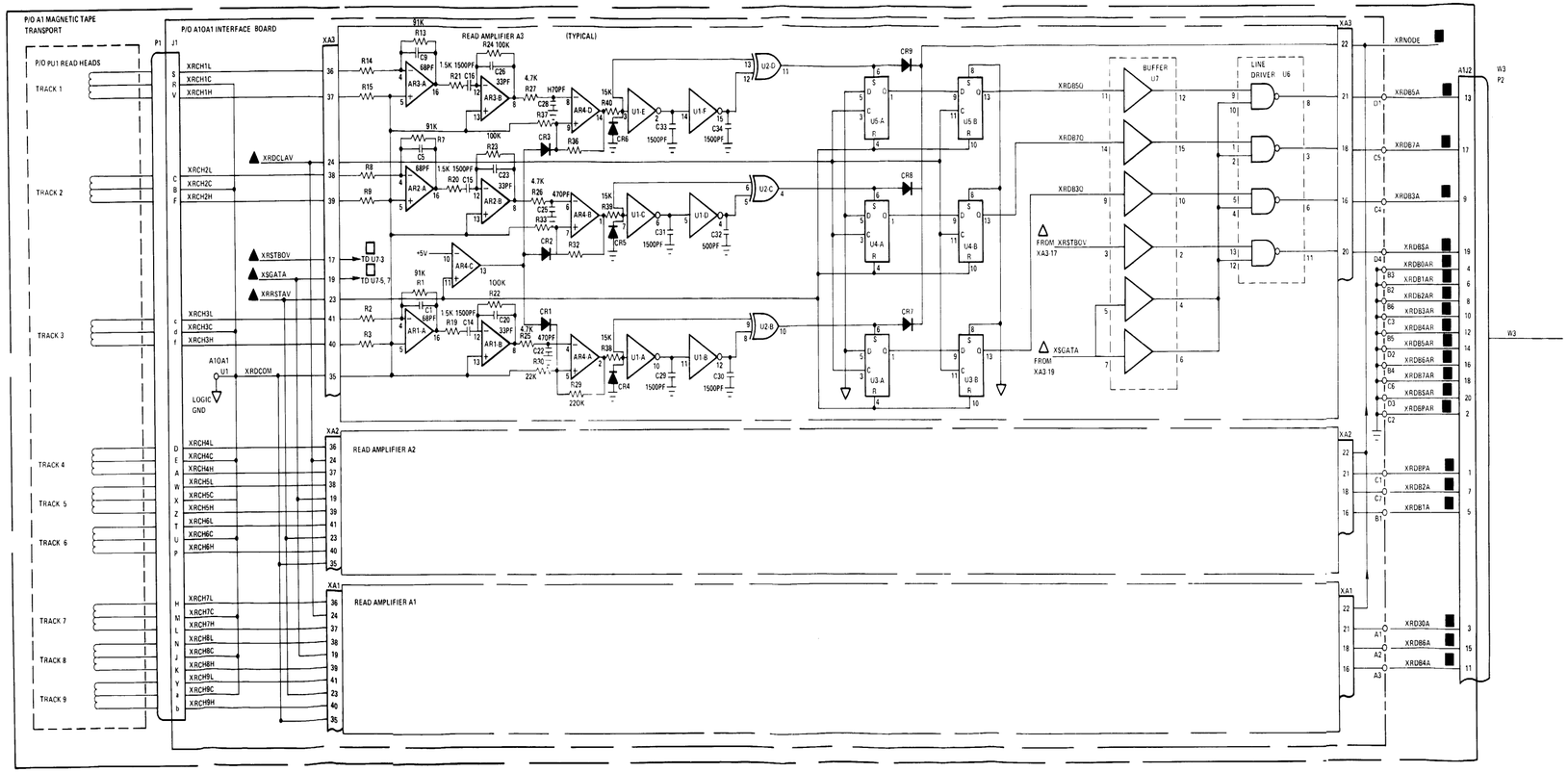
FO-22. MTT Write Function Logic Diagram

INPUT	
SIGNAL	SOURCE FO-SH
XRDCLAV	2I02
XRRSTAV	2I02
XRSTBOV	2I02
XSGATA	2I02

OUTPUT	
SIGNAL	DESTINATION FO-SH
XRDB0AR	1300
XRDB1AR	1300
XRDB2AR	1300
XRDB3AR	1300
XRDB4AR	1300
XRDB5AR	1300
XRDB6AR	1300
XRDB7AR	1300
XRDBPAR	1300
XRDBSAR	1300
XRNODE	2I02



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   - ◪ INDICATES OUTPUT TO THE SAME AND ANOTHER FIGURE
   - ◂▸ INDICATES BIDIRECTIONAL SIGNAL FLOW
3. REFER TO TABLE 5-2 FOR KEY SIGNAL LOOKUP LISTING.
4. REFER TO POWER DISTRIBUTION FOR DC POWER AND GROUND CIRCUITS.

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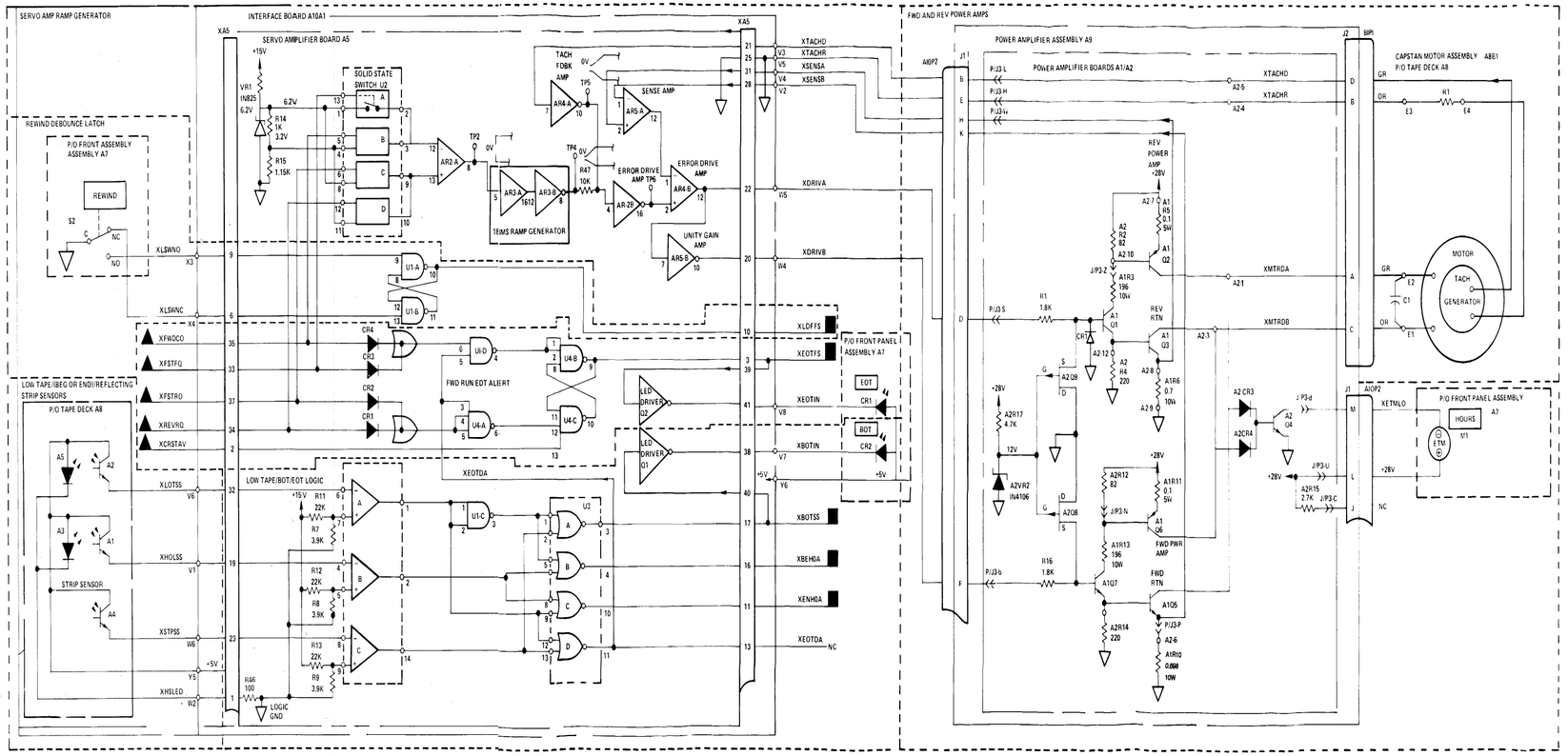
FO-23. MTT Read Function Logic Diagram

INPUT		OUTPUT	
SIGNAL	SOURCE FO-SH	SIGNAL	DESTINATION FO-SH
XCRSTAV	2102	XBEH0A	2101
XFSTFQ	2101	XBOTSS	2101, 2102
XFSTRO	2101	XENH0A	2101
XFWDCO	2101	XEOTFS	2102
XREVRQ	2101	XLDFFS	2101



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   - ◄► INDICATES BIDIRECTIONAL SIGNAL FLOW
3. REFER TO TABLE 5-2 FOR KEY SIGNAL LOOKUP LISTING.
4. REFER TO POWER DISTRIBUTION FOR DC POWER AND GROUND CIRCUITS.

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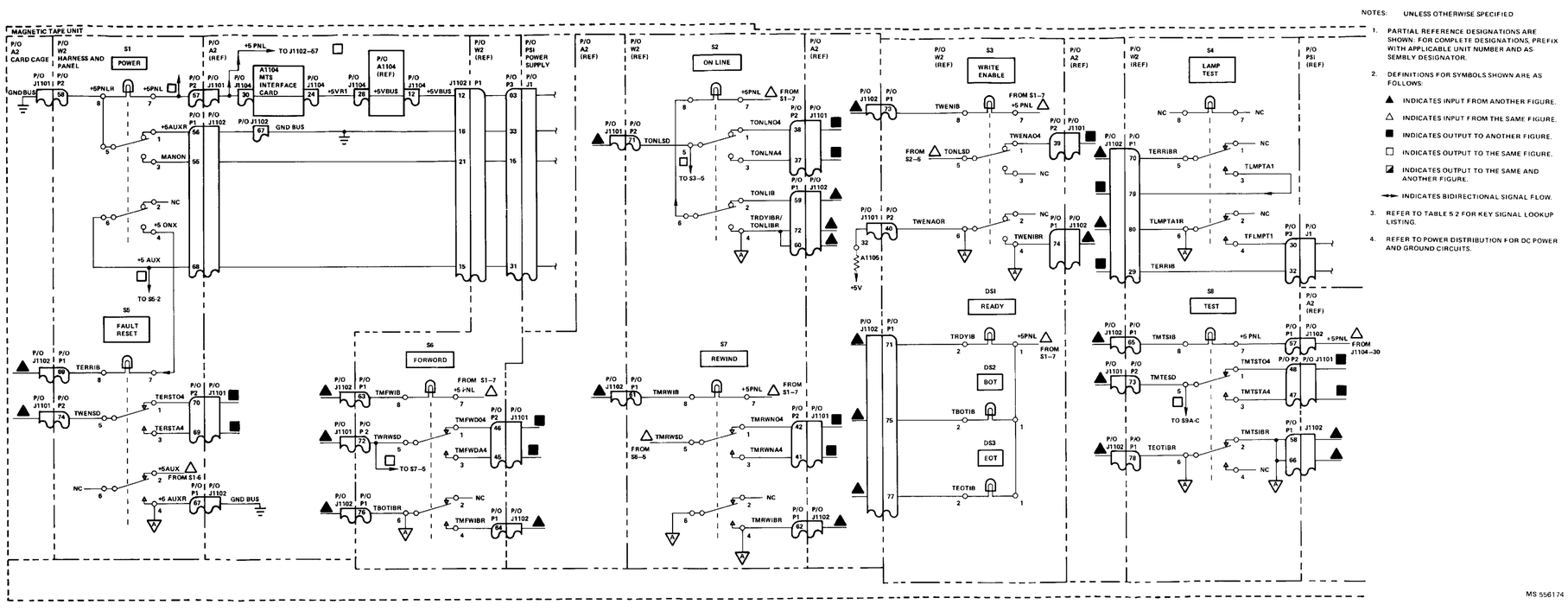
Change 1

FO-24. MTT Tape Drive Electronics Signal Flow Diagram

INPUT	
SIGNAL	SOURCE FO-SH
TERSTO4	2501
TBOTIB	1900
TBOTIBR	0301
TEOTIB	1900
TEOTIBR	0301
TERRIB	2501
TERRIBR	0302
TMFWIB	1002
TMFWIBR	0302
TMRWIB	1002
TMRWIBR	0301
TMRWSD	2000
TMTESD	2000
TMTSIB	2000
TMTSIBR	0301
TONLIB	2000
TONLIBR	0302
TONLSD	2000
TRDYIB	2000
TRDYIBR	0301
TWENIB	1202
TWENIBR	0301
TWENSD	1802
TXAING	0301
TXAINH	0301
TXARQG	0301
TXARQH	0301

OUTPUT	
SIGNAL	DESTINATION FO-SH
DEVIN1	0302
TERRIB	1802, 2502
TERSTA4	1802
TLMPTA1	1802
TMFWDA4	2000
TMFWD04	2000
TMRWNA4	2000
TMTSTA4	2000
TMTSTO4	2000
TONLNA4	2000
TONLNO4	2000
TWENA04	1202
TXACMG	0301
TXACMH	0301
TXAENG	0301
TXAENH	0301
TXAS0A4	0800
TXAS1A4	0800
TXAS2A4	0800
TXAS3A4	0800
TXAS4A4	0800
TXAS5A4	0800
TXAS6A4	0800
TXAS7A4	0800

INPUT/OUTPUT	
SIGNAL	FO-SH
TXA0CG	0302
TXA0CH	0302
TXA1CG	0302
TXA1CH	0302
TXA2CG	0302
TXA2CH	0302
TXA3CG	0302
TXA3CH	0302
TXA4CG	0302
TXA4CH	0302
TXA5CG	0302
TXA5CH	0302
TXA6CG	0302
TXA6CH	0302
TXA7CG	0302
TXA7CH	0302
TXAPCG	0301
TXAPCH	0301



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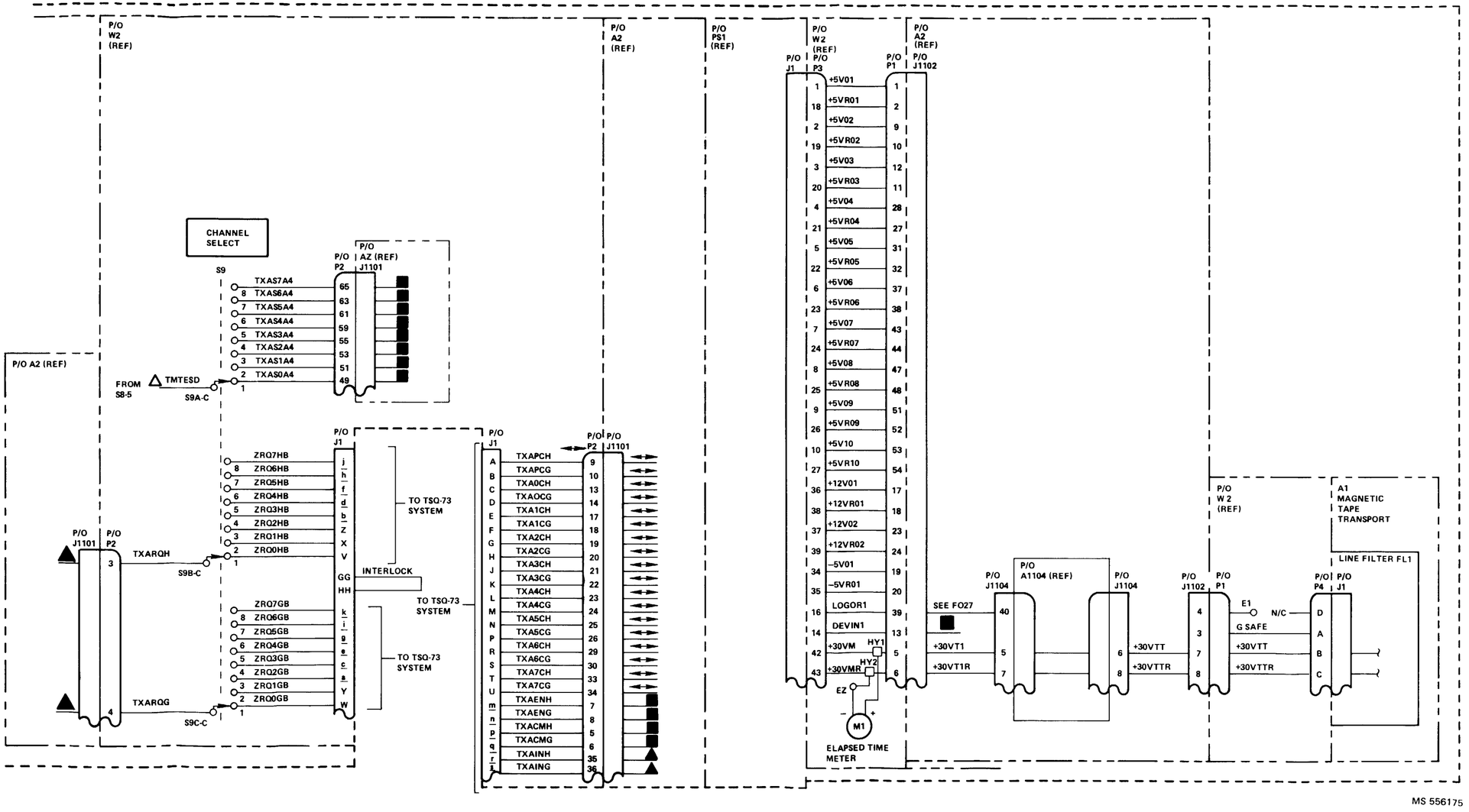
   - ⟷ INDICATES BIDIRECTIONAL SIGNAL FLOW.
3. REFER TO TABLE 5-2 FOR KEY SIGNAL LOOKUP LISTING.
4. REFER TO POWER DISTRIBUTION FOR DC POWER AND GROUND CIRCUITS.

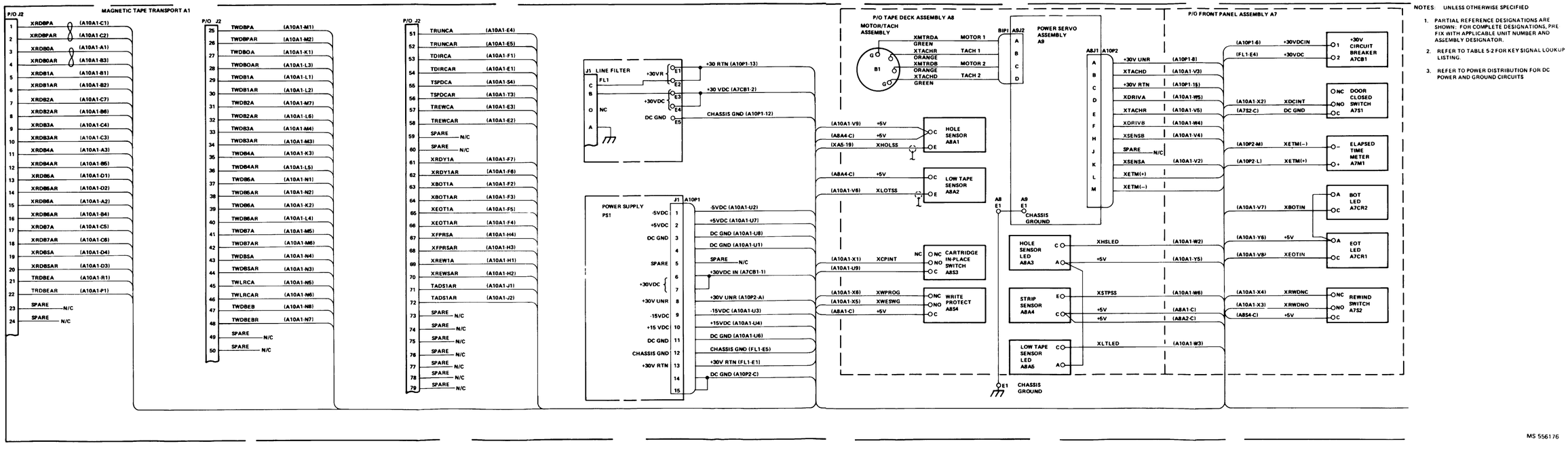
MS 556174

FO-25. W2 Harness and Front Panel Wiring Diagram (Sheet 1 of 2)



MS 556175

FO-25. W2 Harness and Front Panel Wiring Diagram (Sheet 2 of 2)

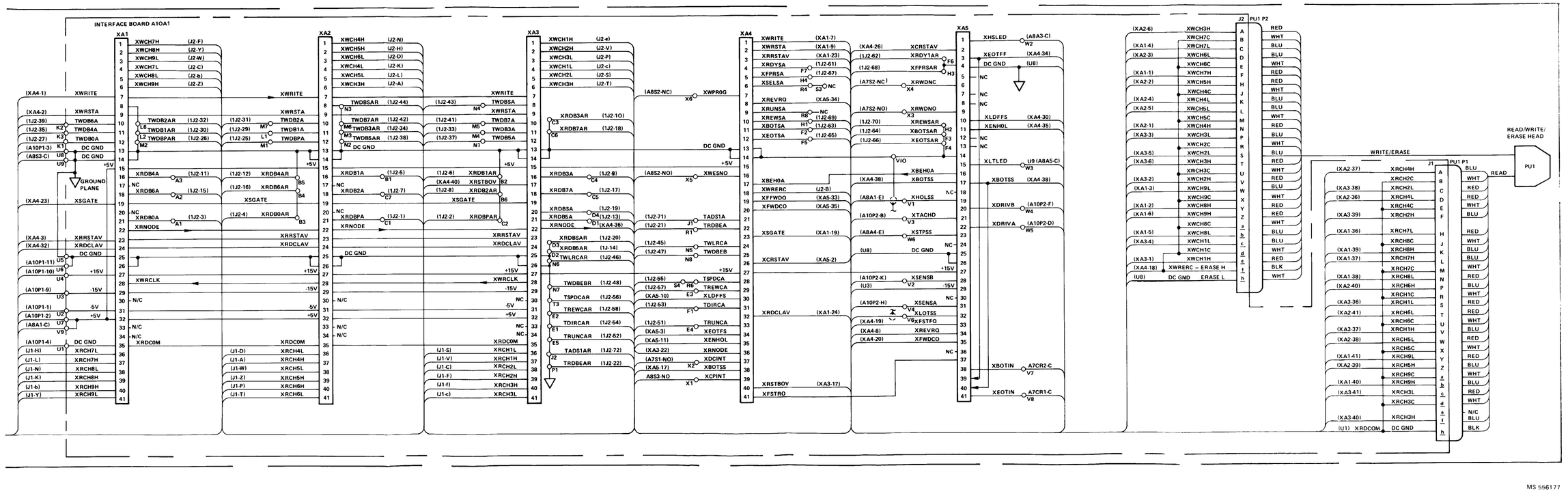


NOTES: UNLESS OTHERWISE SPECIFIED

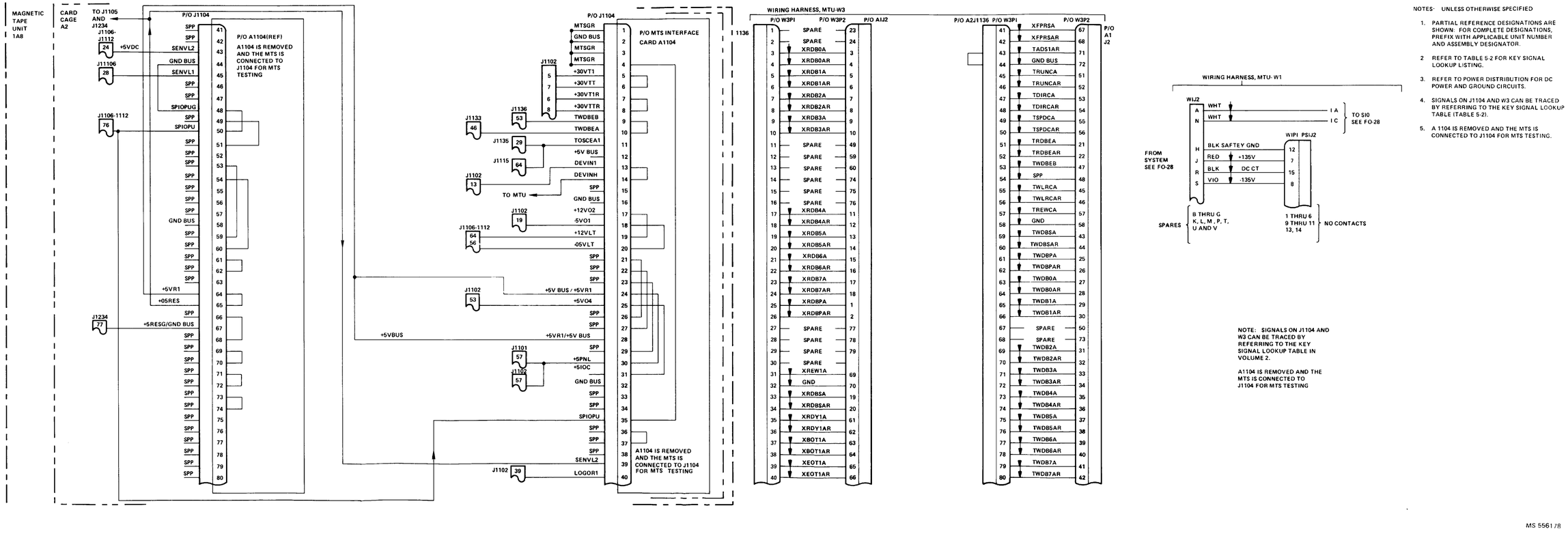
1. PARTIAL REFERENCE DESIGNATIONS ARE SHOWN. FOR COMPLETE DESIGNATIONS, PRE FIX WITH APPLICABLE UNIT NUMBER AND ASSEMBLY DESIGNATOR.
2. REFER TO TABLE 5-2 FOR KEY SIGNAL LOOKUP LISTING.
3. REFER TO POWER DISTRIBUTION FOR DC POWER AND GROUND CIRCUITS

MS 556176

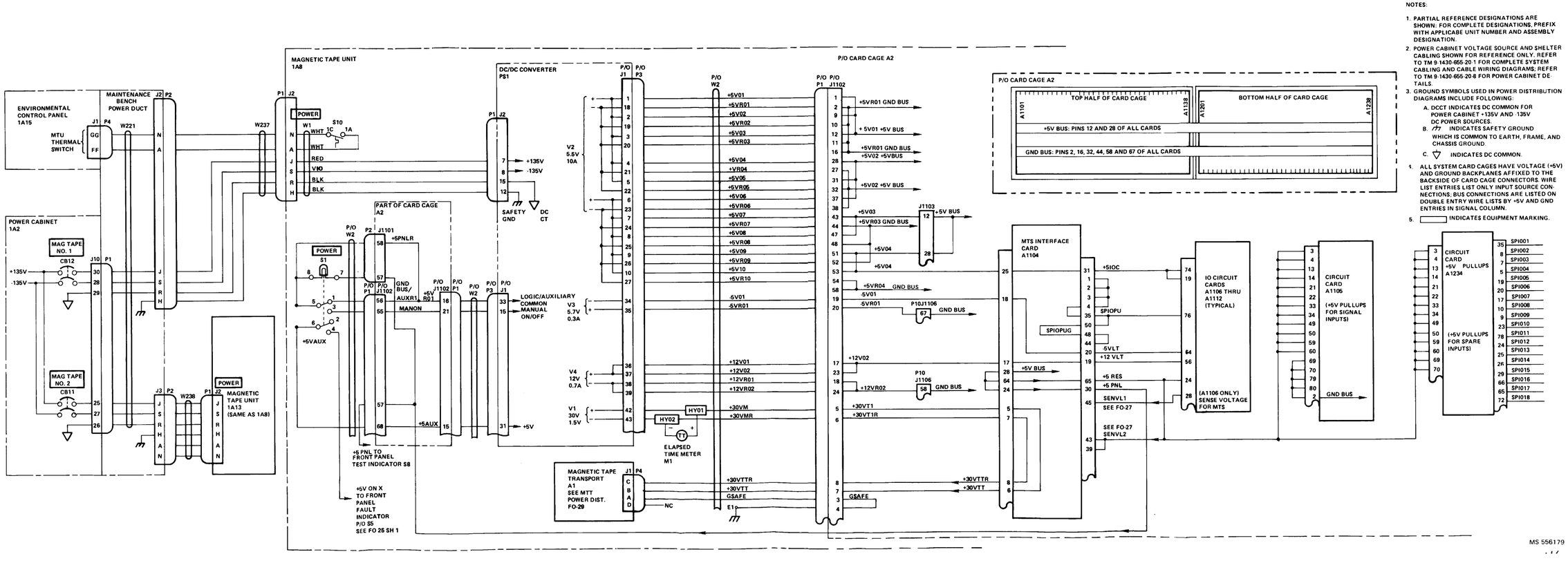
FO-26. MTT Wiring Diagram (Sheet 1 of 2)



FO-26. MTT Wiring Diagram (Sheet 2 of 2)



FO-27. W1, W3, and MTS Interface Wiring Diagram

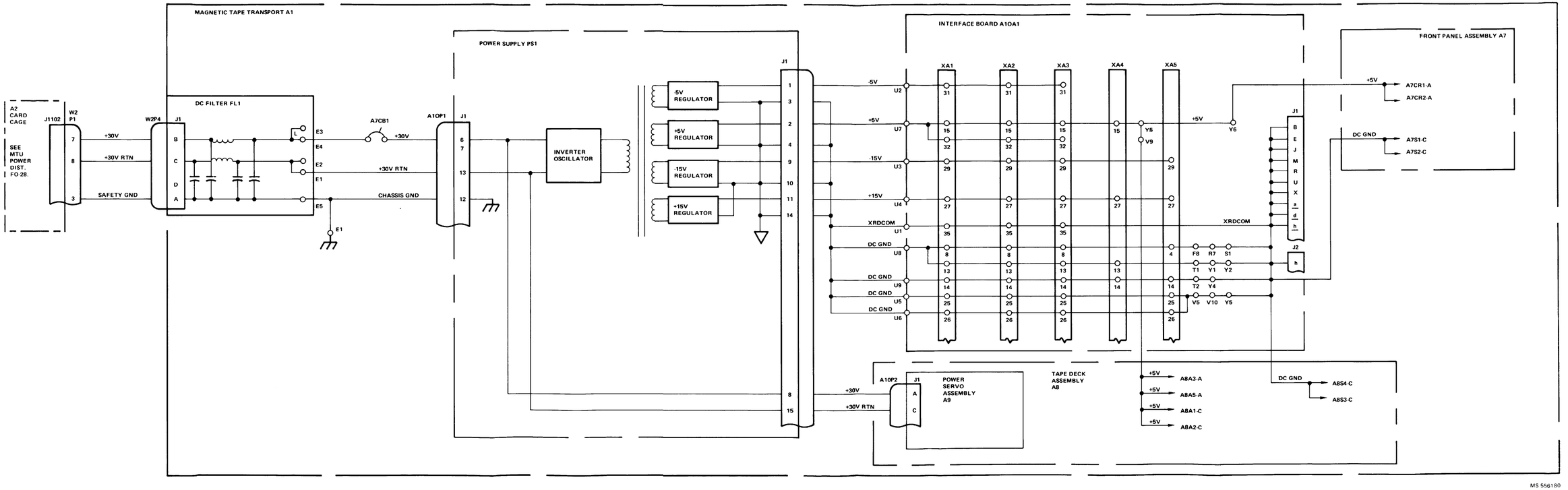


NOTES:

1. PARTIAL REFERENCE DESIGNATIONS ARE SHOWN: FOR COMPLETE DESIGNATIONS, PREFIX WITH APPLICABE UNIT NUMBER AND ASSEMBLY DESIGNATION.
2. POWER CABINET VOLTAGE SOURCE AND SHELTER CABLING SHOWN FOR REFERENCE ONLY. REFER TO TM 9-1430-655-20-1 FOR COMPLETE SYSTEM CABLING AND CABLE WIRING DIAGRAMS; REFER TO TM 9-1430-655-20-8 FOR POWER CABINET DETAILS.
3. GROUND SYMBOLS USED IN POWER DISTRIBUTION DIAGRAMS INCLUDE FOLLOWING:
   A. DCCT INDICATES DC COMMON FOR POWER CABINET +135V AND -135V DC POWER SOURCES.
   B. INDICATES SAFETY GROUND WHICH IS COMMON TO EARTH, FRAME, AND CHASSIS GROUND.
   C. INDICATES DC COMMON.
4. ALL SYSTEM CARD CAGES HAVE VOLTAGE (+5V) AND GROUND BACKPLANES AFFIXED TO THE BACKSIDE OF CARD CAGE CONNECTORS. WIRE LIST ENTRIES LIST ONLY INPUT SOURCE CONNECTIONS; BUS CONNECTIONS ARE LISTED ON DOUBLE ENTRY WIRE LISTS BY +5V AND GND ENTRIES IN SIGNAL COLUMN.
5. INDICATES EQUIPMENT MARKING.

MS 556179

FO-28. MTU Power Distribution Diagram



FO-29. MTT Power Distribution Diagram

By Order of the Secretary of the Army:

JOHN A. WICKHAM, JR.
General, United States Army
Chief of Staff

Official:

ROBERT M. JOYCE
Major General, United States Army
The Adjutant General

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The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
1 decimeter = 10 centimeters = 3.94 inches
1 meter = 10 decimeters = 39.37 inches
1 dekameter = 10 meters = 32.8 feet
1 hectometer = 10 dekameters = 328.08 feet
1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigram = .035 ounce
1 decagram = 10 grams = .35 ounce
1 hectogram = 10 decagrams = 3.52 ounces
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 220.46 pounds
1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliters = .34 fl. ounce
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter = 10 deciliters = 33.81 fl. ounces
1 dekaliter = 10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter =10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

To change	*To*	*Multiply by*	*To change*	*To*	*Multiply by*
inches	centimeters	2.540	ounce-inches	Newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29,573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	Newton-meters	1.356	metric tons	short tons	1.102
pound-inches	Newton-meters	.11296			

Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

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