

Digital Equipment Corporation
Maynard, Massachusetts

digital

**Maintenance Manual
Volume II**

RK8 Disk System

**RK8 DISK SYSTEM
MAINTENANCE MANUAL
VOLUME II**

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DIGITAL	COMPUTER LAB

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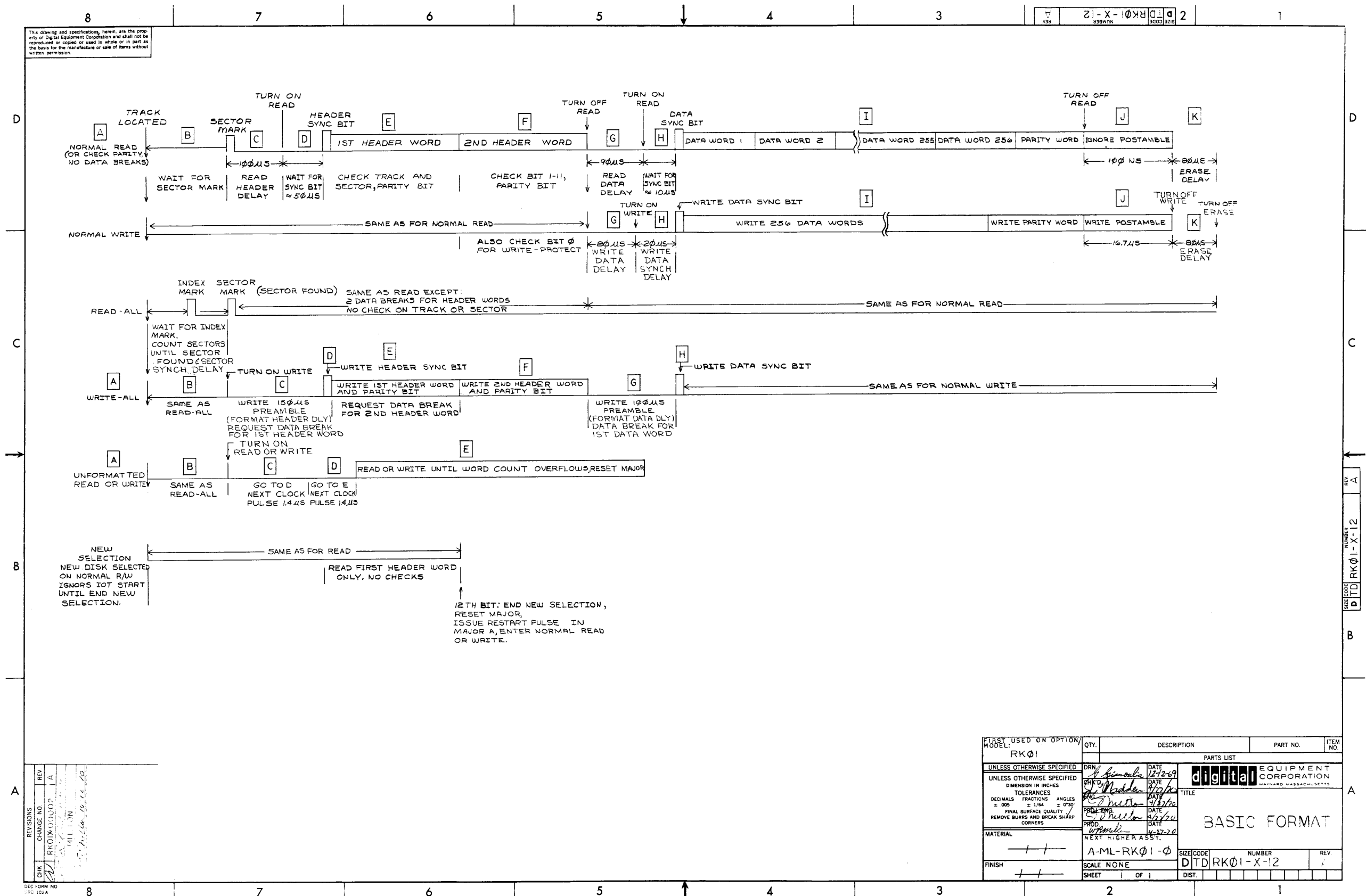


Figure II-1 RK01 Basic Format Diagram

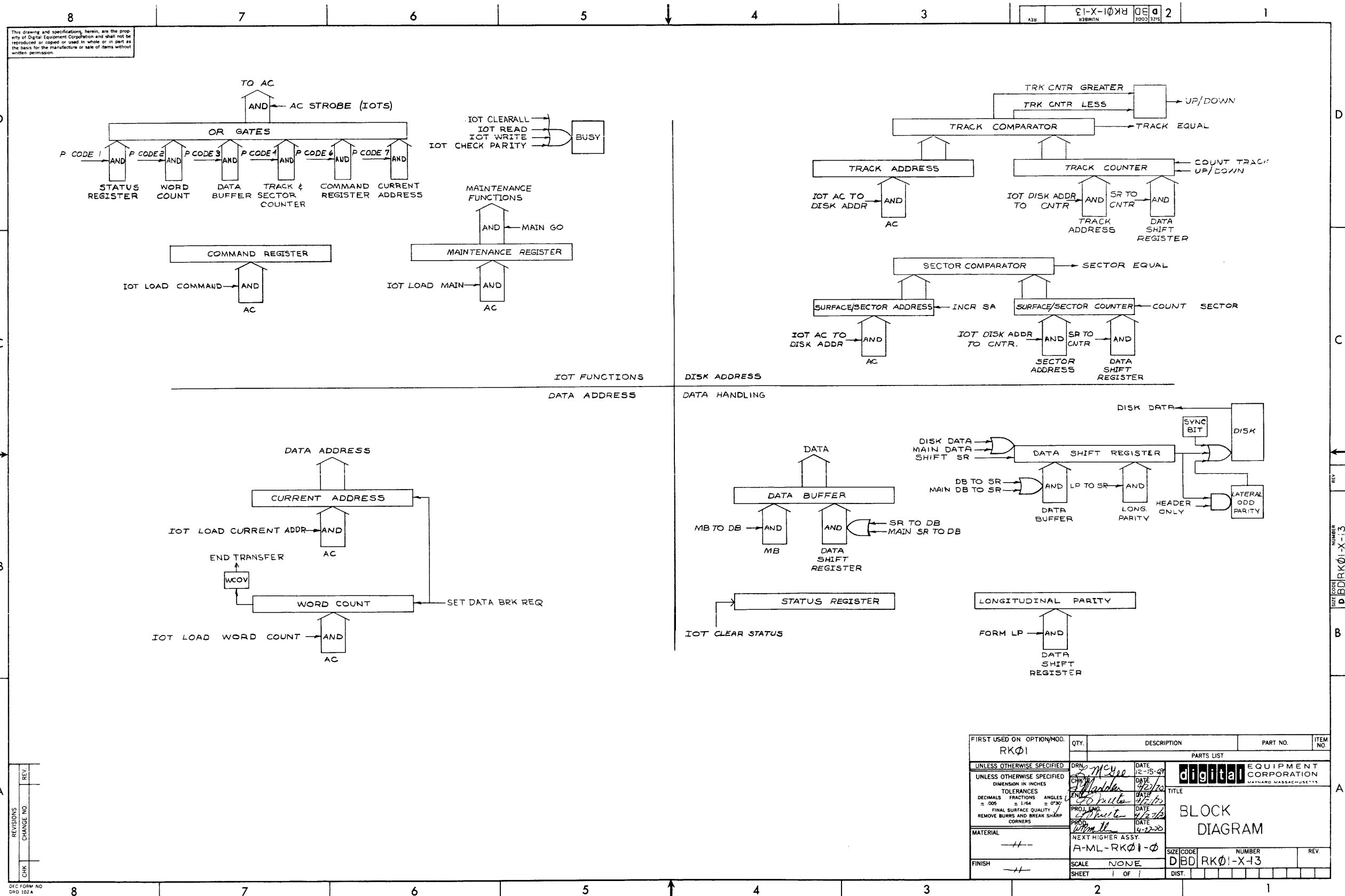


Figure II-2 RK01 Block Diagram

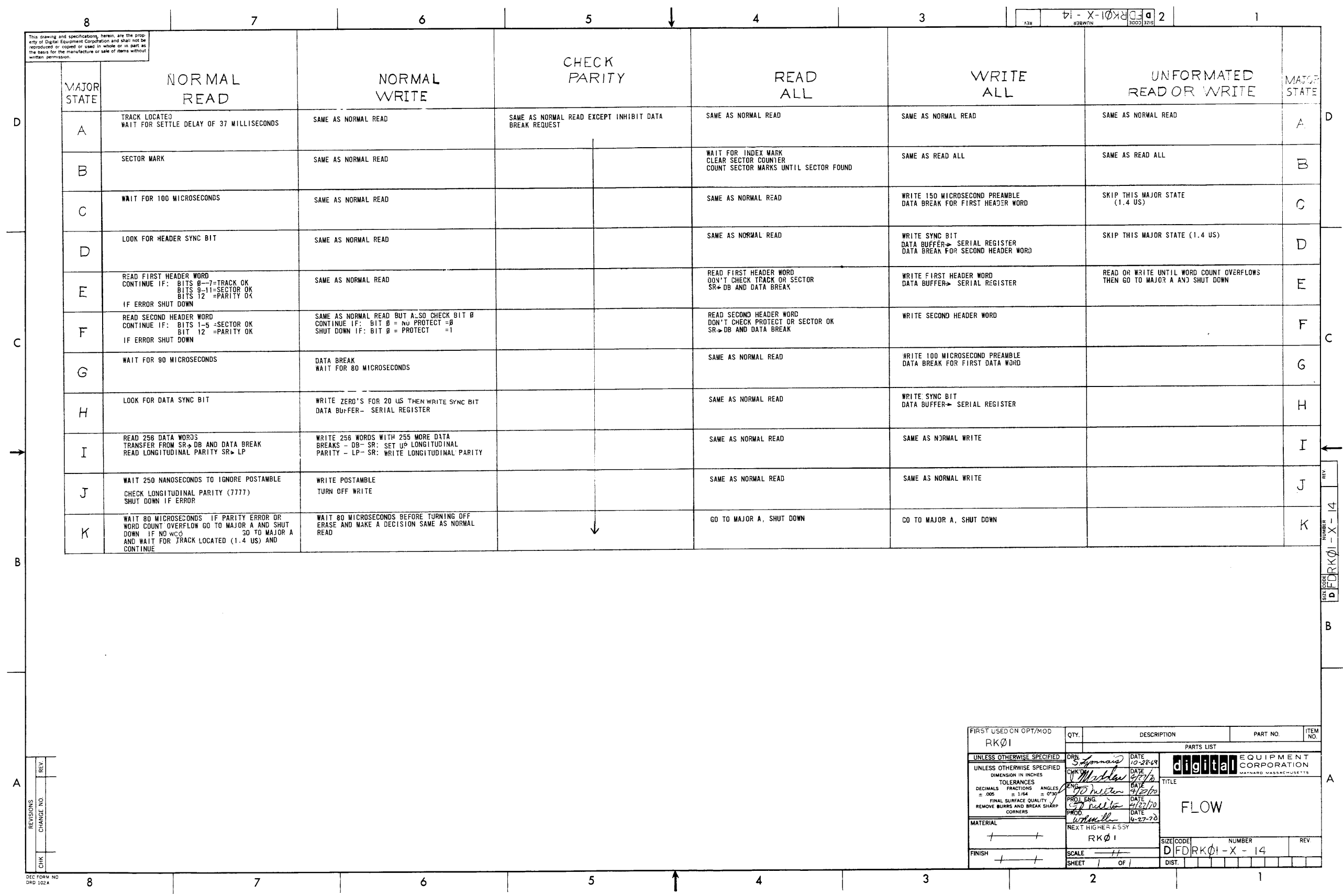
FIRST USED ON	OPTION/MOD.	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RK01					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED	DRN	MCY	DATE	12-15-67	
UNLESS OTHERWISE SPECIFIED	CHK	DATE	12/15/67		
DIMENSION IN INCHES					
TOLERANCES					
DECIMALS	FRACTIONS	ANGLES	= 0.005 = 1/64 = 0.375		
FINAL SURFACE QUALITY					
REMOVE BURRS AND BREAK SHARP CORNERS					
MATERIAL	NEXT HIGHER ASSY.				
FINISH	A-ML-RK01-0				
SCALE NONE			SIZE CODE	NUMBER	REV.
SHEET 1 OF 1			DBD RK01-X-13		

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE
BLOCK DIAGRAM

REV.	
CHANGE NO.	
CHK	

DEC FORM NO. DRD 102A



FIRST USED ON OPT/MOD RK01	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
DIMENSION IN INCHES	CHK'D	DATE	TITLE	
TOLERANCES	ENG	DATE	FLOW	
DECIMALS FRACTIONS ANGLES	PROJ. ENG.	DATE	SIZE CODE NUMBER REV	
= .005 = 1/64 = 0°30'	PROD.	DATE	D FDRK01-X-14	
FINAL SURFACE QUALITY		DATE	DIST.	
REMOVE BURRS AND BREAK SHARP CORNERS		DATE		
MATERIAL	NEXT HIGHER ASSY			
FINISH	RK01			
	SCALE			
	SHEET	1 OF 1		

Figure II-3 RK01 Flow Diagram

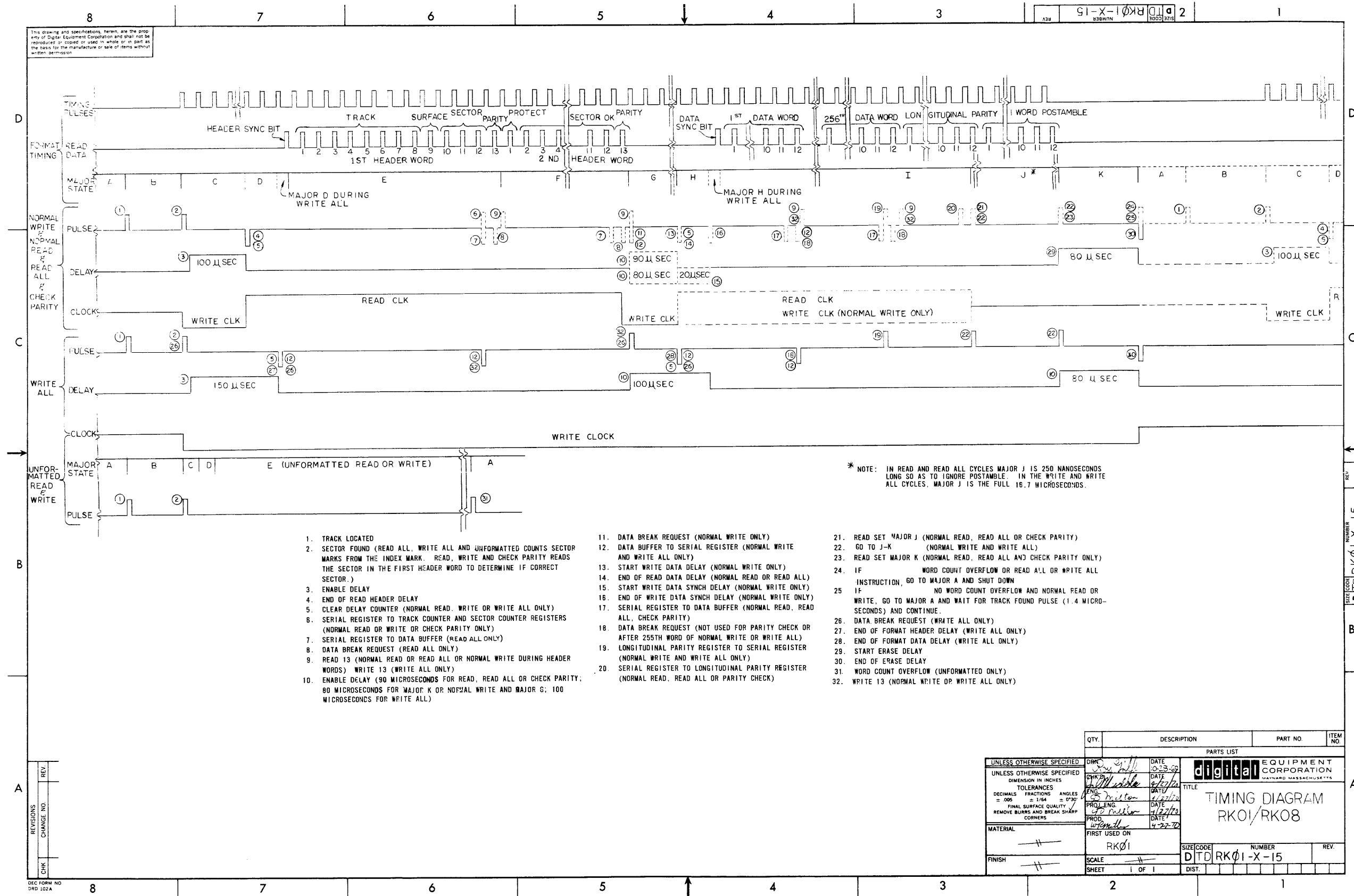
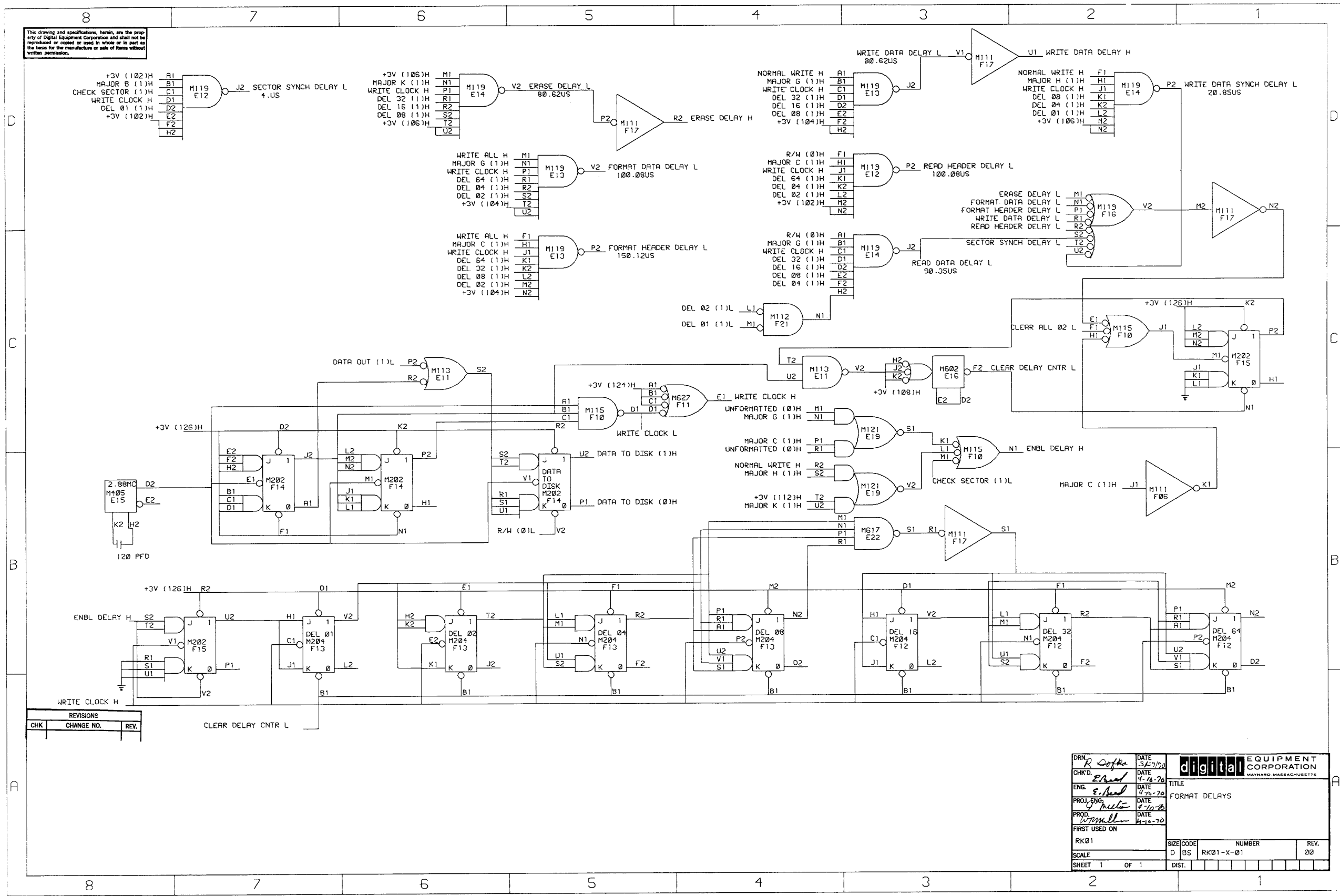


Figure II-4 RK01/RK08 Timing Diagram



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CHK'D. <i>E. Neal</i>	DATE 4/16/70	
ENG. <i>E. Neal</i>	DATE 4/20/70	
PROJ. ENG. <i>E. Neal</i>	DATE 4/20/70	
PROD. <i>W. Miller</i>	DATE 4/16/70	
FIRST USED ON		TITLE FORMAT DELAYS
RK01	SIZE CODE D BS	NUMBER RK01-X-01
SCALE		REV. 00
SHEET 1 OF 1	DIST.	

Figure II-5 Format Delays Block Schematic Diagram

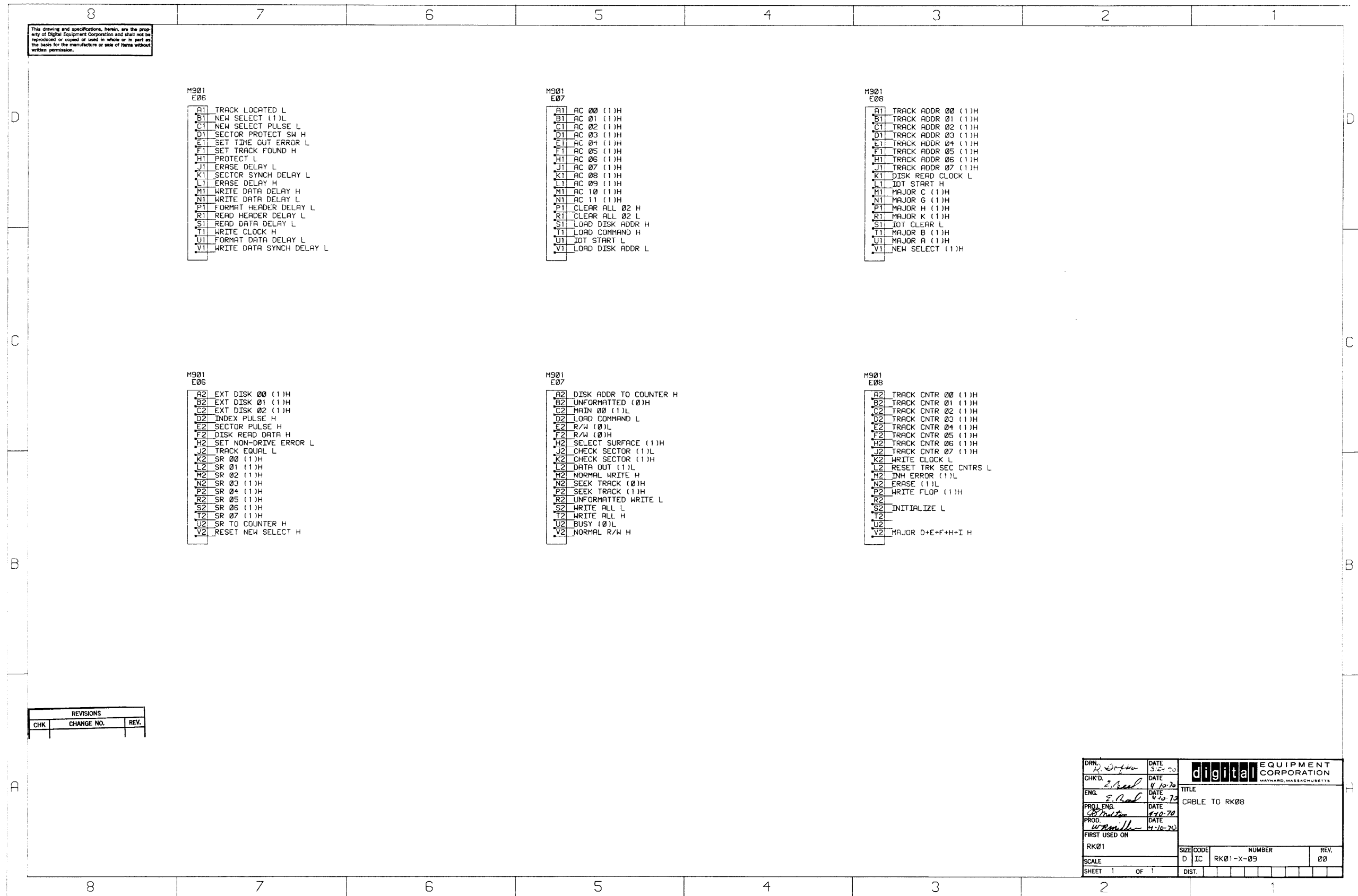


Figure II-6 Cable to RK08 Block Schematic Diagram

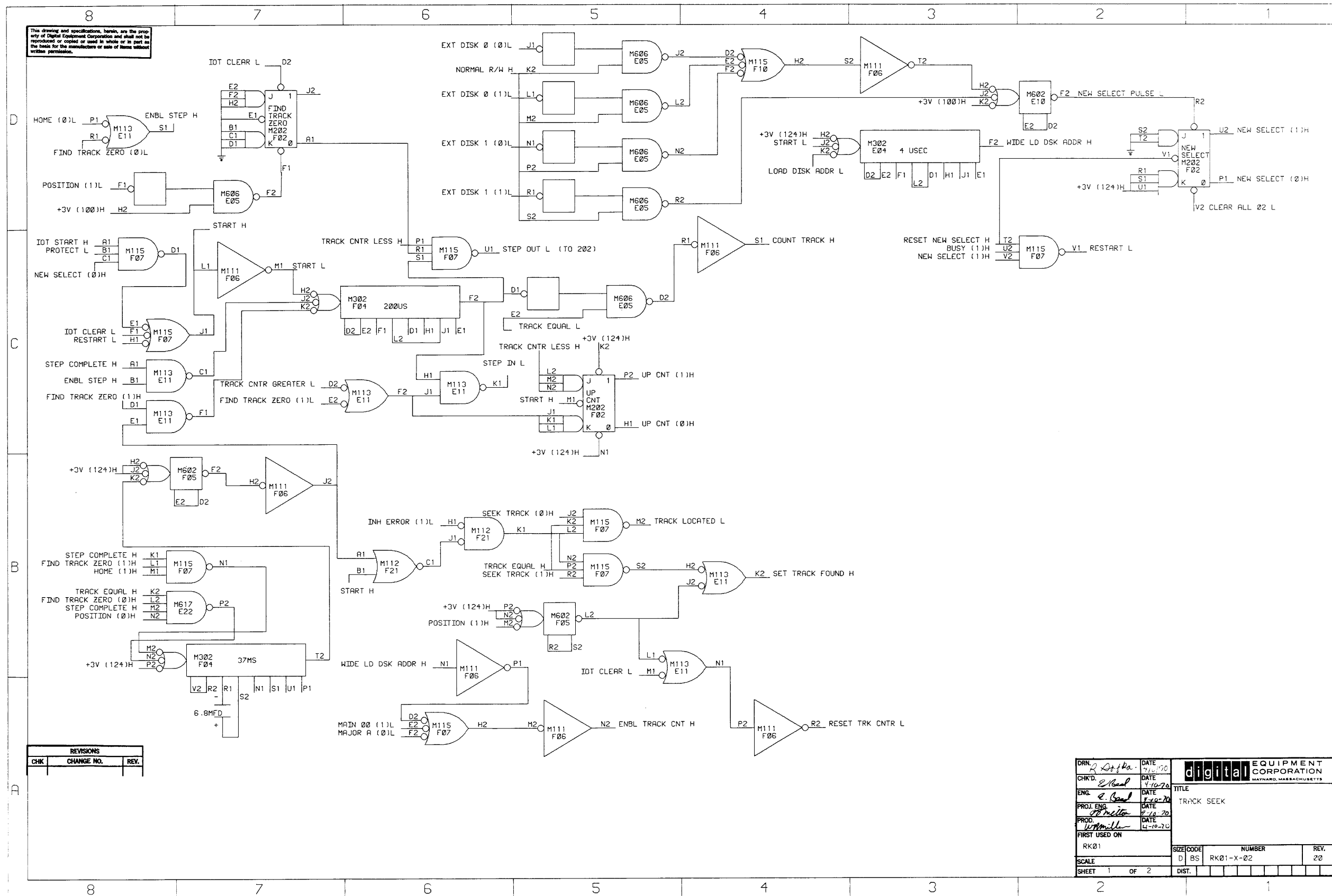
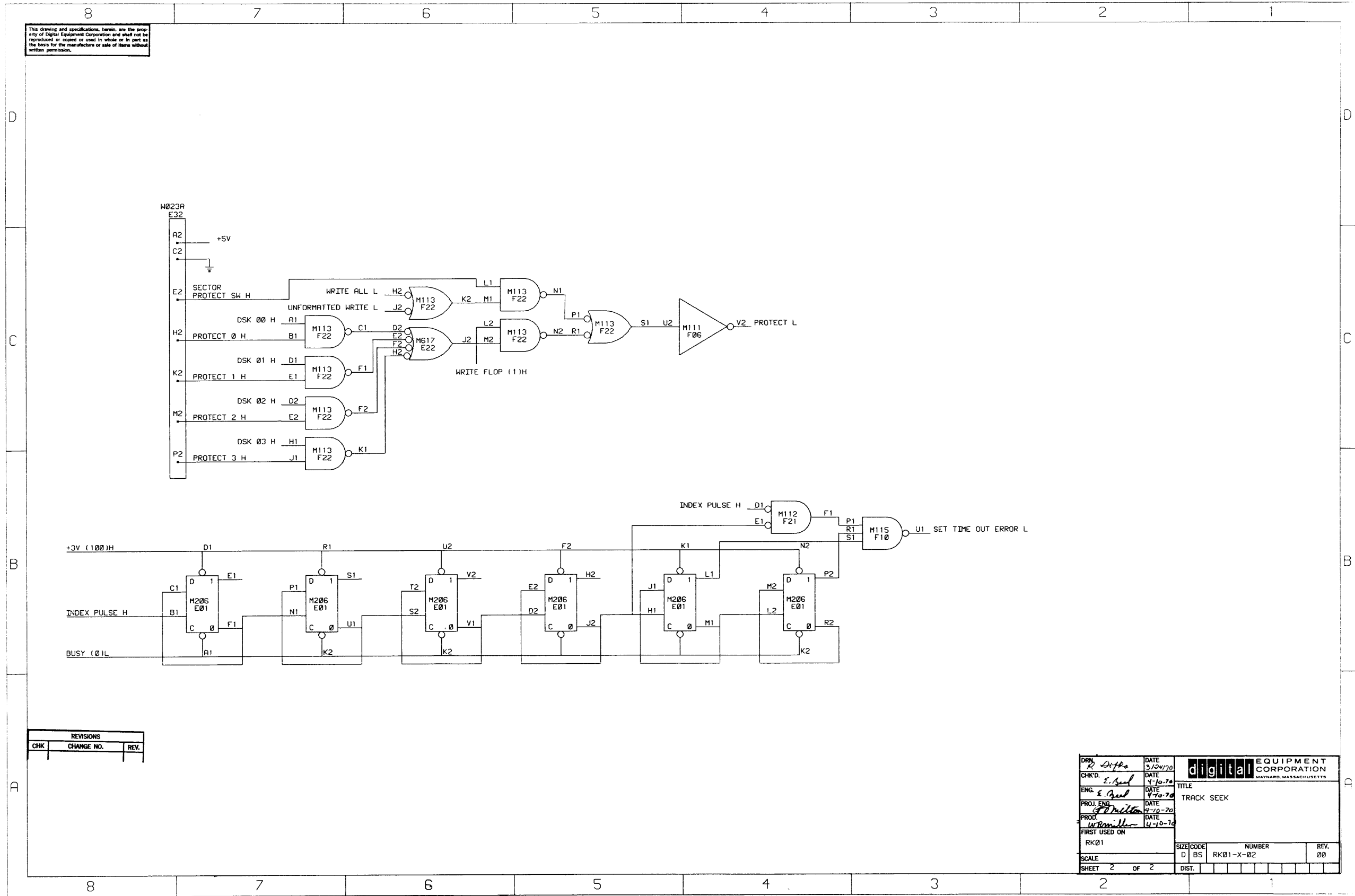


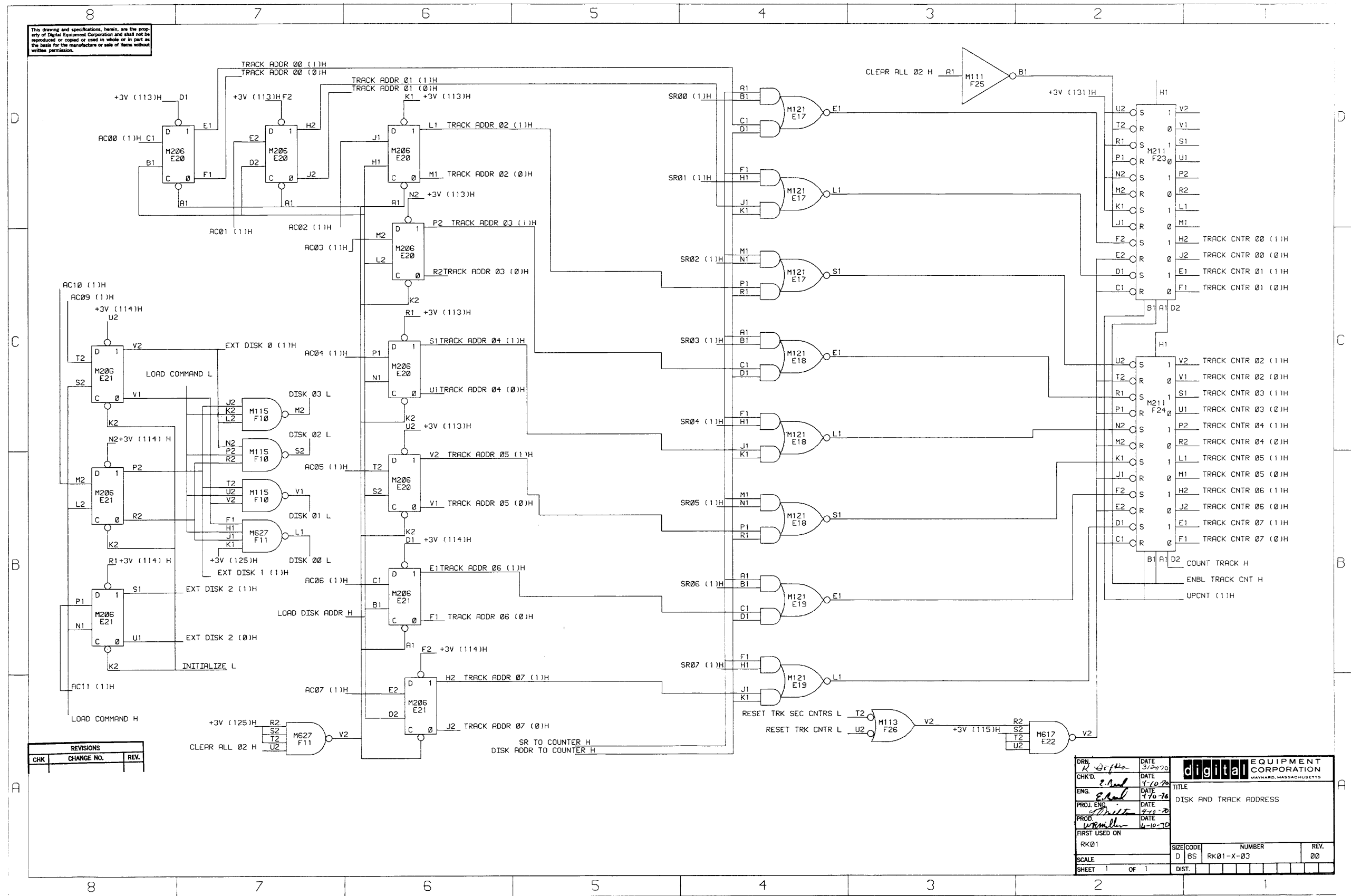
Figure II-7 Track Seek Block Schematic Diagram (Sheet 1)



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CHK	CHANGE NO.	REV.

DRW <i>P. DiPa</i>	DATE 3/24/70	 digital EQUIPMENT CORPORATION WAYNARD, MASSACHUSETTS	TITLE TRACK SEEK
CHK'D <i>E. Reed</i>	DATE 4/10/70		SIZE CODE D BS
ENG <i>E. Reed</i>	DATE 4/10/70		NUMBER RK01-X-02
PROJ. ENG. <i>G. Miller</i>	DATE 4-10-70		REV. 00
PROD. <i>W. Bonner</i>	DATE 4-10-70		SCALE 2 OF 2
FIRST USED ON RK01		DIST.	

Figure II-7 Track Seek Block Schematic Diagram (Sheet 2)



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DRN <i>R. DePa</i>	DATE 3/27/70	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
CHKD. <i>E. Reed</i>	DATE 4/10/70	
ENG. <i>E. Reed</i>	DATE 4/10/70	TITLE DISK AND TRACK ADDRESS
PROJ. ENGR. <i>W. Miller</i>	DATE 4/10/70	
PROD. <i>W. Miller</i>	DATE 4/10/70	
FIRST USED ON RK01		
SCALE D BS	NUMBER RK01-X-03	REV. 00
SHEET 1	OF 1	DIST.

Figure II-8 Disk and Track Address Block Schematic Diagram

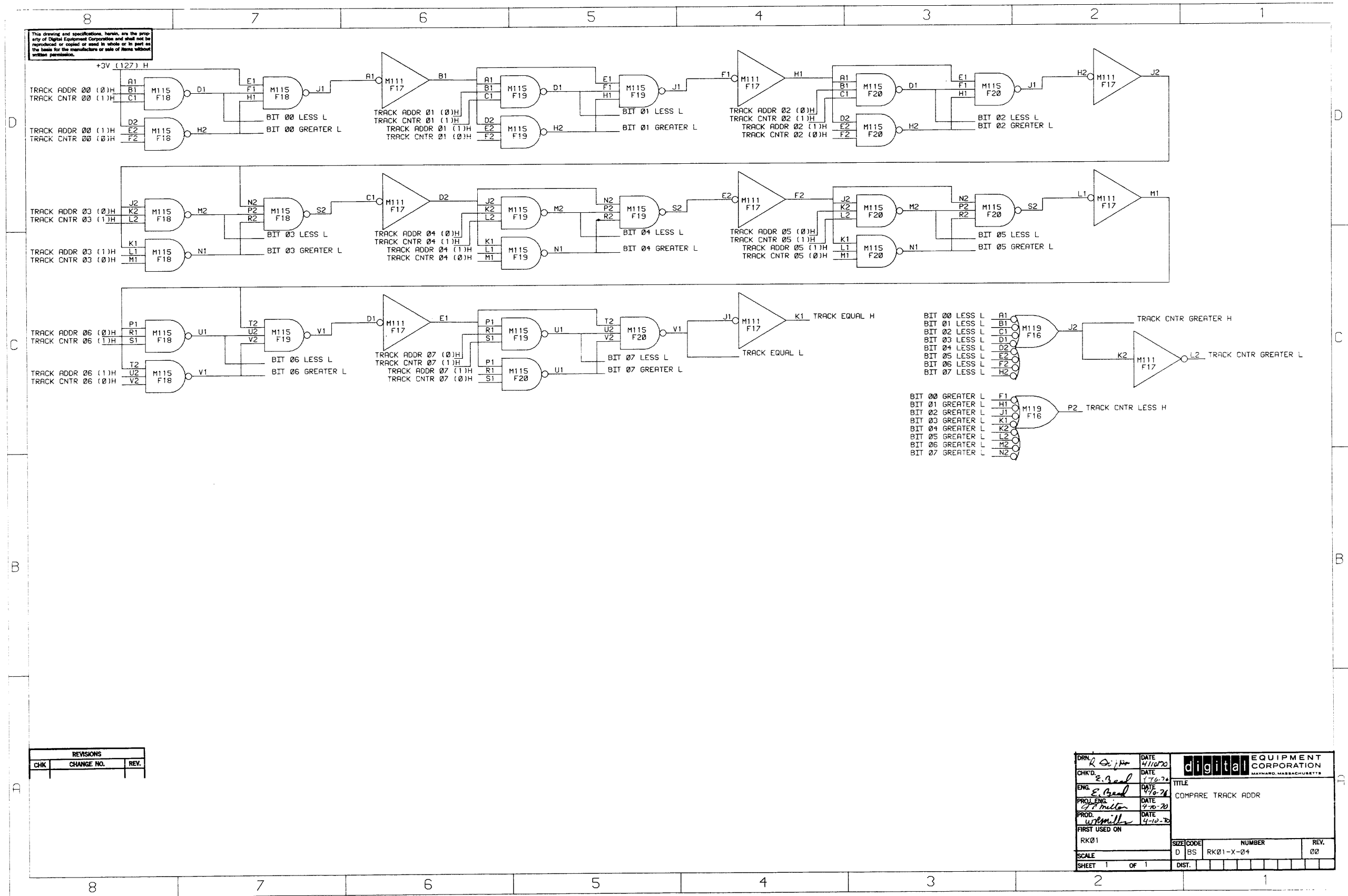


Figure II-9 Compare Track Address Block Schematic Diagram

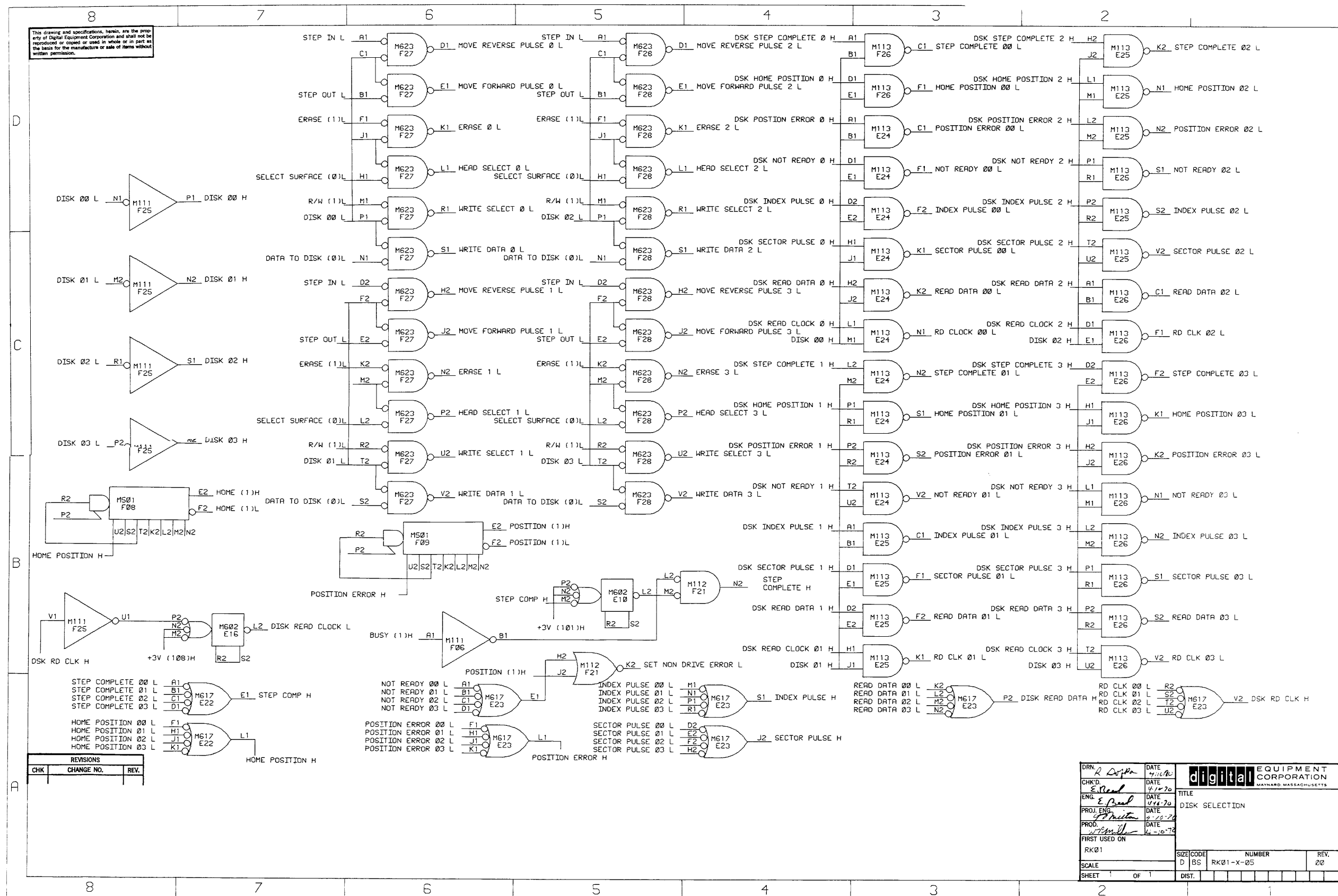


Figure II-10 Disk Selection Block Schematic Diagram

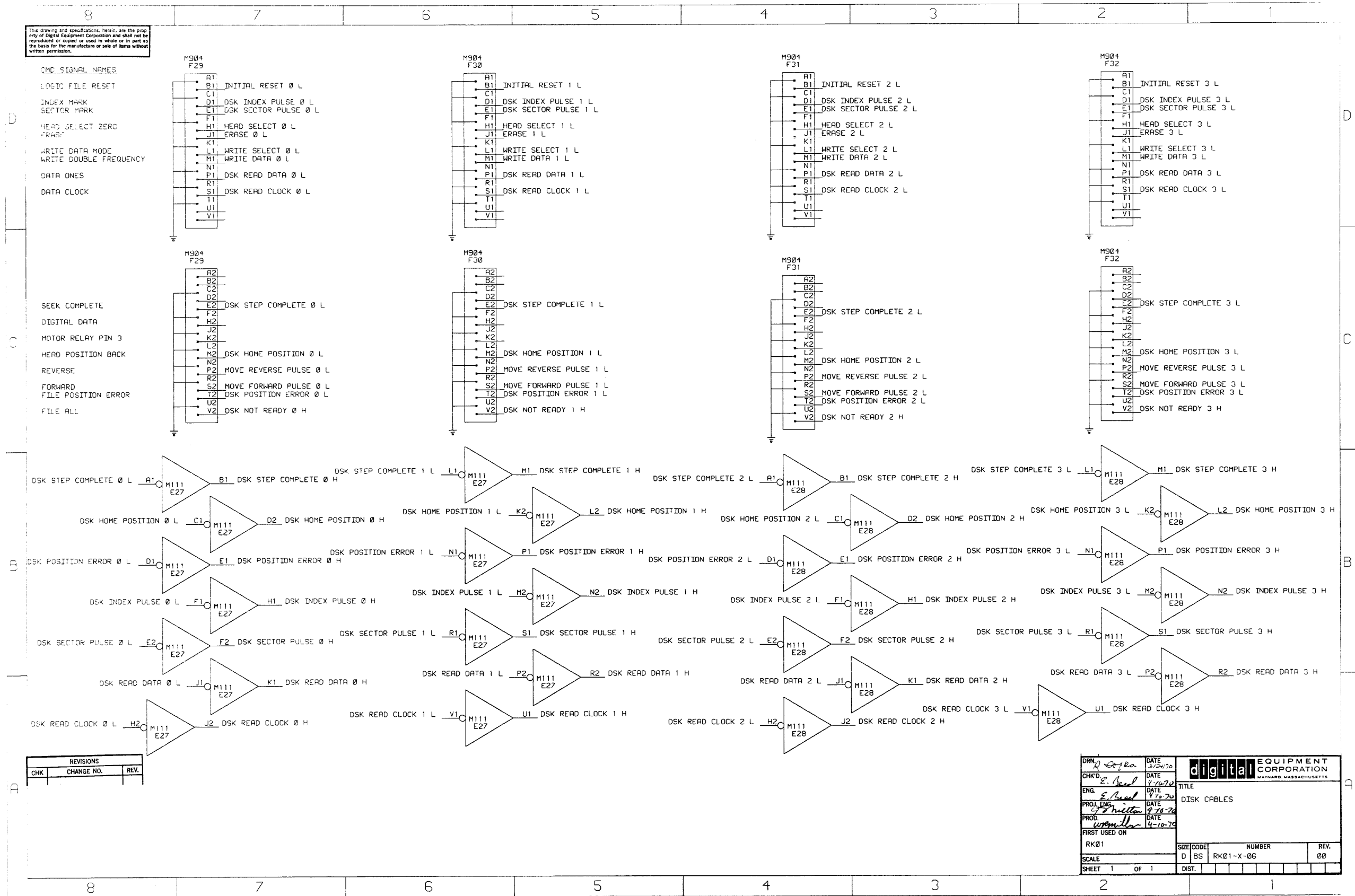


Figure II-11 Disk Cables Block Schematic Diagram

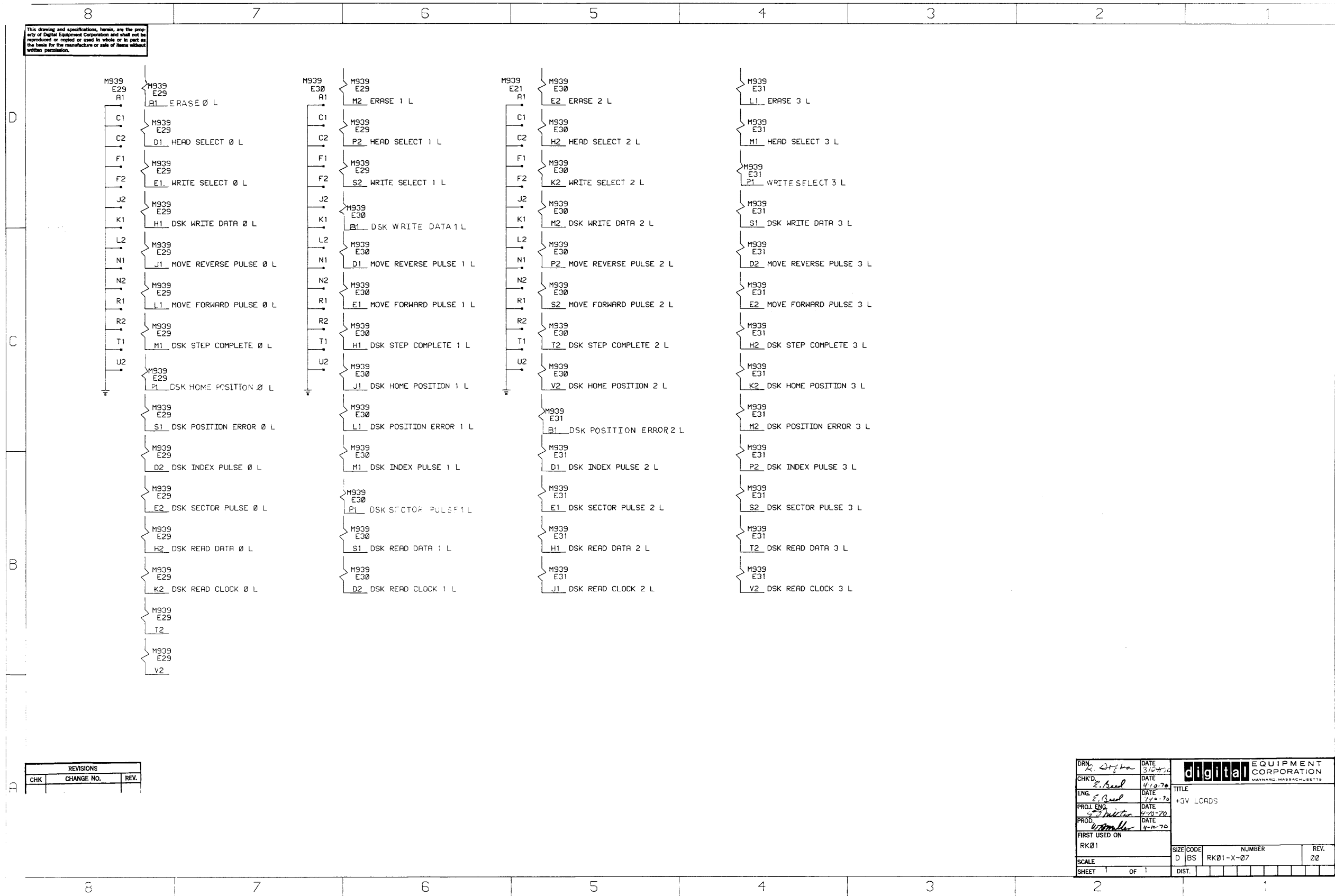


Figure II-12 +3V Loads Block Schematic Diagram

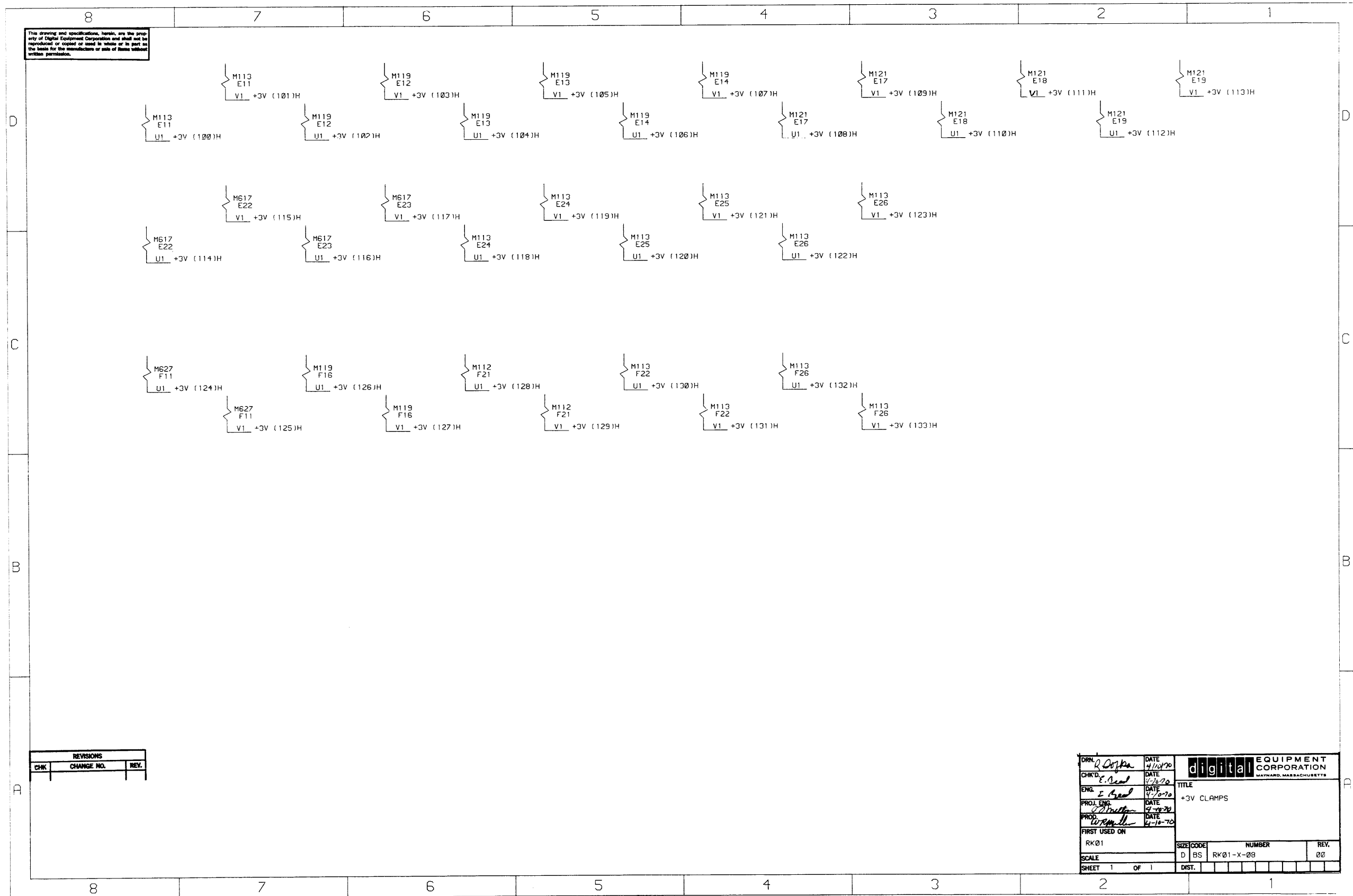


Figure II-13 +3V Clamp Block Schematic Diagram

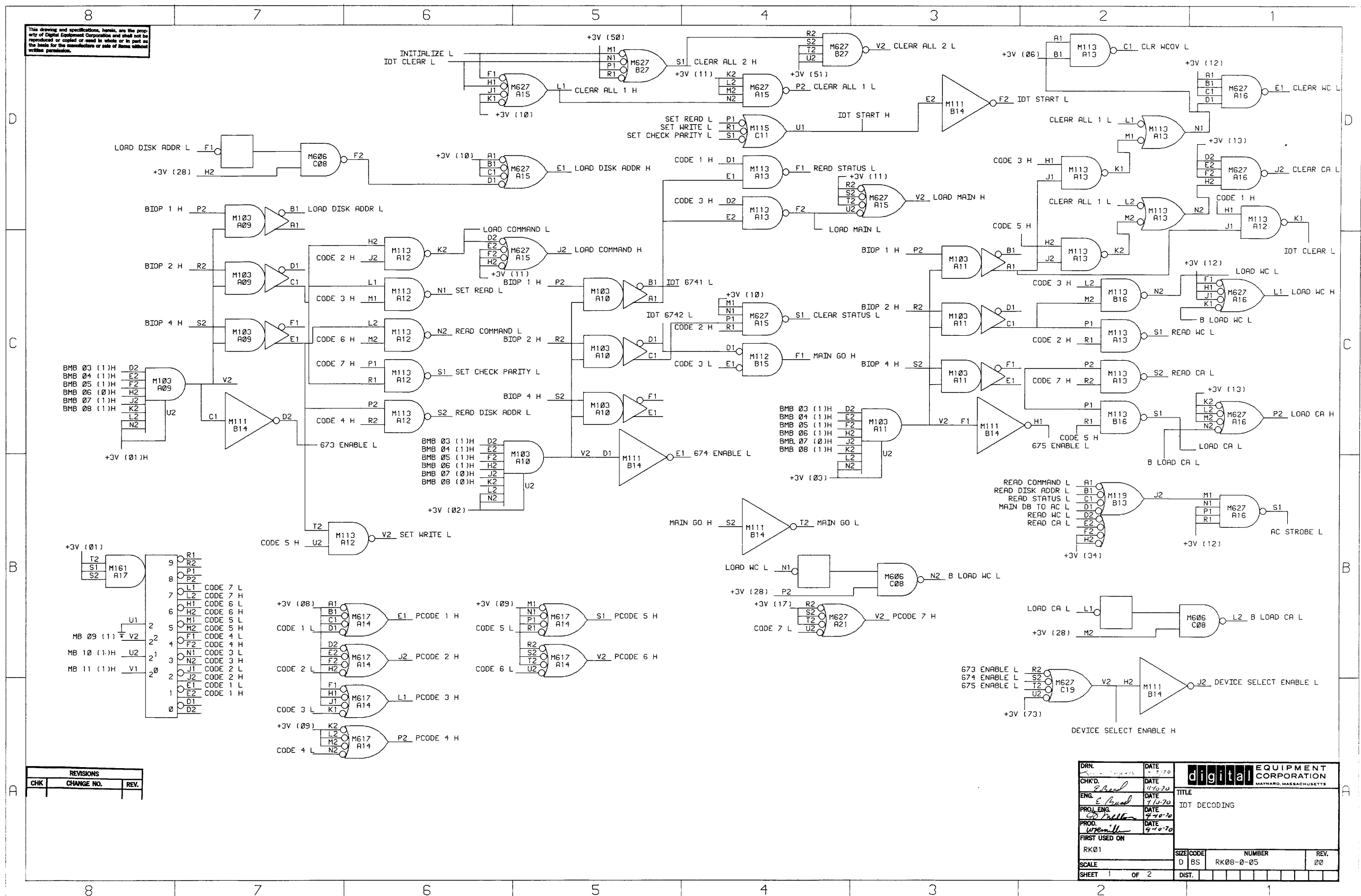


Figure II-14 IOT Decoding Block Schematic Diagram

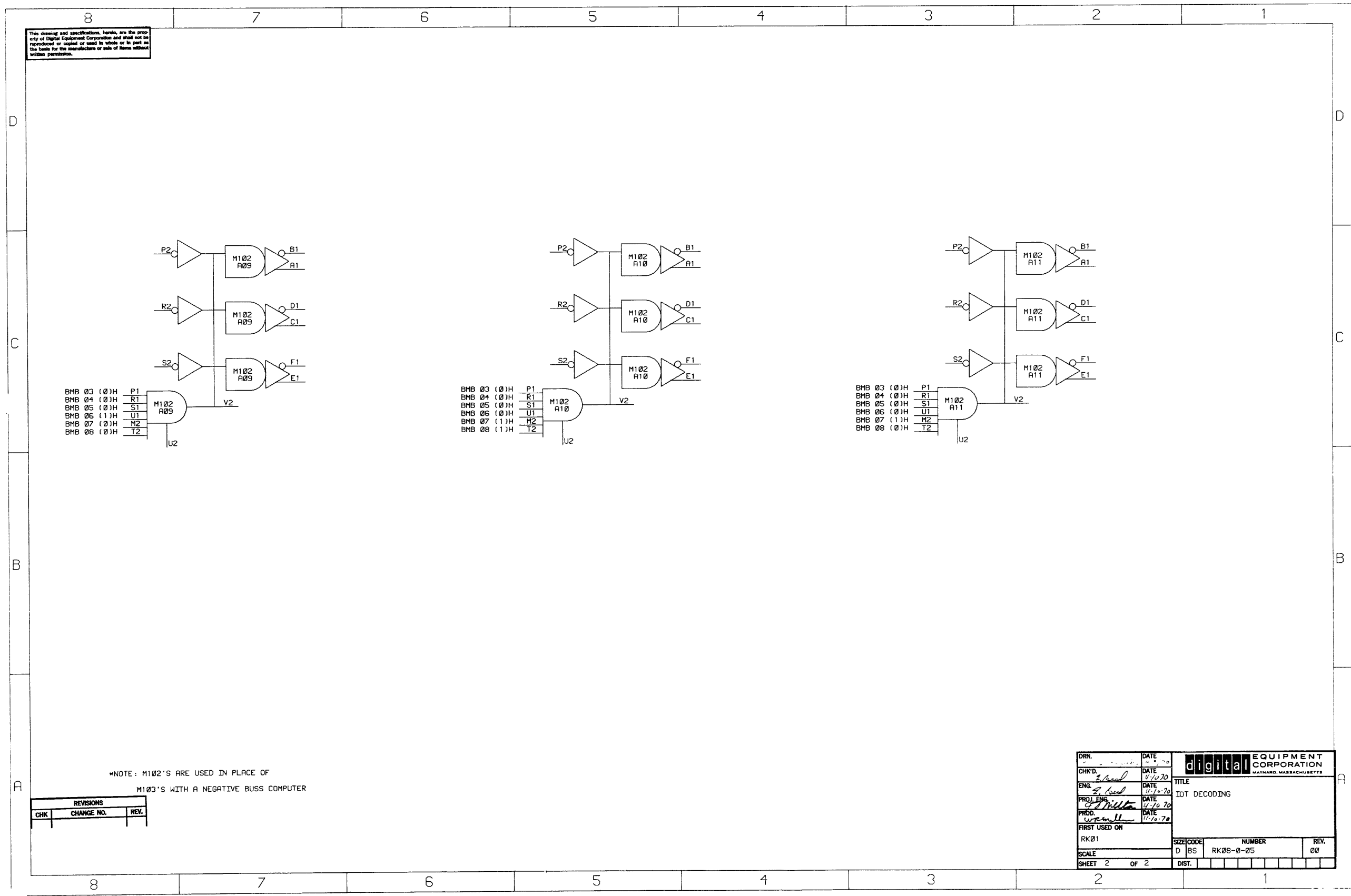


Figure II-15 IOT Decoding Block Schematic Diagram

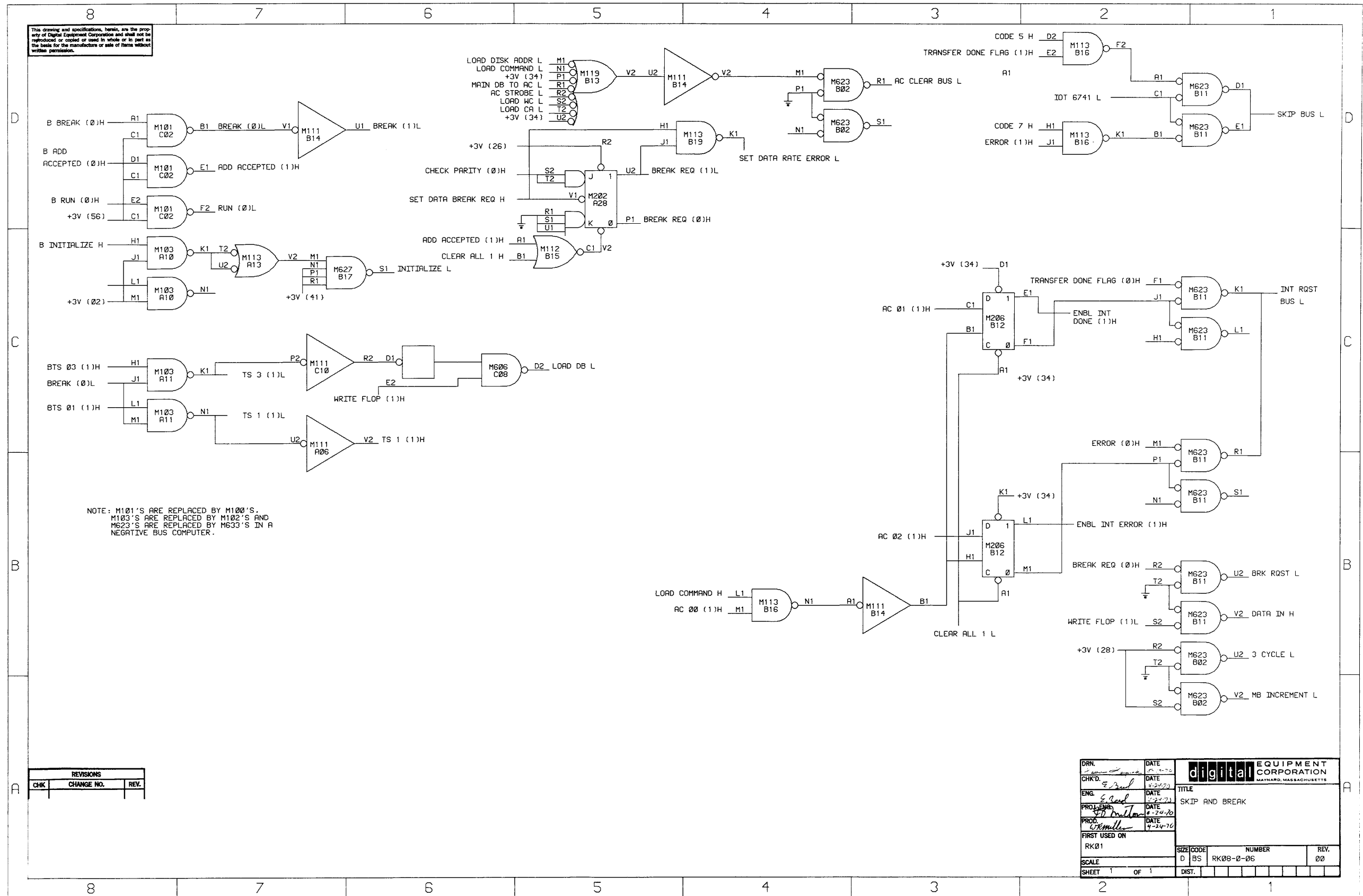


Figure II-16 Skip and Break Block Schematic Diagram

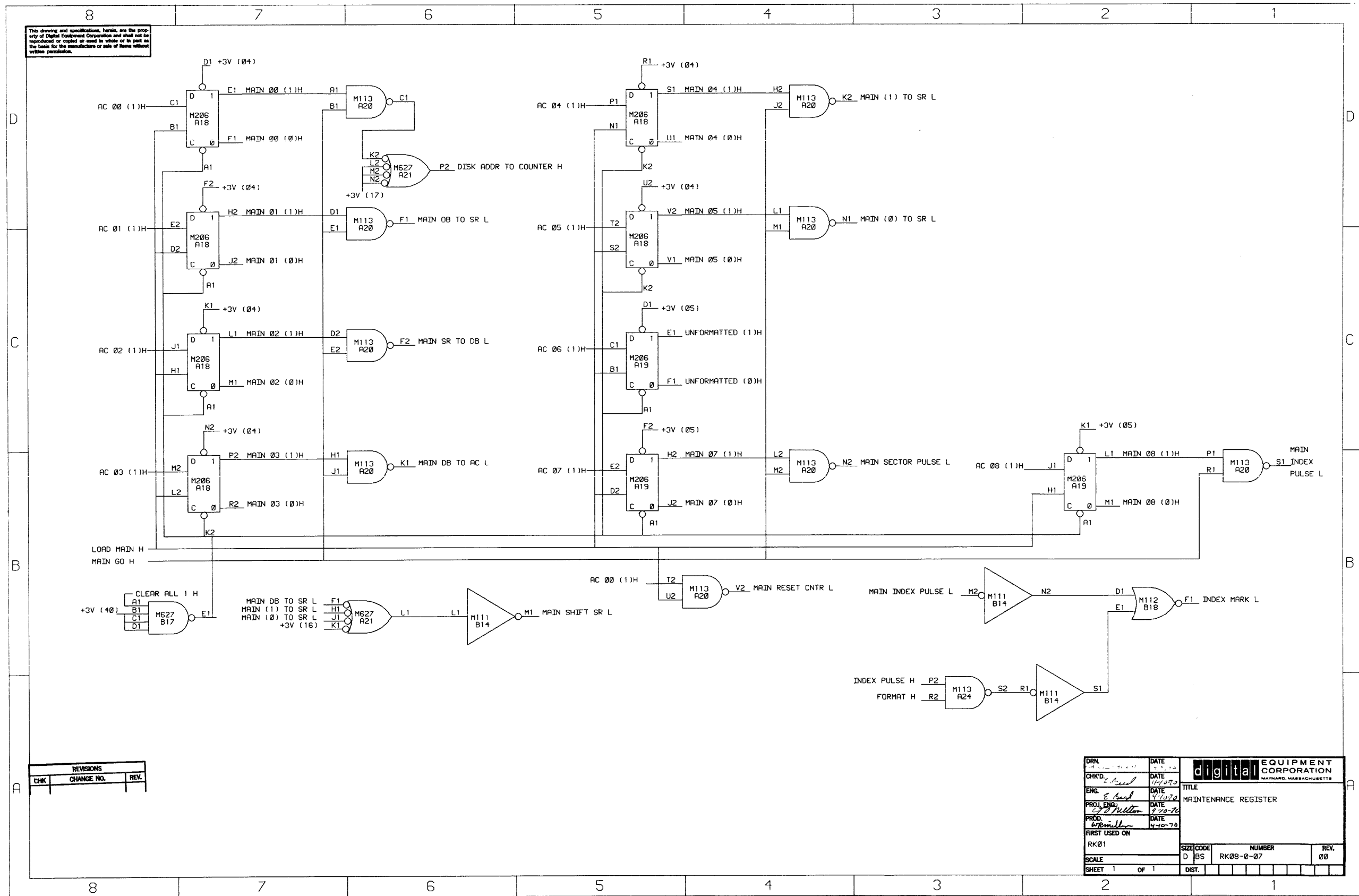
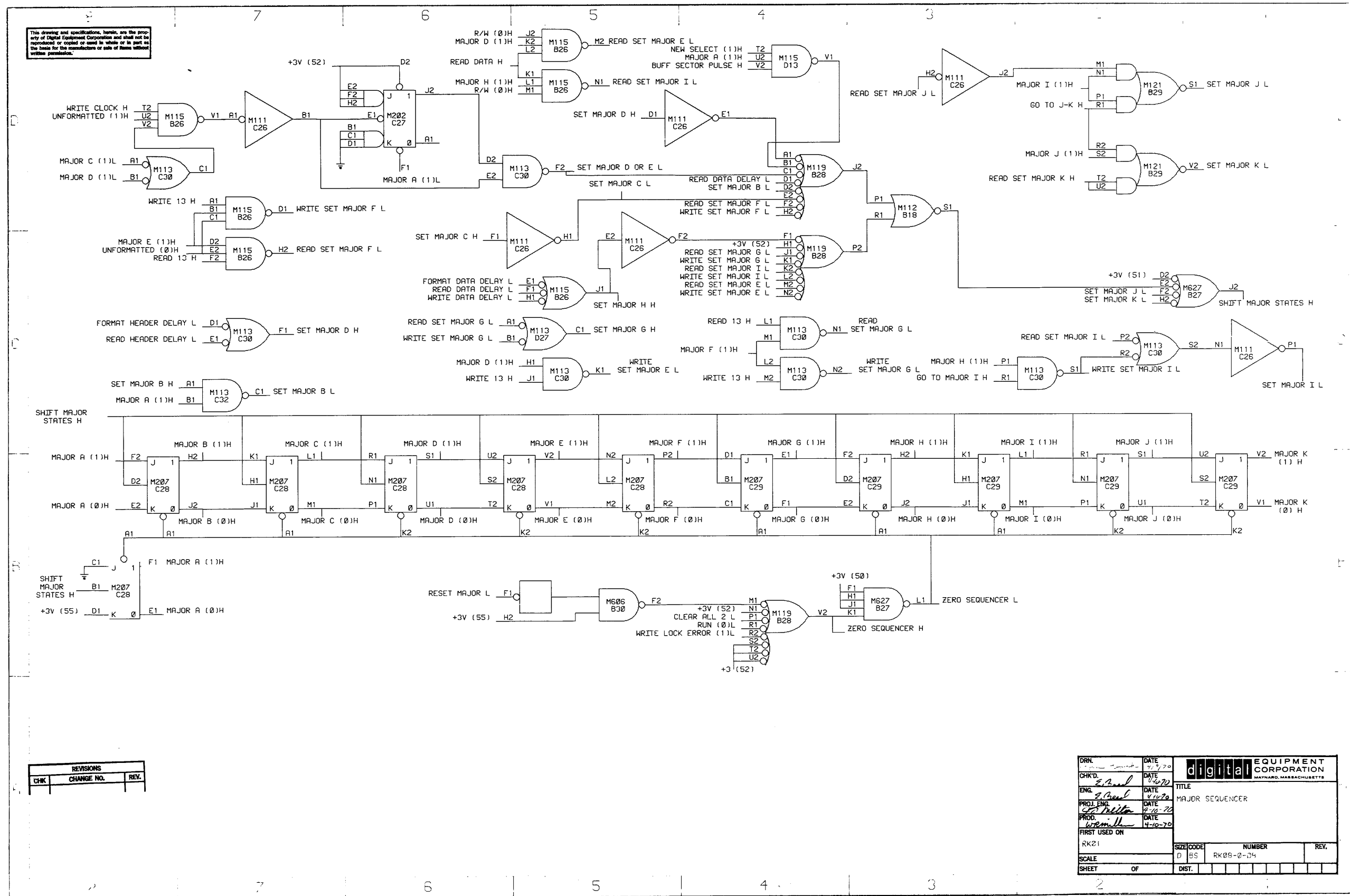


Figure II-17 Maintenance Register Block Schematic Diagram



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CHKD	DATE		
ENG	DATE		
PROJ. ENG.	DATE		
PROD.	DATE		
FIRST USED ON		SIZE CODE	NUMBER
RK21		D BS	RK08-0-04
SCALE		DIST.	
SHEET	OF		

Figure II-18 Major Sequencer Register Block Schematic Diagram

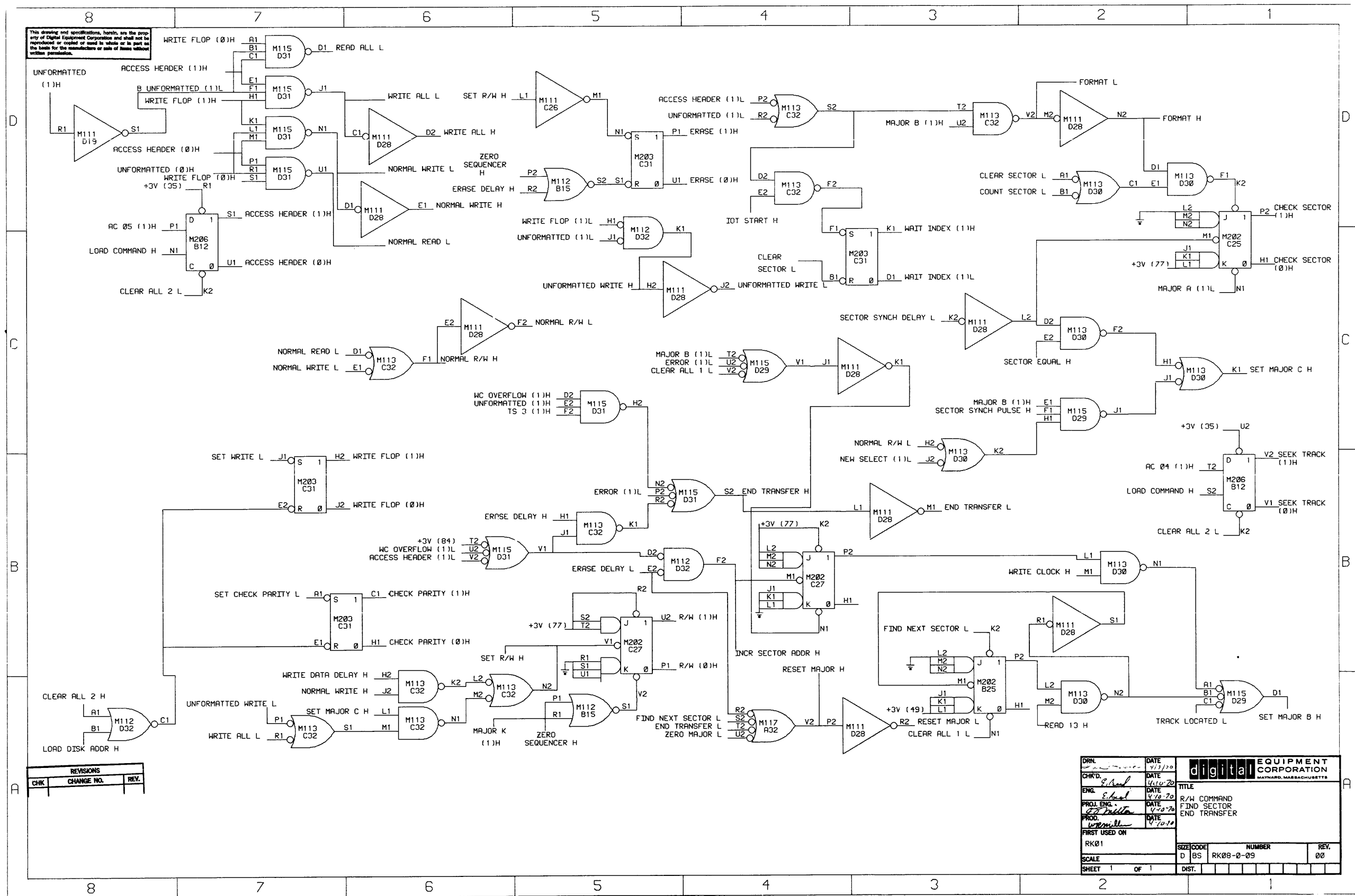


Figure II-19 R/W Command, Find Sector, End transfer Block Schematic Diagram

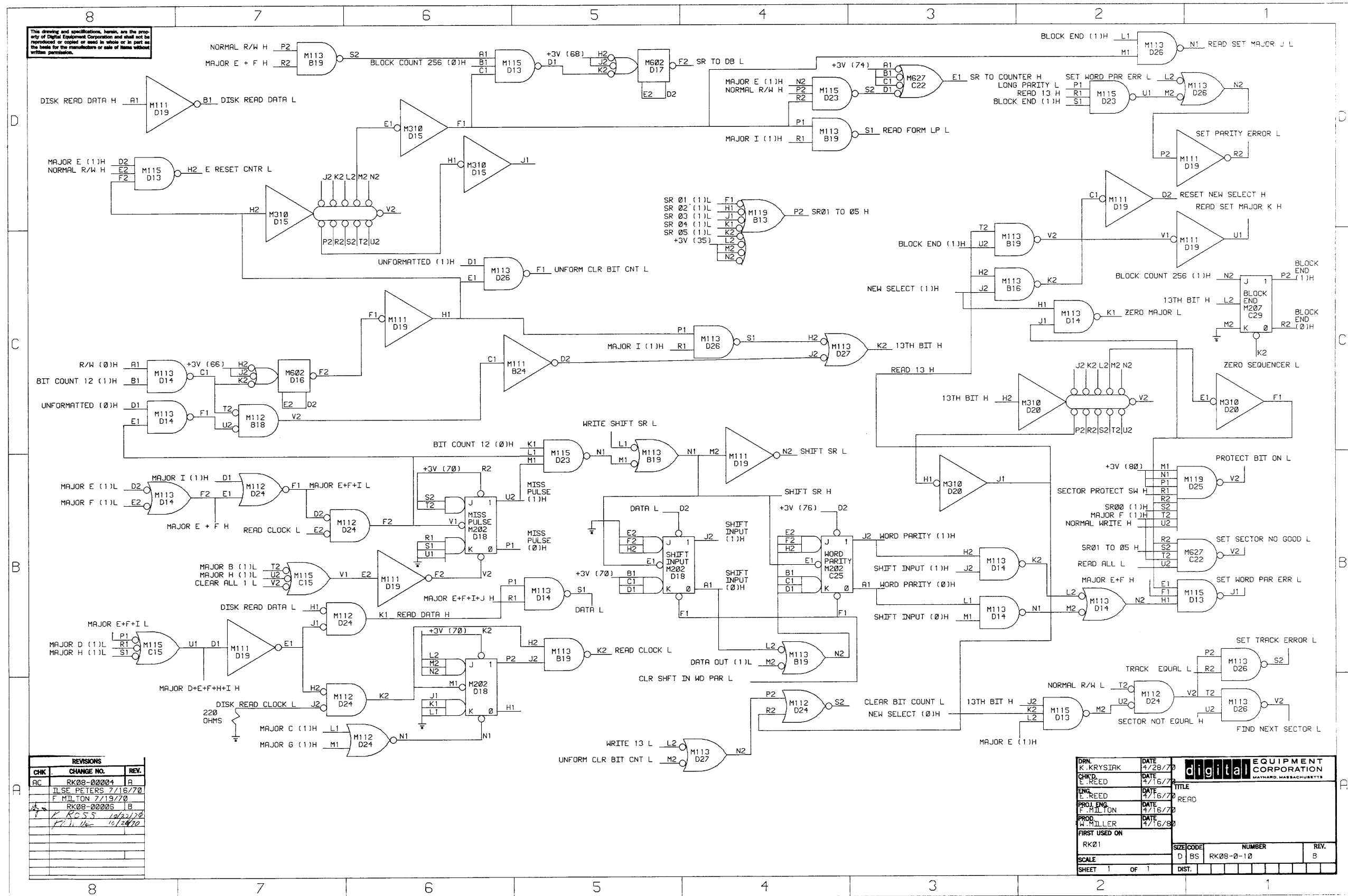


Figure II-20 Read Block Schematic Diagram

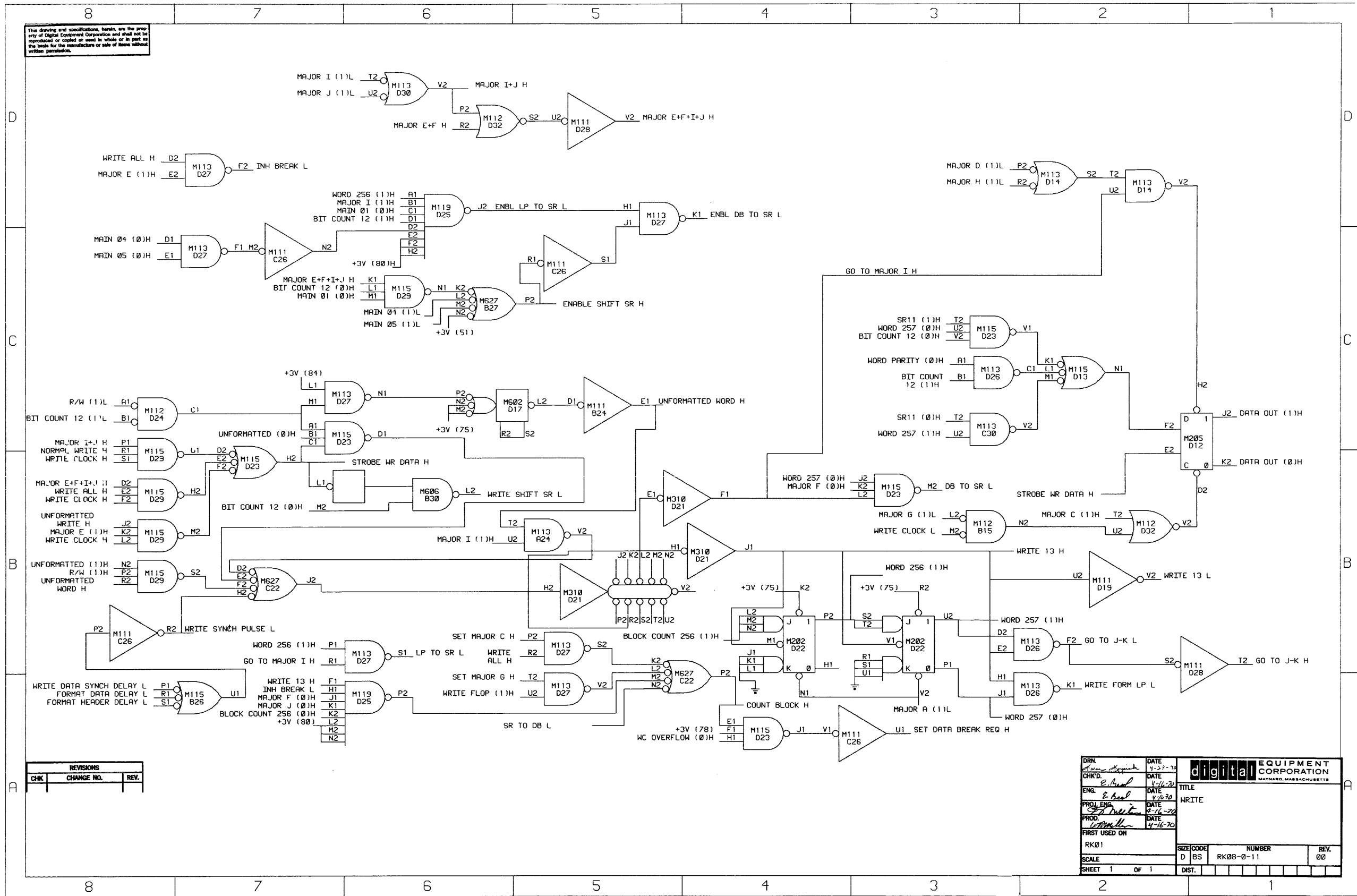


Figure II-21 Write Block Schematic Diagram

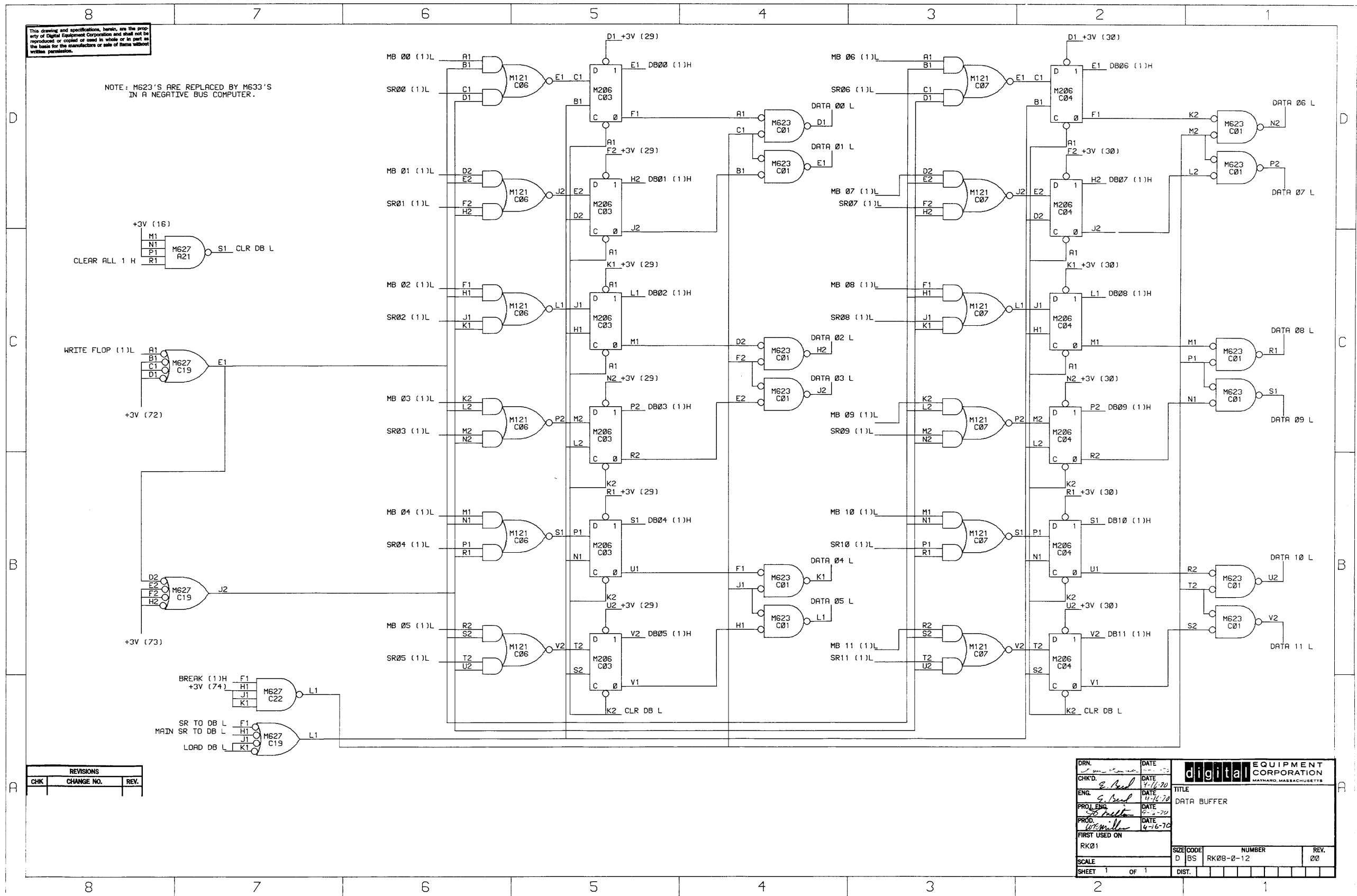


Figure II-22 Data Buffer Block Schematic Diagram

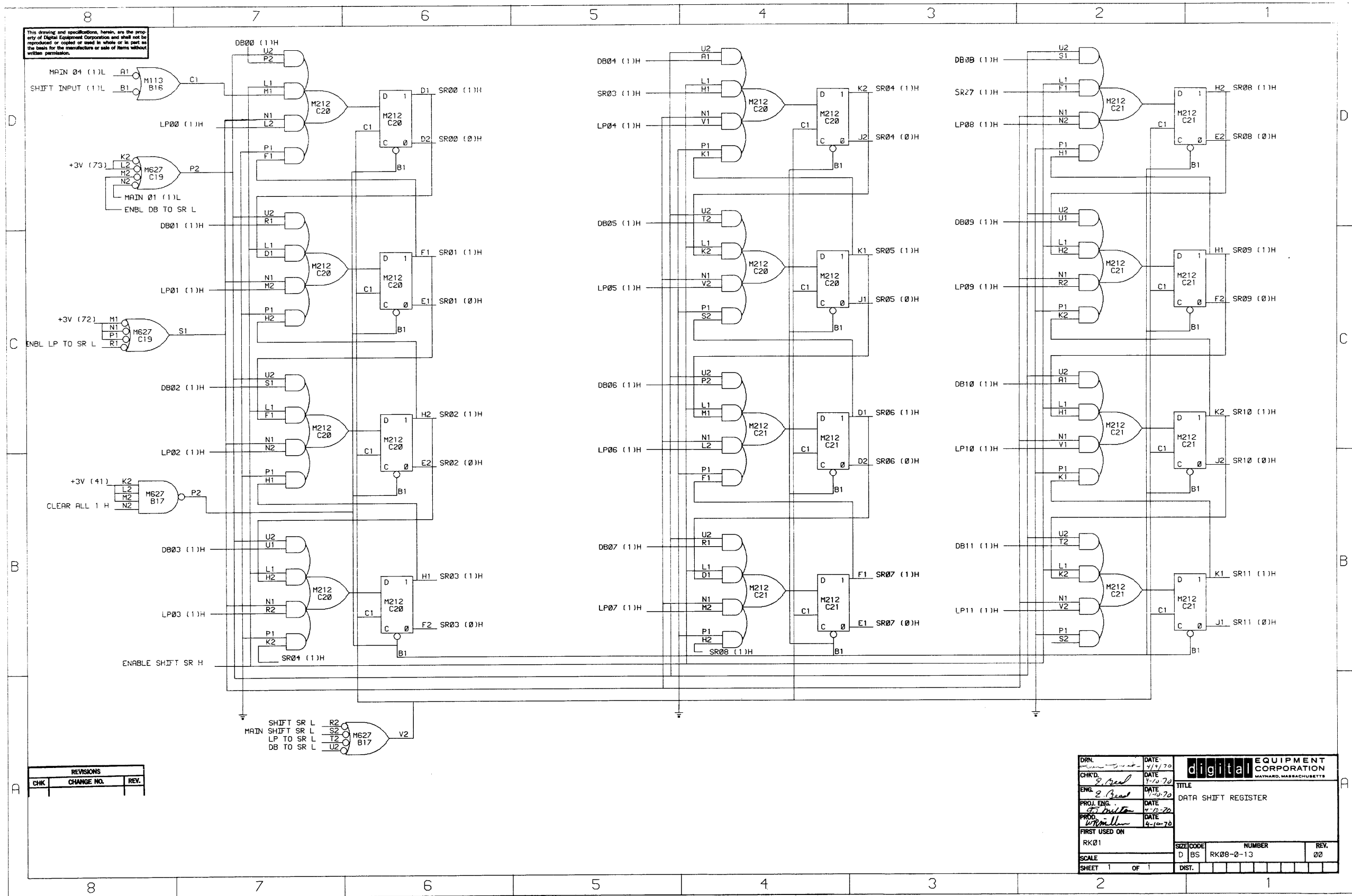


Figure II-23 Data Shift Register Block Schematic Diagram

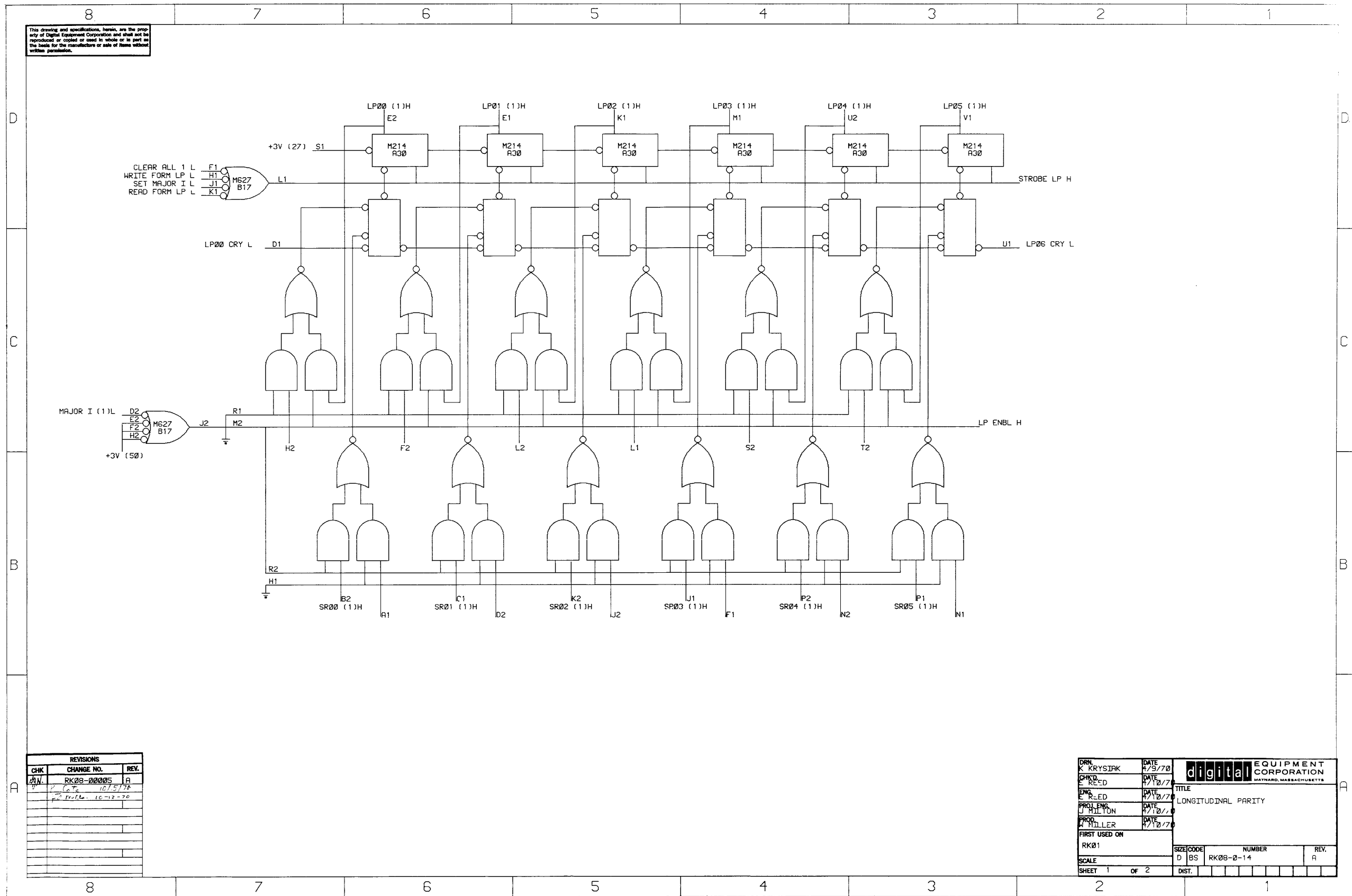
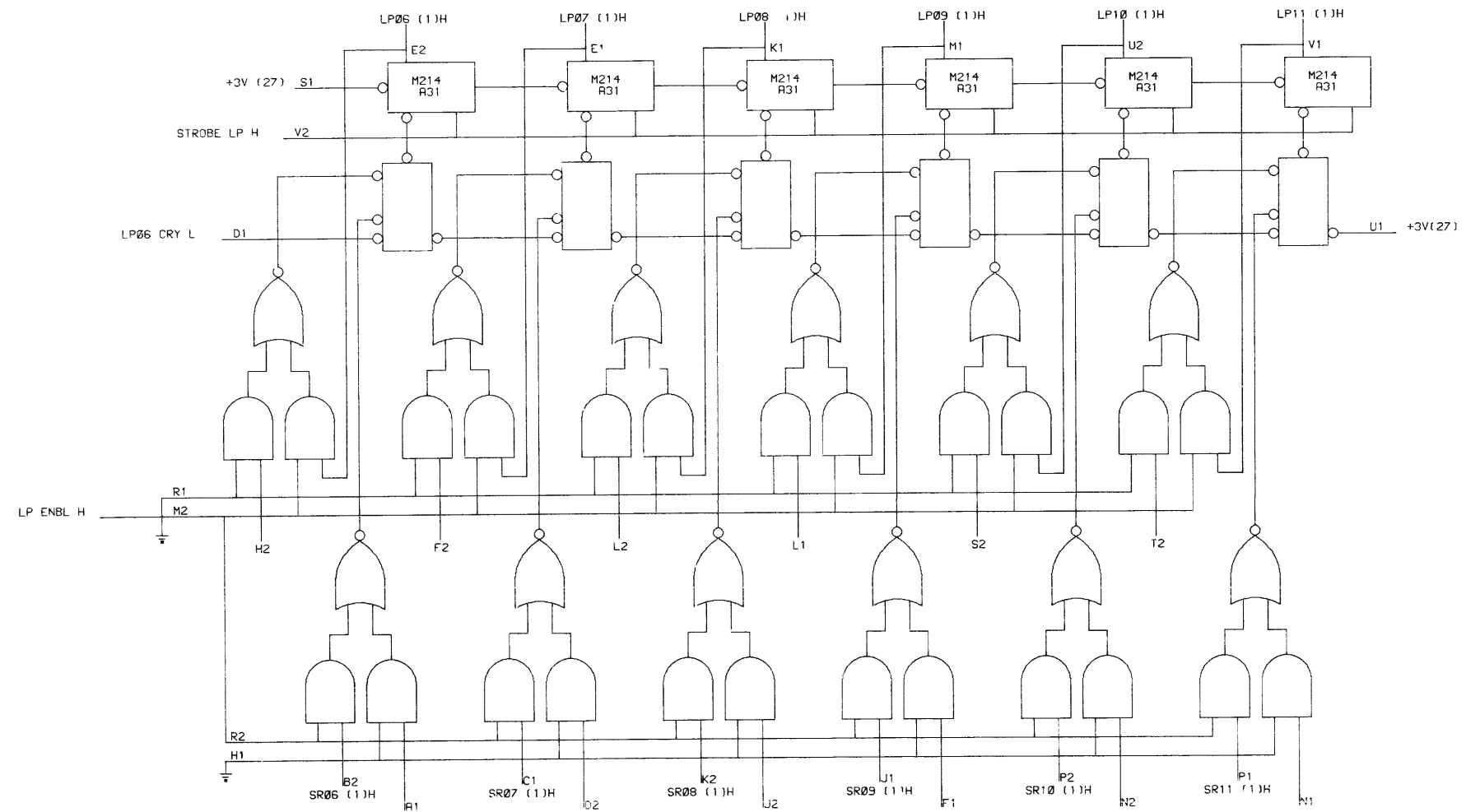


Figure II-24 Longitudinal Parity Block Schematic Diagram
(Sheet 1 of 2)

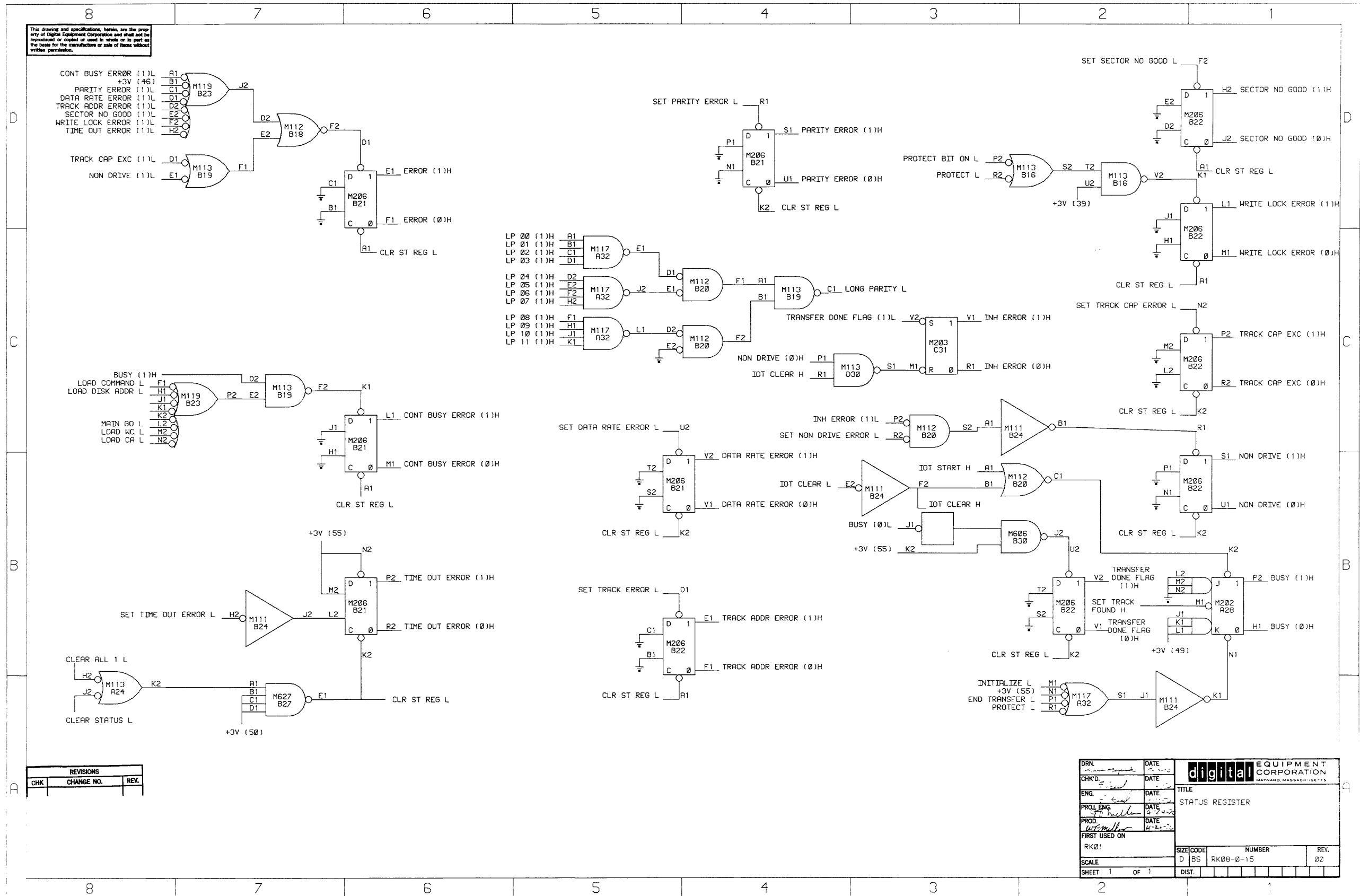
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CHKD E. REED	DATE 4/10/70	
ENG E. REED	DATE 4/10/70	
PROL ENG J. HILTON	DATE 4/10/70	
PROB W. MILLER	DATE 4/10/70	
FIRST USED ON RK01		TITLE LONGITUDINAL PARITY
SCALE SHEET 2 OF 2	SIZE CODE D BS	NUMBER RK00-0-14
	DIST.	REV. A

Figure II-25 Longitudinal Parity Block Schematic Diagram
(Sheet 2 of 2)



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DRN.	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
CHK'D	DATE	
ENG.	DATE	TITLE
PROJ. ENG.	DATE	STATUS REGISTER
PROD.	DATE	
FIRST USED ON		
RK01		
SCALE		
SHEET 1 OF 1	DIST.	

Figure II-26 Status Register Block Schematic Diagram

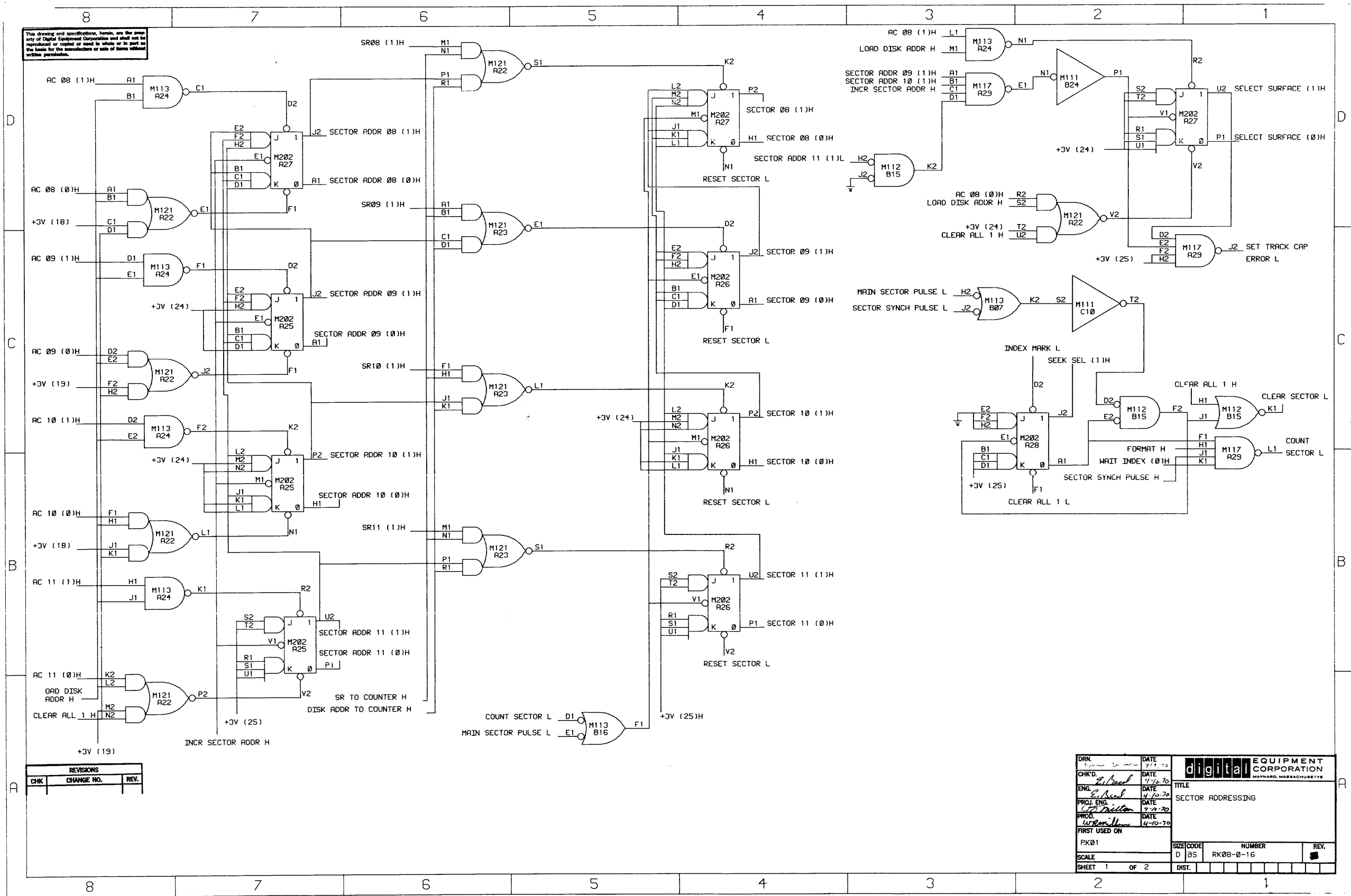


Figure II-27 Sector Addressing Block Schematic Diagram
(Sheet 1 of 2)

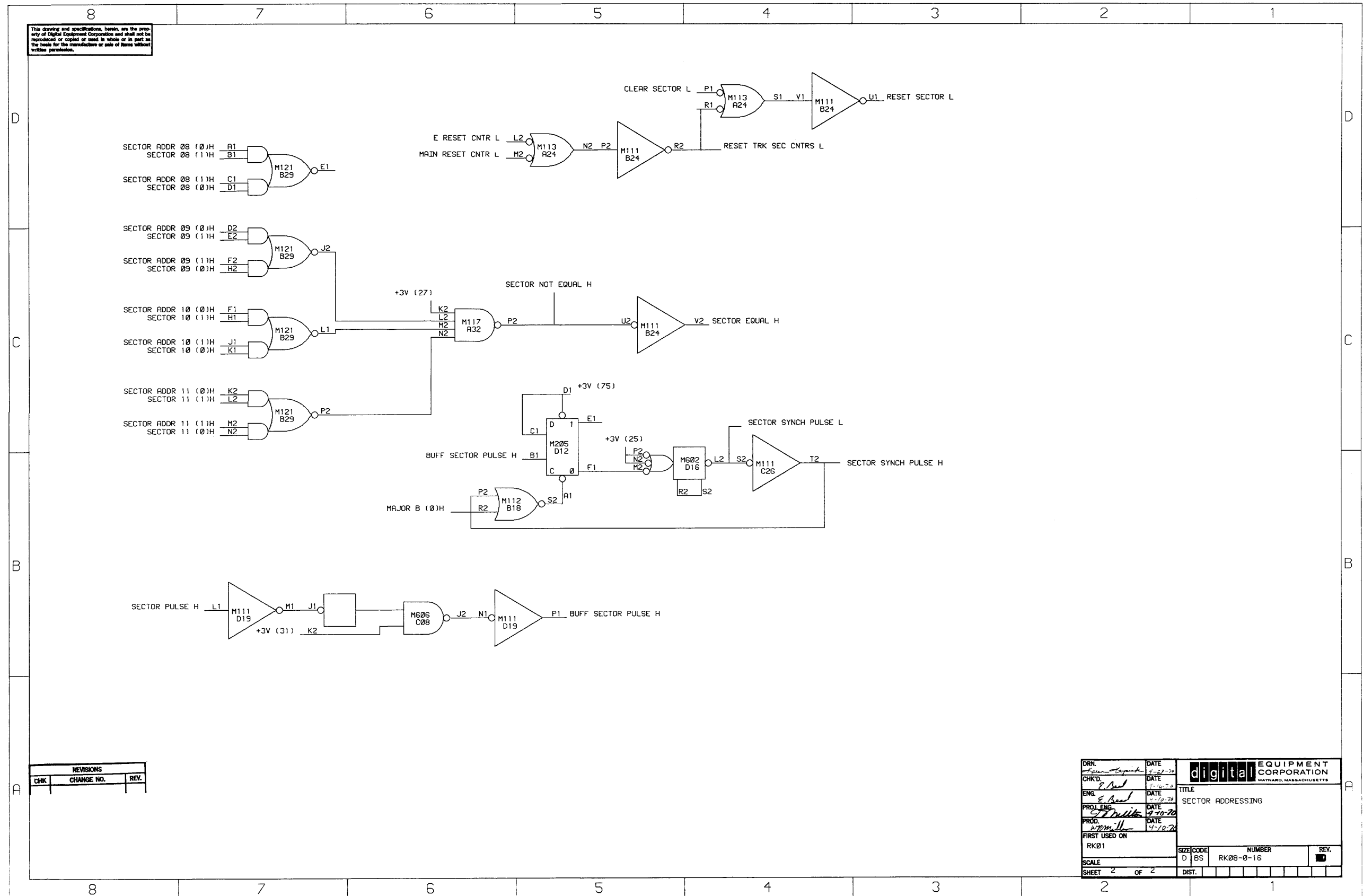
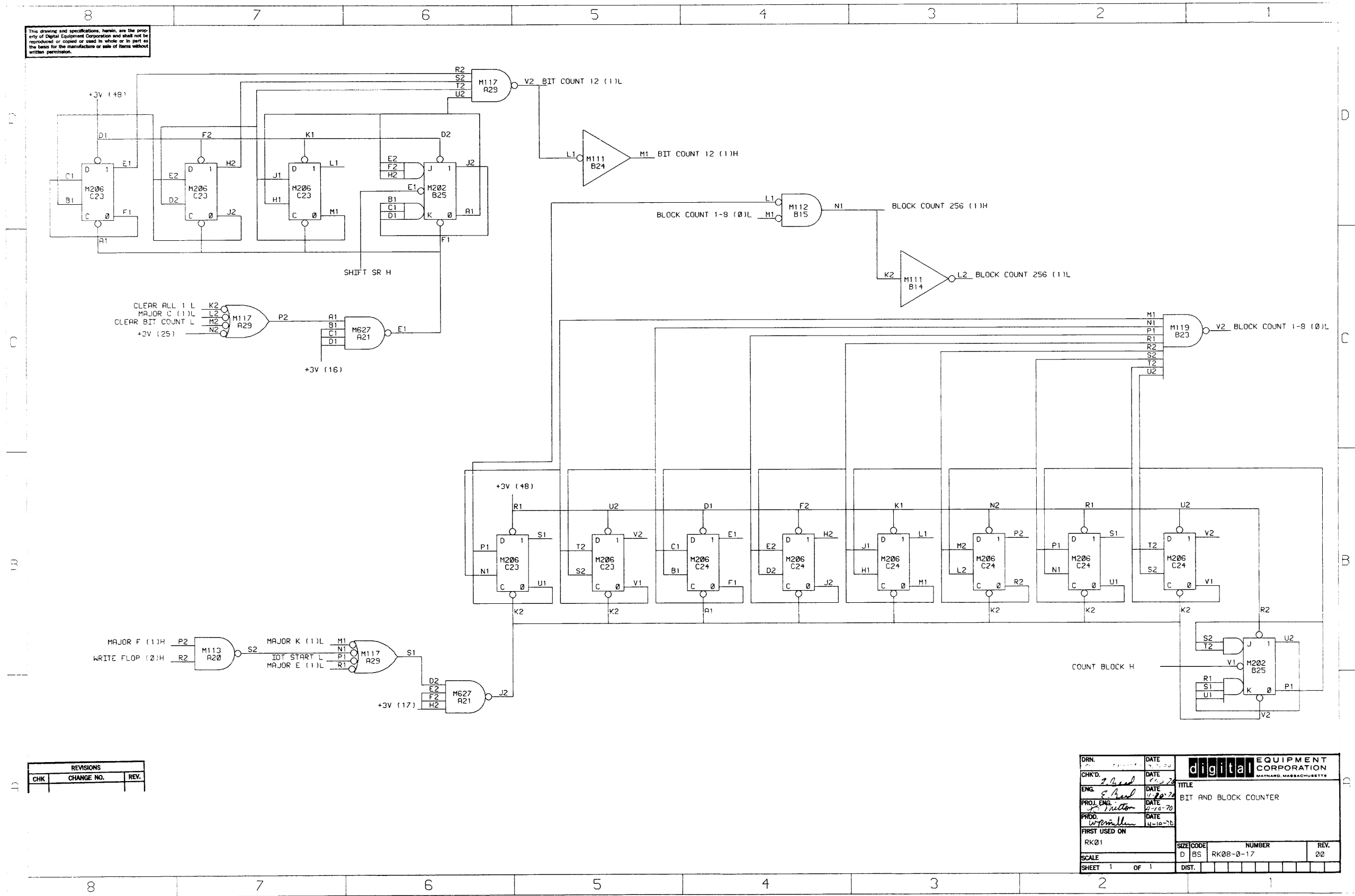


Figure II-28 Sector Addressing Block Schematic Diagram
(Sheet 2 of 2)



REVISIONS		
CHK	CHANGE NO.	REV.

DRN.	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	TITLE BIT AND BLOCK COUNTER
CHK'D.	DATE		
ENG.	DATE		
PROJ. ENG.	DATE		
PROD.	DATE		
FIRST USED ON		SIZE	CODE
RK01		D	BS
SCALE	SHEET 1 OF 1	NUMBER	REV.
DIST.		RK08-0-17	00

Figure II-29 Bit and Block Counter Block Schematic Diagram

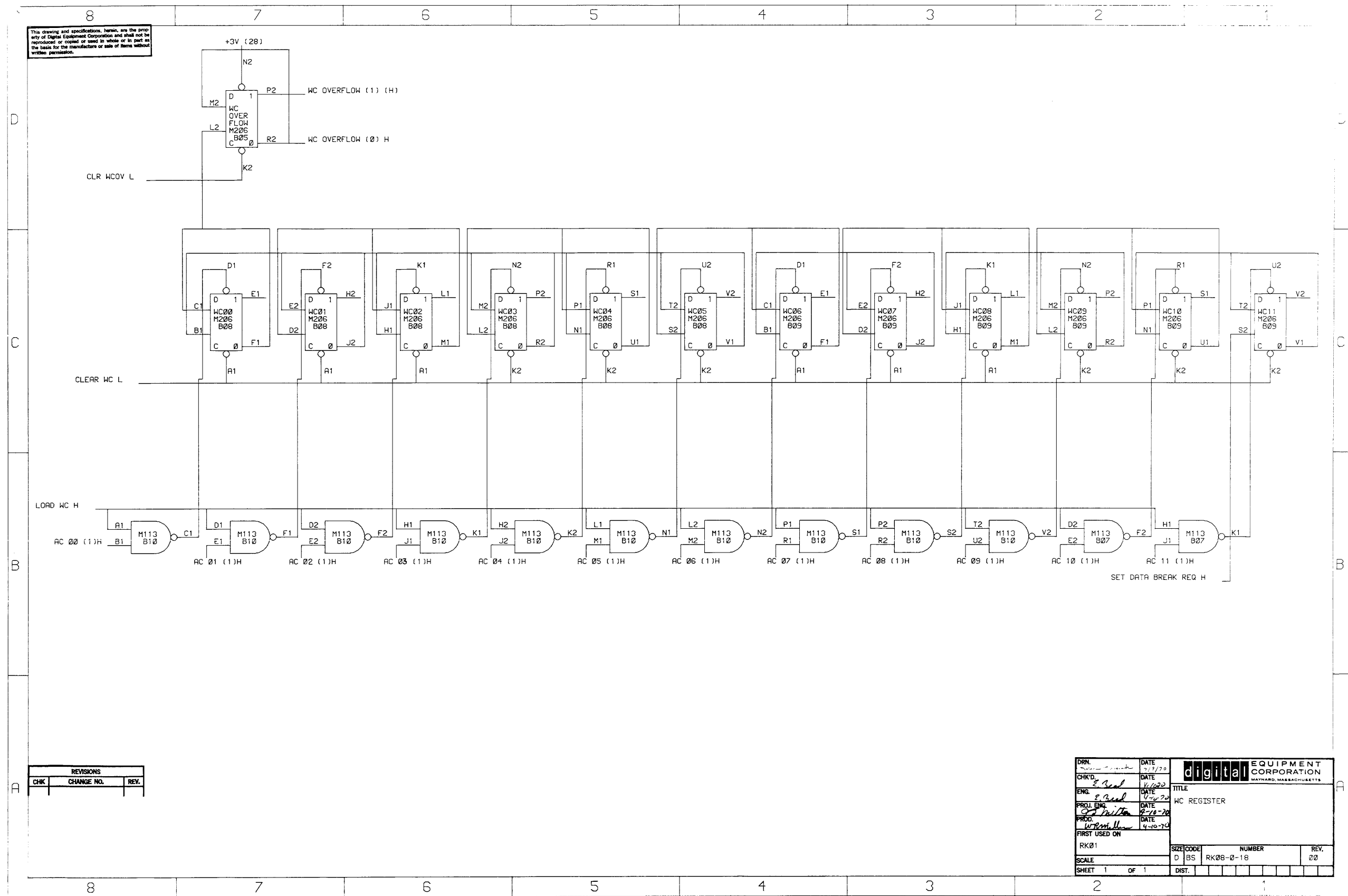


Figure II-30 Word Count (WC) Register Block Schematic Diagram

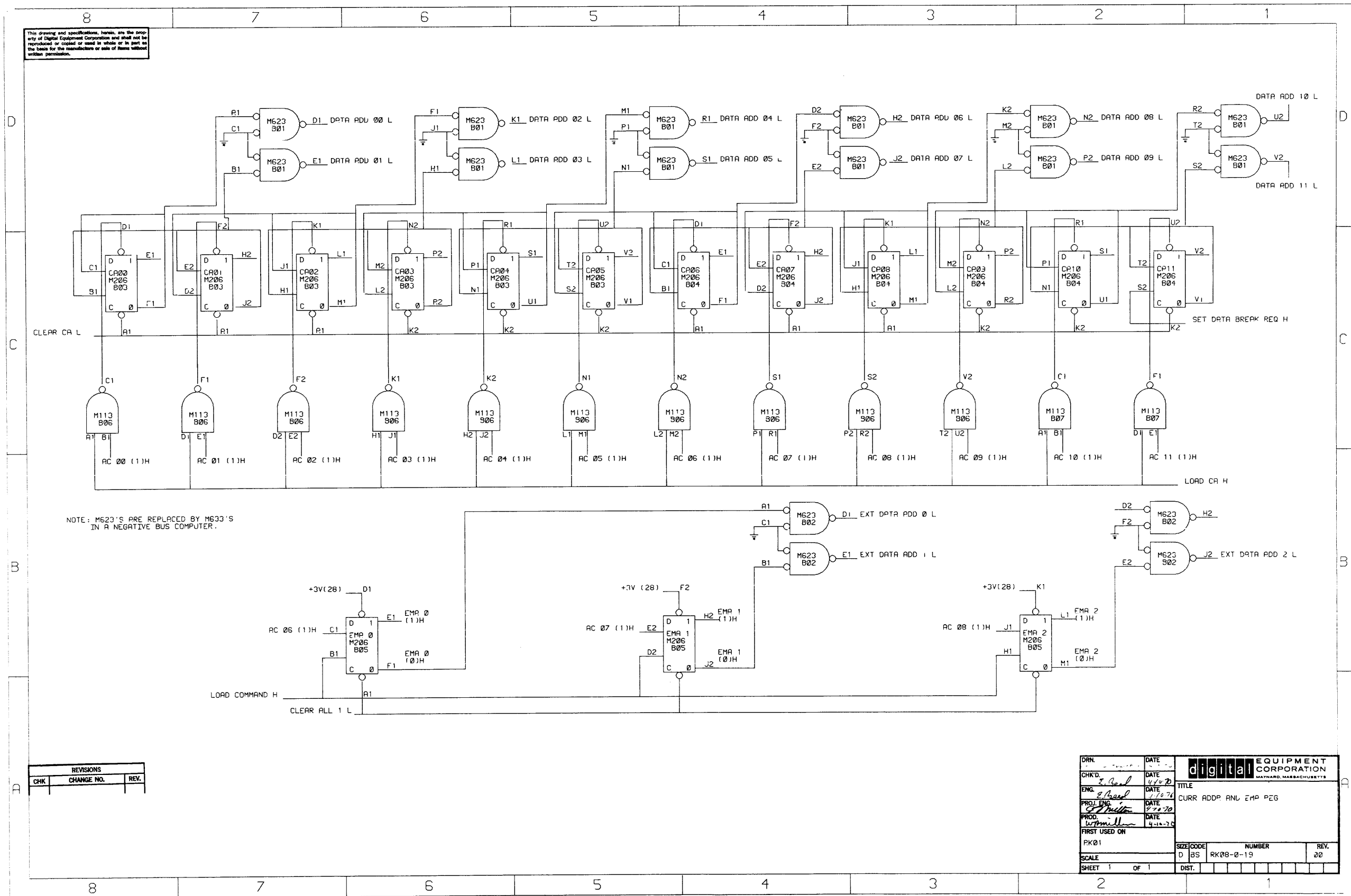


Figure II-31 Current Address and EMA Register Block Schematic Diagram

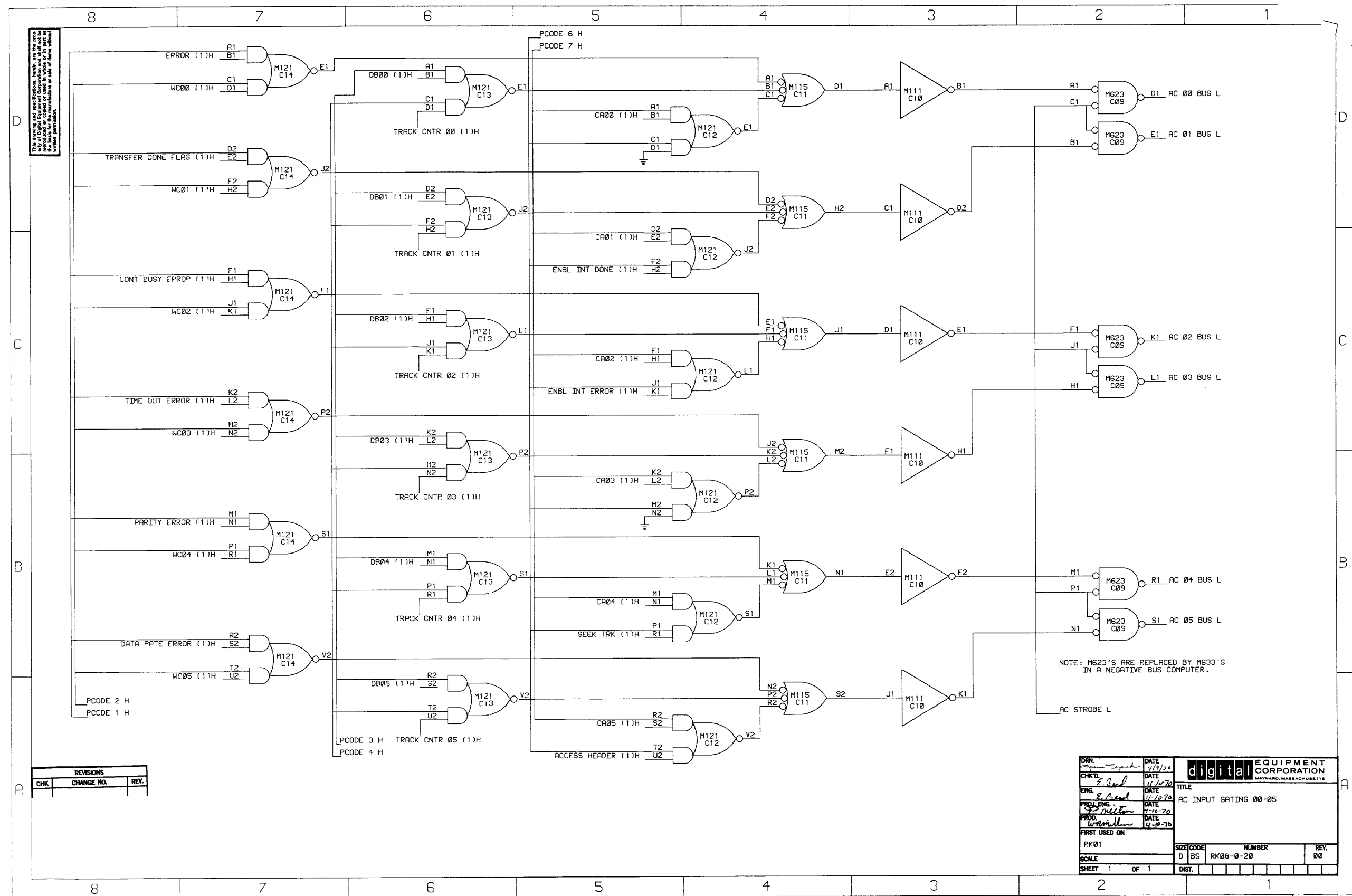


Figure II-32 AC Input Gating 00-05 Block Schematic Diagram

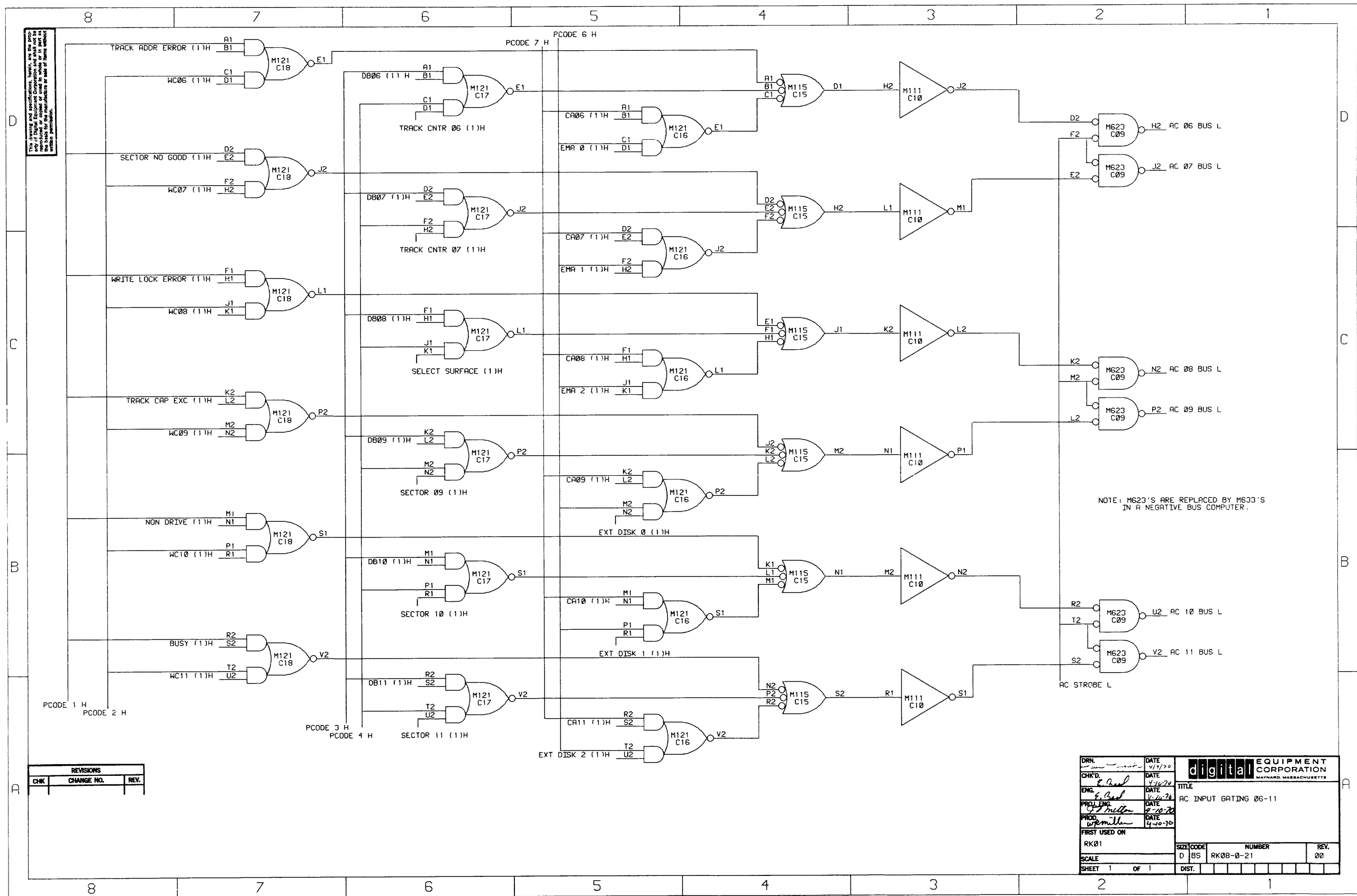


Figure II-33 AC Input Gating 06-11 Block Schematic Diagram

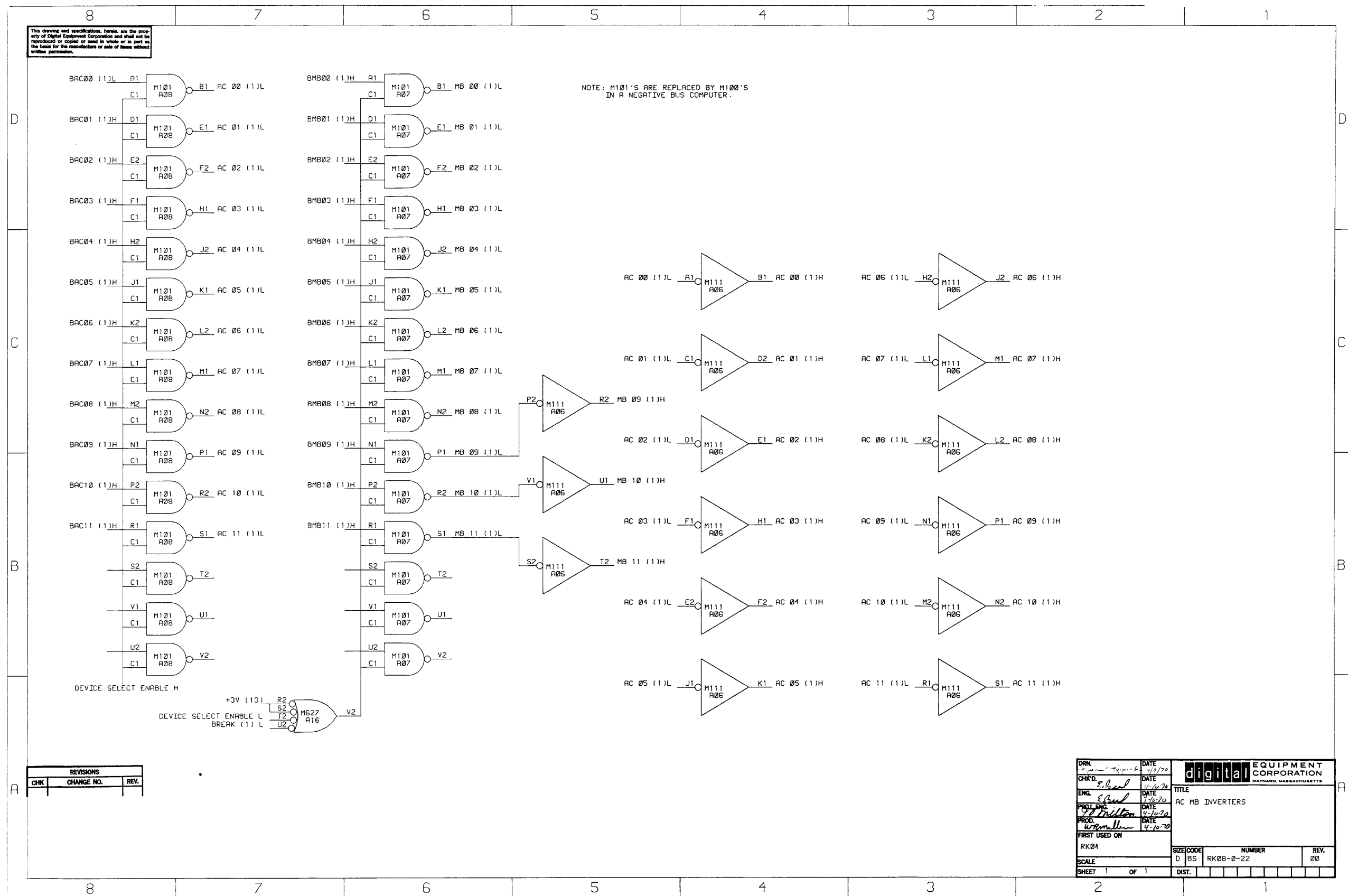


Figure II-34 AC Memory Buffer (MB) Inverters Block Schematic Diagram

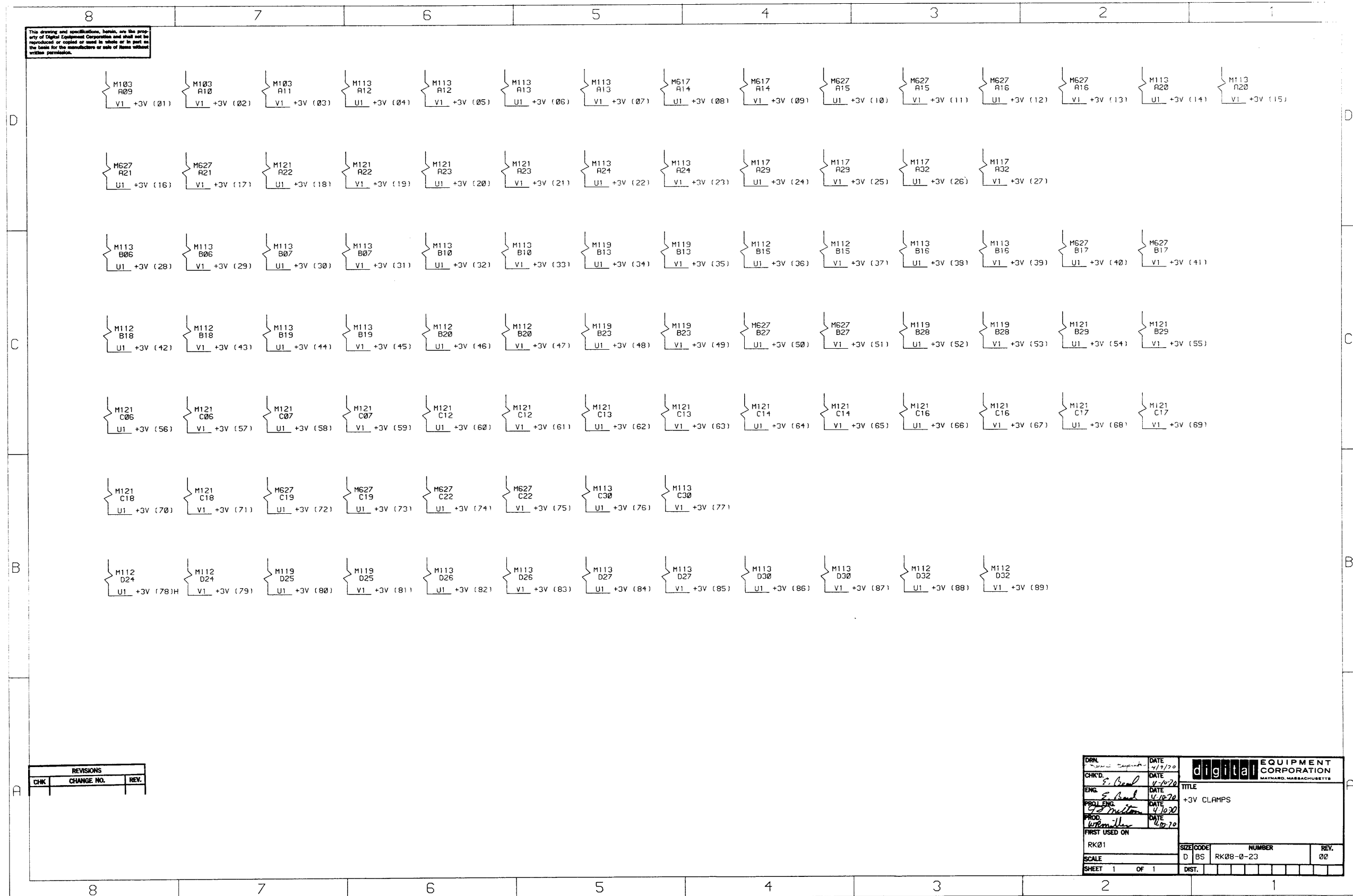


Figure II-35 +3V Clamps Block Schematic Diagram

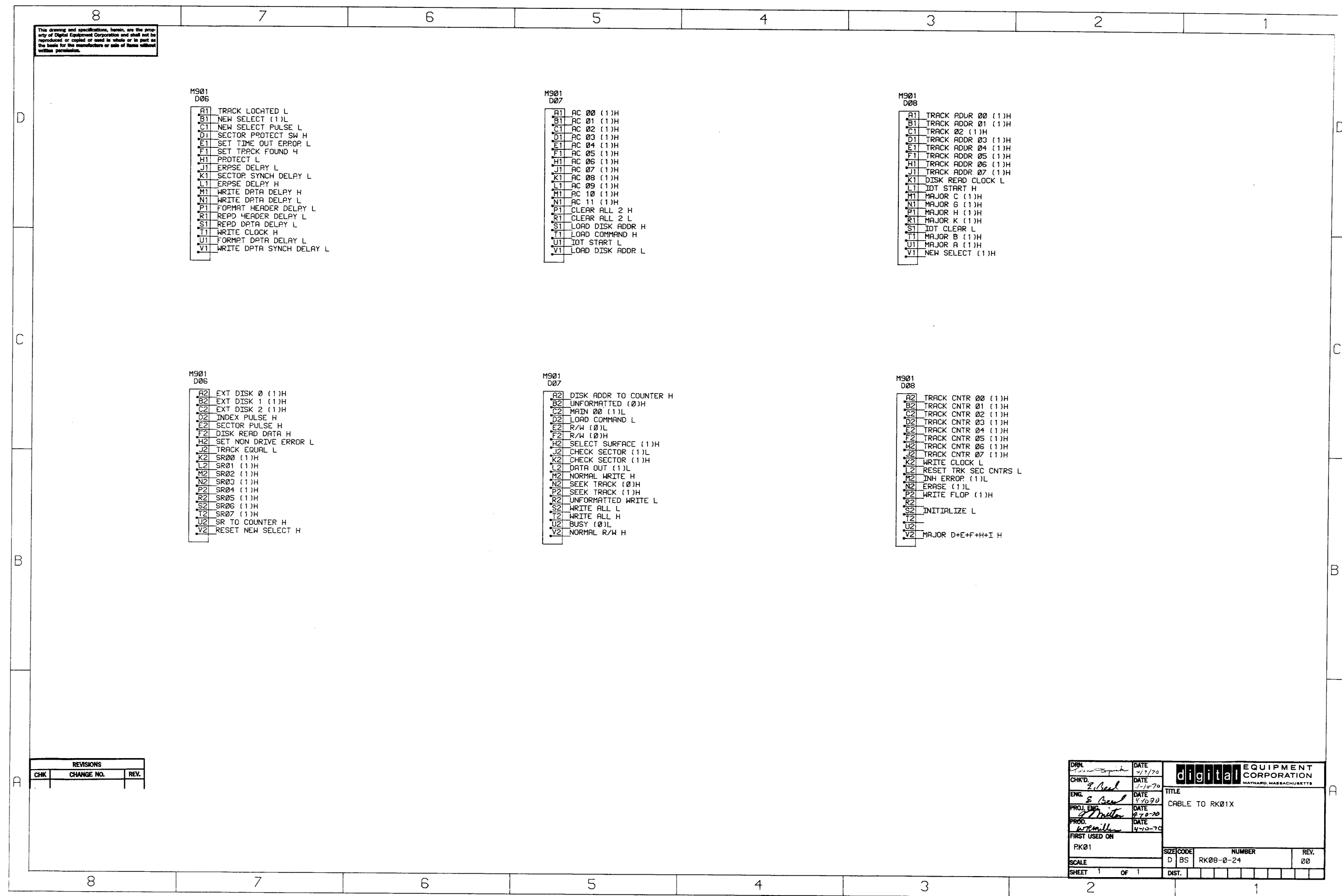


Figure II-36 Cable to RK01-X Block Schematic Diagram

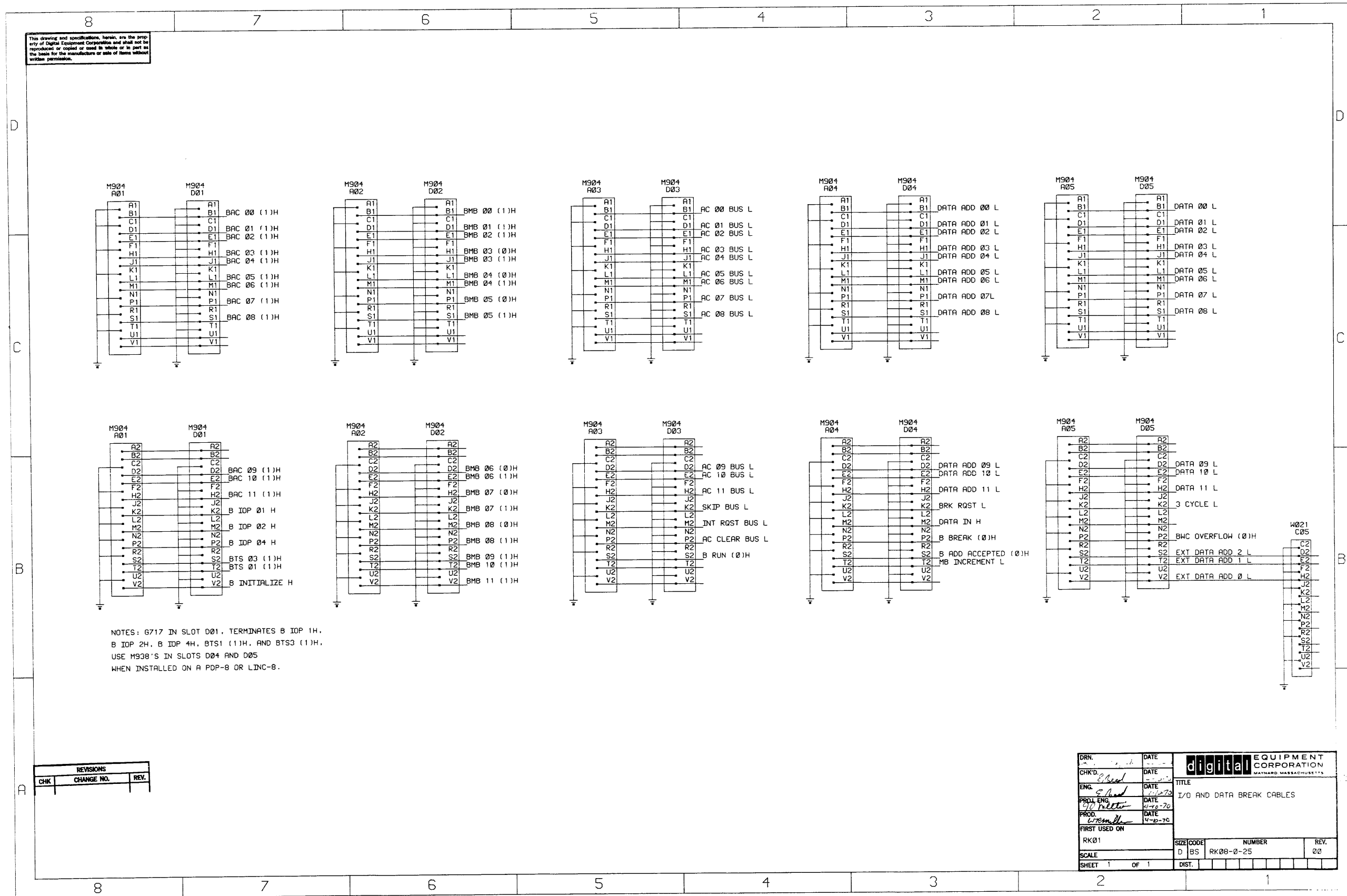


Figure II-37 I/O and Data Break Cables Block Schematic Diagram

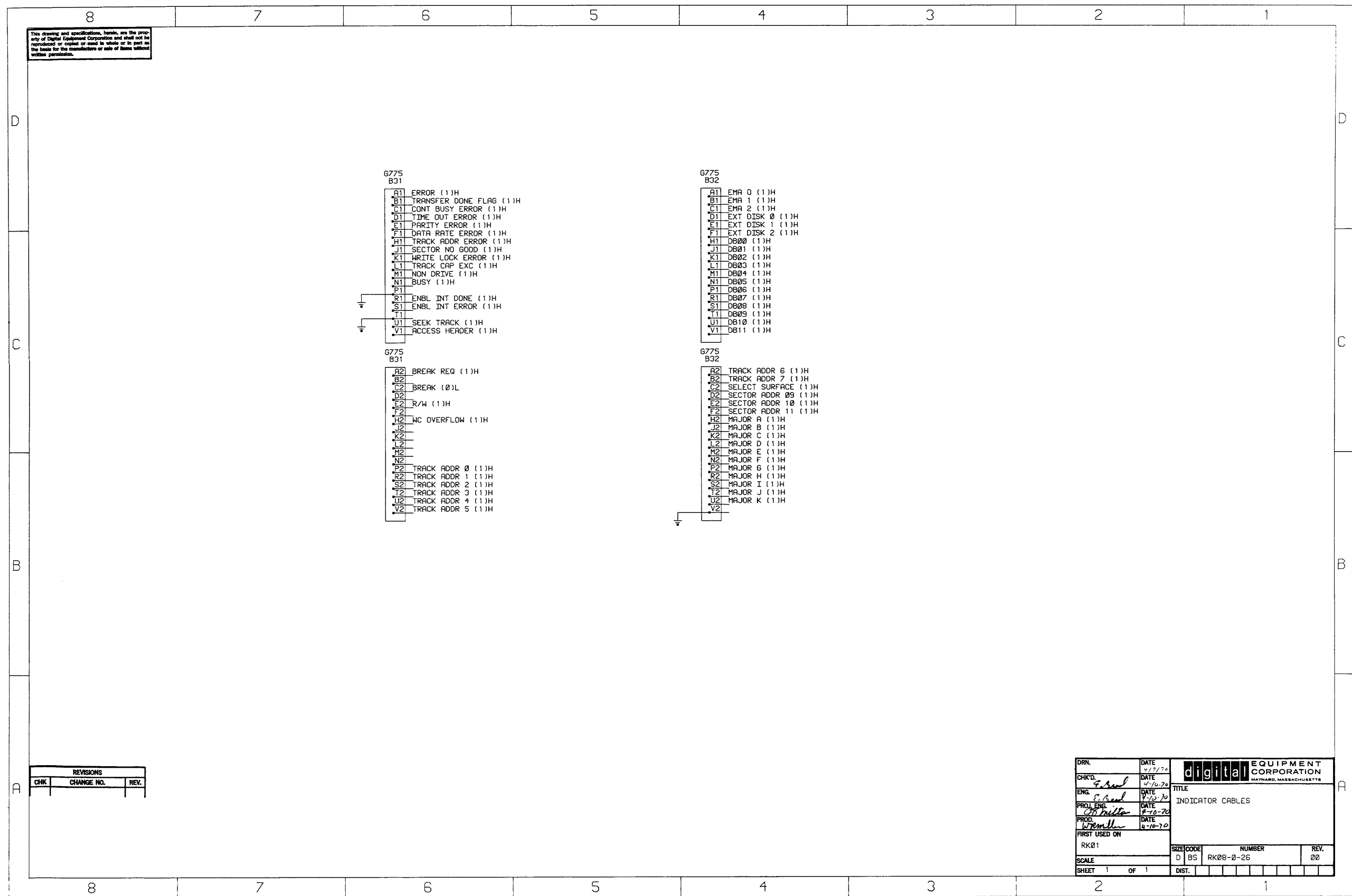


Figure II-38 Indicator Cables Block Schematic Diagram

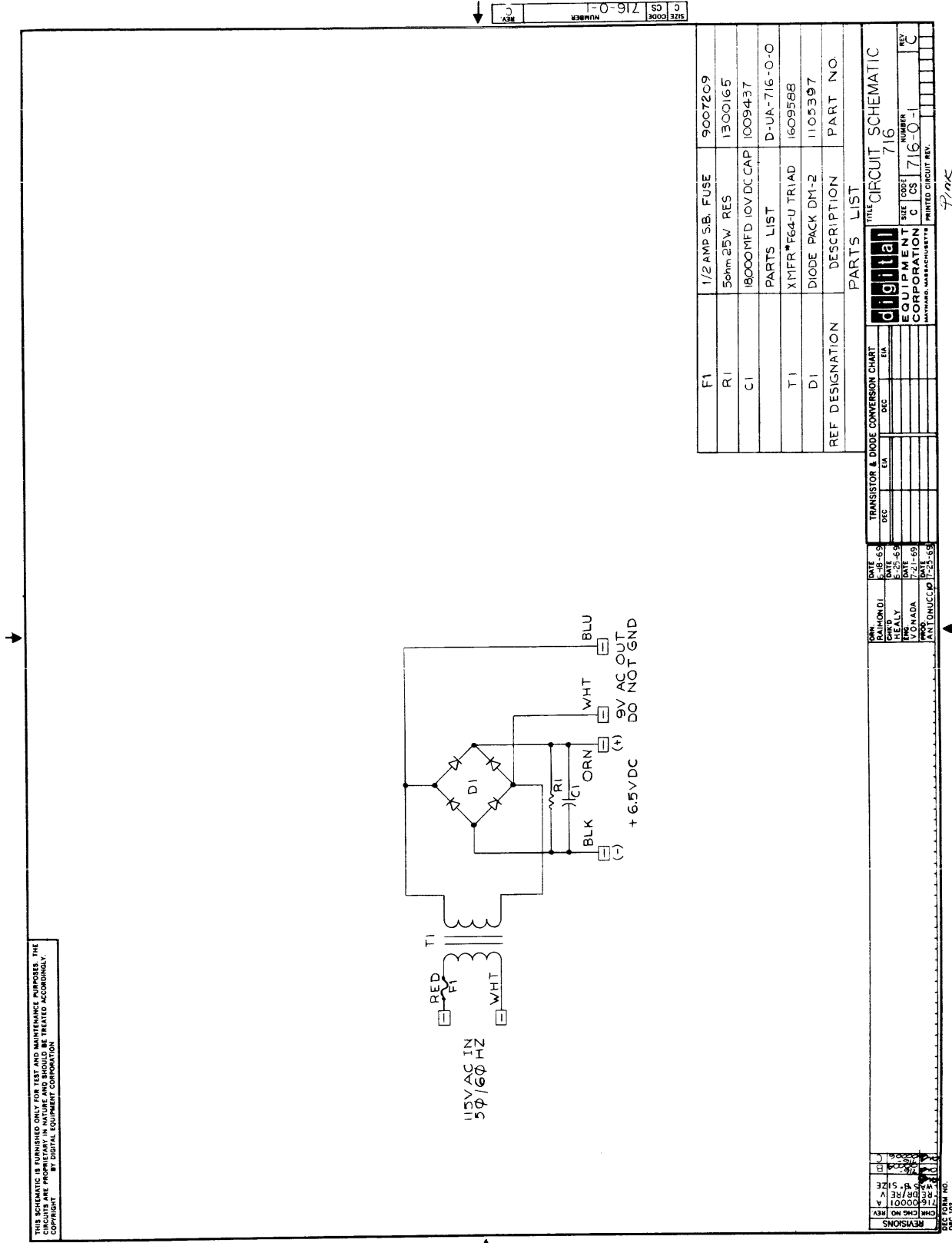


Figure II-39 Type 716 Power Supply Circuit Schematic Diagram

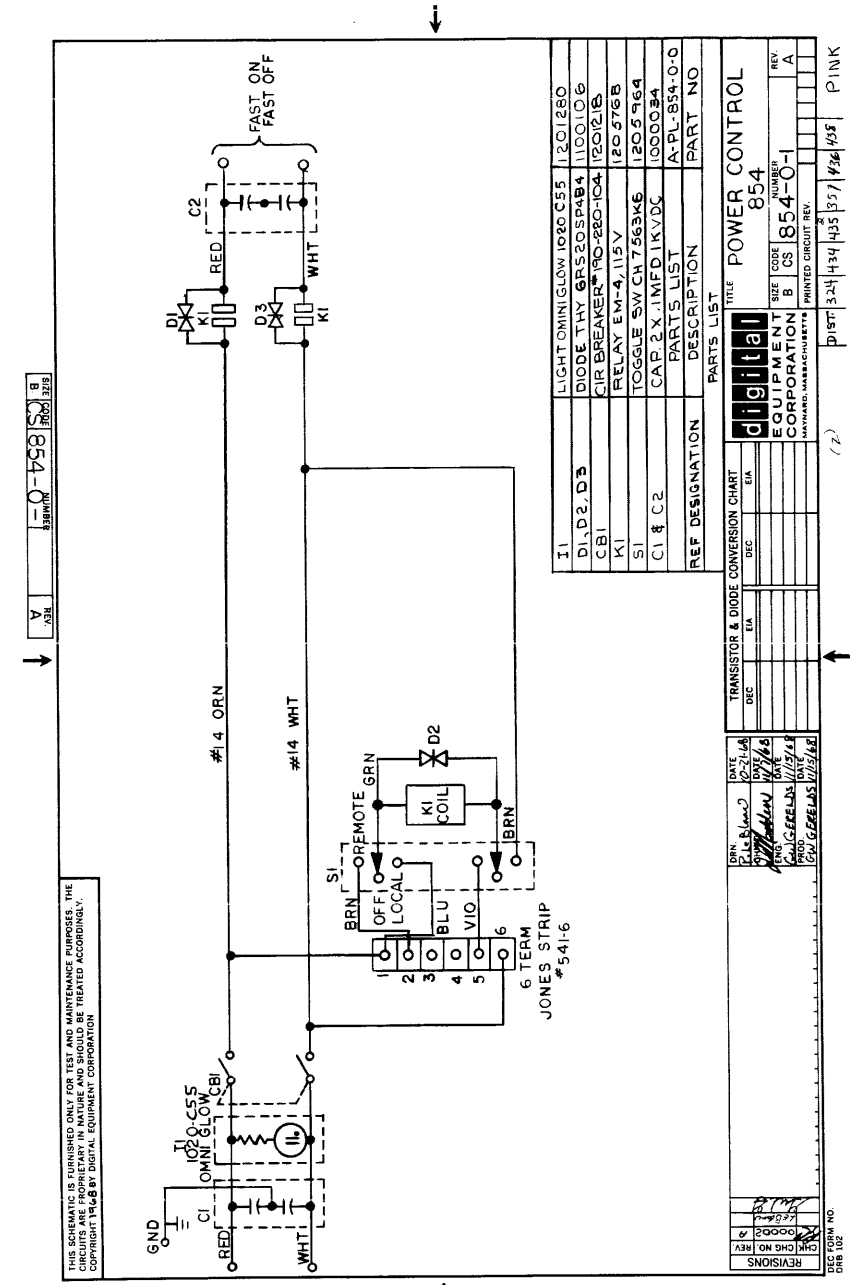


Figure II-40 Type 854 Power Control Panel Wiring Diagram

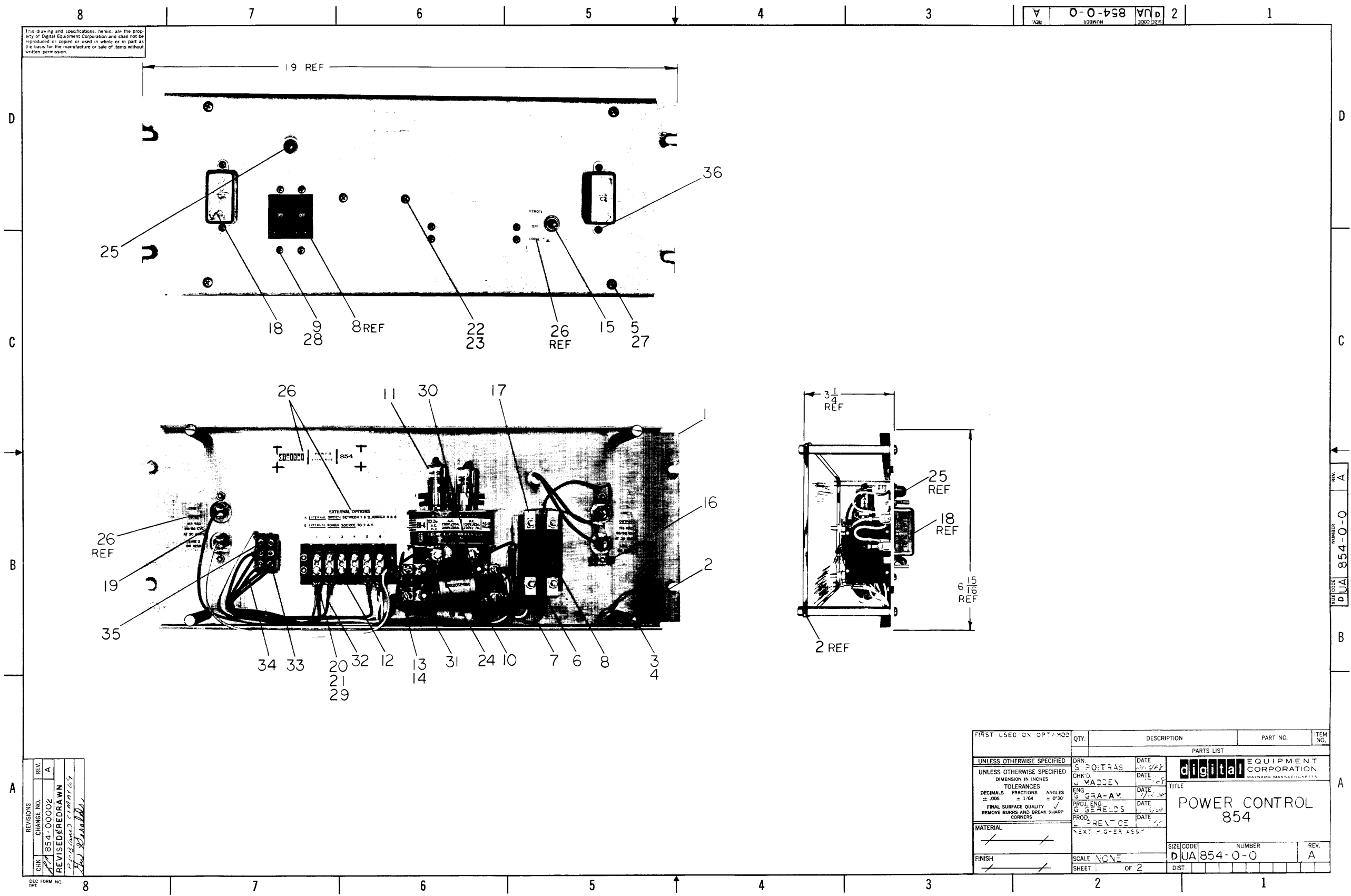


Figure II-41 Type 854 Power Control Panel
 Component Pin Location Diagram
 (Sheet 1)

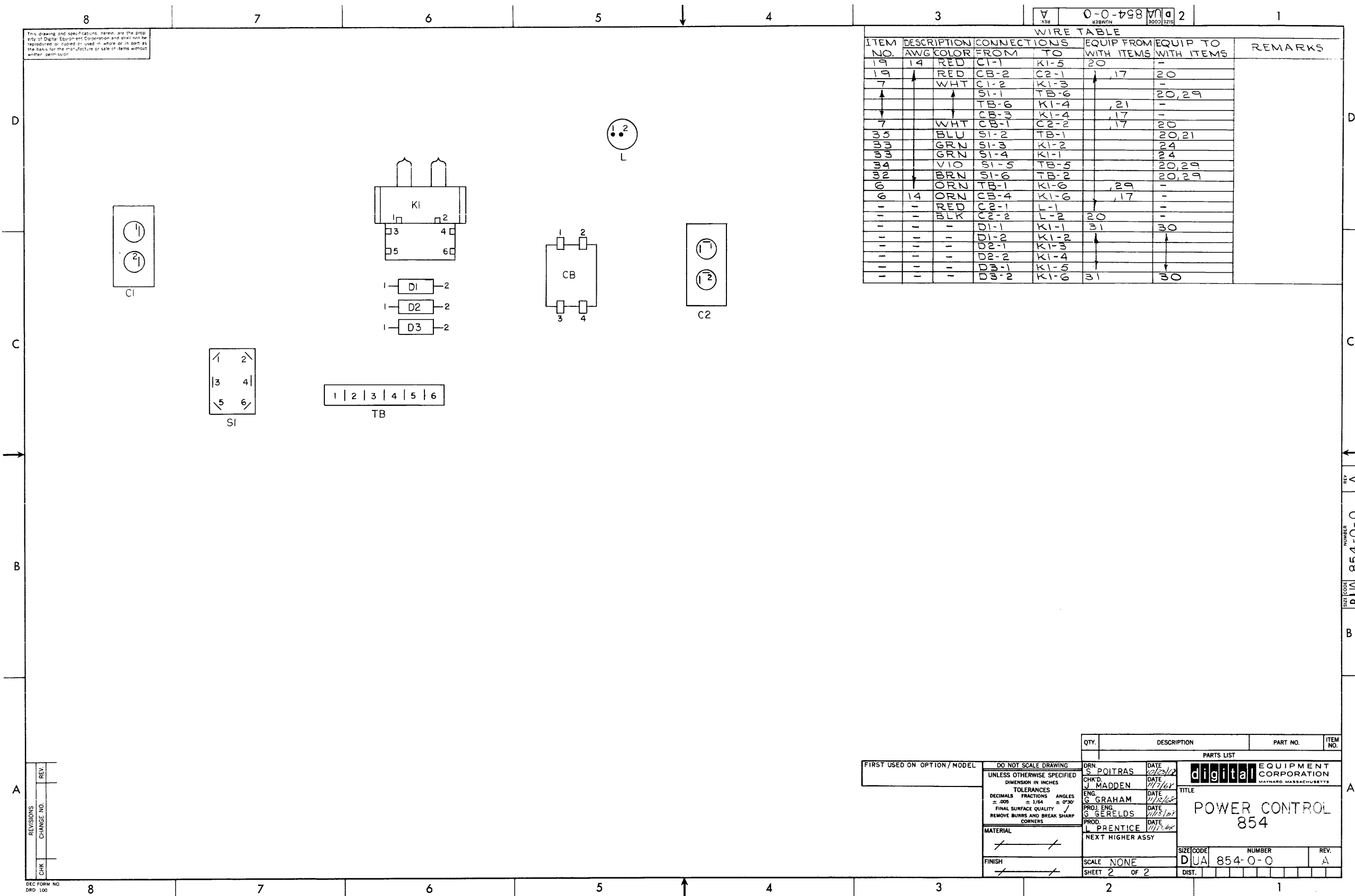


Figure II-41 Type 854 Power Control Panel
Component Pin Location Diagram
(Sheet 2)

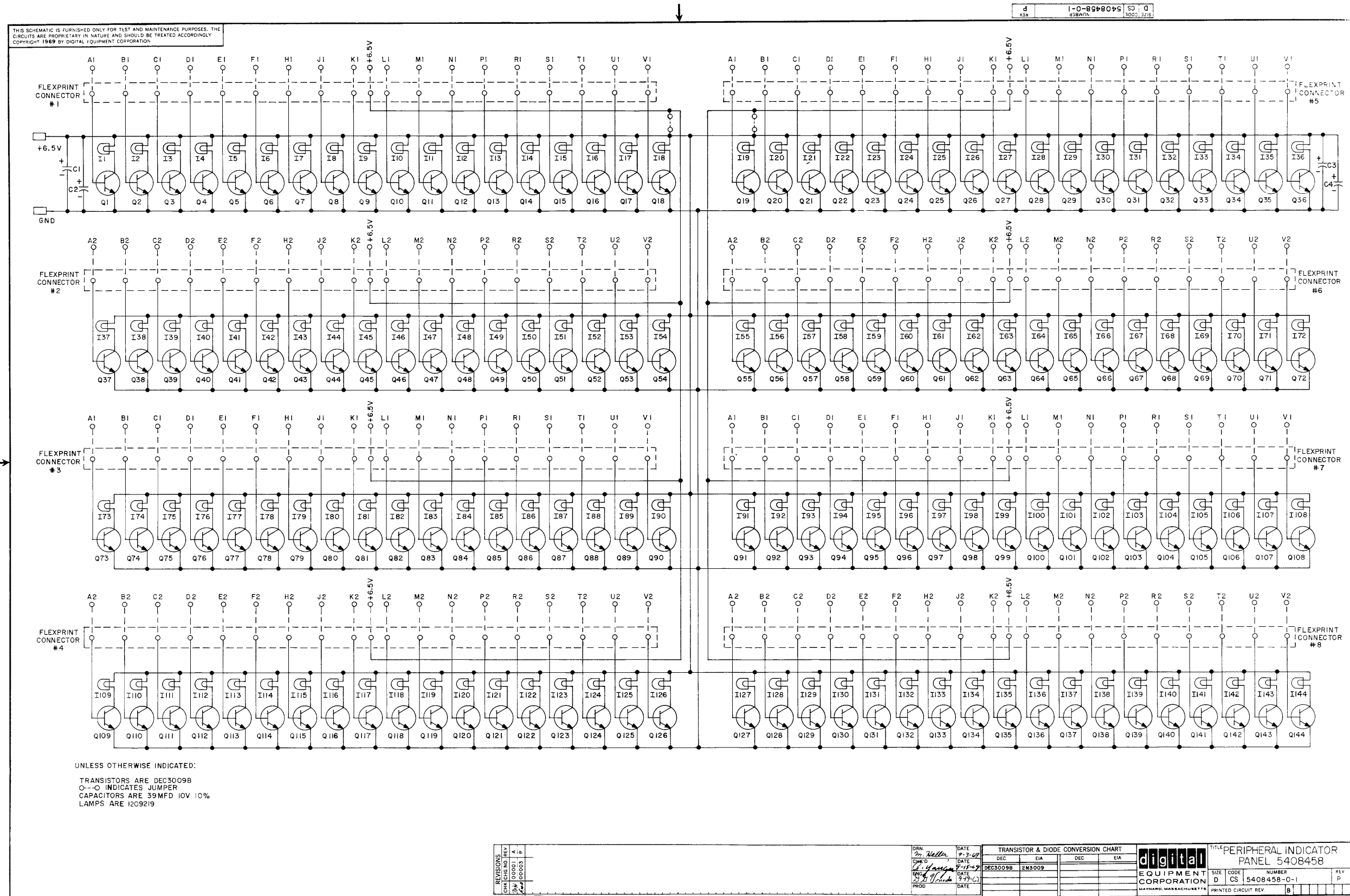
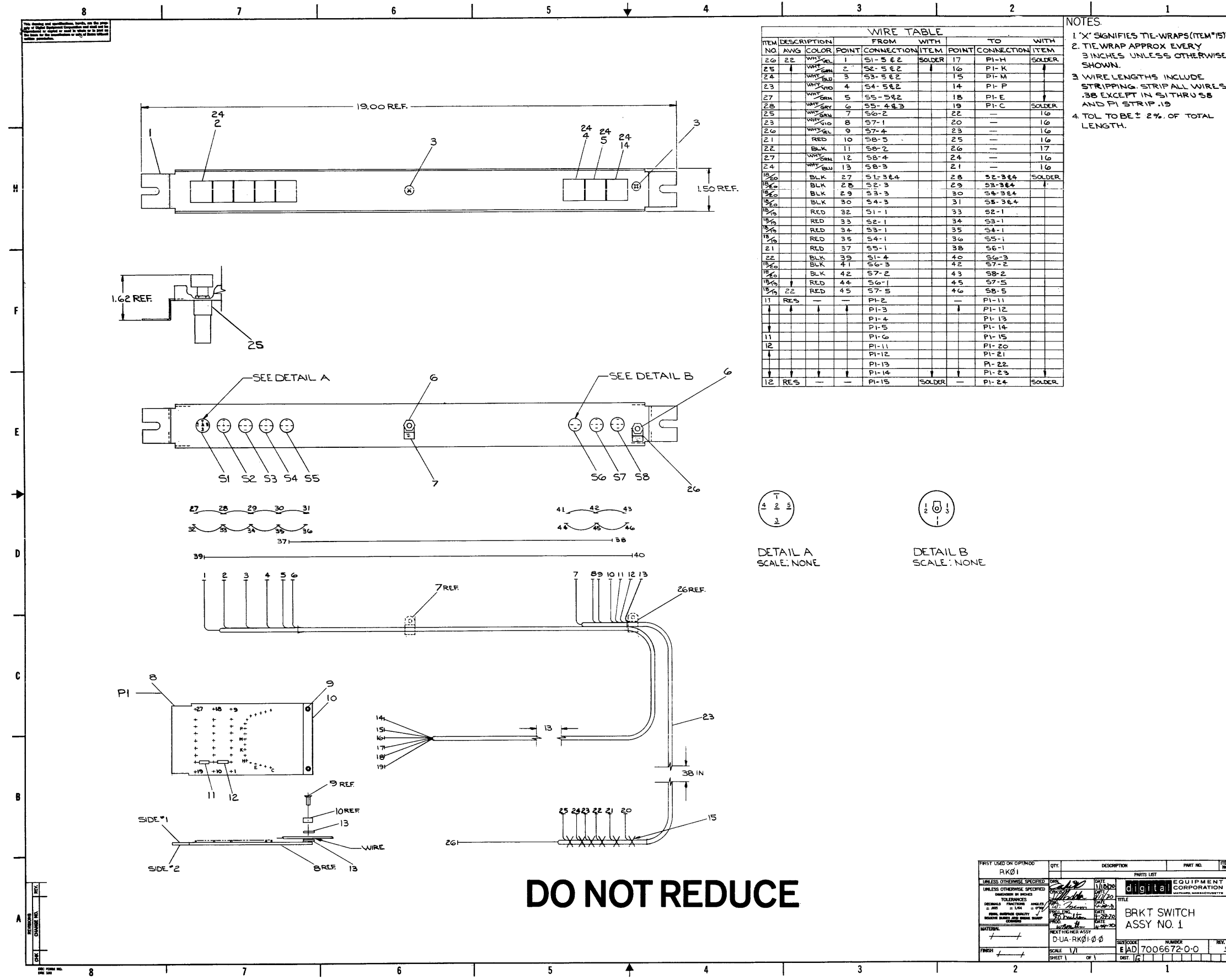


Figure II-42 Register Indicator Panel Circuit Schematic Diagram



QUANTITY	DESCRIPTION	PART NO.	PRICE
1	BRKT SWITCH ASSY NO. 1	D-1A-RK01-00	

BRKT SWITCH ASSY NO. 1

D-1A-RK01-00

SCALE: 1/1

SHEET 1 OF 1

Figure II-43 Control Panel Switch Assembly Diagram

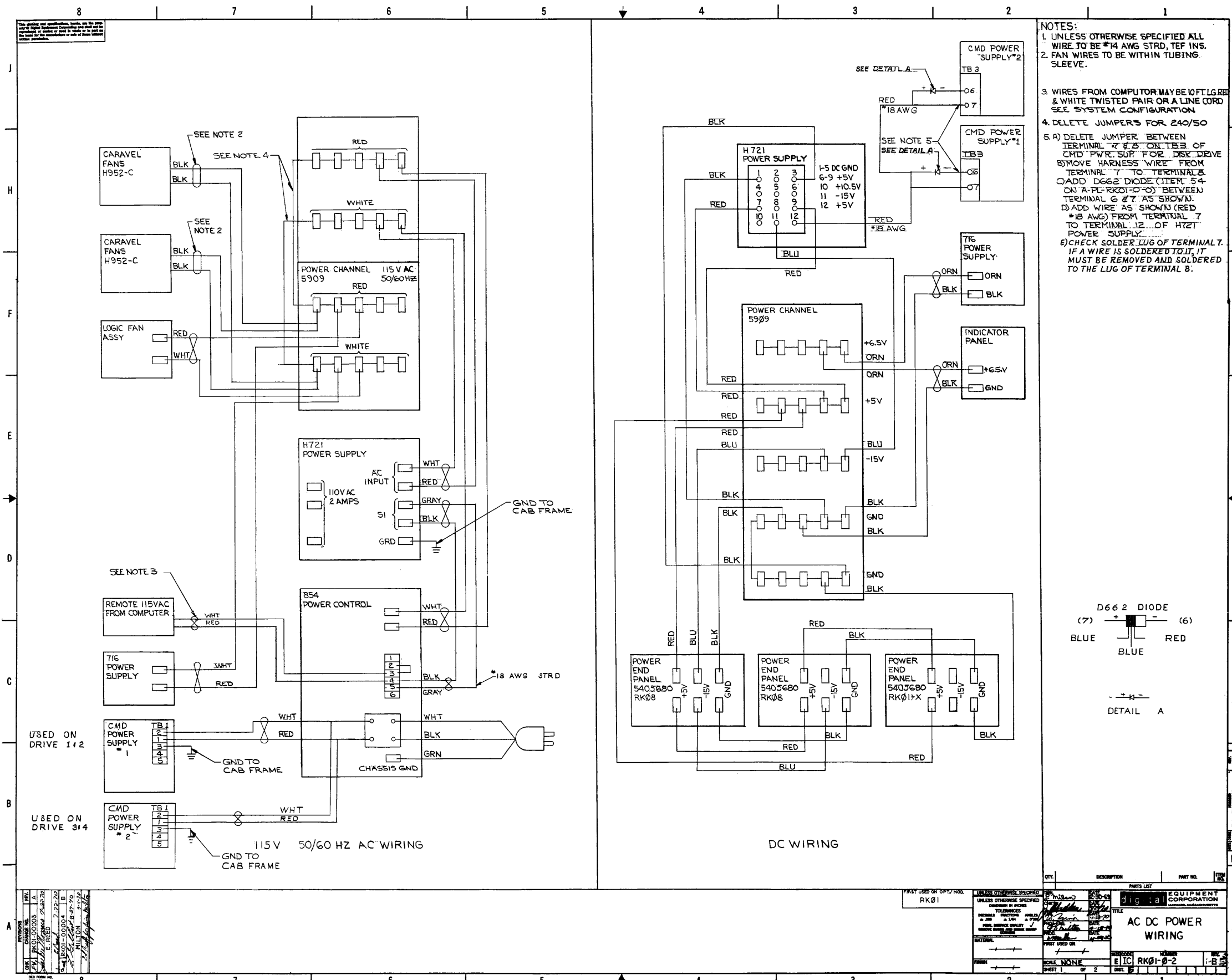
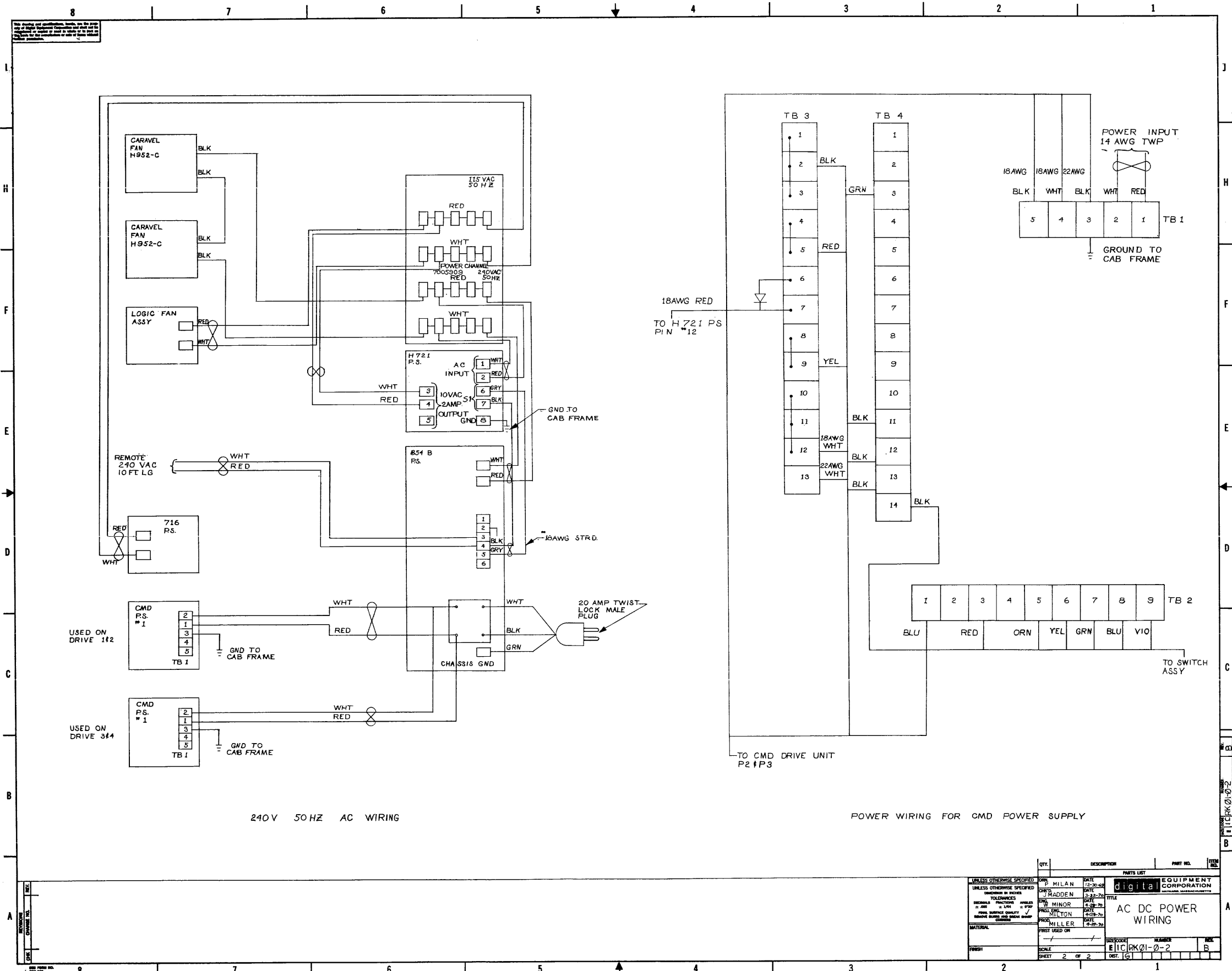


Figure II-44 AC/DC Power Wiring Diagram



UNLESS OTHERWISE SPECIFIED		QTY.	DESCRIPTION	PART NO.	ITEM NO.
DRG	MILAN	DATE	EQUIPMENT CORPORATION		
CHKD	RADDEN	DATE	digital		
REV	MINOR	DATE	TITLE		
PROJ	DESIGN	DATE	AC DC POWER WIRING		
PROJ	MILLER	DATE	DRAWN BY		
MATERIAL	FIRST USED ON		REVISION		
FINISH	SCALE		EICR01-0-2		
	SHEET	2 OF 2	DESIGNER		