



maintenance manual

volume II engineering drawings



GRI Computer Corporation

320 NEEDHAM STREET, NEWTON, MASSACHUSETTS 02164

Price: \$25.00

gn-909

Maintenance Manual
volume II

The equipment described in this manual
is covered by U.S. and foreign patents
and patents pending.

 **GRI Computer Corporation**
320 NEEDHAM STREET, NEWTON, MASSACHUSETTS 02164

March 1972

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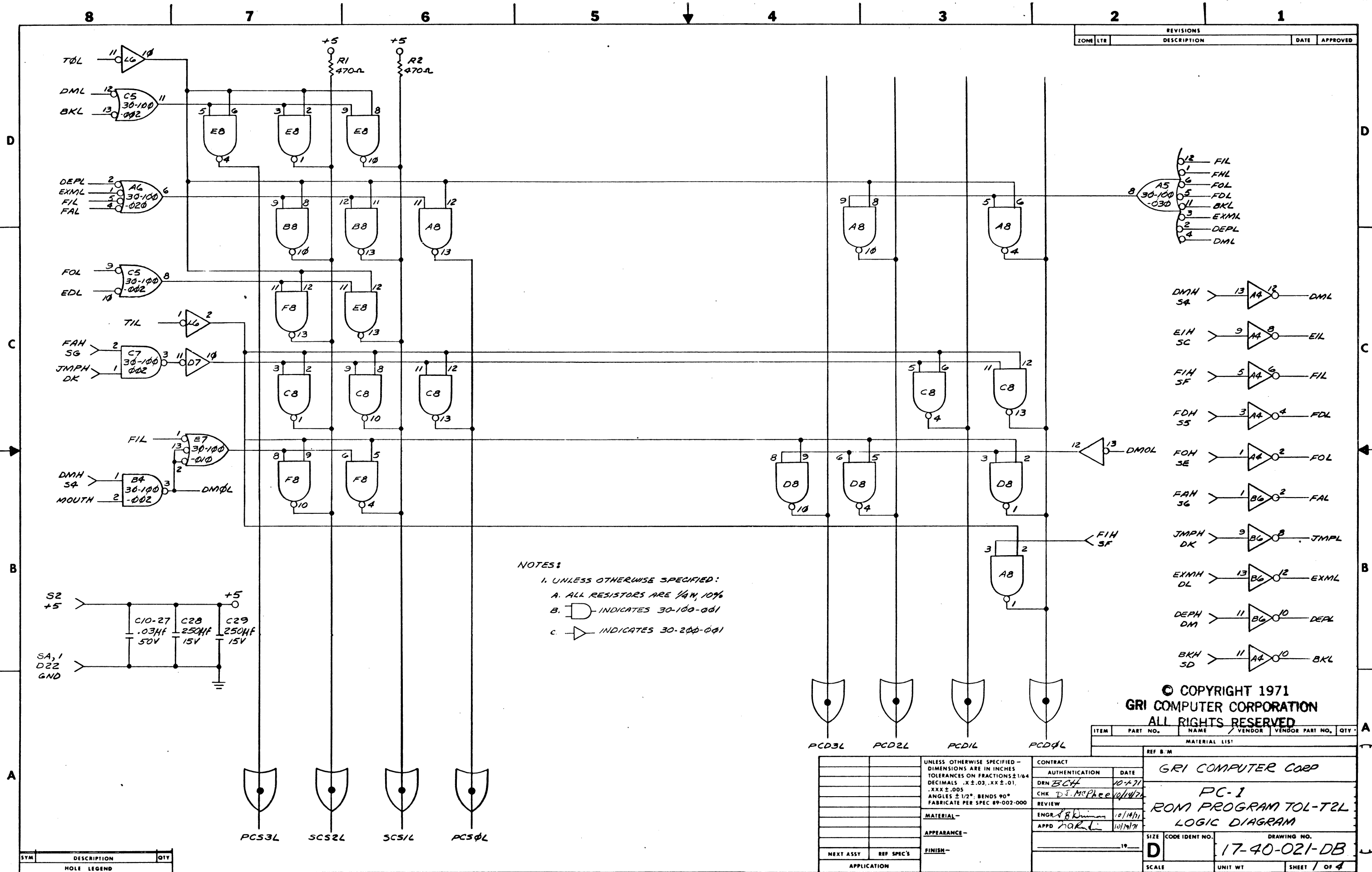
BOARD PC-1					
signal name	origin	used	bus	connector	comments
GROUND				SA	System Ground
GROUND				S1	System Ground
DSTRH		X		SB	Data Strobe
+5 volts				S2	Logic Supply
EIH		X		SC	External Instruction Major State
CLRH		X		S3	System Clear
BKH		X		SD	Break Major State
DMH		X		S4	Direct Memory Access Major State
FOH		X		SE	Fetch Operand Major State
FDH		X		S5	Fetch Deferred Major State
FIH		X		SF	Fetch Instruction Major State
FAH		X		S6	Fetch Address Major State
DAB0H	X			SH	Destination Address Bus 0
DAB1H	X			S7	" 1
DAB2H	X			SJ	" 2
DAB3H	X			S8	" 3
DAB4H	X			SK	" 4
DAB5H	X			S9	" 5
CDA40H		X		SL	Console Device Select 40
CDA4H		X		S10	" 4
CDA20H		X		SM	" 20
CDA2H		X		S11	" 2
CDA10H		X		SN	" 10
CDA1H		X		S12	" 1
DIRBL			X	SP	DMA Direction Bus
IMBL			X	S13	DMA Increment Bus
SDSL	X			SR	Select Data Display
GRI COMPUTER CORPORATION				GRI 909 SIGNAL ORIGIN, USE	
ENG. <i>D. J. Phee</i>	DATE	4/26/71		PC-1 1 of 4	
APPROVED <i>A. Dima</i>	DATE	4-26-71		A	18 040 001 A

BOARD PC-1					
signal name	origin	used	bus	connector	comments
CCSH	X			S14	Console Switch Select
SB00H		X		SS	Data Source Bus 00
SB01H		X		S15	" 01
SB02H		X		ST	" 02
SB03H		X		S16	" 03
SB04H		X		SU	" 04
SBC5H		X		S17	" 05
SB06H		X		SV	" 06
SB07H		X		S18	" 07
SB08H		X		SW	" 08
SB09H		X		S19	" 09
SB10H		X		SX	" 10
SB11H		X		S20	" 11
SB12H		X		SY	" 12
SB13H		X		S21	" 13
SB14H		X		SZ	" 14
SB15H		X		S22	" 15
GRI COMPUTER CORPORATION				GRI 909 SIGNAL ORIGIN, USE	
ENG.	DATE	PC-1 2 of 4			
APPROVED	DATE	A	18 040	001	A

BOARD PC-1					
signal name	origin	used	bus	connector	comments
DB00L			X	DA	Data Destination Bus 00
DB01L			X	D1	" 01
DB02L			X	DB	" 02
DB03L			X	D2	" 03
DB04L			X	DC	" 04
DB05L			X	D3	" 05
DB06L			X	DD	" 06
DB07L			X	D4	" 07
DB08L			X	DE	" 08
DB09L			X	D5	" 09
DB10L			X	DF	" 10
DB11L			X	D6	" 11
DB12L			X	DH	" 12
DB13L			X	D7	" 13
DB14L			X	DJ	" 14
DB15L			X	D8	" 15
JMPH		X		DK	Jump State
SAB0H	X			D9	Source Address Bus 0
EXMH		X		DL	Examine State (READ)
SAB1H	X			D10	Source Address Bus 1
DEPH		X		DM	Deposit State (WRITE)
SAB2H	X			D11	Source Address Bus 2
TRMH			X	DN	Transmit State
SAB3H	X			D12	Source Address Bus 3
DISBH		X		DP	Display State
SAB4H	X			D13	Source Address Bus 4
PTH	X			DR	Plus Two to Bus Mod
GRI COMPUTER CORPORATION			GRI 909 SIGNAL ORIGIN, USE		
ENG.	DATE	PC-1		3 of 4	
APPROVED	DATE	A	18 040	001	A
		SIZE	TYPE	FIG. NO.	NUMBER

BOARD PC-1					
signal name	origin	used	bus	connector	comments
SAB0H	X			D14	Source Address Bus 5
TOH		X		DS	Time State 0
T1H		X		D15	" 1
T2H		X		DT	" 2
T3H		X		D16	" 3
MBRH	X			DU	MB Request
XFRH	X			D17	Transfer State
FUNCH	X			DV	Function State
EXTH		X		D18	Execute Time
CB2H	X			DW	Control Bus 2
CB3H	X			D19	" 3
CBOH	X			DX	" 0
CB1H	X			D20	" 1
ISYNH				DY	Interrupt Sync
-20 volts				D21	Memory Supply
CSTRH		X		DZ	Console Strobe
GROUND				D22	System Ground
GRI COMPUTER CORPORATION			GRI 909 SIGNAL ORIGIN, USE		
ENG.	DATE	PC-1		4 of 4	
APPROVED	DATE	A	18 040	001	A
		SIZE	TYPE	FIG. NO.	NUMBER

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED

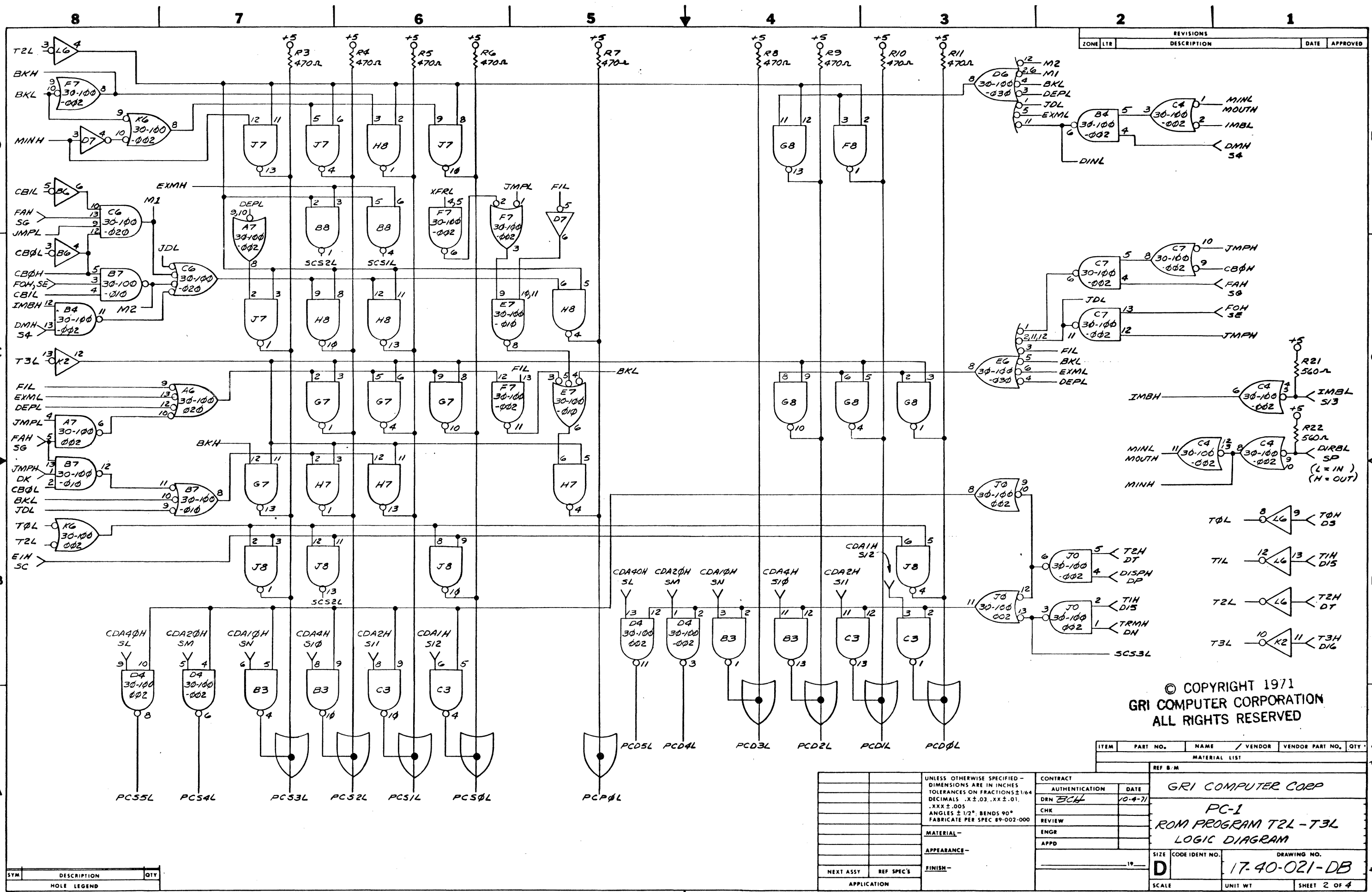


NOTES:
 1. UNLESS OTHERWISE SPECIFIED:
 A. ALL RESISTORS ARE 1/4W, 10%
 B. INDICATES 30-100-001
 C. INDICATES 30-200-001

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ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST					
REF B/M					
GRI COMPUTER CORP					
PC-1					
ROM PROGRAM TOL-T2L					
LOGIC DIAGRAM					
CONTRACT AUTHENTICATION		DATE		DRAWING NO.	
DRN BCH		10-7-71		17-40-021-DB	
CHK D.S. McPhee		10/14/71		SIZE	
REVIEW		ENGR. B. K. ...		CODE IDENT NO.	
APPD. ...		10/14/71		D	
NEXT ASSY		REF SPEC'S		SCALE	
APPLICATION		FINISH-		UNIT WT	
				SHEET 1 OF 4	

SYM	DESCRIPTION	QTY
MOLE LEGEND		



REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED

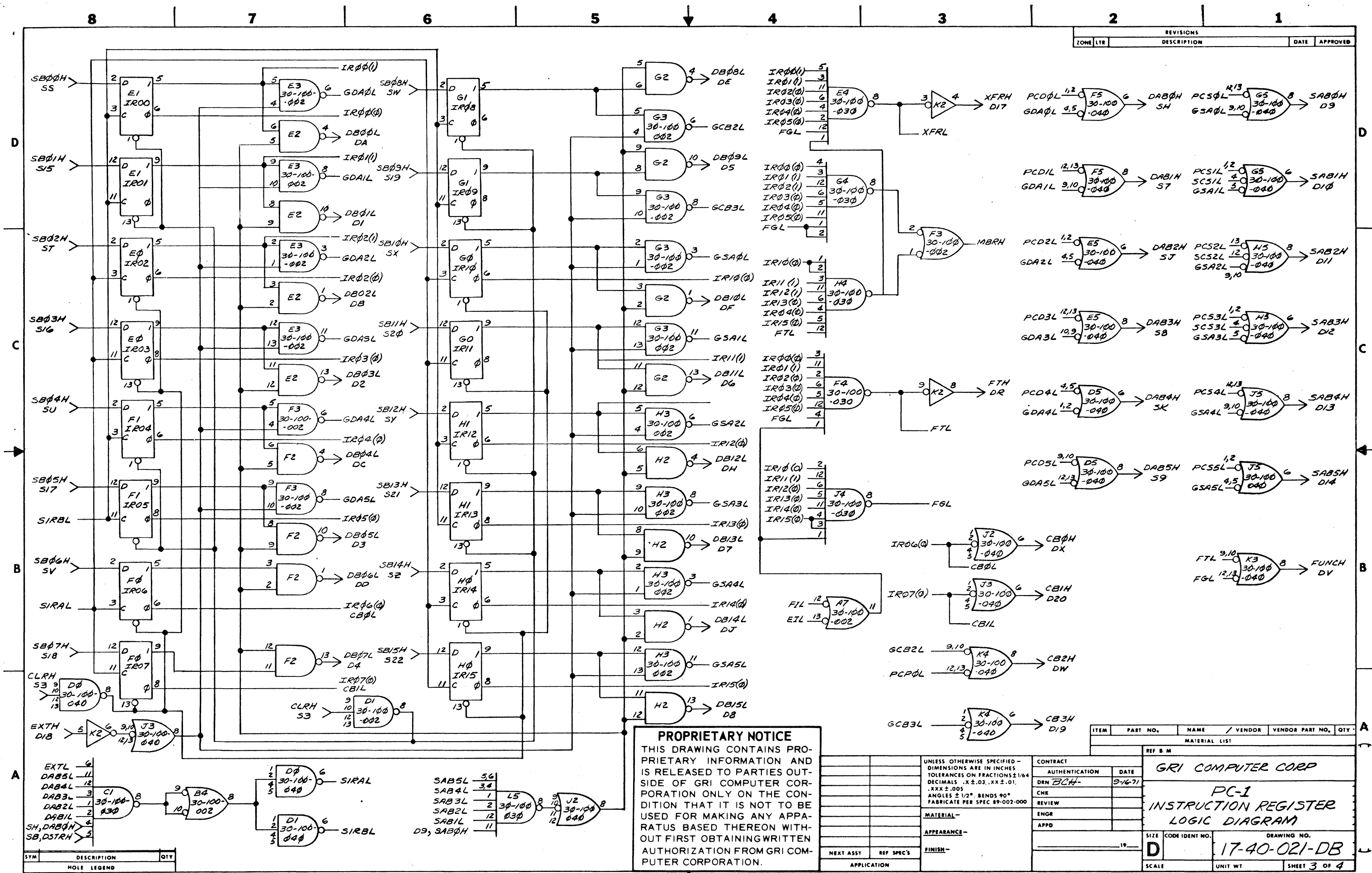
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ITEM	PART NO.	NAME / VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST				
REF B/M				
GRI COMPUTER CORP				
PC-1				
ROM PROGRAM T2L-T3L				
LOGIC DIAGRAM				
SIZE	CODE IDENT NO.	DRAWING NO.		
D		17-40-021-DB		
SCALE	UNIT WT	SHEET 2 OF 4		

SYM	DESCRIPTION	QTY

UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS ± 1/64 DECIMALS .XX ± .03 .XX ± .01 .XXX ± .005 ANGLES ± 1/2° BENDS 90° FABRICATE PER SPEC 89-002-000		CONTRACT AUTHENTICATION DATE
MATERIAL -		DRN BCH 10-4-71
APPEARANCE -		CHK
FINISH -		REVIEW
NEXT ASSY		ENGR
REF SPEC'S		APPD
APPLICATION		

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED



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CONTRACT AUTHENTICATION	DATE
DRN BCLH-	3-16-71
CHK	
REVIEW	
ENGR	
APPD	

ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST					
REF B.M					

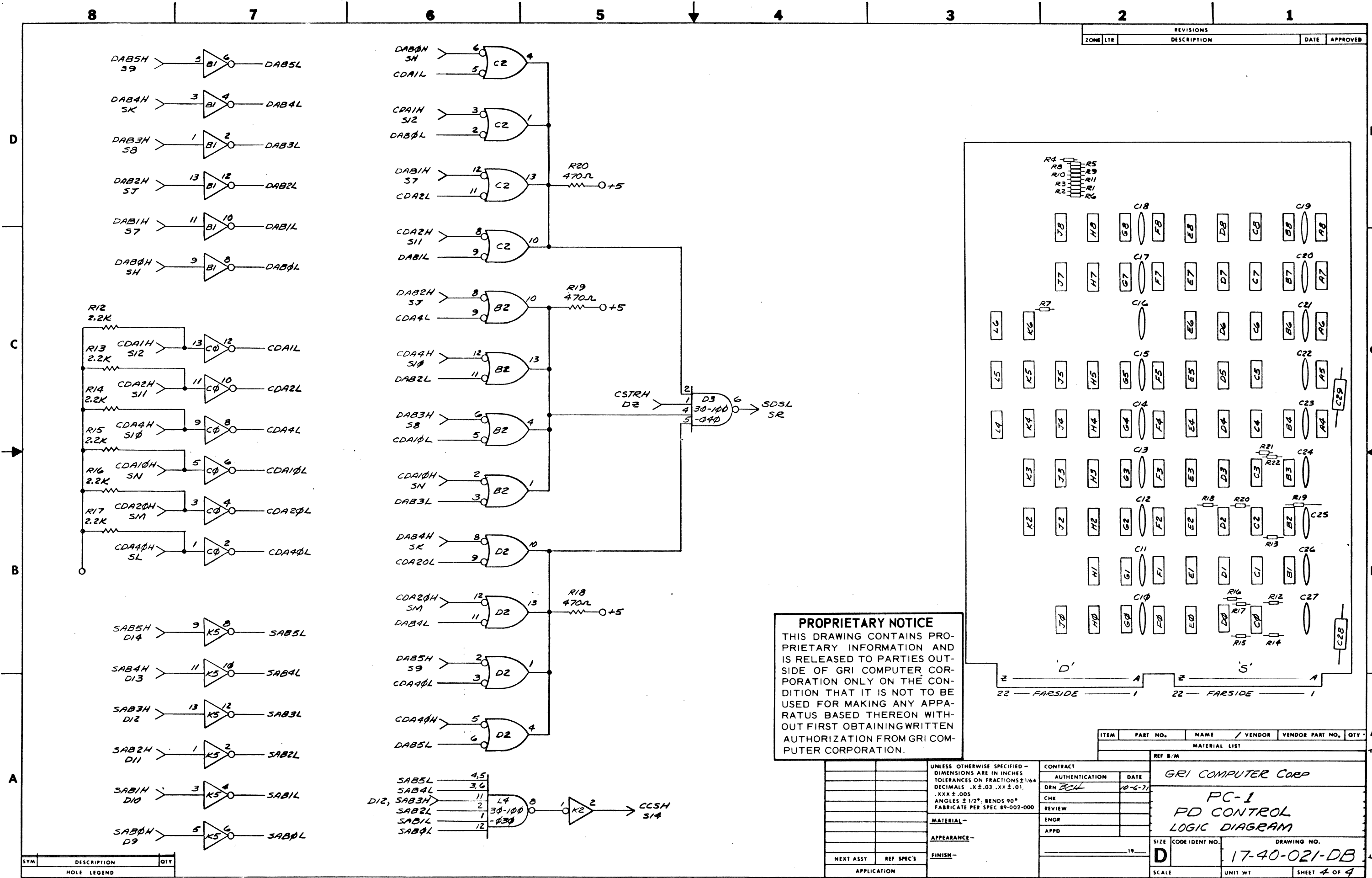
GRI COMPUTER CORP			
PC-1			
INSTRUCTION REGISTER			
LOGIC DIAGRAM			
SIZE	CODE IDENT NO.	DRAWING NO.	
D		17-40-021-DB	
SCALE	UNIT WT	SHEET 3 OF 4	

SYM	DESCRIPTION	QTY

HOLE LEGEND	
EXTL 6	
DAB5L 11	
DAB4L 12	
DAB3L 3	
DAB2L 2	
DAB1L 1	
SH, DAB0H	
SB, DSTRH	

SAB5L 56	
SAB4L 34	
SAB3L 1	
SAB2L 2	
SAB1L 12	
D9, SAB0H	

REVISIONS				
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SYM	DESCRIPTION	QTY

ITEM	PART NO.	NAME / VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST				
REF B/M				
GRI COMPUTER Corp				
PC-1				
PD CONTROL				
LOGIC DIAGRAM				
CONTRACT AUTHENTICATION			DATE	
DRN <i>BCW</i>			10-6-71	
CHK			REVIEW	
ENGR			APPD	
NEXT ASSY			REF SPEC'S	
APPLICATION			FINISH-	
UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS ±1/64 DECIMALS .X ±.03, .XX ±.01, .XXX ±.005 ANGLES ± 1/2°, BENDS 90° FABRICATE PER SPEC 89-002-000			CONTRACT AUTHENTICATION DATE	
MATERIAL-			GRI COMPUTER Corp	
APPEARANCE-			PC-1	
FINISH-			PD CONTROL	
			LOGIC DIAGRAM	
			DRAWING NO.	
			17-40-021-DB	
			SHEET 4 OF 4	

BOARD PC-2

signal name	origin	used	bus	connector	comments
GROUND				SA	System gnd.
GROUND				S1	"
+5 volts				SB	Logic Supply
+5 volts				S2	"
EIH	X			SC	External Instruction Major State
CLRH	X			S3	System Clear
BKH	X			SD	Break Major State
DMH	X			S4	Direct Memory Access Major State
FOH	X			SE	Fetch Operand Major State
FDH	X			S5	Fetch Deferred Major State
FIH	X			SF	Fetch Instruction Major State
FAH	X			S6	Fetch Address Major State
DAB0H		X		SH	Destination Address Bus 0
DAB1H		X		S7	" 1
DAB2H		X		SJ	" 2
DAB3H		X		S8	" 3
DAB4H		X		SK	" 4
DAB5H		X		S9	" 5
XCLL	X			SL	Crystal Clock (9.09 MHz)
DSIRH	X			S10	Data Strobe
INTBL			X	SM	Interrupt Bus
CLLBH	X			S11	Clear Interrupt Bus
DIPBL			X	SN	DMA Direction Bus
IMBL			X	S12	DMA Increment Bus
PTH	X			SP	Plus Two to Bus Mod
---				S13	
DMRL			X	SR	DMA Request

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GRI 909 SIGNAL ORIGIN, USE

ENG. *D. J. G. [Signature]* DATE 4/26/71

PC-2 1 of 4

APPROVED *[Signature]* DATE 4-26-71

A	18	040	002	A
SIZE	TYPE	PROD	NUMBER	REV

BOARD PC-2

signal name	origin	used	bus	connector	comments
PSH		X		S14	Power Supply Down
EIRL				SS	External Instruction Request
RUNH	X			S15	Run State
MBDSL	X			ST	MB Display Select
MADSL	X			S16	MA Display Select
PDSL	X			SU	SC Display Select
IRDSL	X			S17	IR Display Select
				SV	
IAH	X			S18	Interrupt Active
SSKL		X		SW	Single Step Key
TRKL		X		S19	Transmit Key
DISKL		X		SX	Display Key
SRKL		X		S20	Write Key
RDKL		X		SY	Read Key
STPKL		X		S21	Stop Key
CNTKL		X		SZ	Continue Key
STKL		X		S22	Start Key

GRI COMPUTER CORPORATION

GRI 909 SIGNAL ORIGIN, USE

ENG. DATE

PC-2 2 of 4

APPROVED DATE

A	18	040	002	A
SIZE	TYPE	PROD	NUMBER	REV

BOARD PC-2

signal name	origin	used	bus	connector	comments
DB00L			X	DA	Data Destination Bus 00
DB01L			X	D1	" 01
DB02L			X	DB	" 02
DB03L			X	D2	" 03
DB04L			X	DC	" 04
DB05L			X	D3	" 05
DB06L			X	DD	" 06
DB07L			X	D4	" 07
DB08L			X	DE	" 08
DB09L			X	D5	" 09
DB10L			X	DF	" 10
DB11L			X	D6	" 11
DB12L			X	DH	" 12
DB13L			X	D7	" 13
DB14L			X	DJ	" 14
DB15L			X	D8	" 15
ISYNH	X			DK	Interrupt Sync
JMPH	X			D9	Jump State
FTB1L			X	DL	Function Test Bus 1
EXMH	X			D10	Examine State (READ)
FTB2L			X	DM	Function Test Bus 2
DEPH	X			D11	Deposit State (WRITE)
FTB3L			X	DN	Function Test Bus 3
TRMH	X			D12	Transmit State
---				DP	
DISPH	X			D13	Display State
P2H	X			DR	P2 (T2 time pulse)

GRI COMPUTER CORPORATION

GRI 909 SIGNAL ORIGIN, USE

ENG. DATE

PC-2 3 of 4

APPROVED DATE

A 18 040 002 A
SIZE TYPE PROD NUMBER REV

BOARD PC-2

signal name	origin	used	bus	connector	comments
PTH		X		D14	Function Test State
TOH	X			DS	Time State 0
T1H	X			D15	" 1
T2H	X			DT	" 2
T3H	X			D16	" 3
MBRH		X		DU	MB Request
XFRH		X		D17	Transfer State
FUNCH		X		DV	Function State
EXTH	X			D18	Execute Time
CB2H		X		DW	Control Bus 2
CB3H		X		D19	" 3
CBOH		X		DX	" 0
CB1H		X		D20	" 1
-20 volts				DY	Memory Supply
-20 volts				D21	Memory Supply
CSTRH	X			DZ	Console Strobe
GROUND				D22	System Ground

GRI COMPUTER CORPORATION

GRI 909 SIGNAL ORIGIN, USE

ENG. DATE

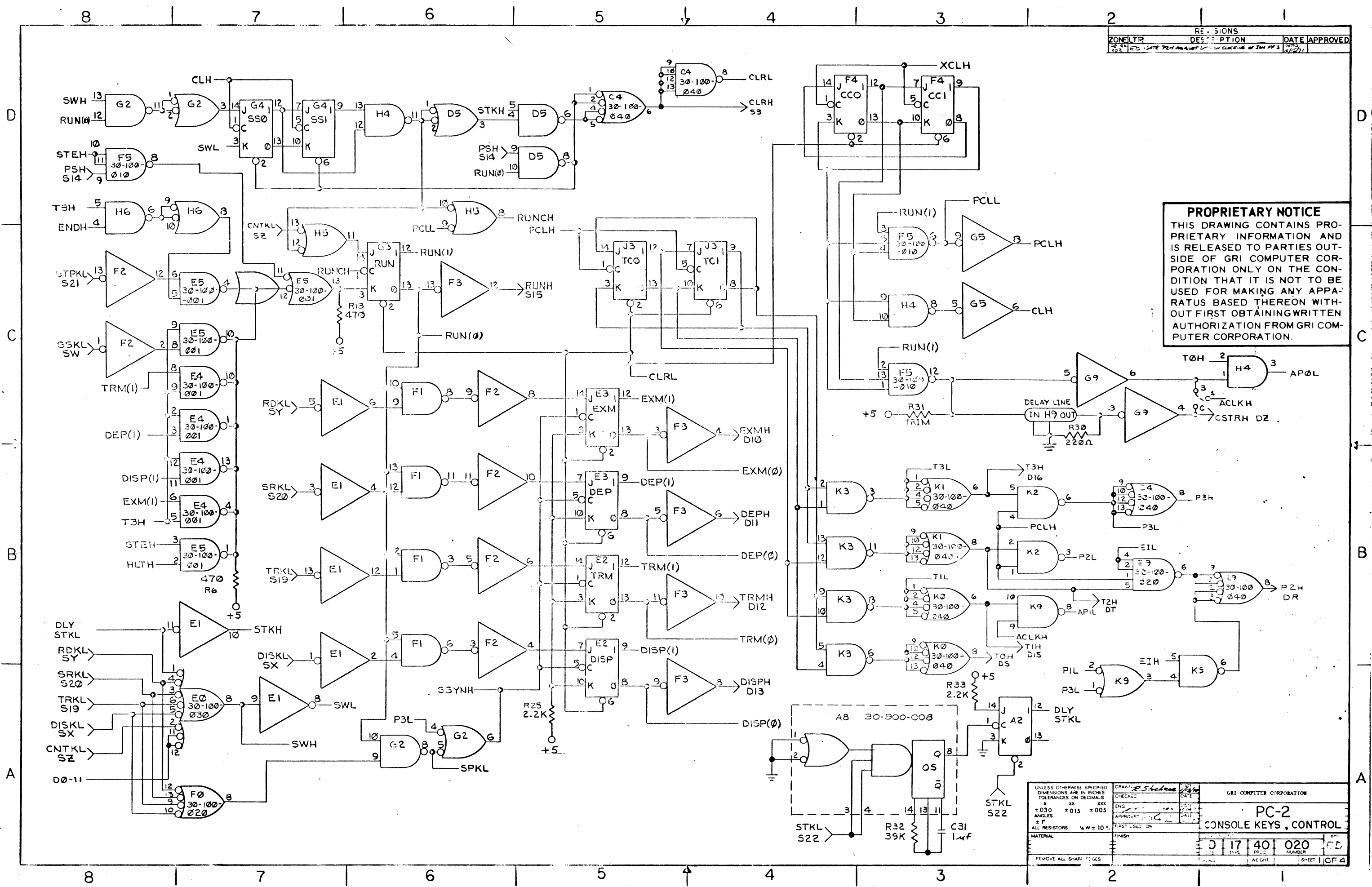
PC-2 4 of 4

APPROVED DATE

A 18 040 002 A
SIZE TYPE PROD NUMBER REV

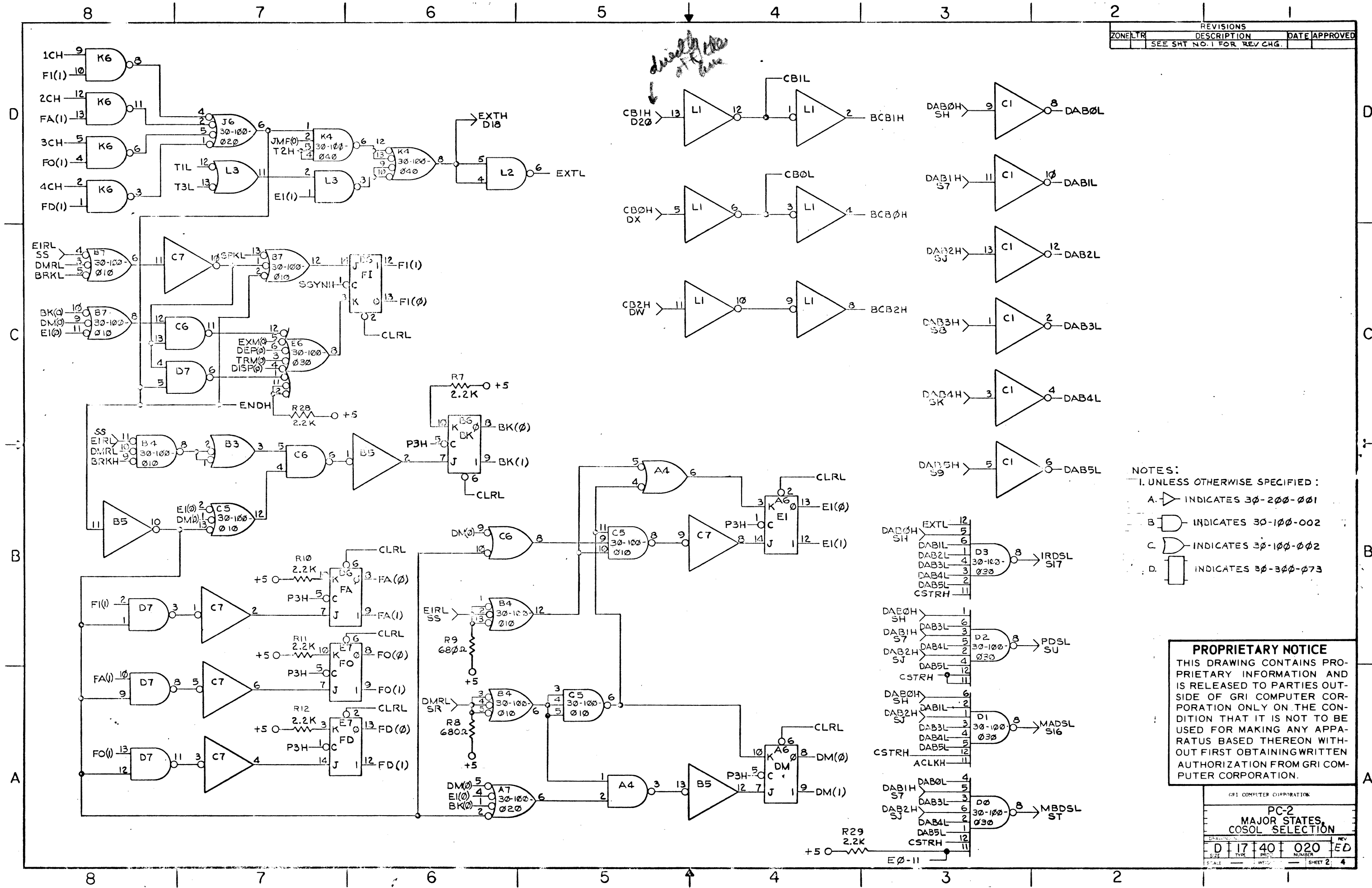
REVISIONS	DATE APPROVED
ZONELTR	
DESCRIPTION	
ED DATE PCH ANALYST L. J. CLARKING OF SW 11/15	11/15/71

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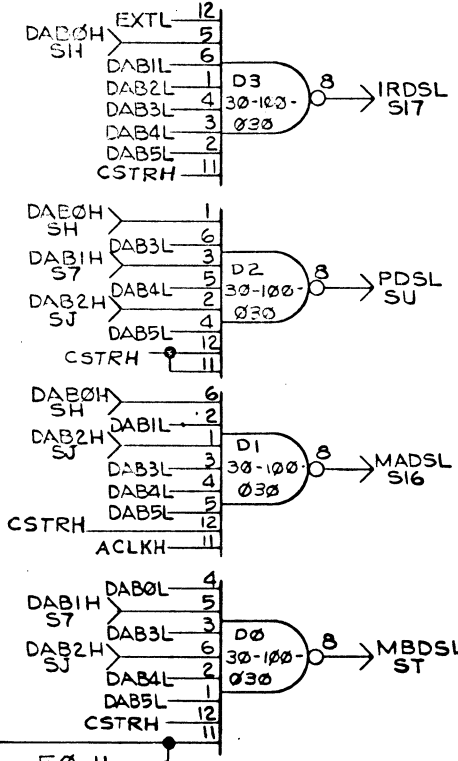


UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS	DRAWN: R. S. [Signature]	CHECKED: [Signature]	DATE: [Date]	GRI COMPUTER CORPORATION
±0.30 ±0.15 ±0.05	ENG: [Signature]	APPROVED: [Signature]	DATE: [Date]	PC-2 CONSOLE KEYS, CONTROL
ALL RESISTORS ±1% FINISH: [Blank]	MATERIAL: [Blank]	FIRST USE ON: [Blank]	DATE: [Blank]	017401020
REMOVE ALL SHARP EDGES	WEIGHT: [Blank]	SHEET: [Blank]	OF: [Blank]	

REVISIONS		
ZONE/TR	DESCRIPTION	DATE APPROVED
	SEE SHT NO. 1 FOR REV CHG.	

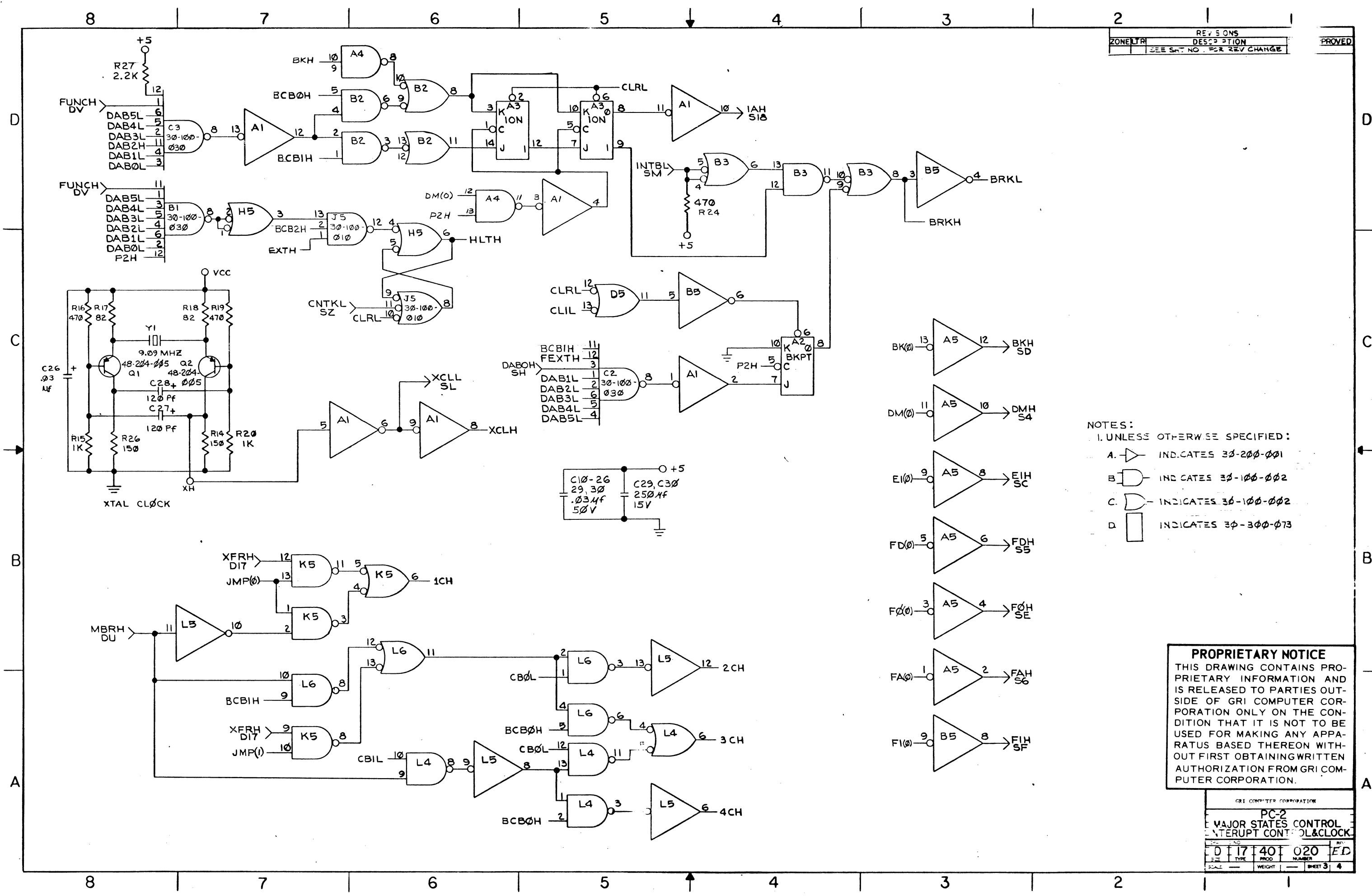


- NOTES:
 I. UNLESS OTHERWISE SPECIFIED:
 A. INDICATES 30-200-001
 B. INDICATES 30-100-002
 C. INDICATES 30-100-002
 D. INDICATES 30-300-073



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GRI COMPUTER CORPORATION			
PC-2 MAJOR STATES, COSOL SELECTION			
DESIGN NO.	REV		
D 17 40	020	ED	
SIZE	TYPE	PROJ. NUMBER	SHEET 2 4



- NOTES:
- 1. UNLESS OTHERWISE SPECIFIED:
 - A. INDICATES 30-200-001
 - B. INDICATES 30-100-002
 - C. INDICATES 30-100-002
 - D. INDICATES 30-300-073

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GRI COMPUTER CORPORATION			
PC-2			
MAJOR STATES CONTROL			
INTERRUPT CONTROL & CLOCK			
REV	NO	DATE	BY
0	17	401 020	ED
SCALE	TYPE	WEIGHT	SHEET 3 4

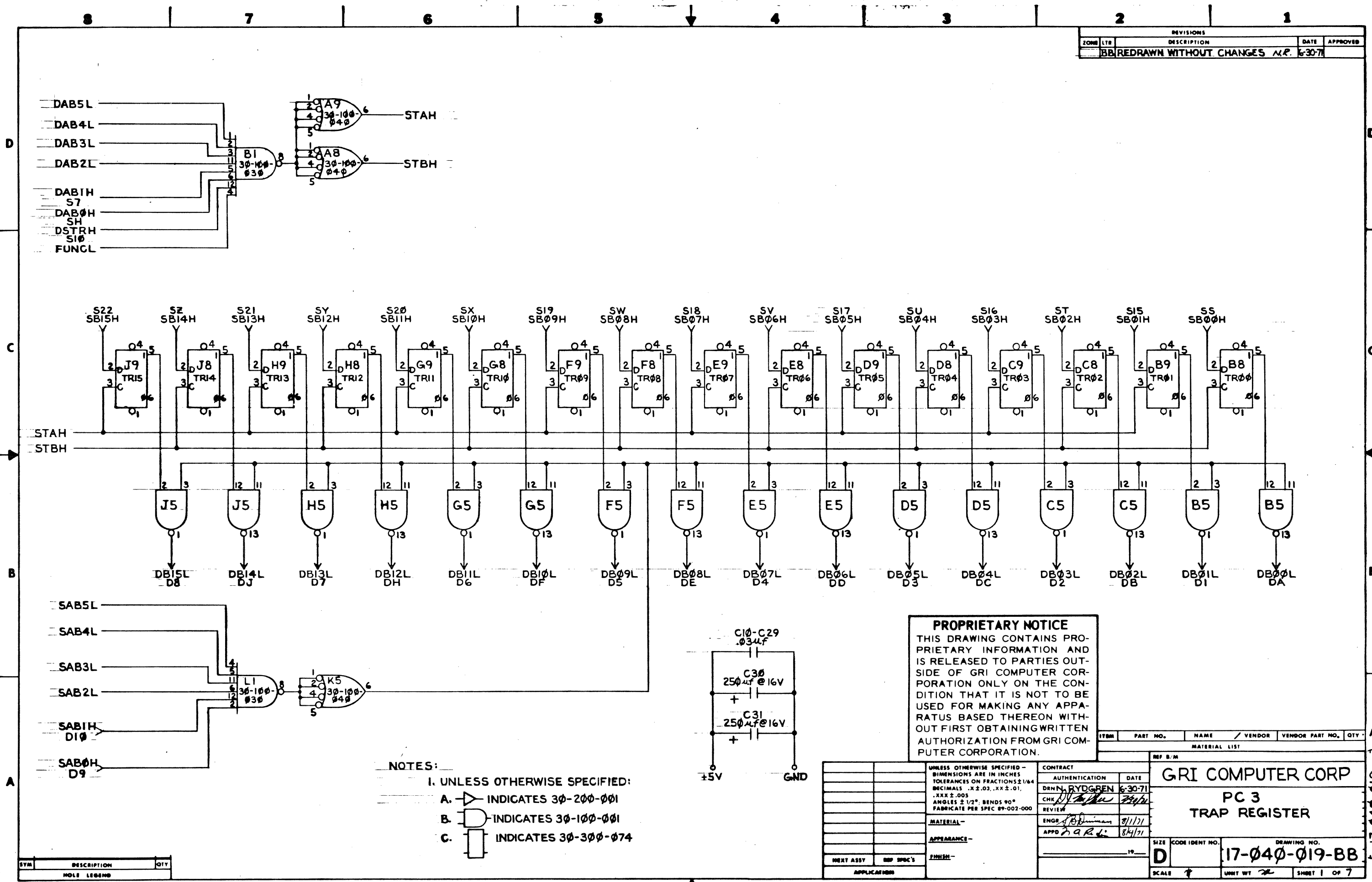
BOARD <u>PC-3</u>					
signal name	origin	used	bus	connector	comments
GROUND				SA	System Ground
GROUND				S1	System Ground
+5 volts				SB	Logic Supply
+5 volts				S2	Logic Supply
PFL		X		SC	Power Failure
CLRH		X		S3	System Clear
---				SD	
---				S4	
POUTL	X			SE	Priority Chain Out
---				S5	
DOUTL	X			SF	DMA Chain Out
---				S6	
DAB0H		X		SH	Destination Address Bus 0
DAB1H		X		S7	" 1
DAB2H		X		SJ	" 2
DAB3H		X		S8	" 3
DAB4H		X		SK	" 4
DAB5H		X		S9	" 5
XCLL				SL	Crystal Clock (9.09 MHz)
DSTRH				S10	Data Strobe
INTBL			X	SM	Interrupt Bus
CLIBH				S11	Clear Interrupt Bus
DIRBL			X	SN	DMA Direction Bus
IMBL			X	S12	DMA Increment Bus
---				SP	
PTH		X		S13	Plus Two to Bus Mod
DMRL			X	SR	DMA Request
GRI COMPUTER CORPORATION				GRI 909 SIGNAL ORIGIN, USE	
ENG. <i>W. J. McPherson</i>	DATE	4/26/71		PC-3 1 of 4	
APPROVED <i>W. J. McPherson</i>	DATE	4-26-71		A	18 040 003 A
		SIZE	TYPE	PROD.	NUMBER

BOARD <u>PC-3</u>					
signal name	origin	used	bus	connector	comments
PSH		X		S14	Power Supply Down
SB00H	X			SS	Data Source Bus 00
SB01H	X			S15	" 01
SB02H	X			ST	" 02
SB03H	X			S16	" 03
SB04H	X			SU	" 04
SB05H	X			S17	" 05
SB06H	X			SV	" 06
SB07H	X			S18	" 07
SB08H	X			SW	" 08
SB09H	X			S19	" 09
SB10H	X			SX	" 10
SB11H	X			S20	" 11
SB12H	X			SY	" 12
SB13H	X			S21	" 13
SB14H	X			SZ	" 14
SB15H	X			S22	" 15
GRI COMPUTER CORPORATION				GRI 909 SIGNAL ORIGIN, USE	
ENG.	DATE	PC-3 2 of 4			
APPROVED	DATE	A	18 040	003	A
		SIZE	TYPE	PROD.	NUMBER

BOARD <u>PC-3</u>					
signal name	origin	used	bus	connector	comments
DBG0L		X		DA	Data Destination Bus 00
DB01L		X		D1	" 01
DB02L		X		DB	" 02
DB03L		X		D2	" 03
DB04L		X		DC	" 04
DB05L		X		D3	" 05
DB06L		X		DD	" 06
DB07L		X		D4	" 07
DB08L		X		DE	" 08
DB09L		X		D5	" 09
DB10L		X		DF	" 10
DB11L		X		D6	" 11
DB12L		X		DH	" 12
DB13L		X		D7	" 13
DB14L		X		DJ	" 14
DB15L		X		D8	" 15
ISYNH		X		DK	Interrupt Sync
SAB0H		X		D9	Source Address Bus 0
FTB1L		X		DL	Function Test Bus 1
SAB1H		X		D10	Source Address Bus 1
FTB2L		X		DM	Function Test Bus 2
SAB2H		X		D11	Source Address Bus 2
FTB3L		X		DN	Function Text Bus 3
SAB3H		X		D12	Source Address Bus 3
LINKH	X			DP	Link
SAB4H		X		D13	Source Address Bus 4
BOH	X			DR	Bus Overflow State
GRI COMPUTER CORPORATION			GRI 909 SIGNAL ORIGIN, USE		
ENG.	DATE	PC-3		3 of 4	
APPROVED	DATE	A	18	040	003
		SIZE	TYPE	PROD.	NUMBER
					A
					REV.

BOARD <u>PC-3</u>					
signal name	origin	used	bus	connector	comments
SAB5H		X		D14	Source Address Bus 5
F2H				DS	P2 (T2 time pulse)
---				D15	
---				DT	
---				D16	
MBRH		X		DU	MB Request
XFRH		X		D17	Transfer State
FUNCH		X		DV	Function State
FXTH		X		D18	Execute Time
CBRH		X		DW	Control Bus 2
CB3H		X		D19	" 3
CBOH		X		DX	" 0
CB1H		X		D20	" 1
-20 volts				DY	Memory Supply
-20 volts				D21	Memory Supply
GROUND				DZ	System Ground
GROUND				D22	System Ground
GRI COMPUTER CORPORATION			GRI 909 SIGNAL ORIGIN, USE		
ENG.	DATE	PC-3		4 of 4	
APPROVED	DATE	A	18	040	003
		SIZE	TYPE	PROD.	NUMBER
					A
					REV.

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	BB	REDRAWN WITHOUT CHANGES	6-30-71	



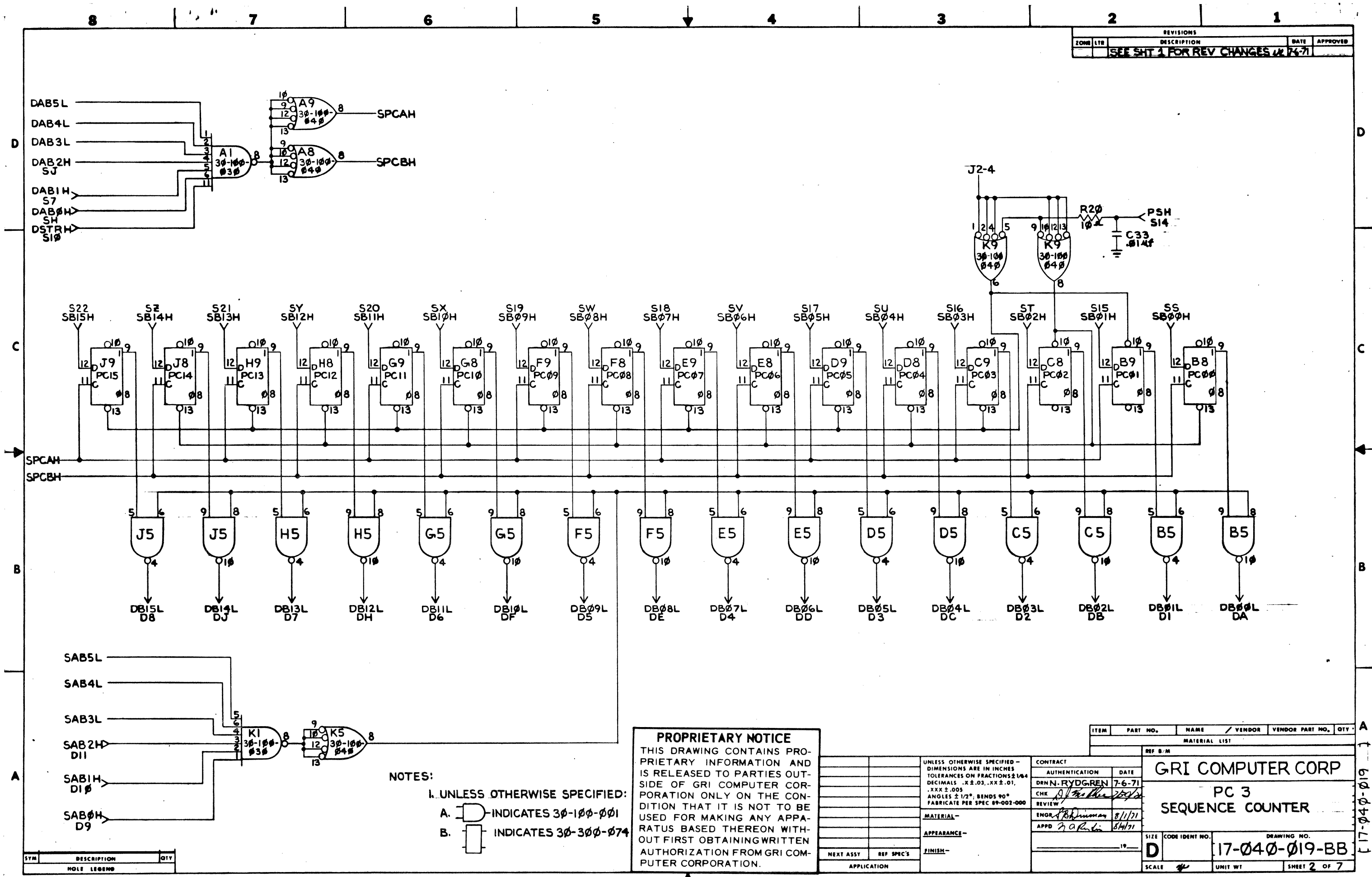
- NOTES:**
- I. UNLESS OTHERWISE SPECIFIED:
 - A. INDICATES 3Ø-2ØØ-ØØ1
 - B. INDICATES 3Ø-1ØØ-ØØ1
 - C. INDICATES 3Ø-3ØØ-Ø74

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ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST					
REF B/M					
GRI COMPUTER CORP					
PC 3 TRAP REGISTER					
CONTRACT AUTHENTICATION		DATE		DRAWING NO.	
DRNN RYDGRN		6-30-71		17-Ø4Ø-Ø19-BB	
CHK <i>[Signature]</i>		8/1/71		SCALE	
REVIEW		ENGR <i>[Signature]</i>		SIZE	
APPD <i>[Signature]</i>		8/4/71		CODE IDENT NO.	
MATERIAL		FINISH		SHBT 1 OF 7	
APPEARANCE		UNIT WT		17-Ø4Ø-Ø19	
NEXT ASSY		IMP SPEC'S		19	
APPLICATION					

SYM	DESCRIPTION	QTY
	MOLE LEGEND	

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
		SEE SHT 1 FOR REV CHANGES	7-6-71	



- NOTES:
- 1. UNLESS OTHERWISE SPECIFIED:
 - A. INDICATES 30-100-001
 - B. INDICATES 30-300-074

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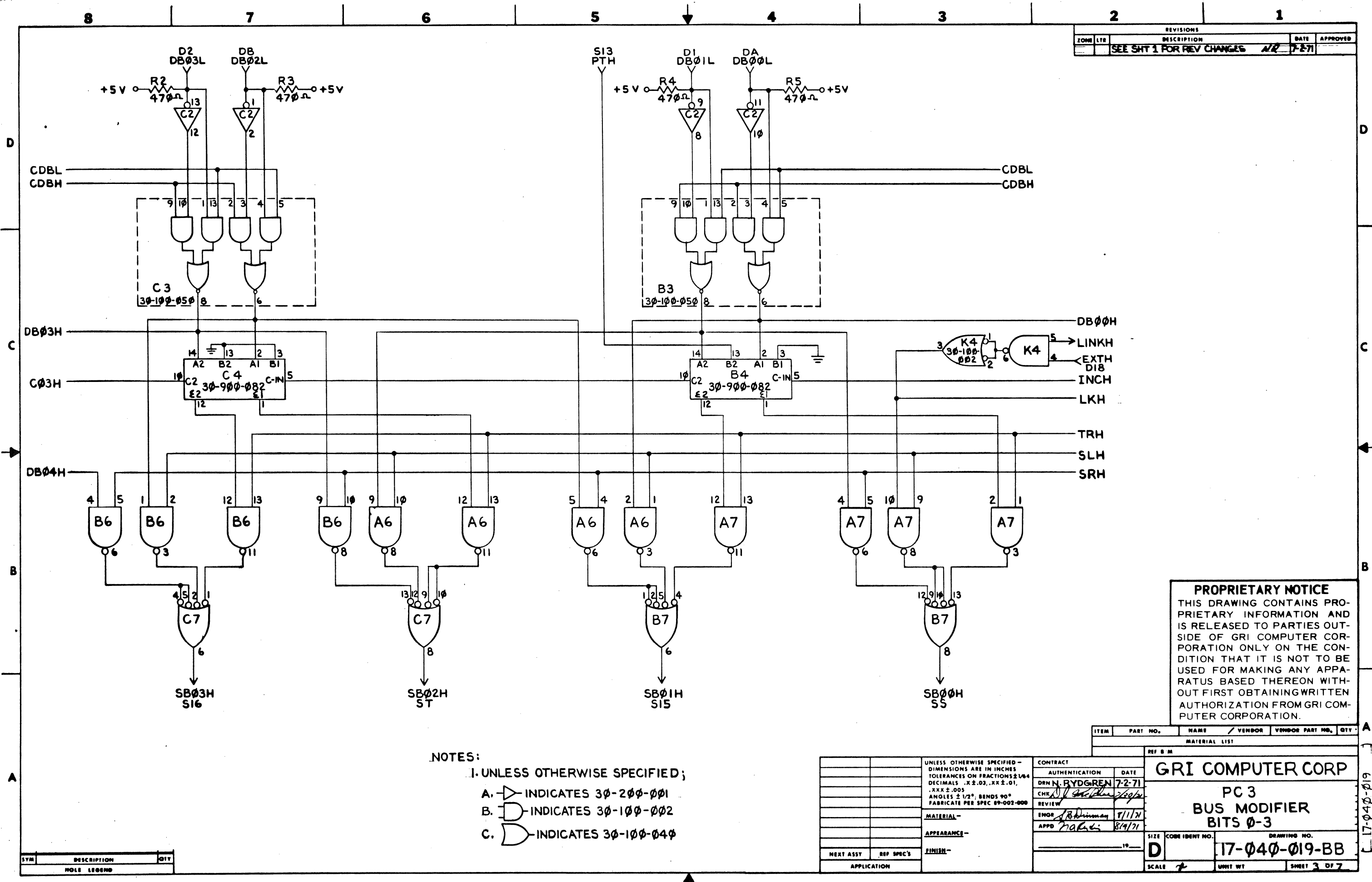
UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS ± 1/64 DECIMALS .X ± .03, .XX ± .01, .XXX ± .005 ANGLES ± 1/2°, BENDS 90° FABRICATE PER SPEC 89-002-000	CONTRACT AUTHENTICATION DATE DRN N. RYDGREN 7-6-71
MATERIAL-	CHK <i>[Signature]</i>
APPEARANCE-	REVIEW
FINISH-	ENGR <i>[Signature]</i> 8/11/71
NEXT ASSY	APPD <i>[Signature]</i> 8/11/71
REF SPEC'S	
APPLICATION	

ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST					
REF B/M					
GRI COMPUTER CORP					
PC 3					
SEQUENCE COUNTER					
SIZE	CODE IDENT NO.	DRAWING NO.			
D		17-040-019-BB			
SCALE	UNIT WT	SHEET 2 OF 7			

SYM	DESCRIPTION	QTY
HOLE LEGEND		

17-040-019

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
		SEE SH1 1 FOR REV CHANGES	7-2-71	



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- NOTES:**
- 1. UNLESS OTHERWISE SPECIFIED;
 - A. INDICATES 3φ-2φ-φφ1
 - B. INDICATES 3φ-1φφ-φφ2
 - C. INDICATES 3φ-1φφ-φφ4

SYM	DESCRIPTION	QTY
	HOLE LEGEND	

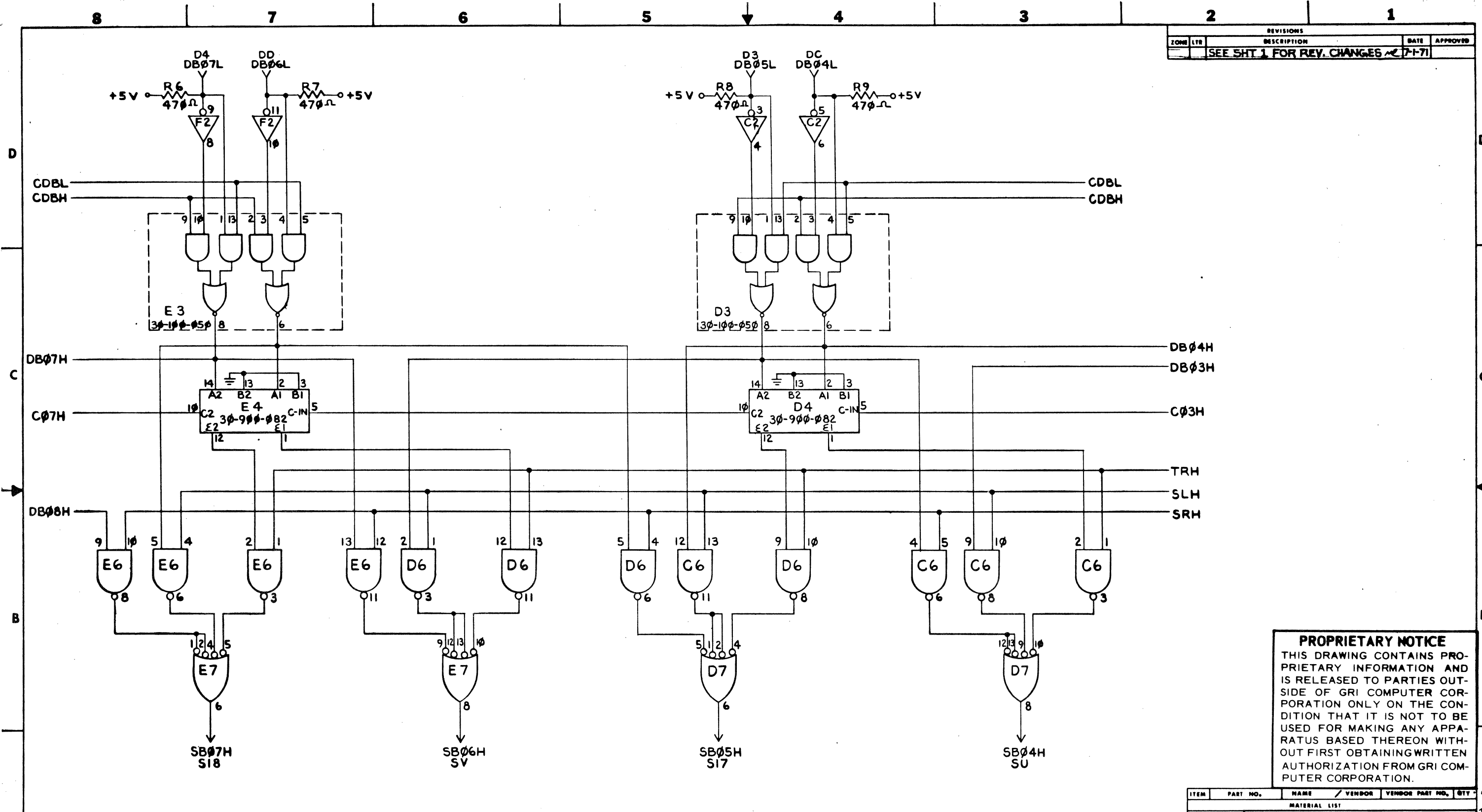
ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST					

CONTRACT	
AUTHENTICATION	DATE
DRN N. RYDGREN	7-2-71
CHK <i>[Signature]</i>	
ENGR <i>[Signature]</i>	8/1/71
APPD <i>[Signature]</i>	8/4/71

REF B M	
GRI COMPUTER CORP	
PC 3 BUS MODIFIER BITS 0-3	
SIZE	CODE IDENT NO.
D	17-040-019-BB
SCALE	UNIT WT
	SHEET 3 OF 7

17-040-019

REVISIONS			
ZONE	LTR	DESCRIPTION	DATE
		SEE SHT 1 FOR REV. CHANGES	7-1-71



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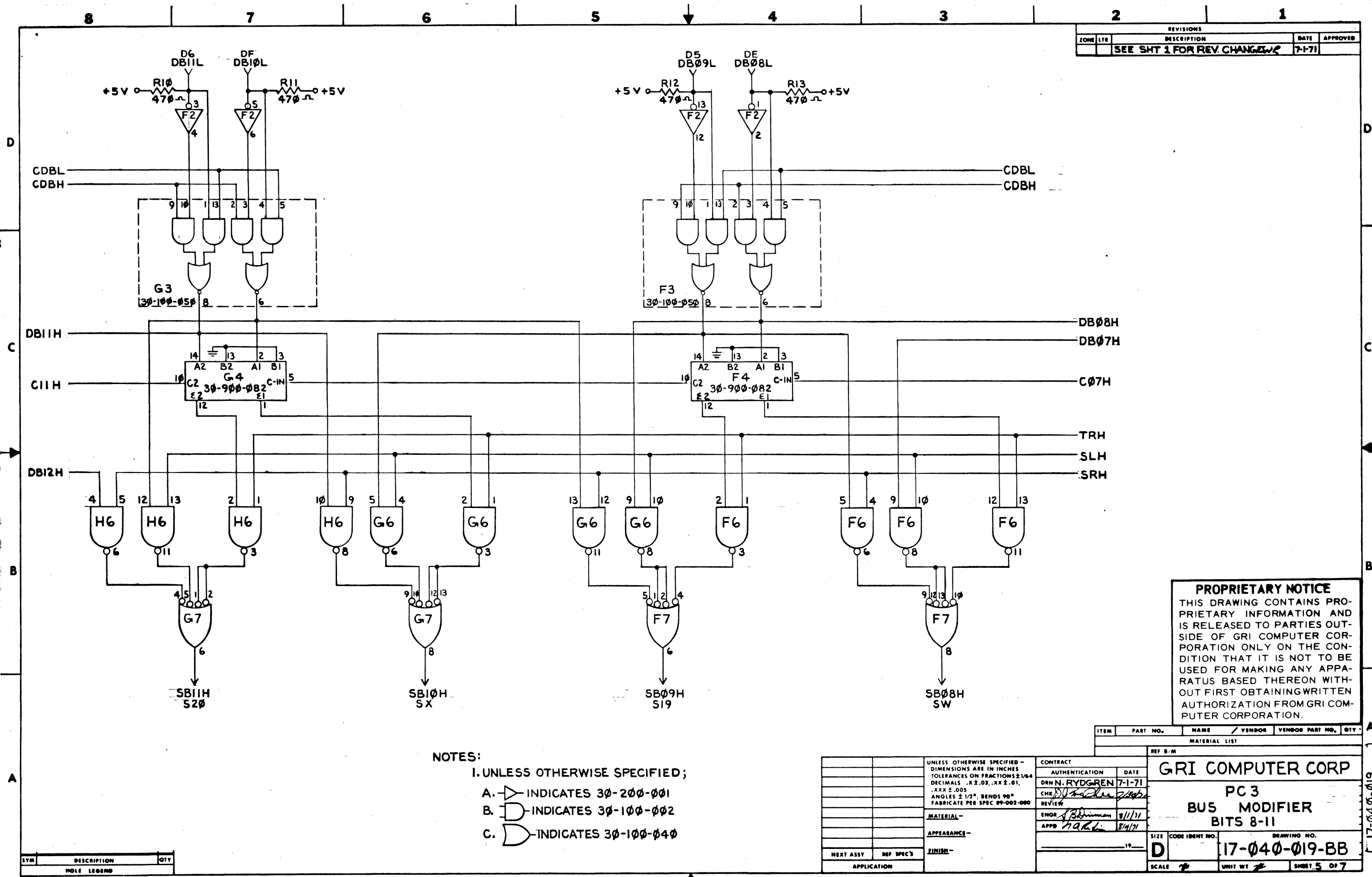
- NOTES:
 1. UNLESS OTHERWISE SPECIFIED;
 A. INDICATES 3φ-2φ-φφ1
 B. INDICATES 3φ-1φφ-φφ2
 C. INDICATES 3φ-1φφ-φφ4

ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST					
REF B/M					
GRI COMPUTER CORP					
PC 3					
BUS MODIFIER					
BITS 4-7					
CONTRACT		AUTHENTICATION			
DRN N. RYDGRN		DATE 7-1-71			
CHK		REVIEW			
ENGR. B. D. ...		8/1/71			
APPD. ...		8/4/71			
NEXT ASST		REF SPEC'S		APPLICATION	
UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS ± 1/64 DECIMALS .XX ± .01, .XXX ± .005 ANGLES ± 1/2°, BENDS 90° FABRICATE PER SPEC 89-002-000		MATERIAL -			
APPEARANCE -		FINISH -			
SCALE		UNIT WT		SHEET 4 OF 7	

SYM	DESCRIPTION	QTY
HOLE LEGEND		

17-040-019

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
		SEE SHT 1 FOR REV CHANGES	7-1-71	



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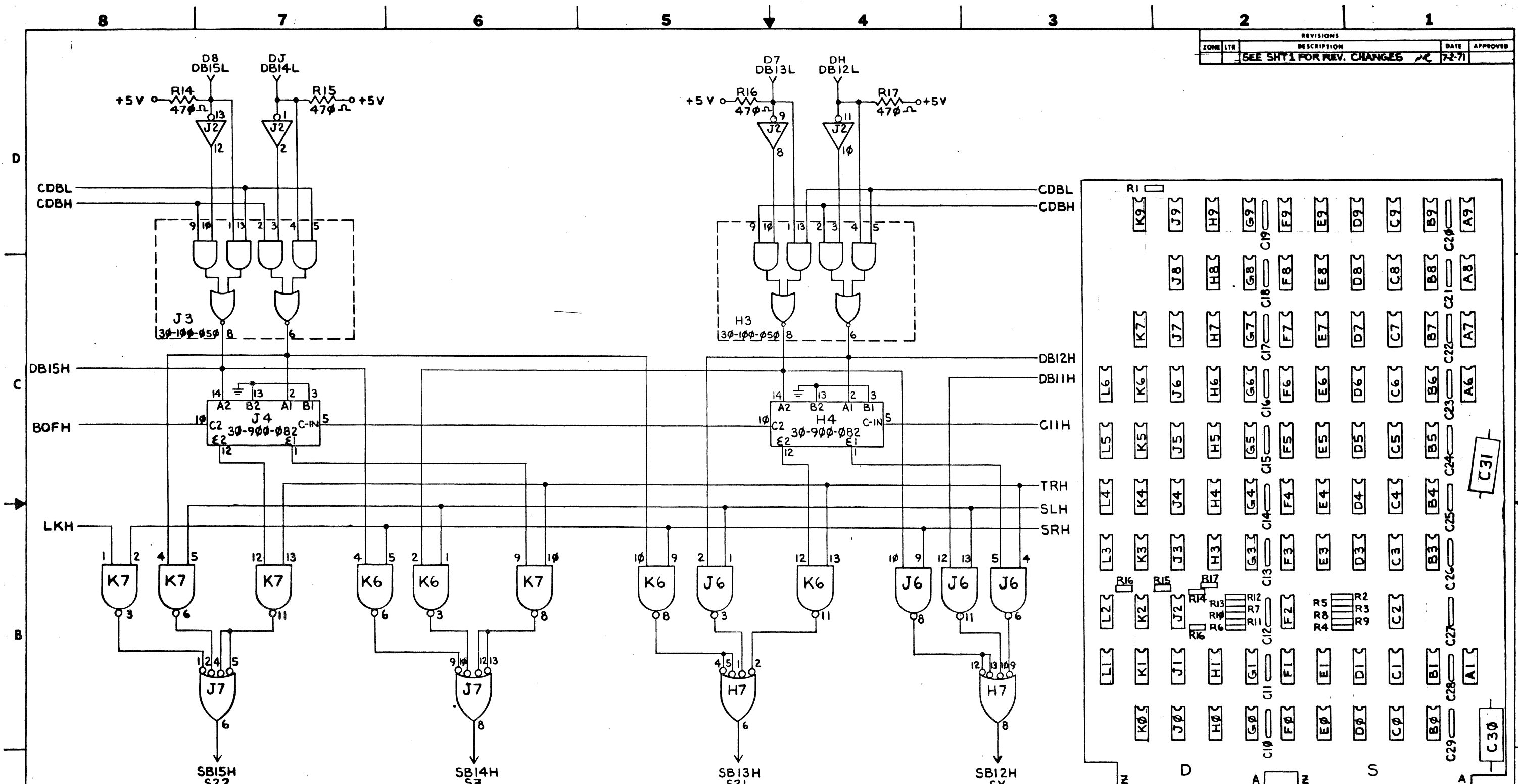
- NOTES:**
- I. UNLESS OTHERWISE SPECIFIED;
 - A. INDICATES 30-200-001
 - B. INDICATES 30-100-002
 - C. INDICATES 30-100-040

ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST					
REF B/M					
GRI COMPUTER CORP					
PC 3					
BUS MODIFIER					
BITS 8-11					
UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES		CONTRACT AUTHENTICATION		DATE	
TOLERANCES ON FRACTIONS ±1/64		DRN N. RYDGREN		7-1-71	
DECIMALS .X ±.03, .XX ±.01, .XXX ±.003		CHK <i>[Signature]</i>		<i>[Signature]</i>	
ANGLES ± 1/2°, BENDS 90°		ENGR <i>[Signature]</i>		8/11/71	
FABRICATE PER SPEC 09-002-000		APPD <i>[Signature]</i>		8/4/71	
MATERIAL-		FINISH-			
APPEARANCE-		SCALE <i>[Symbol]</i>			
NEXT ASSY		REF SPEC'S		UNIT WT <i>[Symbol]</i>	
APPLICATION		DRAWING NO.		SHEET 5 OF 7	
		17-040-019-BB			

SYM	DESCRIPTION	QTY
	WIRE LEGEND	

17-040-019

REVISIONS			
ZONE	LTR	DESCRIPTION	DATE APPROVED
		SEE SHT 1 FOR REV. CHANGES	7-2-71



- NOTES:
- 1. UNLESS OTHERWISE SPECIFIED
 - A. INDICATES 3φ-2φ-φφ1
 - B. INDICATES 3φ-1φ-φφ2
 - C. INDICATES 3φ-1φφ-φ4φ

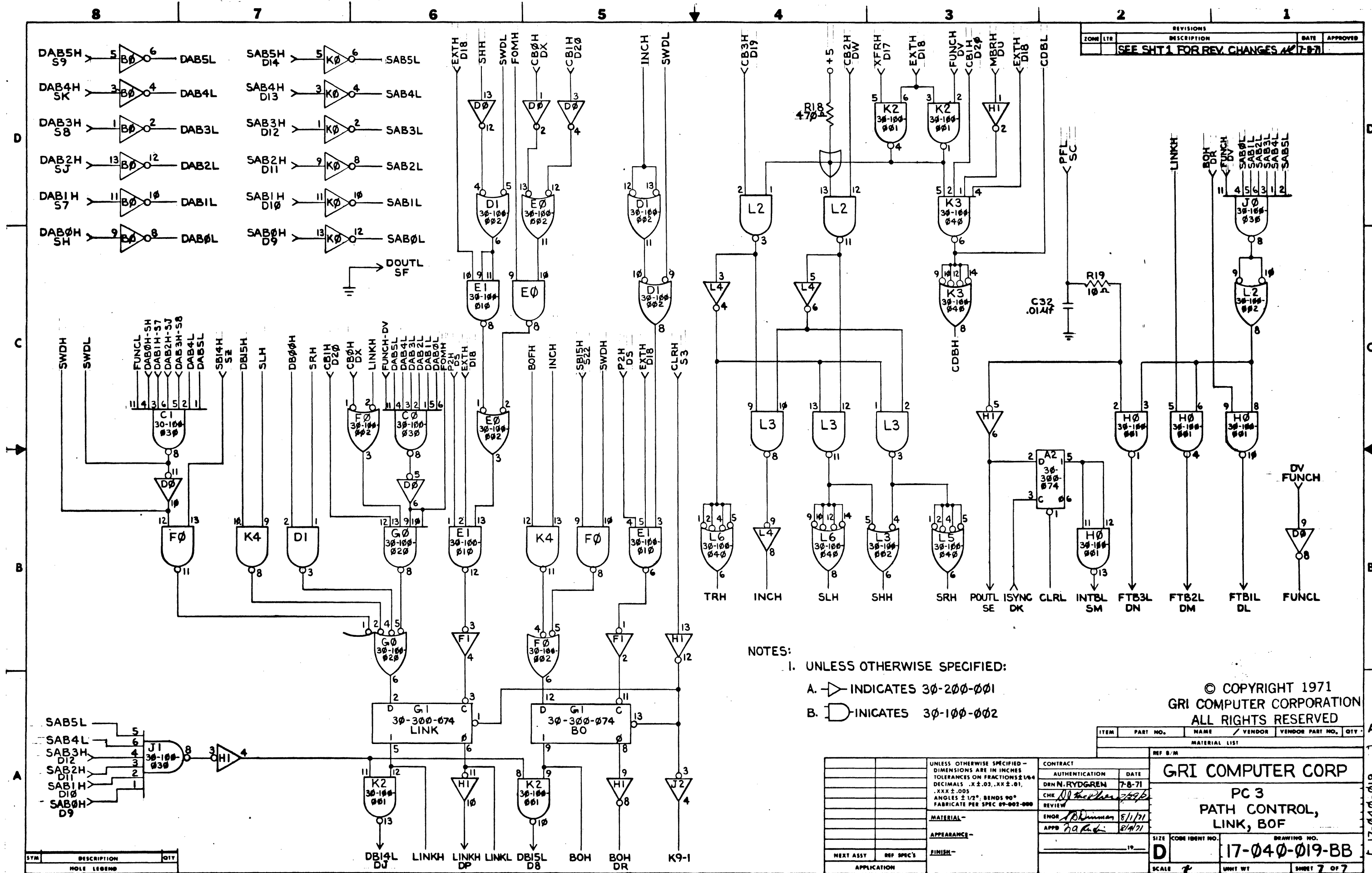
© COPYRIGHT 19722 — FAR SIDE — 1 22 — FAR SIDE — 1
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SYM	DESCRIPTION	QTY
	HOLE LEGEND	

UNLESS OTHERWISE SPECIFIED — DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS 1/64 DECIMALS .X ± .03, .XX ± .01, .XXX ± .005 ANGLES ± 1/2°, BENDS 90° FABRICATE PER SPEC 09-002-000		CONTRACT AUTHENTICATION DATE DRN N. RYDGREN 7-2-71 CHK <i>[Signature]</i> REVIEW	REF B/M GRI COMPUTER CORP
MATERIAL— APPEARANCE— FINISH—	ENGR <i>[Signature]</i> 8/1/71 APPD <i>[Signature]</i> 8/4/71	SIZE CODE IDENT NO. D 17-040-019-BB	DRAWING NO. 17-040-019-BB
NEXT ASSY REF SPEC'S APPLICATION		SCALE $\frac{1}{8}$	UNIT WT SHEET 6 OF 7

17-040-019

REVISIONS			
ZONE	LTR	DESCRIPTION	DATE
		SEE SHT 1 FOR REV. CHANGES	7-8-71



- NOTES:
- 1. UNLESS OTHERWISE SPECIFIED:
 - A. INDICATES 30-200-001
 - B. INDICATES 30-100-002

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ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY.
MATERIAL LIST					
REF B/M					
GRI COMPUTER CORP					
PC 3					
PATH CONTROL,					
LINK, BOF					
SIZE	CODE IDENT NO.	DRAWING NO.			
D		17-040-019-BB			
SCALE	UNIT WT	SHEET 7 OF 7			

UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS 1/16 DECIMALS .X ± .03, .XX ± .01, .XXX ± .005 ANGLES ± 1/2°, BENDS 90° FABRICATE PER SPEC 99-002-000		CONTRACT AUTHENTICATION DATE	
DRN N. RYDGREN	7-8-71	CHK <i>[Signature]</i>	7/8/71
ENGR <i>[Signature]</i>	8/1/71	APPD <i>[Signature]</i>	8/4/71
MATERIAL -	APPEARANCE -	FINISH -	
NEXT ASSY	REF SPEC'S	APPLICATION	

SYM	DESCRIPTION	QTY
	SOLE LEGEND	

17-040-019

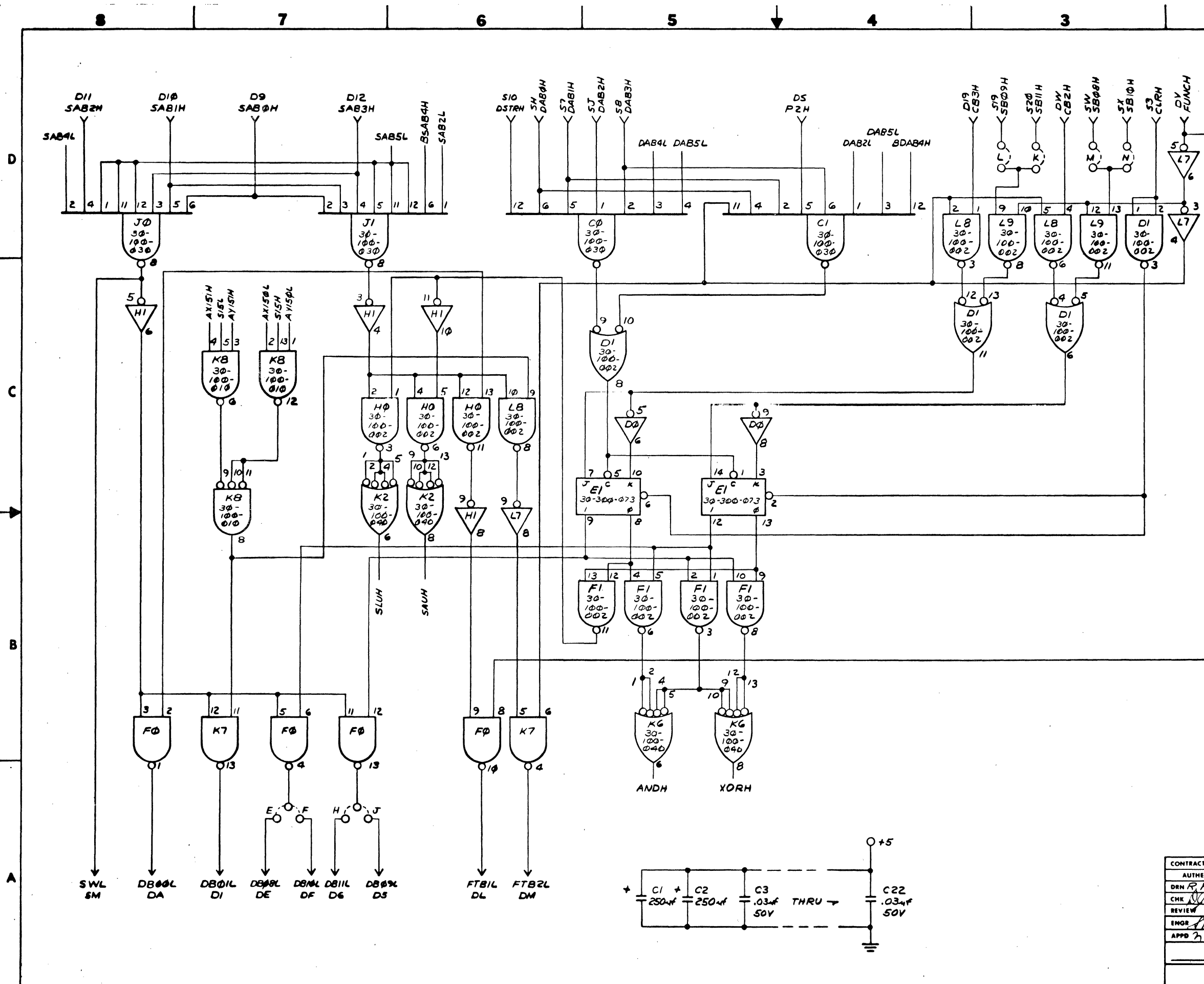
BOARD <u>A0</u>					
signal name	origin	used	bus	connector	comments
GROUND				SA	System Ground
GROUND				S1	System Ground
+5 volts				S8	Logic Supply
+5 volts				S2	Logic Supply
EIH				SC	External Instruction Major State
CLRH		X		S3	System Clear
BKH				SD	Break Major State
DME				S4	Direct Memory Access Major State
POUTH				SE	Priority Out
PINH				SE	Priority In
DOUTH				S7	Data Priority Out
DINH				S6	Data Priority In
DAB0H		X		SH	Destination Address Bus 00
DAB1H		X		S7	" 01
DAB2H		X		SJ	" 02
DAB3H		X		S8	" 03
DAB4H		X		SK	" 04
DAB5H		X		S9	" 05
KCLL				SL	Crystal Clock 9.09 MHz
DSTPH		X		S10	Data Strobe
INTBL				SM	Interrupt. Bus
CLIBH				S11	Clear Interrupt Bus
DIRBL				SN	DMA Direction Bus
IMBL				S12	DMA Increment Bus
STKL				SP	Start Key
STPKL				S13	Stop Key
DMRL				SR	Direct Memory Request
GRI COMPUTER CORPORATION				GRI 909 SIGNAL ORIGIN, USE	
ENG. <i>D. J. McPhie</i>	DATE 4/26/71	A0 1 of 4			
APPROVED <i>A. D. Quinn</i>	DATE 4-26-71	A	18	047	000 A

BOARD <u>A0</u>					
signal name	origin	used	bus	connector	comments
EIRL				S14	External Instruction Request
SBO0H		X		SS	Data Source Bus 00
SB01H		X		S15	" 01
SB02H		X		ST	" 02
SB03H		X		S16	" 03
SB04H		X		SU	" 04
SB05H		X		S17	" 05
SB06H		X		SV	" 06
SB07H		X		S18	" 07
SB08H		X		SW	" 08
SB09H		X		S19	" 09
SB10H		X		SX	" 10
SB11H		X		S20	" 11
SB12H		X		SY	" 12
SB13H		X		S21	" 13
SB14H		X		SZ	" 14
SB15a		X		S22	" 15
GRI COMPUTER CORPORATION				GRI 909 SIGNAL ORIGIN, USE	
ENG.	DATE	A0 2 of 4			
APPROVED	DATE	A	18	047	000 A

BOARD <u>A0</u>					
signal name	origin	used	bus	connector	comments
SAB5H		X		D14	Source Address Bit 5
P2H				DS	P2 (T2 time pulse)
---				D15	
---				DT	
---				D16	
---				DU	
XFRH				D17	Transfer Type Instruction
FUNCH		X		DV	Function Instruction
EXTH		X		D18	Execute Time
CB2H		X		DW	Control Bit 2
CB3H		X		D19	Control Bit 3
CBOH		X		DX	Control Bit 0
CB1H		X		D20	Control Bit 1
-20 volts				DY	Memory Supply
-20 volts				D21	Memory Supply
GROUND				DZ	System Ground
GROUND				D22	System Ground
GRI COMPUTER CORPORATION				GRI 909 SIGNAL ORIGIN, USE	
ENG.	DATE	A0 3 of 4			
APPROVED	DATE	A	18	047	000 A
		SIZE	TYPE	PROD	NUMBER

BOARD <u>A0</u>					
signal name	origin	used	bus	connector	comments
DB00L		X		DA	Data Destination Bus 00
DB01L		X		D1	" 01
DB02L		X		DB	" 02
DB03L		X		D2	" 03
DB04L		X		DC	" 04
DB05L		X		D3	" 05
DB06L		X		DD	" 06
DB07L		X		D4	" 07
DB08L		X		DE	" 08
DB09L		X		D5	" 09
DB10L		X		DF	" 10
DB11L		X		D6	" 11
DB12L		X		DH	" 12
DB13L		X		D7	" 13
DB14L		X		DJ	" 14
DB15L		X		D8	" 15
ISYNH		X		DK	Interrupt Sync
SAB0H		X		D9	Source Address Bit 0
FTB1L			X	DL	Function Test Bit 1
SAB1H		X		D10	Source Address Bit 1
FTB2L				DM	Function Test Bit 2
SAB2H		X		D11	Source Address Bit 2
FTB3L				DN	Function Test Bit 3
SAB3H		X		D12	Source Address Bit 3
LINKH				DP	Link Bit
SAB4H		X		D13	Source Address Bit 4
BOH				DR	Bus Overflow
GRI COMPUTER CORPORATION				GRI 909 SIGNAL ORIGIN, USE	
ENG.	DATE	A0 4 of 4			
APPROVED	DATE	A	18	047	000 A
		SIZE	TYPE	PROD	NUMBER

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
C		REDRAWN WITHOUT CHANGES		



NOTES:
 1. UNLESS OTHERWISE SPECIFIED;
 A. - INDICATES 30-200-001
 B. - INDICATES 30-100-001

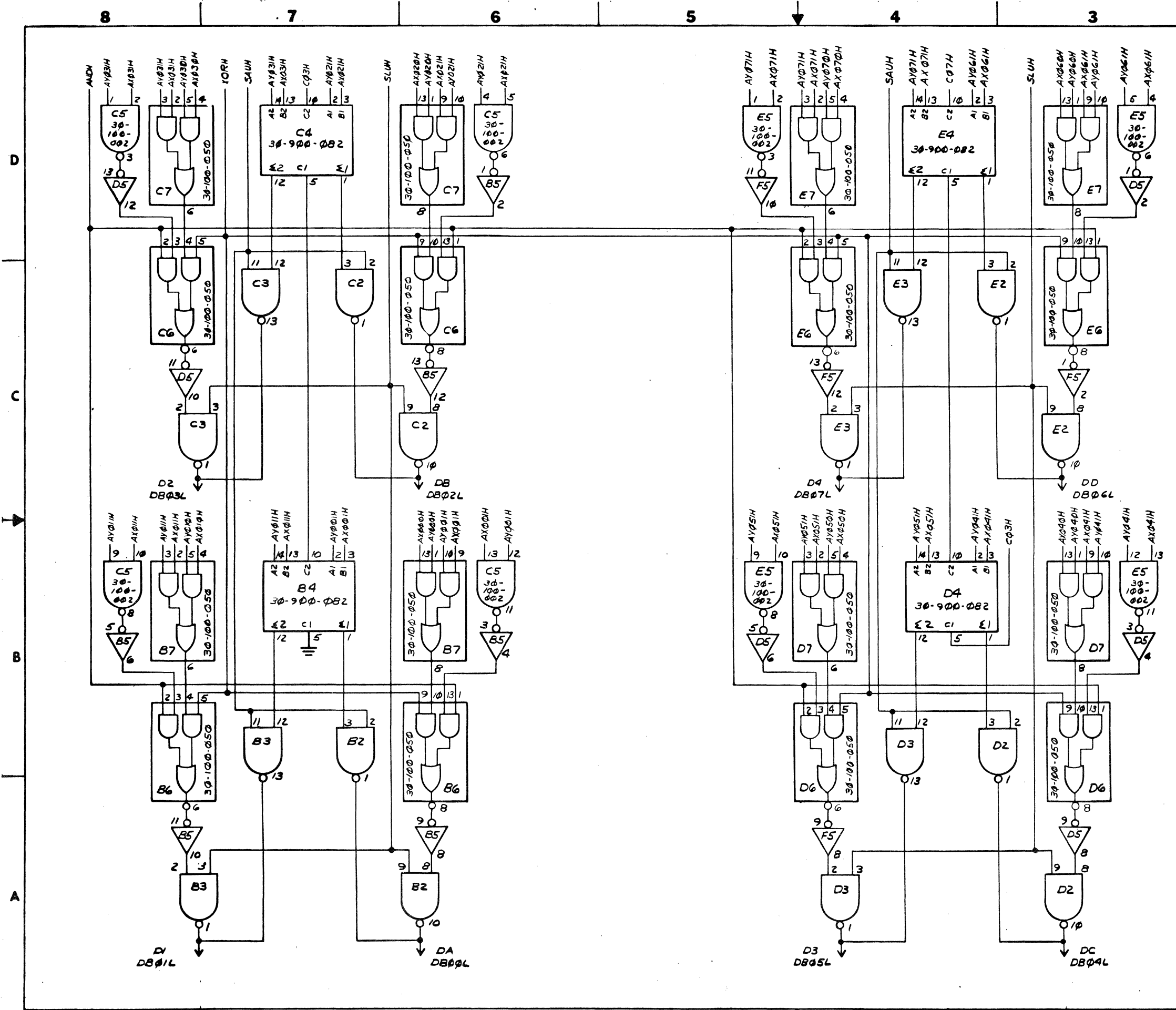
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ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST					
REF B/M					
GRI COMPUTER CORP					
A.O. BOARD					
LOGIC DIAGRAM					
CONT LOGIC					
DRAWING NO. 17-047-005-C					
SIZE CODE IDENT NO. D					
SCALE NONE UNIT WT SHEET 1 OF 6					

CONTRACT	DATE
AUTHENTICATION	7-2-71
DRN R. ROGERS	
CHK	
REVIEW	
ENGR	8/1/71
APPD	8/1/71

17-047-005 (of 6)

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
		SEE SHT NO. 1 FOR REV CHANGES		

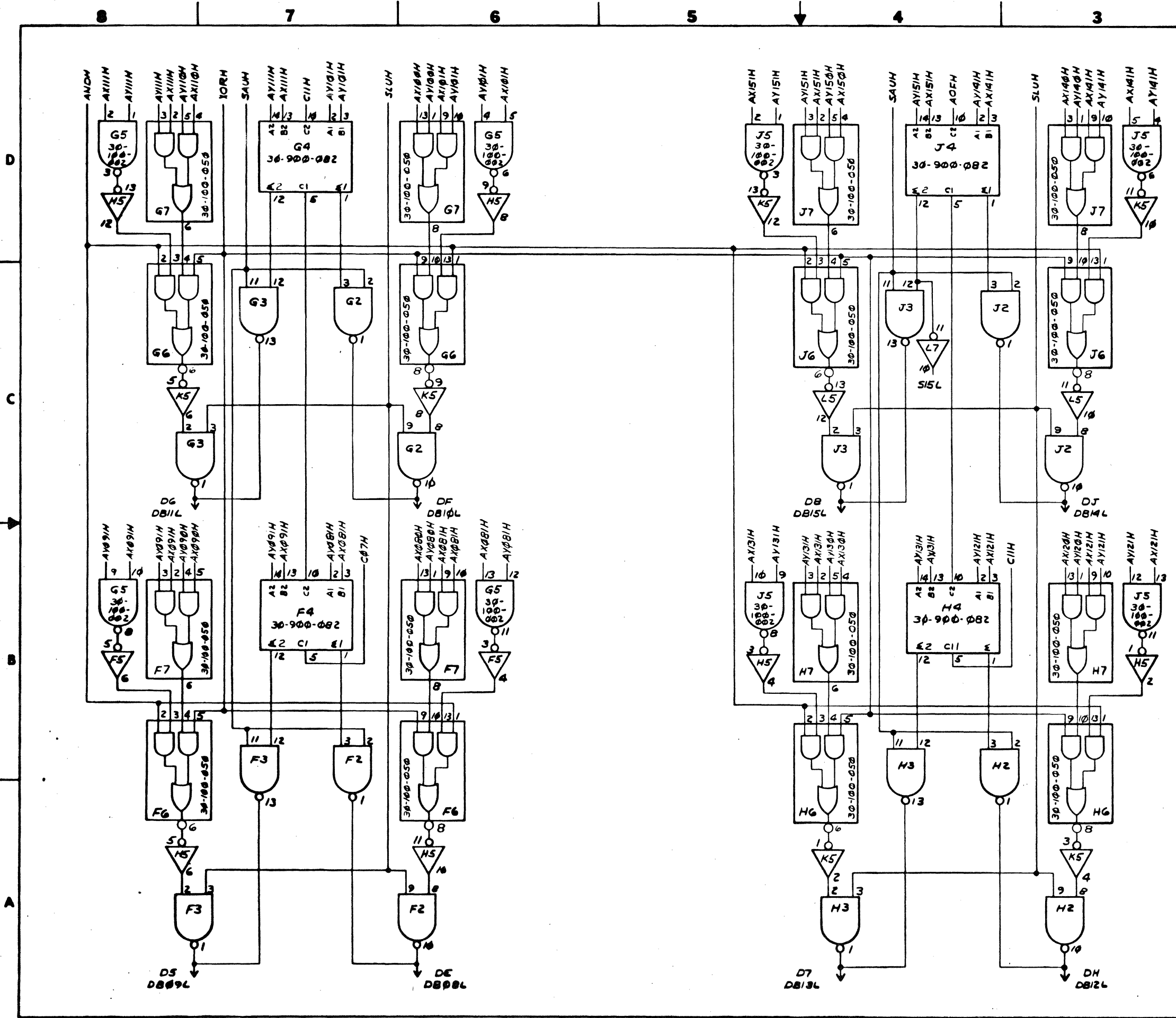


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CONTRACT		AUTHENTICATION		DATE
GRI COMPUTER CORP		DRN R. ROGERS		7-2-71
A.O. BOARD LOGIC DIAGRAM		CHK <i>[Signature]</i>		
BITS 0 THRU 7		REVIEW		
DRAWING NO. 17-047-005-C		ENGR <i>[Signature]</i>		8/1/71
SCALE NONE		APPD <i>[Signature]</i>		8/1/71
UNIT WT		SHEET 2 OF 6		

17-047-005 2 OF 6

REVISIONS				
ZONE	LTG	DESCRIPTION	DATE	APPROVED
SEE SHIT NO. 1 FOR REV CHANGES				



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SEE SHEET ONE FOR REVISION DESCRIPTION

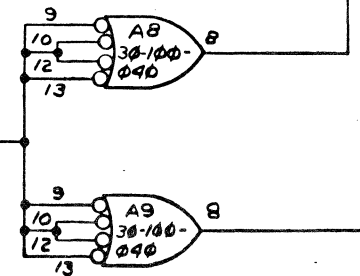
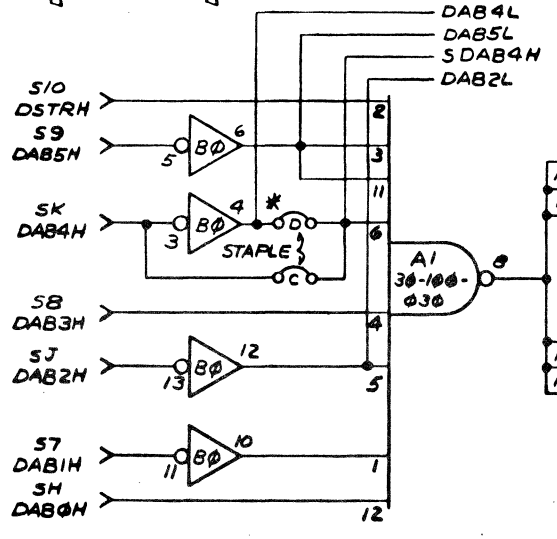
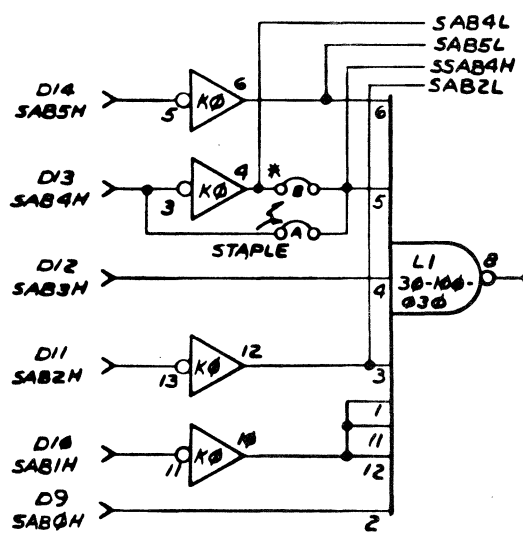
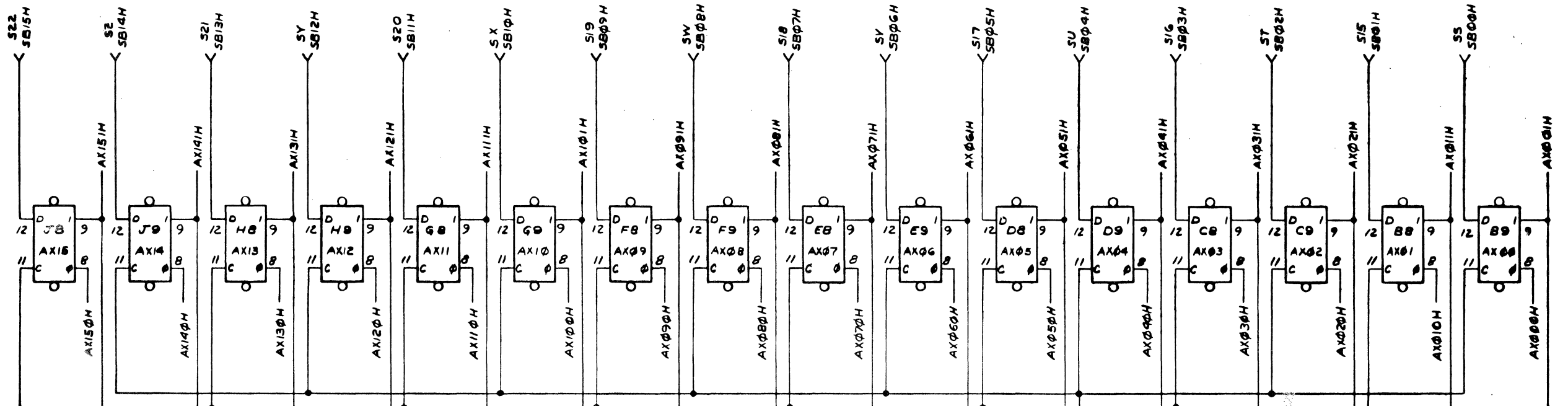
MATERIAL LIST				
ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO. QTY.
CONTRACT				
AUTHENTICATION		DATE		
DRN R. Rogers		7-1-71		
CHK		[Signature]		
REVIEW		[Signature]		
ENGR		[Signature]		
APP		[Signature]		
A.O. BOARD LOGIC DIAGRAM				
BITS 8 THRU 15				
SIZE	CODE IDENT NO.	DRAWING NO.		
D		17-047-005-C		
SCALE NONE	UNIT WT	SHEET 3 OF 6		

17-047-005 3 of 6

8 7 6 5 4 3 2 1

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
SEE SHT NO. 1 FOR REV CHANGES				

30-300-074



* SDAB4H = DAB4L FOR AO #1 (11,12,13)
DAB4H FOR AO #2 (31,32,33)

* SAB4H = SAB4L FOR AO #1 (11,12,13)
SAB4H FOR AO #2 (31,32,33)

SEE SHEET ONE FOR REVISION DESCRIPTION

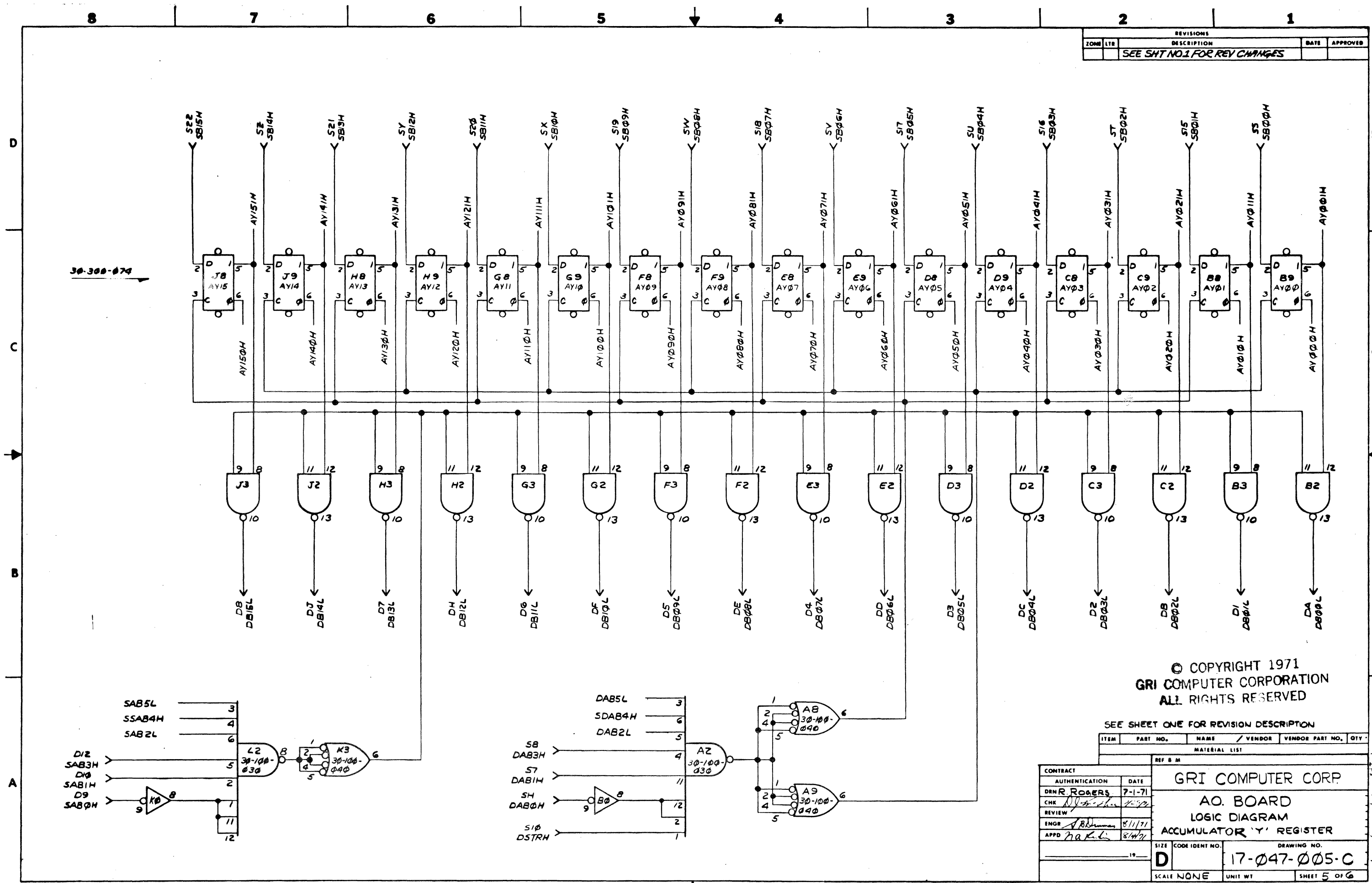
ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY.
MATERIAL LIST					

CONTRACT AUTHENTICATION		DATE	GRI COMPUTER CORP		
DRN R. ROGERS		6-29-71	AO BOARD		
CHK J. J. ...		7/2/71	LOGIC DIAGRAM		
REVIEW			ACCUMULATOR 'X' REGISTER		
ENGR J. B. ...		9/1/71	DRAWING NO.		
APPD H. A. ...		8/1/71	17-047-005-C		
SIZE		CODE IDENT NO.	DRAWING NO.		
D			17-047-005-C		
SCALE NONE		UNIT WT	SHEET 4 OF 6		

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17-047-005-SHT 4 OF 6

REVISIONS				
ZONE	LTB	DESCRIPTION	DATE	APPROVED
SEE SH1 NO.1 FOR REV CHANGES				



30-300-074

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SEE SHEET ONE FOR REVISION DESCRIPTION

ITEM	PART NO.	NAME / VENDOR	VENDOR PART NO.	QTY.
MATERIAL LIST				

CONTRACT	
AUTHENTICATION	DATE
DRNR ROGERS	7-1-71
CHK	
REVIEW	
ENGR	
APPD	

GRI COMPUTER CORP.	
AO. BOARD	
LOGIC DIAGRAM	
ACCUMULATOR 'Y' REGISTER	
SIZE	CODE IDENT NO.
D	17-047-005-C
SCALE	NONE
UNIT	WT
SHEET 5 OF 6	

17-047-005-C

8

7

6

5

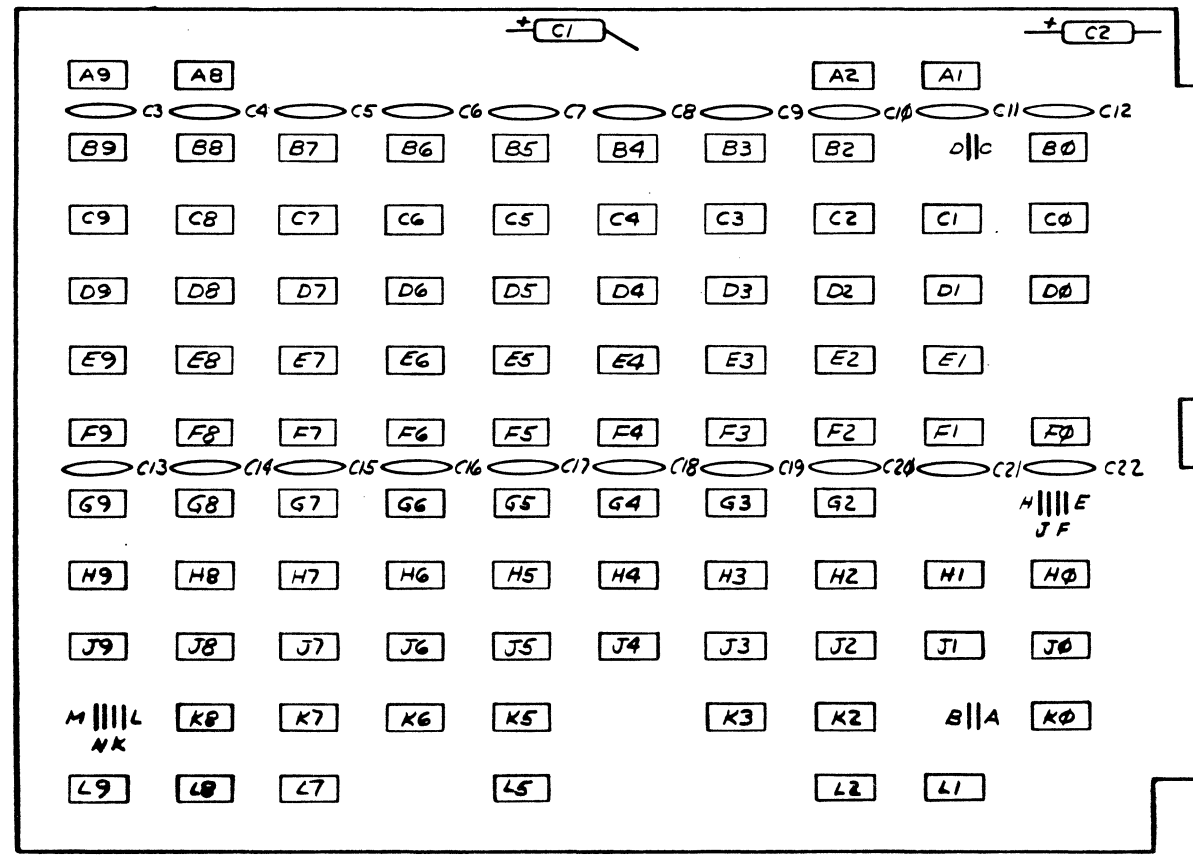
4

3

2

1

REVISIONS				
ZONE	LPR	DESCRIPTION	DATE	APPROVED
		SEE SHT NO 1 FOR REV CHANGES		



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SEE SHEET ONE FOR REVISION DESCRIPTION

ITEM	PART NO.	NAME / VENDOR	VENDOR PART NO.	QTY.
MATERIAL LIST				
REF B/M				
GRI COMPUTER CORP				
A.O. BOARD				
LOGIC DIAGRAM				
LOCATION VIEW				
CONTRACT AUTHENTICATION	DATE	DRAWING NO.		
DRN R. ROGERS	7-2-71	17-047-005-C		
CHK		SIZE CODE IDENT NO.		
REV NEW		D		
ENGR		SCALE NONE		
APPR		UNIT WT		
		SHEET 6 OF 6		

17-047-005-606

BOARD _____ MR _____					
signal name	origin	used	bus	connector	comments
GND				SA	System Ground
GND				S1	System Ground
+5 volts				SB	Logic Supply
+5 volts				S2	Logic Supply
EIH				SC	External Instruction Major State
CLPH				S3	System Clear
BKH				SD	Break Major State
DMH				S4	Direct Memory Access Major State
POUTH				SE	Priority Out
PINH				S5	Priority In
DOUTH				SF	Data Priority Out
DINH				S6	Data Priority In
DAB0H		X		SH	Destination Address Bus 00
DAB1H		X		S7	" 01
DAB2H		X		SJ	" 02
DAB3H		X		S8	" 03
DAB4H		X		SK	" 04
DAB5H		X		S9	" 05
XCLL		X		SL	Crystal Clock 9.09 Hz
DSTRH		X		S10	Data Strobe
INTBL				SM	Interrupt Bus
CLIBH				S11	Clear Interrupt Bus
DIPBL				SN	DMA Direction Bus
INBL				S12	DMA Increment Bus
STKL				SP	Start Key
STPKL				S13	Stop Key
DMRL				SR	Direct Memory Request

GRI COMPUTER CORPORATION		GRI 909 SIGNAL ORIGIN, USE			
ENG. <i>D. J. [Signature]</i>	DATE 4/26/71	NR	1 of 4		
APPROVED <i>[Signature]</i>	DATE 4-26-71	A	18	040	005
		SIZE	TYPE	PROD.	NUMBER

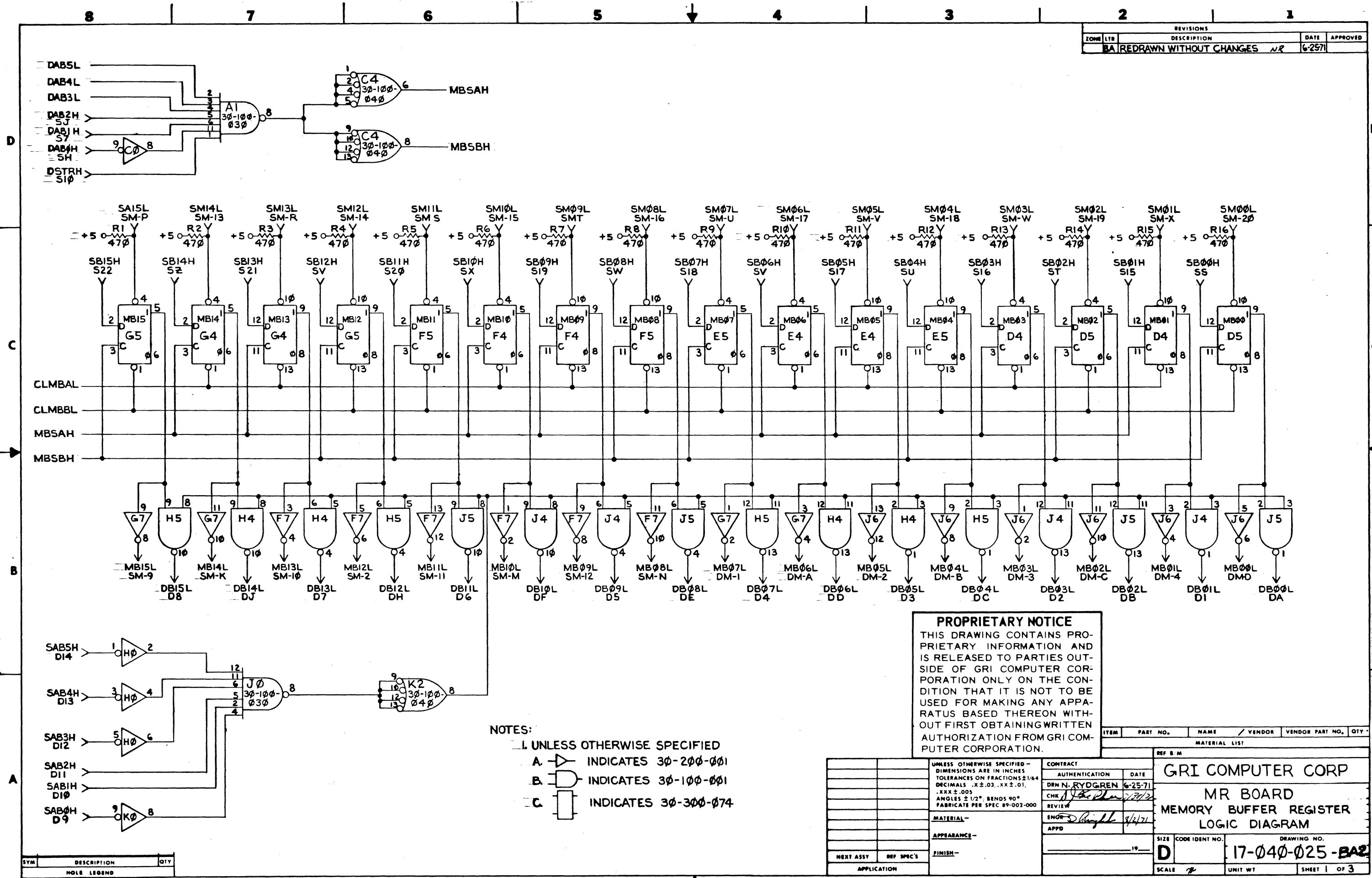
BOARD _____ MR _____					
signal name	origin	used	bus	connector	comments
EIRL				S14	External Instruction Request
SBO0H		X		SS	Data Source Bus 00
SBO1H		X		S15	" 01
SBO2H		X		ST	" 02
SBO3H		X		S16	" 03
SBO4H		X		SU	" 04
SE05H		X		S17	" 05
SBO6H		X		SV	" 06
SBO7H		X		S18	" 07
SBO8H		X		SW	" 08
SBO9H		X		S19	" 09
SB10H		X		SX	" 10
SB11H		X		S20	" 11
SB12H		X		SY	" 12
SB13H		X		S21	" 13
SB14H		X		SZ	" 14
SB15H		X		S22	" 15

GRI COMPUTER CORPORATION		GRI 909 SIGNAL ORIGIN, USE			
ENG.	DATE	NR	2 of 4		
APPROVED	DATE	A	18	040	005
		SIZE	TYPE	PROD.	NUMBER

BOARD <u>MR</u>					
signal name	origin	used	bus	connector	comments
DB00L			X	DA	Data Destination Bus 00
DB01L			X	D1	" 01
DB02L			X	DB	" 02
DB03L			X	D2	" 03
DB04L			X	DC	" 04
DB05L			X	D3	" 05
DB06L			X	DD	" 06
DB07L			X	D4	" 07
DB08L			X	DE	" 08
DB09L			X	D5	" 09
DB10L			X	DF	" 10
DB11L			X	D6	" 11
DB12L			X	DH	" 12
DB13L			X	D7	" 13
DB14L			X	DJ	" 14
DB15L			X	DS	" 15
ISYNH				DK	Interrupt Sync
SAB0H		X		D9	Source Address Bit 0
FTB1L				DL	Function Test Bit 1
SAB1H		X		D10	Source Address Bit 1
FTB2L				DM	Function Test Bit 2
SAB2H		X		D11	Source Address Bit 2
FTB3L				DN	Function Test Bit 3
SAB3H		X		D12	Source Address Bit 3
LINKH				DP	Link Bit
SAB4H		X		D13	Source Address Bit 4
BOH				DR	Bus Overflow
GRI COMPUTER CORPORATION			GRI 909 SIGNAL ORIGIN, USE		
ENG.	DATE	MR		3 of 4	
APPROVED	DATE	A	18	040	005 A
		SIZE	TYPE	PROD.	NUMBER

BOARD <u>MR</u>					
signal name	origin	used	bus	connector	comments
SAB5H		X		D14	Source Address Bit 5
P2H				DS	P2 (T2 time pulse)
---				D15	
FUNCH				DT	Function State
---				D16	
CB2H				DU	Control Bus 2
EXTH		X		D17	Execute Time
CB0H				DV	Control Bus 0
CB3H				D18	Control Bus 3
THERM2				DW	Thermister 2
CB1H				D19	Control Bus 1
-5 volts				DX	Sense Amp Supply
THERM1				D20	Thermister 1
-20 volts				DY	Memory Supply
-20 volts				D21	Memory Supply
GND				DZ	System Ground
GND				D22	System Ground
GRI COMPUTER CORPORATION			GRI 909 SIGNAL ORIGIN, USE		
ENG.	DATE	MR		4 of 4	
APPROVED	DATE	A	18	040	005 A
		SIZE	TYPE	PROD.	NUMBER

REVISIONS			
ZONE	LTR	DESCRIPTION	DATE APPROVED
BA		REDRAWN WITHOUT CHANGES	NR 6-25-71



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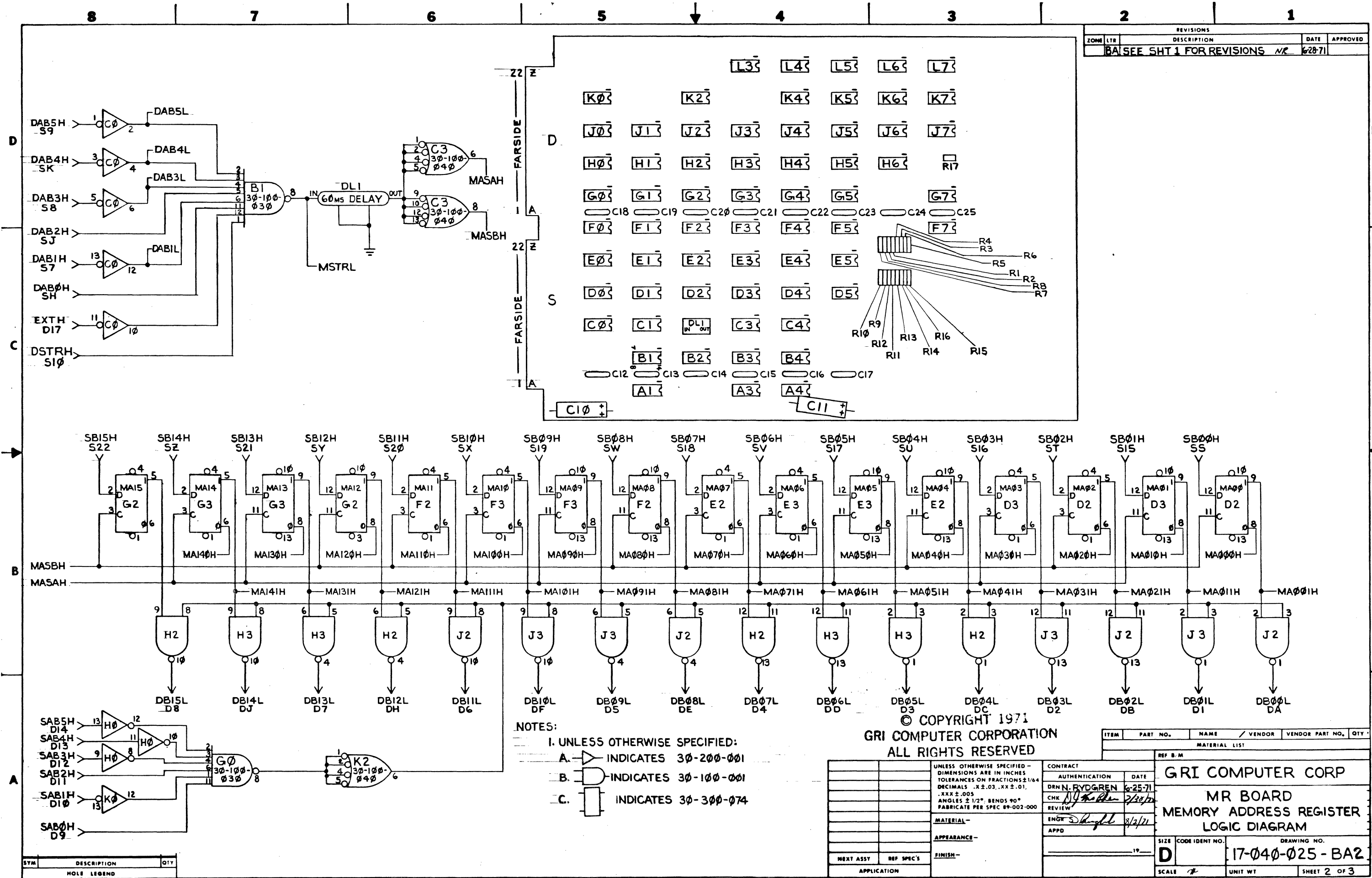
- NOTES:**
- 1. UNLESS OTHERWISE SPECIFIED
 - A. INDICATES 30-200-001
 - B. INDICATES 30-100-001
 - C. INDICATES 30-300-074

SYM	DESCRIPTION	QTY
	MOLE LEGEND	

ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY.
MATERIAL LIST					
REF B.M					
GRI COMPUTER CORP					
MR BOARD					
MEMORY BUFFER REGISTER					
LOGIC DIAGRAM					
CONTRACT AUTHENTICATION		DATE		DRAWING NO.	
DRN N. RYDGREN		6-25-71		17-040-025-BA2	
CHK <i>[Signature]</i>		REVIEW		SCALE	
ENGR <i>[Signature]</i>		APPD		UNIT WT	
NEXT ASSY		REF SPEC'S		FINISH	
APPLICATION				SHEET 1 OF 3	

17-040-025

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
BA		SEE SHT 1 FOR REVISIONS	N/A	6-28-71



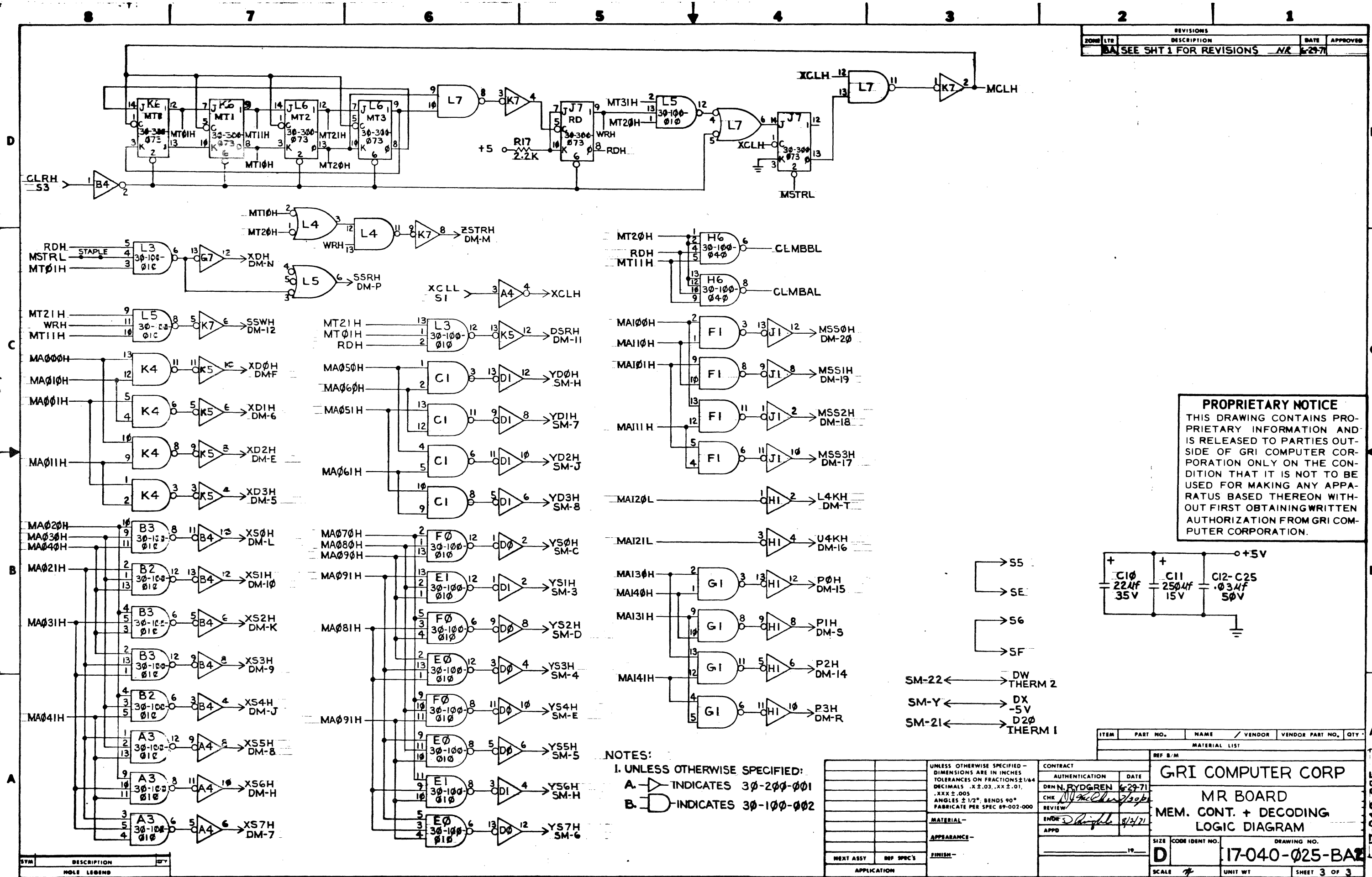
- NOTES:
- I. UNLESS OTHERWISE SPECIFIED:
 - A. INDICATES 30-200-001
 - B. INDICATES 30-100-001
 - C. INDICATES 30-300-074

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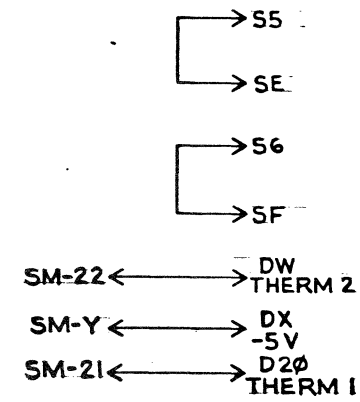
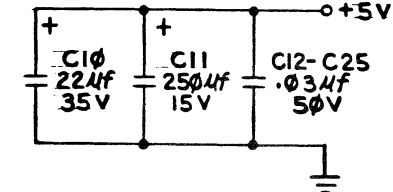
ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY.
MATERIAL LIST					
REF. B.M.					
GRI COMPUTER CORP					
MR BOARD					
MEMORY ADDRESS REGISTER					
LOGIC DIAGRAM					
SIZE	CODE IDENT NO.	DRAWING NO.			
D		17-040-025 - BA2			
SCALE	UNIT WT	SHEET 2 OF 3			

SYM	DESCRIPTION	QTY
HOLE LEGEND		

REVISIONS			
DATE	APPROVED	DESCRIPTION	BY
6-29-71		SEE SHT 1 FOR REVISIONS	NR



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- NOTES:**
 I. UNLESS OTHERWISE SPECIFIED:
 A. INDICATES 30-200-001
 B. INDICATES 30-100-002

ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY.
MATERIAL LIST					
REF B/M					
GRI COMPUTER CORP			CONTRACT AUTHENTICATION DATE		
MR BOARD			DRN N. RYDGREN 6-29-71		
MEM. CONT. + DECODING			CHK <i>[Signature]</i> 7/30/71		
LOGIC DIAGRAM			ENGR <i>[Signature]</i> 8/2/71		
DRAWING NO. 17-040-025-BA2			APPRO APPD		
SIZE CODE IDENT NO. D			DRAWING NO. 17-040-025-BA2		
SCALE 7			SHEET 3 OF 3		

17-040-025

BOARD PD BOARD					
signal name	origin	used	bus	connector	comments
GND				A1	System Ground
SB01H		X		A2	Data Source Bus 01
GND				A3	System Ground
SB02H		X		A4	Data Source Bus 02
GND				A5	System Ground
SB03H		X		A6	Data Source Bus 03
GND				A7	System Ground
SB11H		X		A8	Data Source Bus 11
GND				A9	System Ground
SB09H		X		A10	Data Source Bus 09
GND				A11	System Ground
SB08H		X		A12	Data Source Bus 08
GND				A13	System Ground
SB10H		X		A14	Data Source Bus 10
GND				A15	System Ground
SB04H		X		A16	Data Source Bus 04
GND				A17	System Ground
SB06H		X		A18	Data Source Bus 06
GND				A19	System Ground
DS10H	X			A20	Console Data Switch 10
DS03H	X			A21	" 08
DS09H	X			A22	" 09
DS11H	X			A23	" 11
DS12H	X			A24	" 12
DS14H	X			A25	" 14
DS07H	X			A26	" 07
DS06H	X			A27	" 06

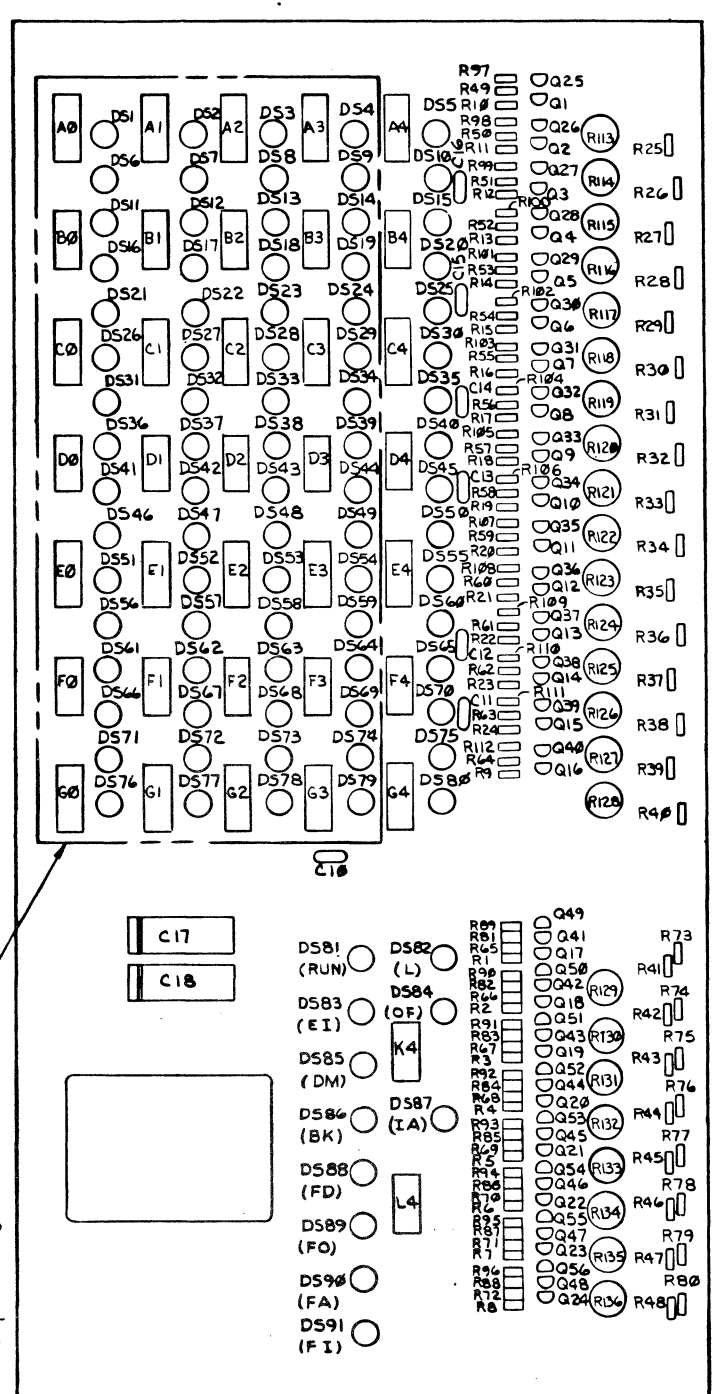
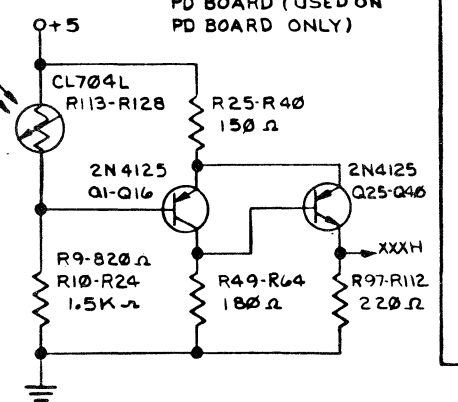
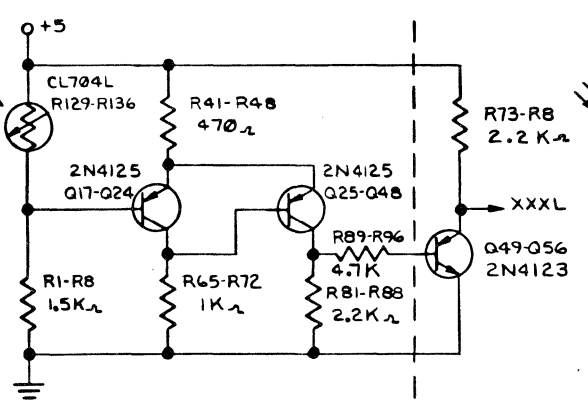
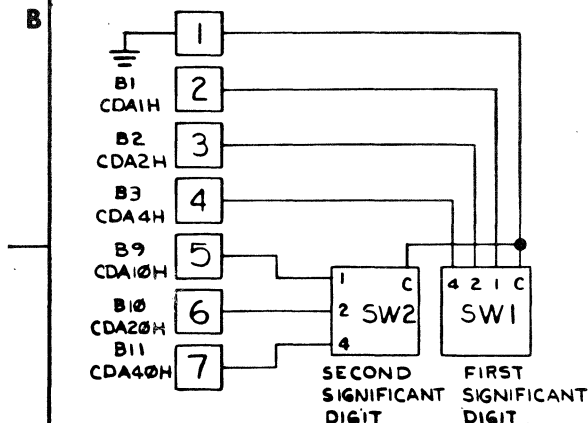
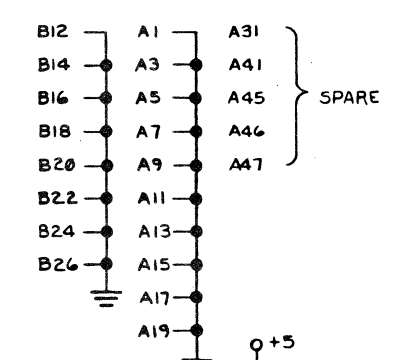
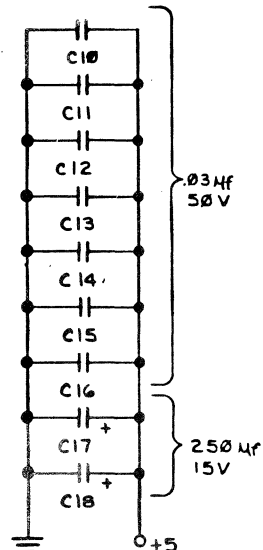
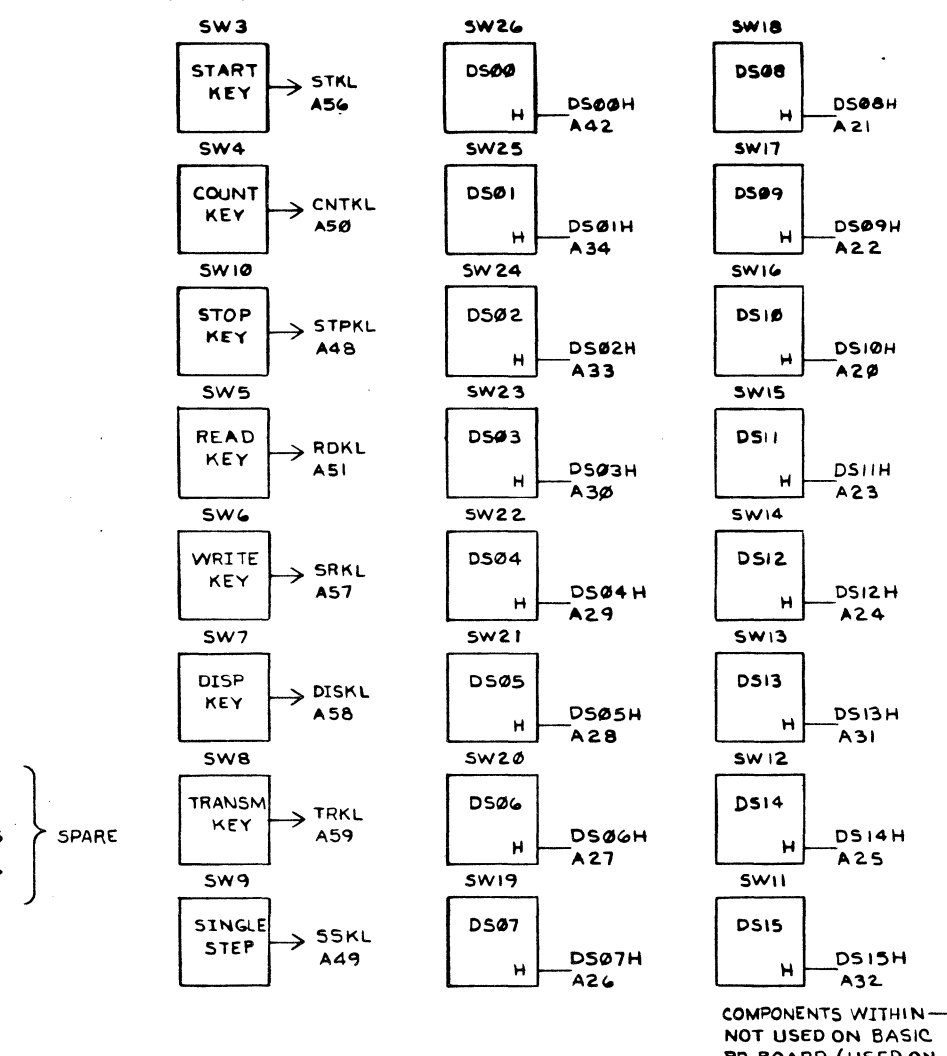
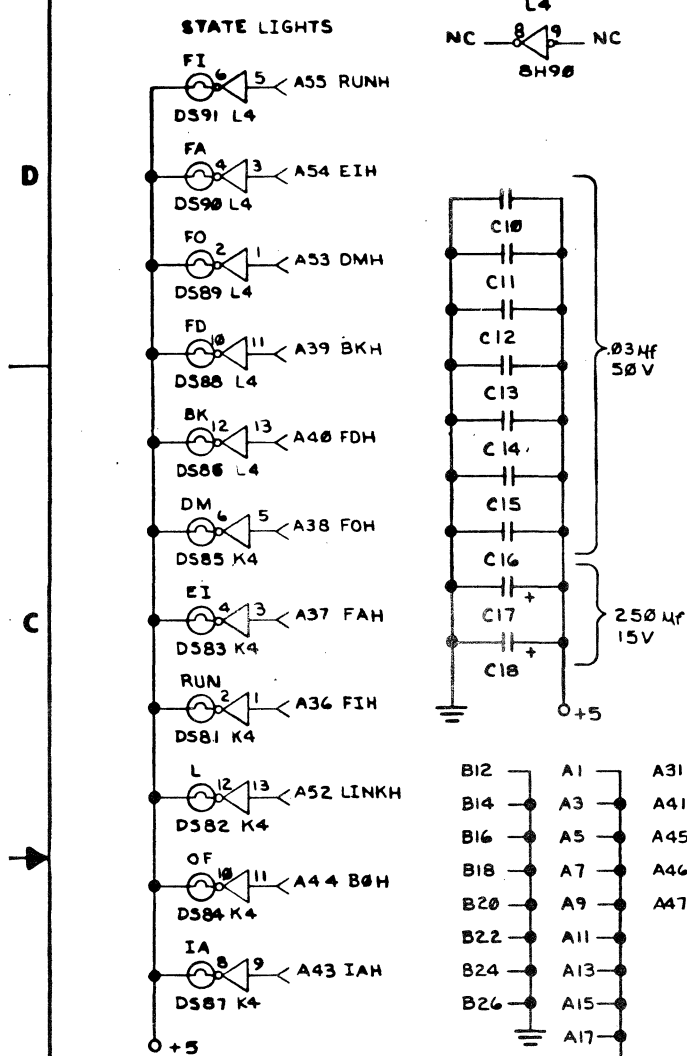
BOARD PD BOARD					
signal name	origin	used	bus	connector	comments
DS05H	X			A28	Console Data Switch 05
DS04H	X			A29	" 04
DS03H	X			A30	" 03
DS13H	X			A31	" 13
DS15H	X			A32	" 15
DS02H	X			A33	" 02
DS01H	X			A34	" 01
SPARE				A35	
FIH		X		A36	Fetch Instruction Major State
FAH		X		A37	Fetch Address Major State
FOH		X		A38	Fetch Operand Major State
BKH		X		A39	Break Major State
FDE		X		A40	Fetch Deferred Major State
SPARE				A41	
DS06H	X			A42	Console Data Switch 00
IAH				A43	Interrupt Active State
BOH		X		A44	Bus Overflow State
SPARE				A45	
SPARE				A46	
SPARE				A47	
STPKL			X	A48	Stop Key
SSKL	X			A49	Single Step Key
CNTKL	X			A50	Continue Key
PKL	X			A51	Read Key
LINKH		X		A52	Link State
DMA		X		A53	Direct Memory Access Major State
EIH		X		A54	External Instruction Major State

GRI COMPUTER CORPORATION		GRI 909 SIGNAL ORIGIN, USE			
ENG. <i>D. J. McChes</i>	DATE 4/26/71	PD 1 of 4			
APPROVED <i>[Signature]</i>	DATE A-26-71	A	18	040	010
		SIZE	TYPE	PROD.	NUMBER

GRI COMPUTER CORPORATION		GRI 909 SIGNAL ORIGIN, USE			
ENG.	DATE	PD 2 of 4			
APPROVED	DATE	A	18	040	010
		SIZE	TYPE	PROD.	NUMBER

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
B		REDRAWN WITHOUT CHANGE	JC 6-30-71	

INSTRUCTION KEYS DATA SWITCHES



- NOTES
- I. UNLESS OTHERWISE SPECIFIED; A. ALL RESISTOR VALUES ARE IN OHMS
 - B. ALL RESISTORS ARE 1/4W, 10%
 - C. INDICATES 30-200-001
 - D. INDICATES 30-300-075

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ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY.
MATERIAL LIST					
REF B/M					
GRI COMPUTER CORP					
PD BOARD LOGIC DIAGRAM					
BASIC & PROGRAMMER'S CONSOLE					
SIZE	CODE IDENT NO.	DRAWING NO.		17-040-022-B	
D					
SCALE		UNIT WT	SHEET 1 OF 2		

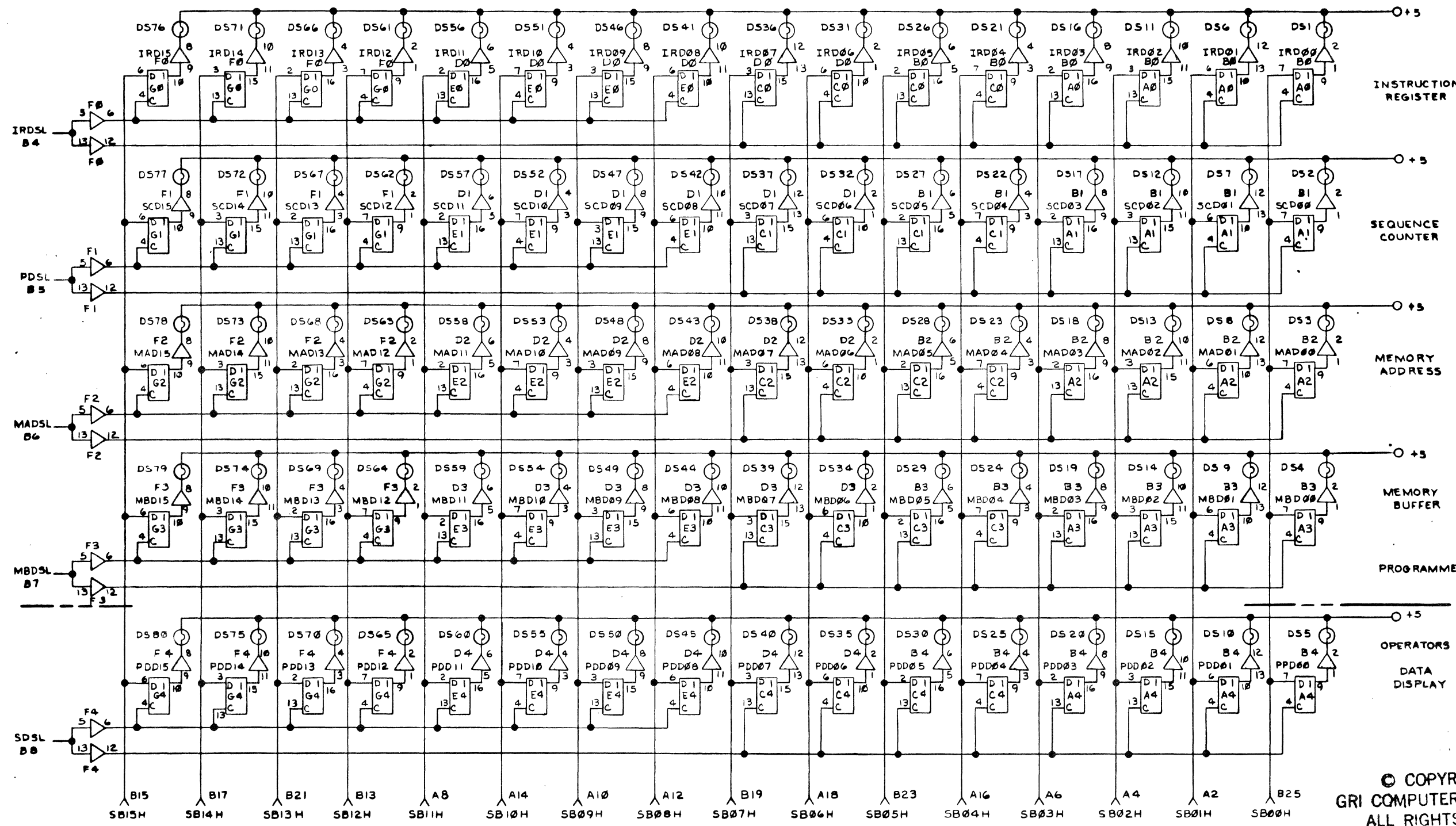
SYM	DESCRIPTION	QTY
	HOLE LEGEND	

CONTRACT AUTHENTICATION	DATE
DRN J Calotta	7-13-71
CHK R A Roy	7-15-71
REVIEW R A Roy	8/1/71
ENGR R A Roy	8/1/71
APPD R A Roy	8/1/71



17-040-022-B

REVISIONS				
FORM	LTR	DESCRIPTION	DATE	APPROVED
		SEE SHEET ONE FOR REVISION		



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ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST					

UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES - TOLERANCES ON FRACTIONS 2/104 DECIMALS .XX ± .03 .XX ± .01 .XXX ± .003 ANGLES ± 1/2°, BENDS 90° FABRICATE PER SPEC 09-002-000		CONTRACT AUTHENTICATION DATE	
MATERIAL -		DRN J. Coates 7-13-71	
APPEARANCE -		CHK R. Adams 7-15-71	
FINISH -		REVIEW D. [Signature] 7/17/71	
NEXT ASSY		ENGR [Signature] 8/1/71	
REF SPEC'S		APPD [Signature] 8/4/71	
APPLICATION			

GRI COMPUTER CORP			
PD BOARD LOGIC DIAGRAM			
CONSOLE DISPLAY REGISTERS			
SIZE	CODE IDENT NO.	DRAWING NO.	
D		17-040-022-B	
SCALE	UNIT WT	SHEET 2 OF 2	

SYM	DESCRIPTION	QTY
MOLE LEGEND		

17-040-022-B (2)

BOARD PD BUFFER					
signal name	origin	used	bus	connector	comments
GROUND				SA	System Ground
GROUND				S1	System Ground
+5 volts				SB	Logic Supply
+5 volts				S2	Logic Supply
EIH		X		SC	External Instruction Major State
---				S3	
BKH		X		SD	Break Major State
DMH		X		S4	Direct Memory Access Major State
FOH		X		SE	Fetch Operand Major State
FDH		X		S5	Fetch Deferred Major State
FIH		X		SF	Fetch Instruction Major State
FAH		X		S6	Fetch Address Major State
---				SH	
---				S7	
LINKH		X		SJ	Link State
BOH		X		S8	Bus Overflow State
---				SK	
---				S9	
CDA40H		X		SL	Console Device Select 40g
CDA4H		X		S10	Console Device Select 4g
CDA20H		X		SM	Console Device Select 20g
CDA2H		X		S11	Console Device Select 2g
CDA10H		X		SN	Console Device Select 10g
CDA1H		X		S12	Console Device Select 1g
---				SP	
---				S13	
SDSL		X		SR	Select Data Display

GRI COMPUTER CORPORATION		GRI 909 SIGNAL ORIGIN, USE			
ENG. <i>D.J. Miller</i>	DATE 4/26/71	PD BUFFER		1 of 4	
APPROVED <i>P.D. Quinn</i>	DATE 4-26-71	A	18	040	007
		SIZE	TYPE	PROD.	NUMBER

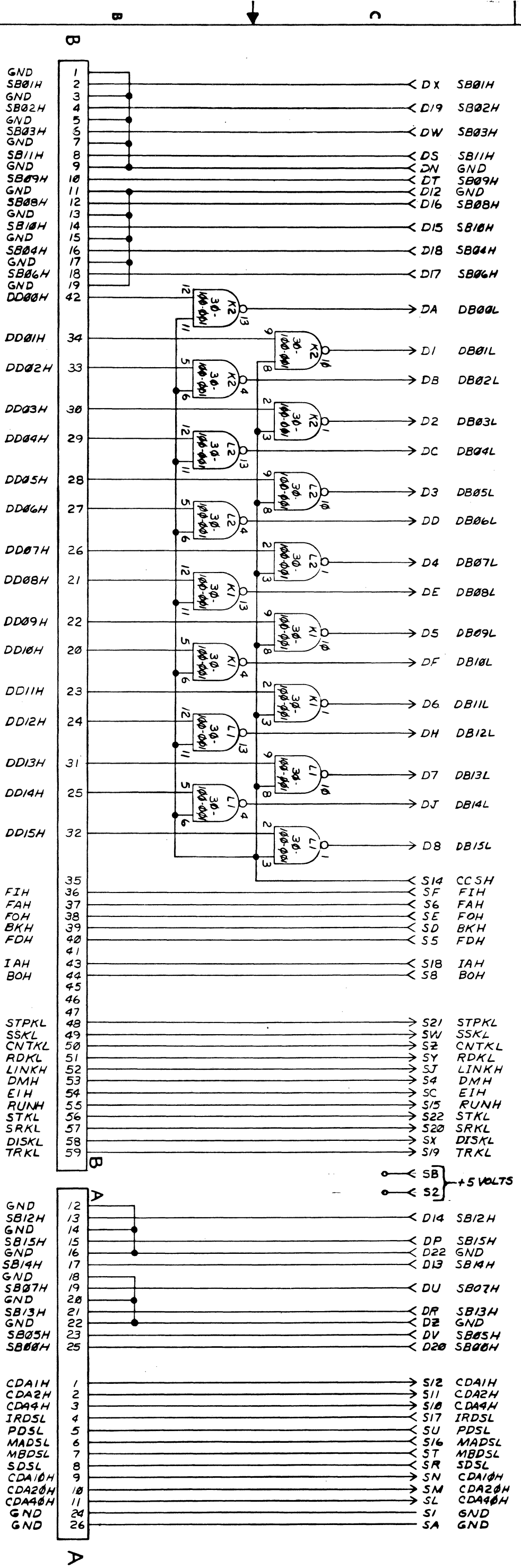
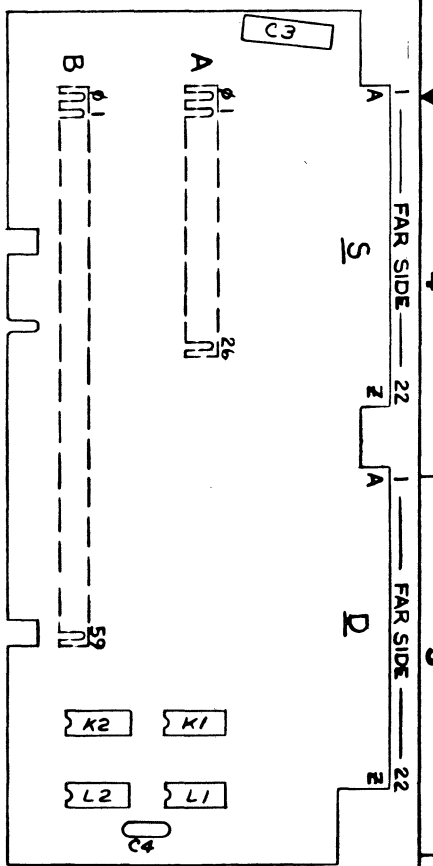
BOARD PD BUFFER					
signal name	origin	used	bus	connector	comments
CCSH		X		S14	Console Switch Select
---				SS	
RUNH		X		S15	Run State
MBDSL		X		ST	Memory Buffer Display Select
MADSL		X		S16	Memory Address Display Select
PDSL		X		SU	Sequence Counter Display Select
IRDSL		X		S17	Instruction Register Display Select
---				SV	
IAH		X		S18	Interrupt Active State
SSKL		X		SW	Single Step Key
IRKL		X		S19	Transmit Key
DISKL		X		SX	Display Key
SRKL		X		S20	Write Key
RDKL		X		SY	Read Key
STPKL			X	S21	Stop Key
CNTKL		X		SZ	Continue Key
STKL			X	S22	Start Key

GRI COMPUTER CORPORATION		GRI 909 SIGNAL ORIGIN, USE			
ENG.	DATE	PD BUFFER		2 of 4	
APPROVED	DATE	A	18	040	007
		SIZE	TYPE	PROD.	NUMBER

BOARD		PD	BUFFER				
signal name	origin	used	bus	connector	comments		
DB00L			X	DA	Data Destination Bus	00	
DB01L			X	D1	"	01	
DB02L			X	DB	"	02	
DB03L			X	D2	"	03	
DB04L			X	DC	"	04	
DB05L			X	D3	"	05	
DB06L			X	DD	"	06	
DB07L			X	D4	"	07	
DB08L			X	DE	"	08	
DB09L			X	D5	"	09	
DB10L			X	DF	"	10	
DB11L			X	D6	"	11	
DB12L			X	DH	"	12	
DB13L			X	D7	"	13	
DB14L			X	DJ	"	14	
DB15L			X	D8	"	15	
---				DK			
---				D9			
---				DL			
---				D10			
---				DM			
---				D11			
GROUND				DN	System Ground		
GROUND				D12	System Ground		
SB15H		X		DP	Data Source Bus	15	
SB14H		X		D13	"	14	
SB13H		X		DR	"	13	
GRI COMPUTER CORPORATION				GRI 909 SIGNAL ORIGIN, USE			
ENG.	DATE	PD	BUFFER	3 of 4			
APPROVED	DATE	A	18 040	007	A		
		SIZE	TYPE	PROD	NUMBER	REV	

BOARD		PD	BUFFER				
signal name	origin	used	bus	connector	comments		
SB12H		X		D14	Data Source Bus	12	
SB11H		X		DS	"	11	
SB10H		X		D15	"	10	
SB09H		X		DT	"	09	
SB08H		X		D16	"	08	
SB07H		X		DU	"	07	
SB06H		X		D17	"	06	
SB05H		X		DV	"	05	
SB04H		X		D18	"	04	
SB03H		X		DW	"	03	
SB02H		X		D19	"	02	
SB01H		X		DX	"	01	
SB00H		X		D20	"	00	
-20 volts				D4	Memory Supply		
-20 volts				D21	Memory Supply		
GROUND				DZ	System Ground		
GROUND				D22	System Ground		
GRI COMPUTER CORPORATION				GRI 909 SIGNAL ORIGIN, USE			
ENG.	DATE	PD	BUFFER	4 of 4			
APPROVED	DATE	A	18 040	007	A		
		SIZE	TYPE	PROD	NUMBER	REV	

REVISIONS		DATE	APPROVED
1	REVISION	J.C.	
2	REDRAWN	NO CHANGE	
3			
4			
5			
6			
7			
8			



ITEM	DESCRIPTION	QTY
NOTE LISTING		

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CONTRACT AUTHENTICATION	DATE
DRAWN BY: BROWN	9-17-65
CHECKED BY: [Signature]	
REVIEWED BY: [Signature]	
APPROVED BY: [Signature]	11/1/71
APP'D: [Signature]	8/4/71

NAME / VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST		
GRI COMPUTER CORP		
P.D. BUFFER LOGIC DIAG. (P.D.B.)		
SIZE	CODE IDENT NO.	DRAWING NO.
D	NOVE	17-040-033A
SCALE	UNIT WT	SHEET 1 OF 1

BOARD MR BUS SLOT 0
MRC

signal name	origin	used	bus	connector	comments
GROUND				SM0 System Ground	
GROUND				SM1 System Ground	
+5 volts				SM8 System Logic Supply	
+5 volts				SM2 System Logic Supply	
YS0H		X		SM0 Y Sink 0	
YS1H		X		SM3 " 1	
YS2H		X		SM7 " 2	
YS3H		X		SM4 " 3	
YS4H		X		SM8 " 4	MA 7, 8, 9 decoded
YS5H		X		SM5 " 5	
YS6H		X		SM6 " 6	
YS7H		X		SM6 " 7	
YD0H		X		SM9 Y Drive 0	
YD1H		X		SM7 " 1	
YD2H		X		SM1 " 2	MA 5, 6 decoded
YD3H		X		SM8 " 3	
MB14L		X		SM5 MB bit 14 (ON side)	
MB15L		X		SM9 " 15	
MB12L		X		SM9 " 12	
MB13L		X		SM10 " 13	
MB10L		X		SM8 " 10	
MB11L		X		SM11 " 11	
MB09L		X		SM3 " 09	
MB09L		X		SM12 " 09	
SA14L	X			SM3 Sense Amp bus 14	
SA15L	X			SM7 " 15	
SA16L	X			SM1 " 16	

GRI COMPUTER CORPORATION

GRI 909 SIGNAL ORIGIN, USE

ENG. *D.J. DeCher* DATE 4/26/71
APPROVED *BD* DATE 4-26-71

MRC
A 18 040 012 B

BOARD MR BUS SLOT 0
MRC

signal name	origin	used	bus	connector	comments
SA13L	X			SM8 Sense Amp Bus 13	
SA10L	X			SM15 " 10	
SA11L	X			SM5 " 11	
SA08L	X			SM16 " 08	
SA09L	X			SM1 " 09	
SA06L	X			SM17 " 06	
SA07L	X			SM0 " 07	
SA04L	X			SM18 " 04	
SA05L	X			SM9 " 05	
SA02L	X			SM19 " 02	
SA03L	X			SM3 " 03	
SA00L	X			SM20 " 00	
SA01L	X			SM4 " 01	
-5 volts		X		SM7 Sense Amp Supply	
THERM 1		X		SM21 THERMISTER 1	
---		X		SM2	
THERM 2		X		SM22 THERMISTER 2	

GRI COMPUTER CORPORATION

GRI 909 SIGNAL ORIGIN, USE

ENG. DATE
APPROVED DATE

MRC
A 18 040 012 B

BOARD MR BUS SLOT 0
MRC

signal name	origin	used	bus	connector	comments
MB06L		X		DMA MB bit 06 (OH side)	
MB07L		X		DM1 " 07	
MB04L		X		DMB " 04	
MB05L		X		DM2 " 05	
MB02L		X		DNC " 02	
MB03L		X		DM3 " 03	
MB00L		X		DMD " 00	
MB01L		X		DM4 " 01	
XD2H		X		DME X drive 2	MA 0, 1 decoded
XD3H		X		DM5 " 3	
XD0H		X		DMF " 0	
XD1H		X		DM6 " 1	
XS6H		X		DMH X sink 6	MA 2, 3, 4 decoded
XS7H		X		DM7 " 7	
XS4H		X		DMJ " 4	
XS5H		X		DM8 " 5	
XS2H		X		DMK " 2	
XS3H		X		DM9 " 3	
XSOH		X		DML " 0	
XS1H		X		DM10 " 1	
ZSTRH		X		DM1 Inhibit Strobe	
DSTRH		X		Data Strobe (read request only)	
XDH		X		DMN X drive (read strobe)	
SSWH		X		DM12 Stack select write cycle	
SSRH		X		DMP Stack select read cycle	
---				DM13	
P3H				DMR 8K pair #3	MA 13, 14 DECODED

EMI COMPUTER CORPORATION

GR1909 SIGNAL ORIGIN, USE

ENG. DATE

MRC 3 of 4

APPROVED DATE

A 18 040 012 B

BOARD MR BUS SLOT 0
MRC

signal name	origin	used	bus	connector	comments
P2H				DM14 8K pair #2	MA 13, 14 decoded
PIH				DMS 8K pair #1	
POH				DM15 8K pair #0	
L4KH				DMT Lower 4K select	
U4KH				DM16 UPPER 4K SELECT	
---				DMU	
MSS3H				DM17 1K Stack #3 select	MA 10, 11 decoded
---				DMV	
MSS2H				DM18 1K Stack #2 select	
---				DMW	
MSS1H				DM19 1K Stack #1 select	
---				DMX	
NSS0H		X		DM20 1K Stack #0 select	
-20 volts		X		DMY System Memory supply	
-20 volts				DM21 System Memory supply	
GROUND		X		DMZ System ground	
GROUND		X		DM22 System ground	

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GR1909 SIGNAL ORIGIN, USE

ENG. DATE

MRC 4 of 4

APPROVED DATE

A 18 040 012 B

BOARD MR BUS SLOT 1
(1K-0) (4K-0)

signal name	origin	used	bus	connector	comments
GROUND				SMA System Ground	
GROUND				SM1 System Ground	
+5 volts				SM3 System Logic Supply	
+5 volts				SM2 System Logic Supply	
YS0H		X		SM0 Y Stak 0] MA 7, 8, 9 decoded
YS1H		X		SM3 " 1	
YS2H		X		SM2 " 2	
YS3H		X		SM4 " 3	
YS4H		X		SM5 " 4	
YS5H		X		SM5 " 5	
YS6H		X		SM6 " 6	
YS7H		X		SM6 " 7	
YD0H		X		SM8 Y Drive 0] MA 5, 6 decoded
YD1H		X		SM7 " 1	
YD2H		X		SM9 " 2	
YD3H		X		SM8 " 3	
MB14L		X		SM8 MB bit 14 (CPU side)	
MB15L		X		SM9 " 15	
MB12L		X		SM7 " 12	
MB13L		X		SM10 " 13	
MB10L		X		SM1 " 10	
MB11L		X		SM11 " 11	
MB08L		X		SM7 " 08	
MB09L		X		SM12 " 09	
SA14L	X			SM13 Sense Amp bus 14	
SA15L	X			SM6 " 15	
SA13L	X			SM14 " 12	

GCI COMPUTER CORPORATION
 ENG. *D.J. McPherson* DATE 1/26/71
 APPROVED *J.P. Quinn* DATE 4-26-71

GR1909 SIGNAL ORIGIN, USE
 MR BUS SLOT #1
 (1K-0) (4K-0) 1 of 4
 A 18 040 013 A

BOARD MR BUS SLOT 1
(1K-0) (4K-0)

signal name	origin	used	bus	connector	comments
SA13L	X			SM13 Sense Amp Bus 13	
SA10L	X			SM15 " 10	
SA11L	X			SM5 " 11	
SA08L	X			SM16 " 08	
SA09L	X			SM7 " 09	
SA06L	X			SM17 " 06	
SA07L	X			SM9 " 07	
SA04L	X			SM18 " 04	
SA05L	X			SM6 " 05	
SA02L	X			SM19 " 02	
SA03L	X			SM8 " 03	
SA00L	X			SM20 " 00	
SA01L	X			SM7 " 01	
-5 volts		X		SM1 Sense Amp Supply	
TEMP A		X		SM21 Temperature sense lead	
---		X		SM2	
TEMP B		X		SM22 Temperature sense lead	

GCI COMPUTER CORPORATION
 ENG. DATE
 APPROVED DATE

GR1909 SIGNAL ORIGIN, USE
 MR BUS SLOT 1 2 of 4
 A 18 040 013 A

BOARD MR BUS SLOT 1
(1K-0) (4K-0)

signal name	origin	used	bus	connector	comments
MB06L		X		DMA MB bit 06 (OH side)	
MB07L		X		DM1 " 07	
MB04L		X		DMB " 04	
MB05L		X		DM2 " 05	
MB02L		X		DMC " 02	
MB03L		X		DM3 " 03	
MB00L		X		DMD " 00	
MB01L		X		DM4 " 01	
XD2H		X		DME X drive 2	
XD3H		X		DM5 " 3	MA 0, 1 decoded
XD0H		X		DMF " 0	
XD1H		X		DM6 " 1	
XS6H		X		DMH X sink 6	
XS7H		X		DM7 " 7	
XS4H		X		DMJ " 4	
XS5H		X		DM8 " 5	MA 2, 3, 4 decoded
XS2H		X		DMK " 2	
XS3H		X		DM9 " 3	
XSOH		X		DML " 0	
XS1H		X		DM10 " 1	
ZSTRH		X		DM1 Inhibit Strobe	
DSTRH		X		Data Strobe (read request only)	
XDH		X		DMN X drive (read strobe)	
SSWH		X		DM12 Stack select write cycle	
SSRH		X		DMP Stack select read cycle	
---				DM13	
P3H				DMR 8K pair #3	MA13, 14 DECODED

GRI COMPUTER CORPORATION

GRI 909 SIGNAL ORIGIN, USE
MR BUS SLOT 1

ENG. DATE

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APPROVED DATE

A | 18 040 | 013 | A

BOARD MR BUS SLOT 1
(1K-0) (4K-0)

signal name	origin	used	bus	connector	comments
P2H				DM14 8K pair #2	MA 13, 14 decoded
P1H				DMS 8K pair #1	
POH				DM15 8K pair #0	
L4KH				DNT Lower 4K select	
---				DM16	
---				DMU	
MSS3H				DM17 1K Stack #3 select	MA 10, 11 decoded
---				DMV	
MSS2H				DM18 1K Stack #2 select	
---				DMW	
MSS1H				DM19 1K Stack #1 select	
---				DMX	
MSS0H		X		DM20 1K Stack #0 select	
-20 volts		X		DMY System Memory supply	
-20 volts				DM21 System Memory supply	
GROUND		X		DMZ System ground	
GROUND		X		DM22 System ground	

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GRI 909 SIGNAL ORIGIN, USE
MR BUS SLOT 1

ENG. DATE

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APPROVED DATE

A | 18 040 | 013 | A

BOARD MR BUS SLOT 2
(1K-1)

signal name	origin	used	bus	connector	comments
GROUND				SMA System Ground	
GROUND				SM1 System Ground	
+5 volts				SMB System Logic Supply	
+5 volts				SM2 System Logic Supply	
YS0H		X		SMC Y Sink 0	MA 7, 8, 9 decoded
YS1H		X		SM3 " 1	
YS2H		X		SM4 " 2	
YS3H		X		SM4 " 3	
YS4H		X		SM5 " 4	
YS5H		X		SM5 " 5	
YS6H		X		SM6 " 6	
YS7H		X		SM6 " 7	
YD6H		X		SM7 Y Drive 0	MA 5, 6 decoded
YD1H		X		SM7 " 1	
YD2H		X		SM7 " 2	
YD3H		X		SM8 " 3	
MB14L		X		SM9 MB bit 14 (OIL side)	
MB15L		X		SM9 " 13	
MB12L		X		SM10 " 12	
MB13L		X		SM10 " 13	
MB10L		X		SM11 " 10	
MB11L		X		SM11 " 11	
MB08L		X		SM12 " 08	
MB09L		X		SM12 " 09	
SA14L	X			SM13 Sense Amp bus 14	
SA15L	X			SM14 " 15	
SA12L	X			SM14 " 12	

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ENG.

D.J. Phillips

DATE

4/26/71

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DATE

4-26-71

GCI 909 SIGNAL ORIGIN, USE
MR BUS SLOT 2

1 of 4

A 18 040 014 B
SIZE TYPE QUANTITY NUMBER

BOARD MR BUS SLOT 2
(1K-1)

signal name	origin	used	bus	connector	comments
SA13L	X			SMR Sense Amp Bus 13	
SA10L	X			SM15 " 10	
SA11L	X			SM5 " 11	
SA03L	X			SM16 " 08	
SA09L	X			SM1 " 09	
SA06L	X			SM17 " 06	
SA07L	X			SMU " 07	
SA04L	X			SM18 " 04	
SA05L	X			SM " 05	
SA02L	X			SM19 " 02	
SA03L	X			SMV " 03	
SA00L	X			SM20 " 00	
SA01L	X			SMX " 01	
-5 volts		X		SMY Sense Amp Supply	
THERM A		X		SM21 Temperature sense lead	
---		X		SMZ	
THERM B		X		SM22 Temperature sense lead	

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ENG.

DATE

APPROVED

DATE

GCI 909 SIGNAL ORIGIN, USE
MR BUS SLOT 2

2 of 4

A 18 040 014 B
SIZE TYPE QUANTITY NUMBER

BOARD MR BUS SLOT 2 (1K-1)					
signal name	origin	used	bus	connector	comments
MB06L		X		DMA ME bit 06 (OH side)	
MB07L		X		DM1 " 07	
MB04L		X		DMB " 04	
MB05L		X		DM2 " 05	
MB02L		X		DMC " 02	
MB03L		X		DM3 " 03	
MB00L		X		DMD " 00	
MB01L		X		DM4 " 01	
XD2H		X		DME X drive 2] — MA 0, 1 decoded
XD3H		X		DM5 " 3	
XDOH		X		DMF " 0	
XD1H		X		DM6 " 1	
XS6H		X		DMH X sink 6] — MA 2, 3, 4 decoded
XS7H		X		DM7 " 7	
XS4H		X		DMJ " 4	
XS5H		X		DM8 " 5	
XS2H		X		DMK " 2	
XS3H		X		DM9 " 3	
XSOH		X		DML " 0	
XS1H		X		DM10 " 1	
ZSTRH		X		DMM Inhibit Strobe	
DSTRH		X		Data Strobe (read request only)	
XDH		X		DMN X drive (read strobe)	
SSWH		X		DM12 Stack select write cycle	
SSRH		X		DMP Stack select read cycle	
---				DM13	
P3H				DMR 8K pair #3	MA 13, 14 DECODED
GRI COMPUTER CORPORATION			GRI 909 SIGNAL ORIGIN, USE MR BUS SLOT 2 3 of 4		
ENG.	DATE				
APPROVED	DATE	A	18	040	014 B
		SIZE	TYPE	PROD.	NUMBER REV

BOARD MR BUS SLOT 2 (1K-1)					
signal name	origin	used	bus	connector	comments
P2H				DM14 8K pair #2] — MA 13, 14 decoded
P1H				DMS 8K pair #1	
POH				DM15 8K pair #0	
---				DMT	
---				DM16	
---				DMU	
---				DM17] — MA 10, 11 decoded
---				DMV	
MSS2H				DM18 1K Stack #2 select	
---				DMW	
---				DM19	
---				DMX	
MSS1H		X		DM20 1K Stack #1 select	
-20 volts		X		DMY System Memory supply	
-20 volts				DM21 System Memory supply	
GROUND		X		DMZ System ground	
GROUND		X		DM22 System ground	
GRI COMPUTER CORPORATION			GRI 909 SIGNAL ORIGIN, USE MR BUS SLOT 2 4 of 4		
ENG.	DATE				
APPROVED	DATE	A	18	040	014 B
		SIZE	TYPE	PROD.	NUMBER REV

BOARD **MR BUS SLOT 3**
(1K-2) (4K-1)

signal name	origin	used	bus	connector	comments
GROUND				SMA System Ground	
GROUND				S'1 System Ground	
+5 volts				SME System Logic Supply	
+5 volts				SM2 System Logic Supply	
YS0H		X		S'2 Y Stat 0	MA 7, 8, 9 decoded
YS1H		X		S'3 " 1	
YS2H		X		S'4 " 2	
YS3H		X		S'4 " 3	
YS4H		X		S'5 " 4	
YS5H		X		S'5 " 5	
YS6H		X		S'6 " 6	
YS7H		X		S'6 " 7	
YD0H		X		S'8 Y Drive 0	MA 5, 6 decoded
YD1H		X		S'7 " 1	
YD2H		X		S'8 " 2	
YD3H		X		S'8 " 3	
MB14L		X		S'9 MB bit 14 (OH state)	
MB15L		X		S'9 " 15	
MB12L		X		S'10 " 12	
MB13L		X		S'10 " 13	
MB10L		X		S'11 " 10	
MB11L		X		S'11 " 11	
MB08L		X		S'12 " 08	
MB09L		X		S'12 " 09	
SA14L	X			S'13 Sense amp bus 14	
SA15L	X			S'13 " 15	
S'14L	X			S'14 " 14	

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GRI-909 SIGNAL ORIGIN, USE
MR BUS SLOT 3

ENG. *D.J. McPhee* DATE *4/26/71*
APPROVED *AB Driscoll* DATE *4-26-71*

A 18 040 015 B

BOARD **MR BUS SLOT 3**
(1K-2) (4K-1)

signal name	origin	used	bus	connector	comments
SA13L	X			S'14 Sense Amp Bus 13	
SA10L	X			S'15 " 10	
SA11L	X			S'15 " 11	
SA05L	X			S'16 " 05	
SA06L	X			S'16 " 06	
SA07L	X			S'17 " 07	
SA04L	X			S'18 " 04	
SA05L	X			S'18 " 05	
SA02L	X			S'19 " 02	
SA03L	X			S'19 " 03	
SA00L	X			S'20 " 00	
SA01L	X			S'20 " 01	
-5 volts		X		S'21 Sense Amp Supply	
TEMP A		X		S'21 Temperature sense lead	
---		X		S'22	
TEMP B		X		S'22 Temperature sense lead	

GMI COMPUTER CORPORATION

GRI-909 SIGNAL ORIGIN, USE
MR BUS SLOT 3

ENG. _____ DATE _____
APPROVED _____ DATE _____

A 18 040 015 B

BOARD MR BUS SLOT 3
(1K-2) (4K-1)

signal name	origin	used	bus	connector	comments
MB06L		X		DMA MB bit 06 (0H side)	
MB07L		X		DM1 " 07	
MB04L		X		DMB " 04	
MB05L		X		DM2 " 05	
MB02L		X		DMC " 02	
MB03L		X		DM3 " 03	
MB00L		X		DMD " 00	
MB01L		X		DM4 " 01	
XD2H		X		DME X drive 2	MA 0, 1 decoded
XD3H		X		DM5 " 3	
XD0H		X		DMF " 0	
XD1H		X		DM6 " 1	
XS6H		X		DMH X sink 6	MA 2, 3, 4 decoded
XS7H		X		DM7 " 7	
XS4H		X		DMJ " 4	
XS5H		X		DM8 " 5	
XS2H		X		DMK " 2	
XS3H		X		DM9 " 3	
XS0H		X		DML " 0	
XS1H		X		DM10 " 1	
ZSTRH		X		DM1 Inhibit Strobe	
DSTRH		X		Data Strobe (read request only)	
XDH		X		DMN X drive (read strobe)	
SSWH		X		DM12 Stack select write cycle	
SSRH		X		DMP Stack select read cycle	
---				DM13	
P3H				DNR 8K pair #3	MA 13, 14 DECODED

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G21-909 SIGNAL ORIGIN, USE
MR BUS SLOT 3

3 of 4

ENG. DATE

APPROVED DATE

A 18 040 015 B

BOARD MR BUS SLOT 3
(1K-2) (4K-1)

signal name	origin	used	bus	connector	comments
P2H				DM14 8K pair #2	MA 13, 14 decoded
P1H				DM5 8K pair #1	
P0H				DM15 8K pair #0	
V4KH				DMT UPPER 4K select	
---				DM16	
---				DMU	
MSS3H				DM17 1K Stack #3 select	MA 10, 11 decoded
---				DMV	
MSS2H				DM18 1K Stack 2 select	
---				DMW	
MSS1H				DM19 1K Stack #1 select	
---				DMX	
MSS0H		X		DM20 1K Stack #0 select	
-20 volts		X		DMY System Memory supply	
-20 volts				DM21 System Memory supply	
GROUND		X		DMZ System ground	
GROUND		X		DM22 System ground	

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G21-909 SIGNAL ORIGIN, USE
MR BUS SLOT 3

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ENG. DATE

APPROVED DATE

A 18 040 015 B

BOARD **MR BUS SLOT 4**
(1K-3) (MEX)

signal name	origin	used	bus	connector	comments
GROUND				SMA System Ground	
GROUND				S*1 System Ground	
+5 volts				SMB System Logic Supply	
+5 volts				S*2 System Logic Supply	
YS0H		X		S*3 Y Stack 0	
YS1H		X		S*3 " 1	
YS2H		X		S*3 " 2	
YS3H		X		S*4 " 3	
YS4H		X		S*5 " 4	MA 7, 8, 9 decoded
YS5H		X		S*5 " 5	
YS6H		X		S*6 " 6	
YS7H		X		S*6 " 7	
YD0H		X		S*8 Y Drive 0	
YD1H		X		S*7 " 1	
YD2H		X		S*8 " 2	MA 5, 6 decoded
YD3H		X		S*8 " 3	
MB14L		X		S*9 MB bit 14 (OW side)	
MB15L		X		S*9 " 15	
MB12L		X		S*7 " 12	
MB13L		X		S*10 " 13	
MB10L		X		S*11 " 10	
MB11L		X		S*11 " 11	
MB06L		X		S*8 " 03	
MB09L		X		S*12 " 09	
SA14L	X			S*13 Sense Amp bus 14	
SA15L	X			S*7 " 15	
SA12L	X			S*14 " 12	

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GCI-909 SIGNAL ORIGIN, USE
MR BUS SLOT 4

ENGR. *R. J. [Signature]* DATE 4/26/71
APPROVED *[Signature]* DATE 9-20-71

A 18 040 016 B

BOARD **MR BUS SLOT 4**
(1K-3) (MEX)

signal name	origin	used	bus	connector	comments
SA13L	X			S*13 Sense Amp Bus 13	
SA10L	X			S*15 " 10	
SA11L	X			S*5 " 11	
SA07L	X			S*16 " 08	
SA08L	X			S*6 " 09	
SA06L	X			S*17 " 06	
SA07L	X			S*6 " 07	
SA04L	X			S*18 " 04	
SA05L	X			S*7 " 05	
SA02L	X			S*19 " 02	
SA03L	X			S*8 " 03	
SA00L	X			S*10 " 00	
SA01L	X			S*8 " 01	
-5 volts		X		S*1 Sense Amp Supply	
TEMP A		X		S*21 Temperature sense lead	
---		X		S*2	
TEMP 5		X		S*22 Temperature sense lead	

GCI COMPUTER CORPORATION

GCI-909 SIGNAL ORIGIN, USE
MR BUS SLOT 4

ENGR. DATE
APPROVED DATE

A 18 040 016 B

BOARD **MR BUS SLOT 4**
(1K-3) (MEX)

signal name	origin	used	bus	connector	comments
MB06L		X		DM1 MB bit 06 (OH side)	
MB07L		X		DM1 " 07	
MB04L		X		DMB " 04	
MB05L		X		DM2 " 05	
MB02L		X		DMC " 02	
MB03L		X		DM3 " 03	
MB00L		X		DMD " 00	
MB01L		X		DM4 " 01	
XD2H		X		DME X drive 2	
XD3H		X		DM5 " 3	MA 0, 1 decoded
XD0H		X		DMF " 0	
XD1H		X		DM6 " 1	
XS6H		X		DMH X sink 6	
XS7H		X		DM7 " 7	
XS4H		X		DMJ " 4	
XS5H		X		DM8 " 5	MA 2, 3, 4 decoded
XS2H		X		DMK " 2	
XS3H		X		DM9 " 3	
XS0H		X		DML " 0	
XS1H		X		DM10 " 1	
ZSTRH		X		DM1 Inhibit Strobe	
DSTRH		X		Data Strobe (read request only)	
XDH		X		DMN X drive (read strobe)	
SSH		X		DM12 Stack select write cycle	
SSRH		X		DM13 Stack select read cycle	
---				DM13	
P3H				DMR 8K pair #3	MA 13, 14 DECODED

GEI COMPUTER CORPORATION

621-909 SIGNAL ORIGIN, USE
MR BUS SLOT 4

3 of 4

ENG. DATE

APPROVED DATE

A 18 040 016 B

BOARD **MR BUS SLOT 4**
(1K-3) (MEX)

signal name	origin	used	bus	connector	comments
P2H				DM14 8K pair #2	
P1H				DM5 8K pair #1	MA 13, 14 decoded
Pφ				DM15	
U4KH				DM16 UPPER 4K select	
LK4H				DM16 LOWER 4K select	MA bit 12
---				DMU	
MSS3H				DM17 1K Stack #3 select	
---				DMV	
MSS2H				DM18 1K Stack #2 select	
---				DMW	MA 10, 11 decoded
MSS0H				DM19 1K Stack #0 select	
---				DMX	
NSSIH		X		DM20 1K Stack #1 select	
-20 volts		X		DMY System Memory supply	
-20 volts				DM21 System Memory supply	
GROUND		X		DMZ System ground	
GROUND		X		DM22 System ground	

GEI COMPUTER CORPORATION

621-909 SIGNAL ORIGIN, USE
MR BUS SLOT 4

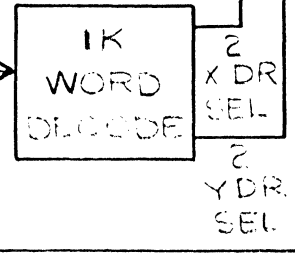
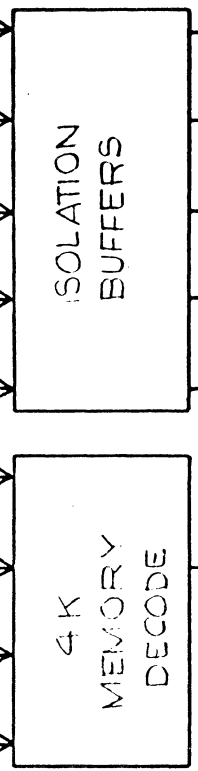
4 of 4

ENG. DATE

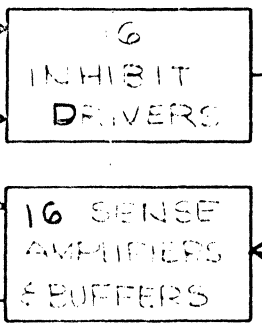
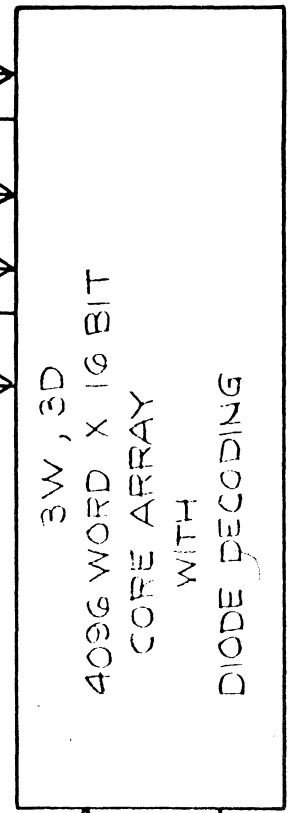
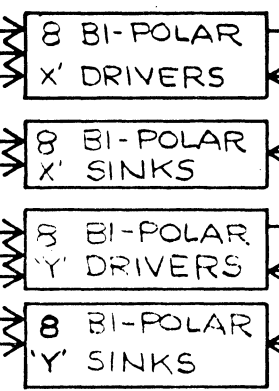
APPROVED DATE

A 18 040 016 B

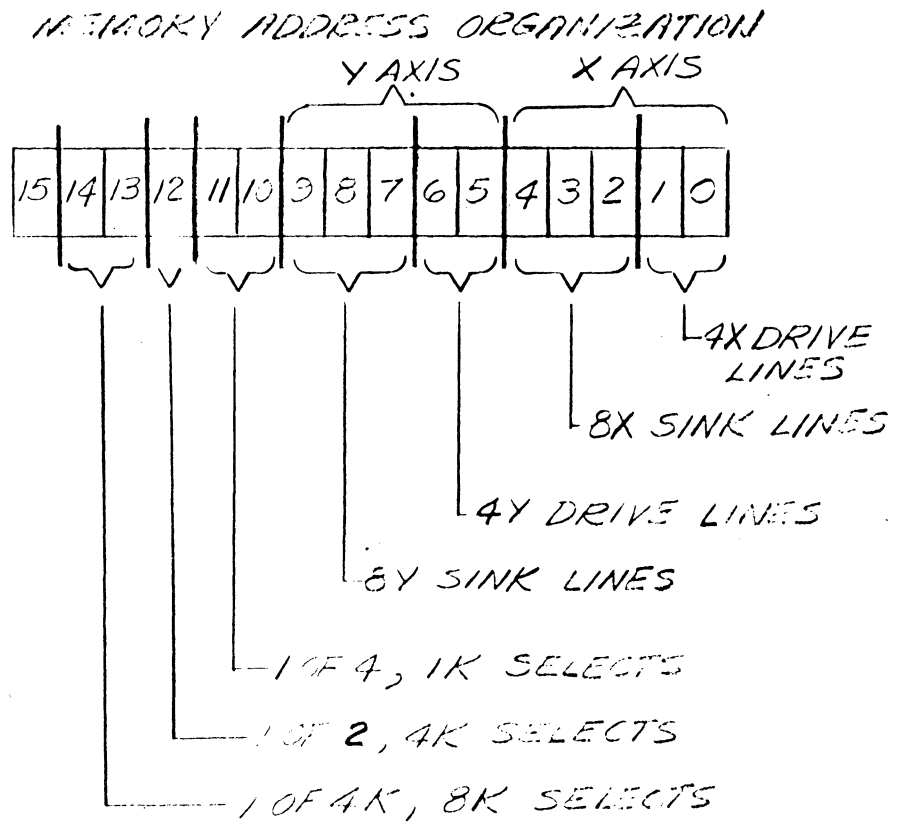
4 'X' DR SEL
 8 'X' SINK SEL
 4 'Y' DR SEL
 8 'Y' SINK SEL
 4 1K WORD SEL
 2 4K SEL
 4 8K SEL
 2 READ TIMING
 1 WRITE TIMING
 16 DATA IN
 1 INHIBIT TIMING
 1 DATA STROBE TIMING
 8 DATA OUT



READ / WRITE TIMING



REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
08-40 151	B	ADDED MEMORY ADDRESS ORGAN.	5-4-71 BCH	<i>[Signature]</i>



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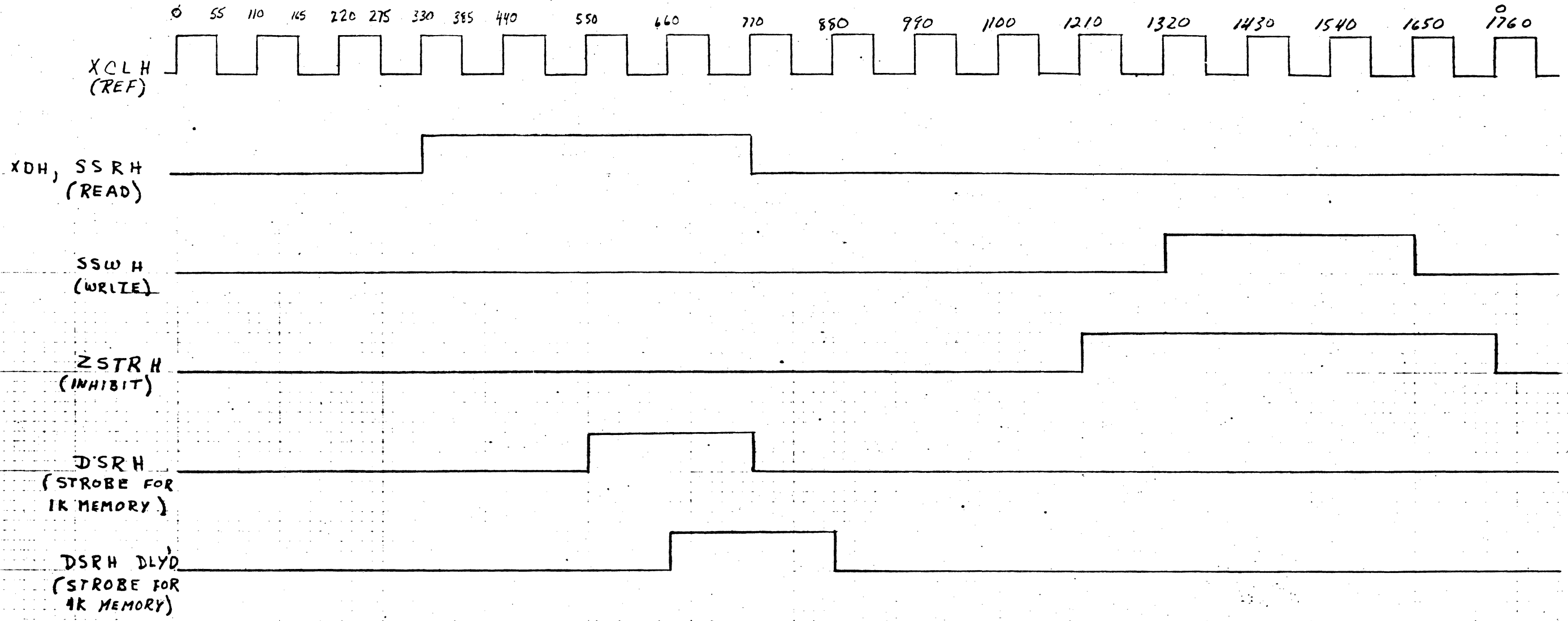
REMOVE ALL SHARP EDGES

DATE: VAR 1/23/70
 CHECKED: *[Signature]* 2/23/70
 APPROVED: *[Signature]* 2/23/70
 FIRST USED ON: 3/23/70
 FINISH:

GRI Computer Corp.
 NEWTON, MASS.

BLOCK DIAGRAM
 4K MEMORY

DRAWING NO.	REV
B 11	B
040	033
PROD	NUMBER
SCALE #	WEIGHT
SHEET	OF 1

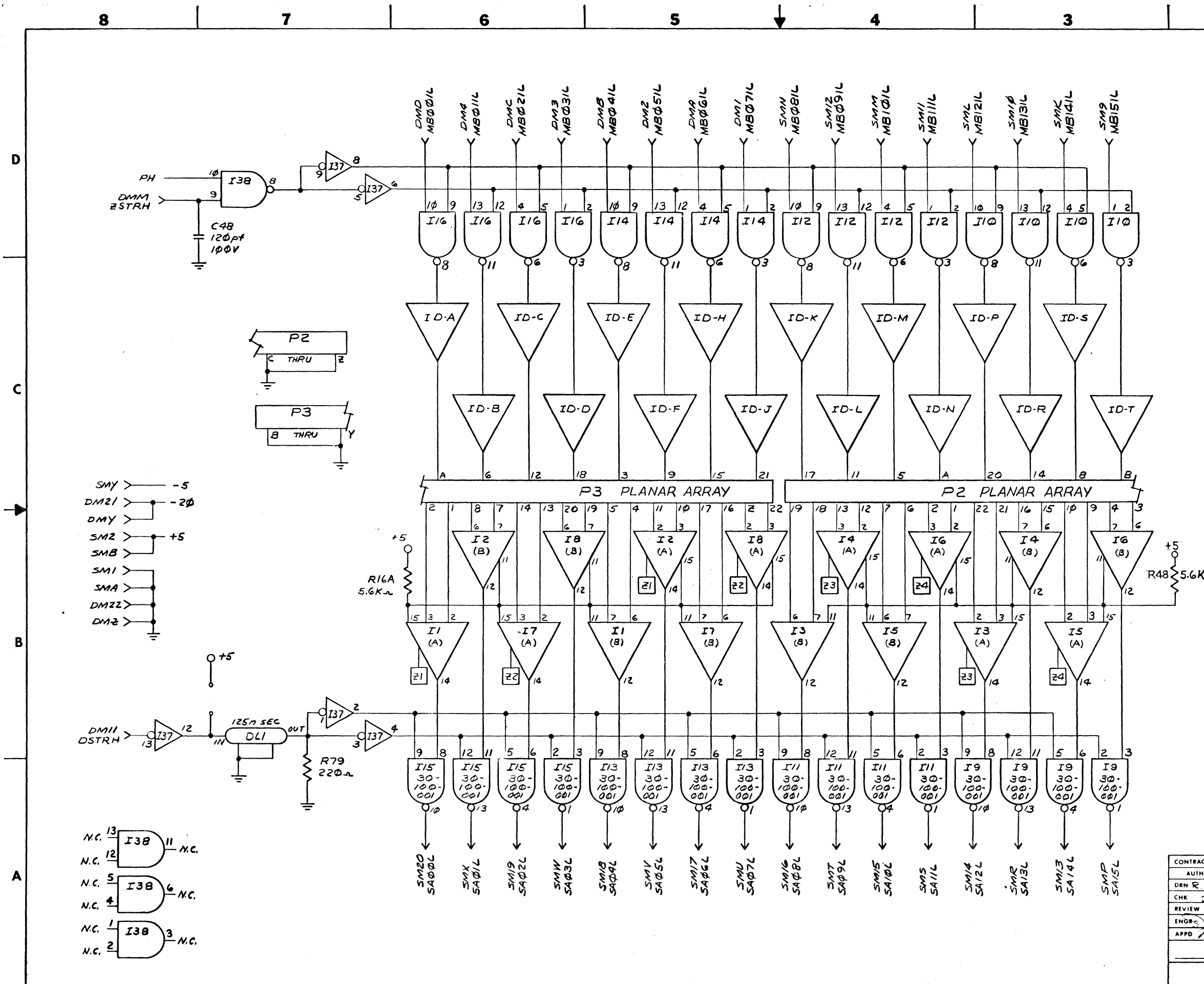


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CONTRACT		GRI COMPUTER CORP.
AUTHENTICATION	DATE	
DRN D. R.	9/10/70	
CHK <i>BCH (WC)</i>	9/21/70	
REVIEW		
ENGR <i>S. [unclear]</i>	9/23/70	
APPD <i>NOK</i>	9/23/70	
		DIAGRAM, MEMORY TIMING GRI 909
SIZE	DRAWING NUMBER	REV
B	13-040-006	A1
SCALE NONE	UNIT WT	SHEET 1 OF 1

A

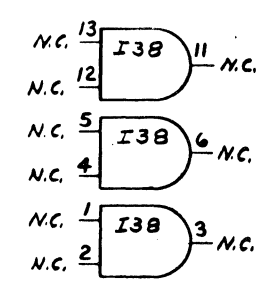
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
-	-	REDRAWN WITHOUT CHANGE	6-27-71	RL



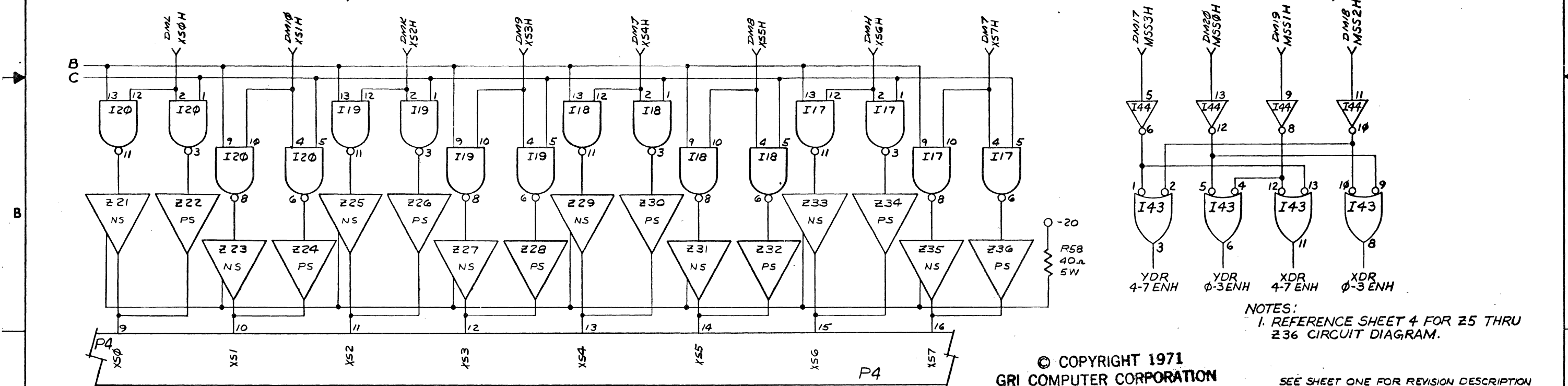
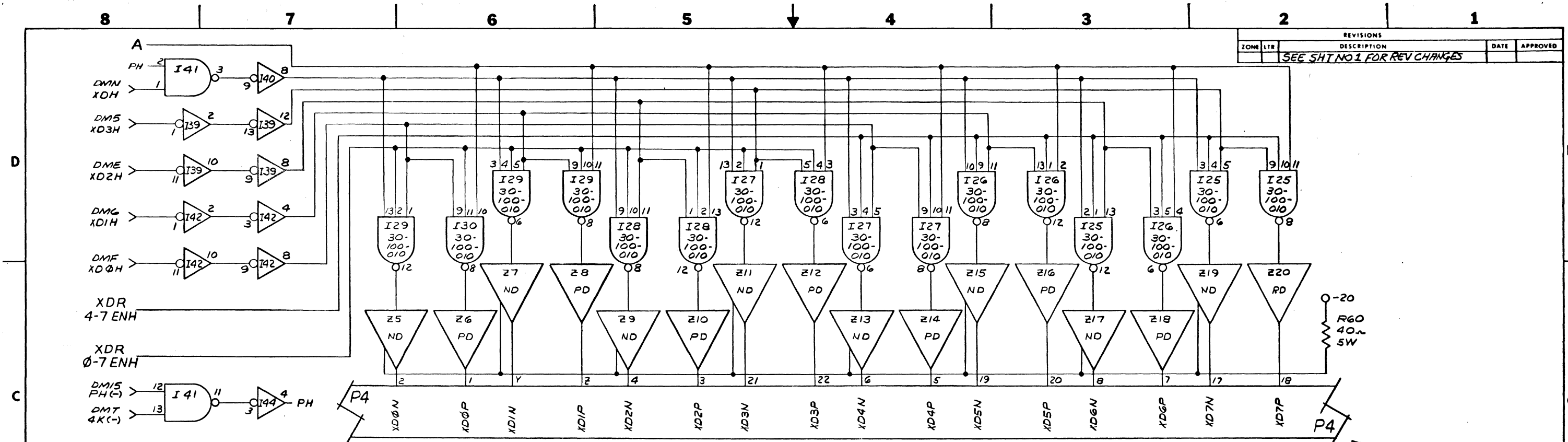
PROPRIETARY NOTICE
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- NOTES:**
- UNLESS OTHERWISE SPECIFIED
 - A. ALL CAPACITOR VALUES ARE IN μ F
 - B. ALL RESISTOR VALUES ARE IN OHMS
 - C. ALL RESISTORS ARE 1/4 W, 10%
 - D. \square INDICATES -30-100-002
 - E. ∇ INDICATES -30-200-001
 - F. ALL DIODES ARE 00-48-007
 - REFERENCE SHEET 4 FOR ID-A THRU ID-T CIRCUIT DIAGRAM
 - REFERENCE SHEET 4 FOR I1(A) THRU I8(B) CIRCUIT DIAGRAM

ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY.
MATERIAL LIST					
REF B/M					
GRI COMPUTER CORP					
4K MEMORY BOARD LOGIC DIAGRAM (CINH SENSE)					
CONTRACT AUTHENTICATION DATE: 6-28-71					
DRN R. ROGERS					
CHK DJ MIP/ed 10/1/71					
REVIEW					
ENGR [Signature]					
APPD [Signature]					
SIZE CODE IDENT NO.		DRAWING NO.			
D		17-040-031-AC			
SCALE NONE		UNIT WT 74		SHEET 1 OF 5	



REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
SEE SH1 NO. 1 FOR REV CHANGES				

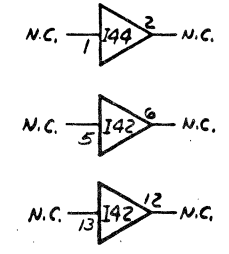
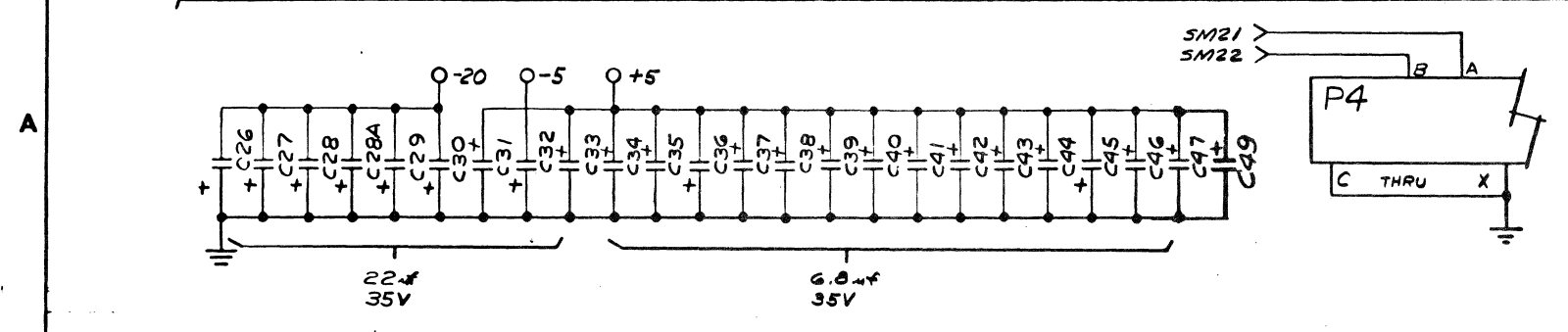


NOTES:
1. REFERENCE SHEET 4 FOR Z5 THRU Z36 CIRCUIT DIAGRAM.

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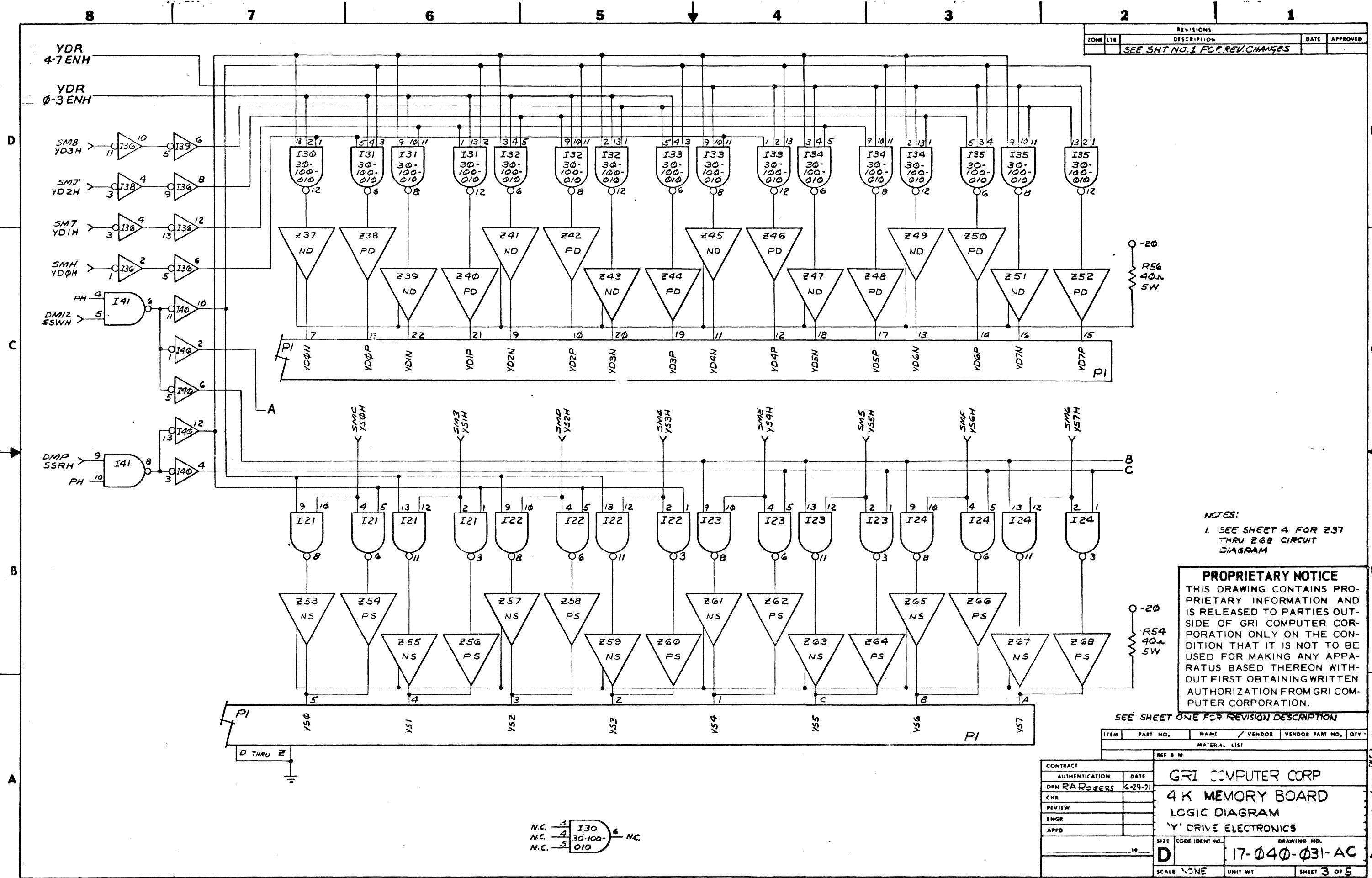
ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST					

CONTRACT AUTHENTICATION		DATE		REF B/M	
DRN RA R08ERS		6-27-71		GRI COMPUTER CORPORATION	
CHK				4K MEMORY BOARD	
REVIEW				LOGIC DIAGRAM	
ENGR				'X' DRIVE ELECTRONICS	
APPD				DRAWING NO.	
		19		17-040-031-AC	
SIZE		CODE IDENT NO.		SCALE	
D				NONE	
UNIT WT		#		SHEET 2 OF 5	



17-040-031-AC

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
		SEE SHT NO. 1 FOR REV. CHANGES		



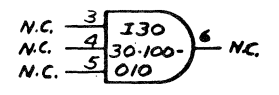
NOTES:
 1. SEE SHEET 4 FOR Z37 THRU Z68 CIRCUIT DIAGRAM

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SEE SHEET ONE FOR REVISION DESCRIPTION

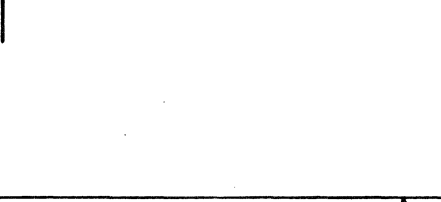
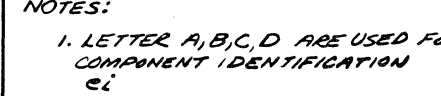
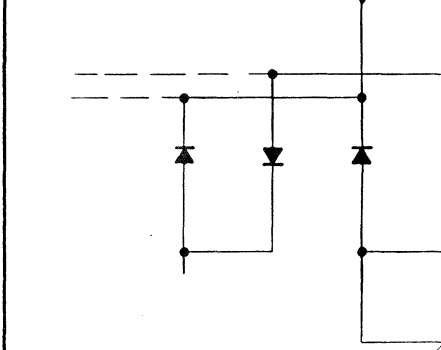
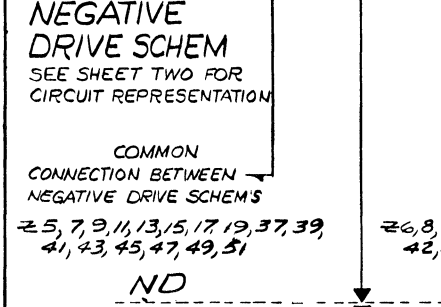
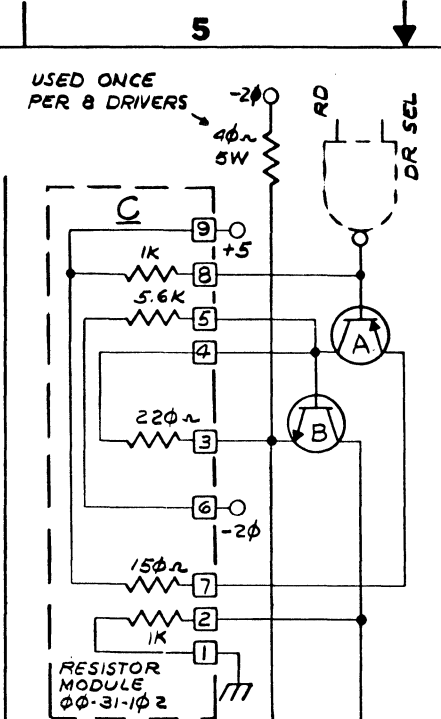
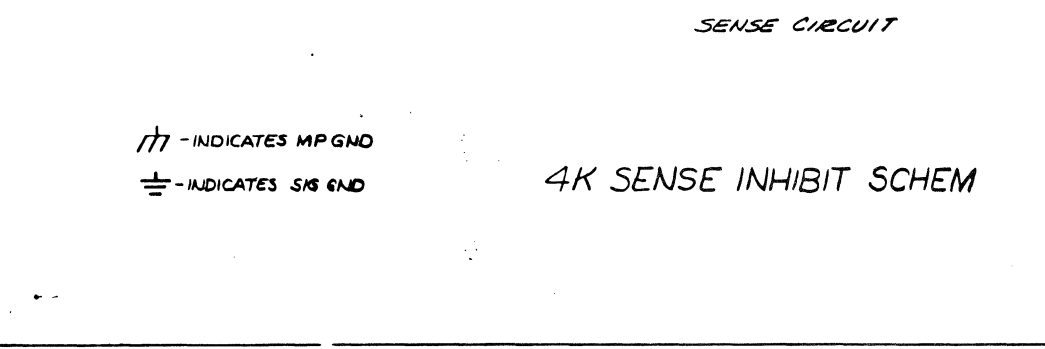
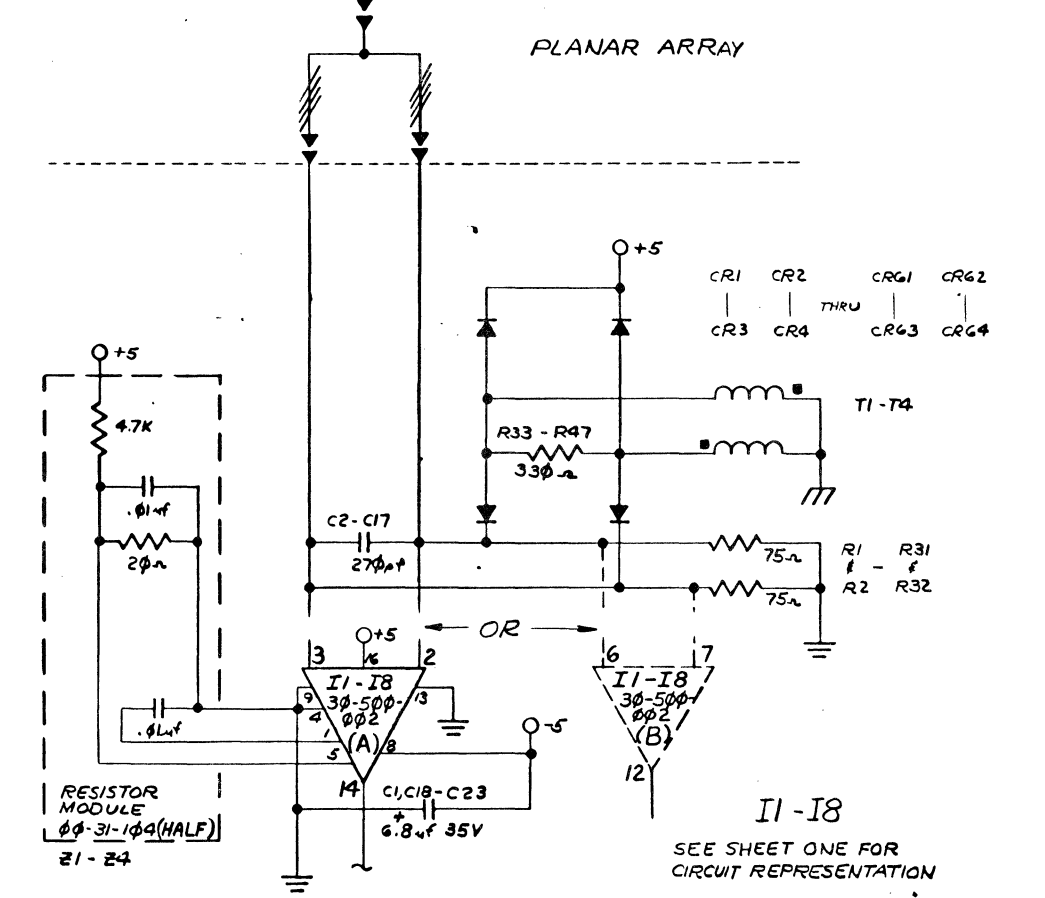
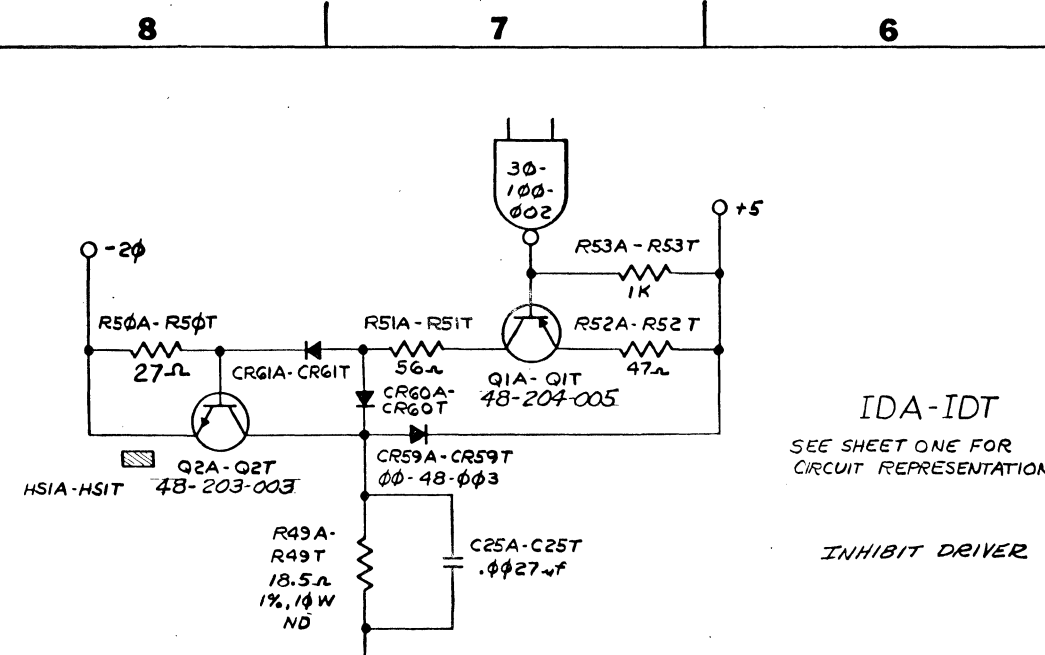
ITEM	PART NO.	NAME / VENDOR	VENDOR PART NO.	QTY.
MATERIAL LIST				

CONTRACT AUTHENTICATION		DATE		GRI COMPUTER CORP	
DRN RAROGERS		6-29-71		4 K MEMORY BOARD	
CHK				LOGIC DIAGRAM	
REVIEW				'Y' DRIVE ELECTRONICS	
ENGR					
APPD					
SIZE		CODE IDENT NO.		DRAWING NO.	
D				17-040-031-AC	
SCALE		UNIT WT		SHEET 3 OF 5	

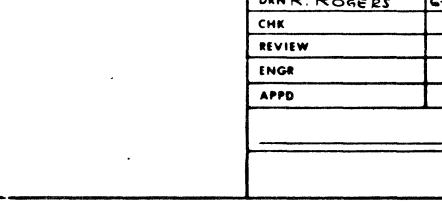
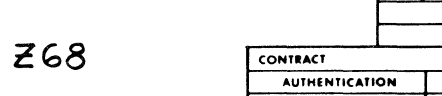
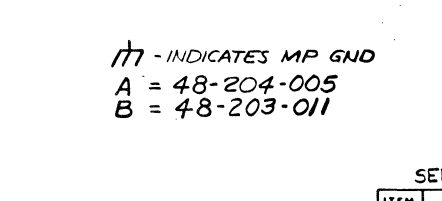
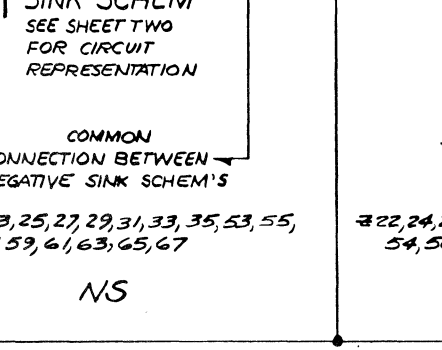
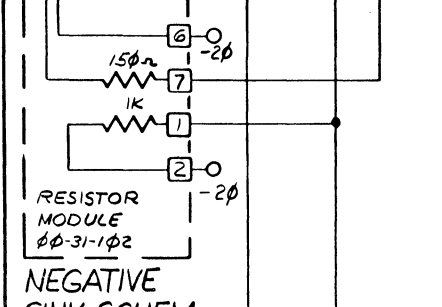
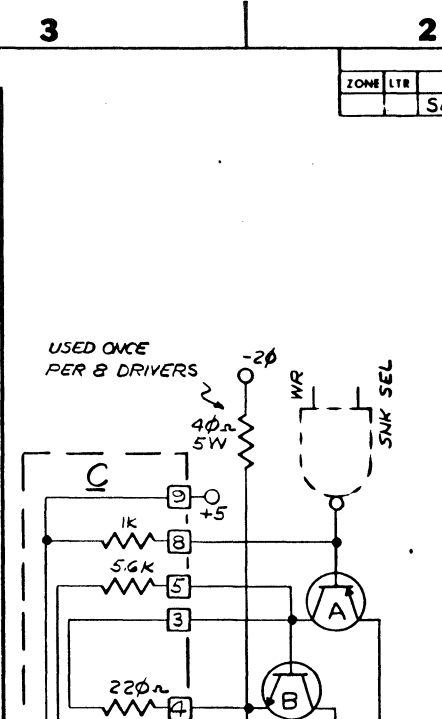
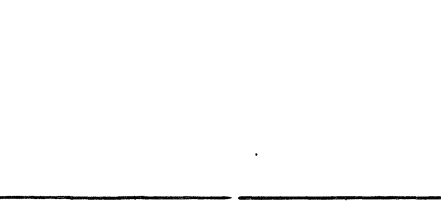
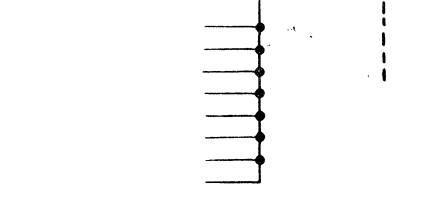
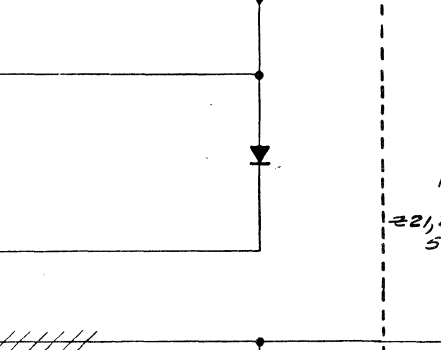
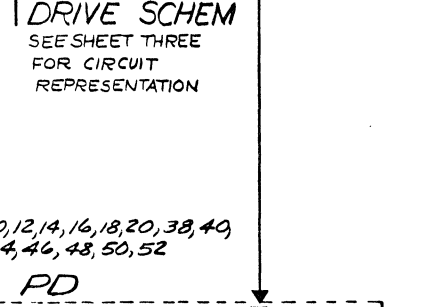
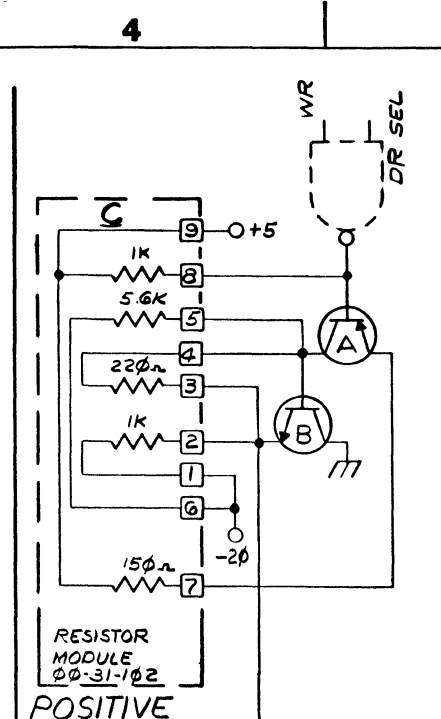


17-040-031-AC

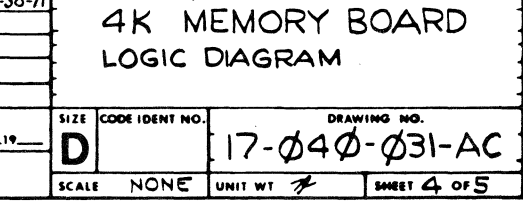
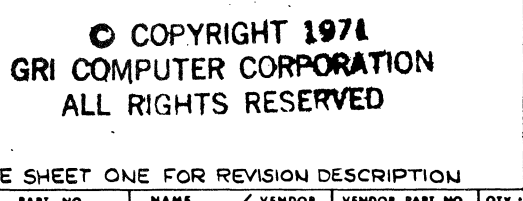
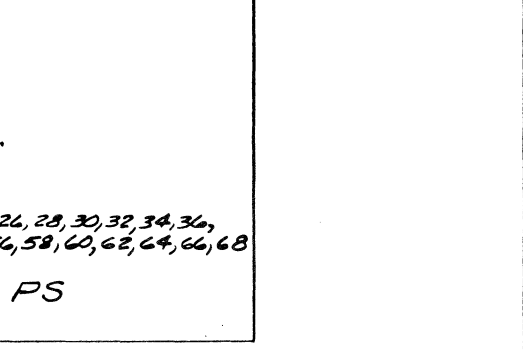
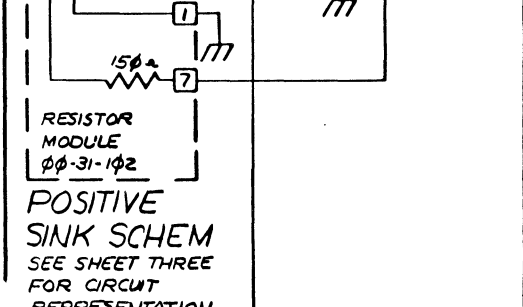
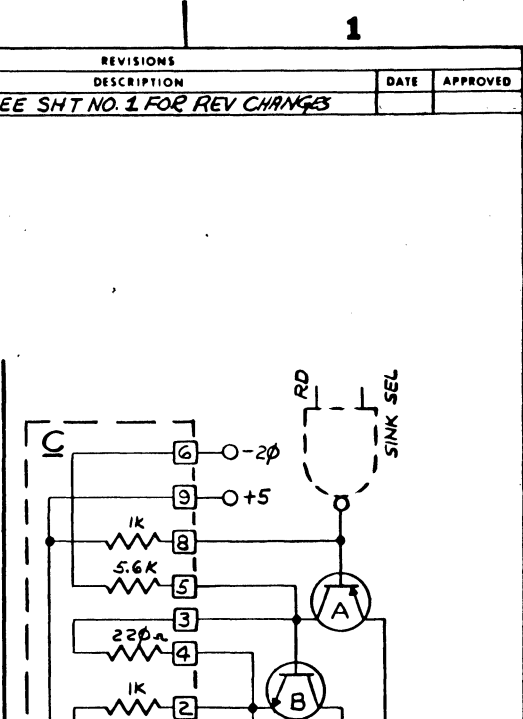
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
		SEE SHT NO. 1 FOR REV CHANGES		



NOTES:
 1. LETTER A, B, C, D ARE USED FOR COMPONENT IDENTIFICATION



NOTES:
 ⏏ - INDICATES MP GND
 A = 48-204-005
 B = 48-203-011



NOTES:
 1. LETTER A, B, C, D ARE USED FOR COMPONENT IDENTIFICATION

4K SENSE INHIBIT SCHEM

4K SENSE INHIBIT SCHEM

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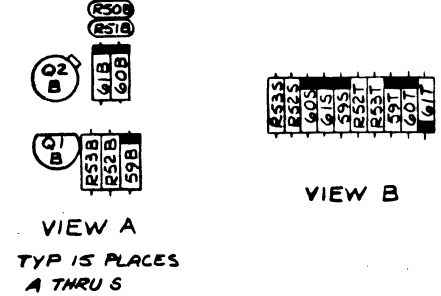
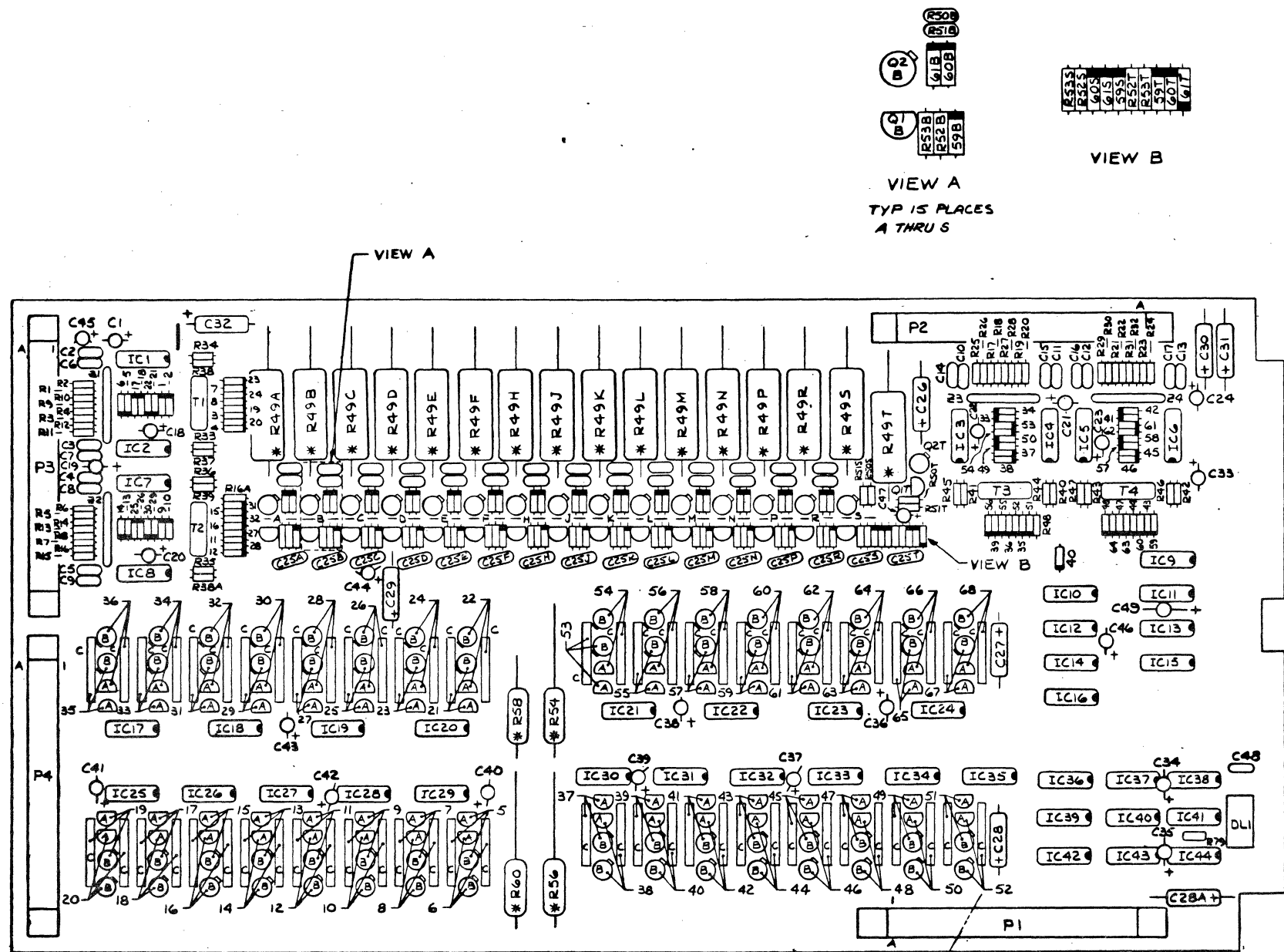
SEE SHEET ONE FOR REVISION DESCRIPTION

ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY.
MATERIAL LIST					

CONTRACT		REF B/M	
AUTHENTICATION	DATE	GRI COMPUTER CORP	
DRN R. ROGERS	C-30-71	4K MEMORY BOARD	
CHK		LOGIC DIAGRAM	
REVIEW		SIZE	CODE IDENT NO.
ENGR		D	17-040-031-AC
APPD		SCALE	NONE
		UNIT WT	
		SHEET	4 OF 5

17-040-031-AC

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
		SEE SHEET ONE FOR REVISION		



NOTE:
* - INDICATES SHORT LEAD END OF RESISTOR

EXAMPLE:
R52A
R52B
R52C

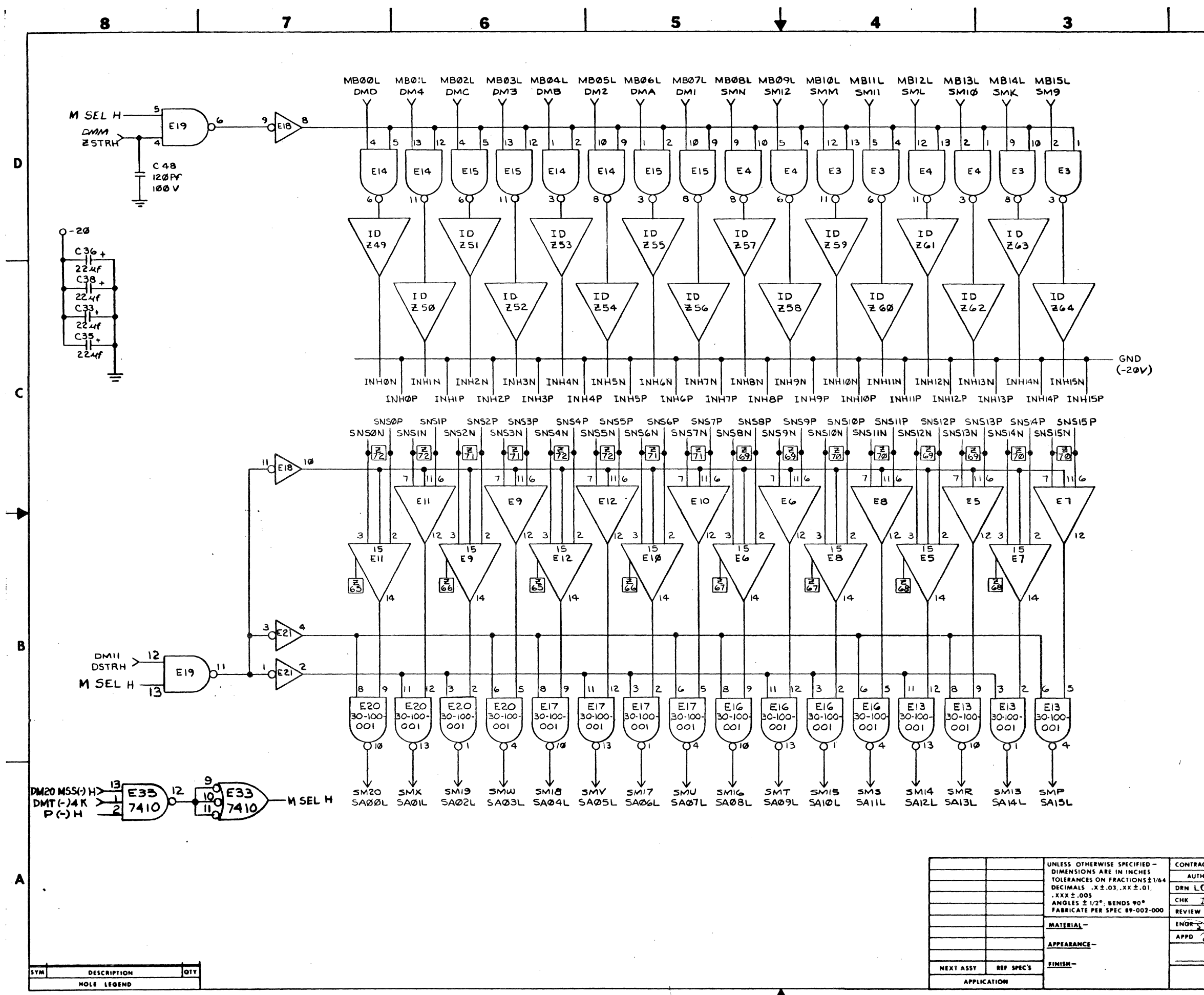
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ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST					

UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS ± 1/64 DECIMALS .XX ± .03, .XX ± .01, .XXX ± .005 ANGLES ± 1/2°, BENDS 90° FABRICATE PER SPEC 89-002-008		CONTRACT AUTHENTICATION DATE DRN RAR 9-17-70 CHK [Signature] 3/17/72 REVIEW		GRI COMPUTER CORP SCH. 4K STACK DRIVE ELECTRONICS LOCATION VIEW	
MATERIAL -		ENGR		SIZE CODE IDENT NO. DRAWING NO.	
APPEARANCE -		APPD		D 11842 17-40-031-AC	
FINISH -		SCALE		SHEET 5 OF 5	
NEXT ASSY REF SPEC'S APPLICATION					

SYM	DESCRIPTION	QTY
MATERIAL LEGEND		

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
		REDRAWN WITH NO CHANGE JC	7-13-71	
155	AC	UPDATED PER MARKED PRINTS	7-13-71	



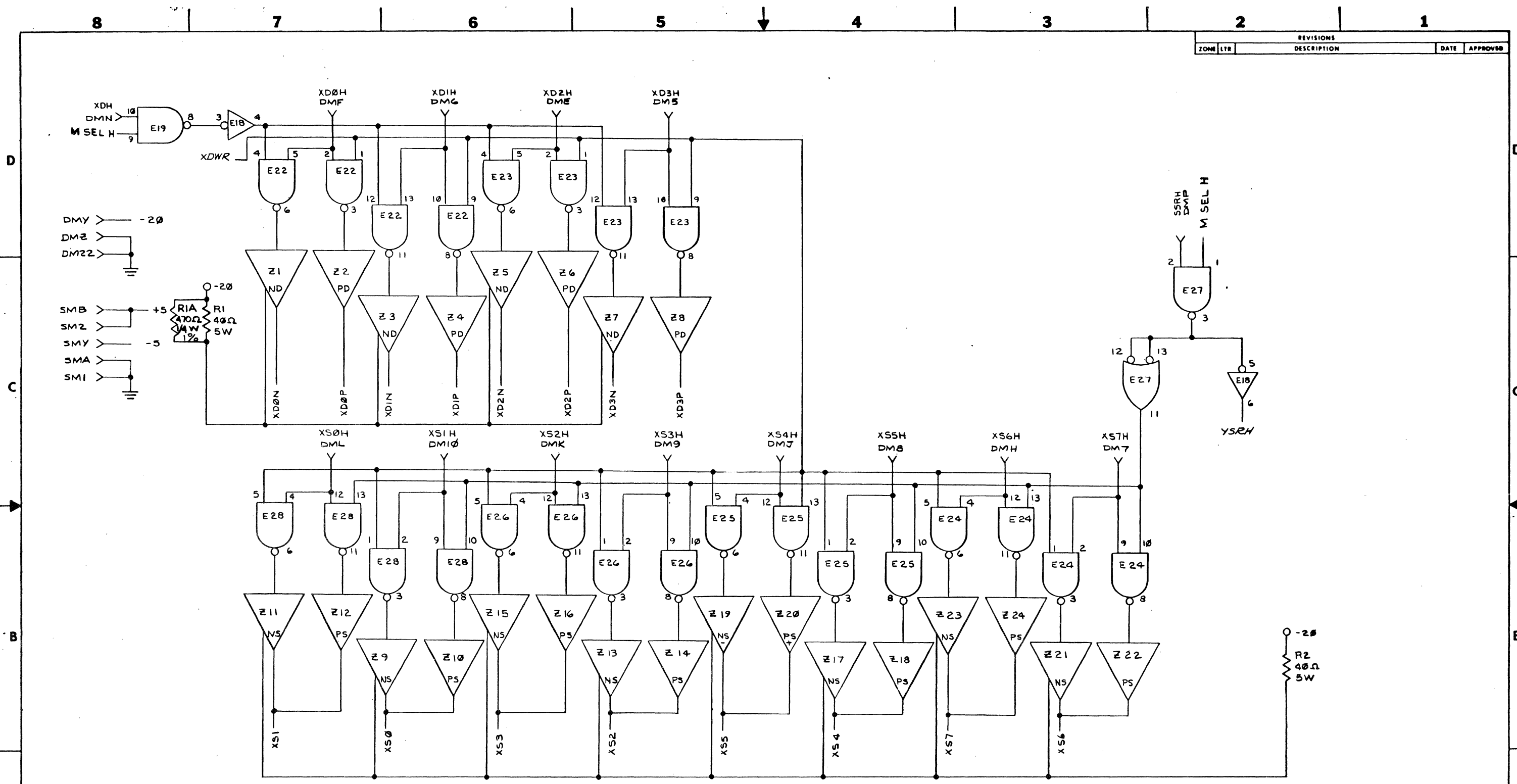
NOTES:
 1. UNLESS OTHERWISE SPECIFIED
 A. ALL RESISTORS ARE 1/4W 10%
 B. INDICATES 30-100-002
 C. INDICATES 30-200-001
 E. ALL DIODES ARE 00-048-007
 2. REFERENCE SHEET 4 FOR Z 49
 THRU Z 64 CIRCUIT DIAGRAM
 3. REFERENCE SHEET 4 FOR E 5
 THRU E 12 CIRCUIT DIAGRAM

SYM	DESCRIPTION	QTY
HOLE LEGEND		

UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS ± 1/64 DECIMALS .X ± .03, .XX ± .01, .XXX ± .005 ANGLES ± 1/2°, BENDS 90° FABRICATE PER SPEC 89-002-000	
CONTRACT AUTHENTICATION	DATE
DRM LCW	7-17-69
CHK <i>D.J.M. Price</i>	10/14/70
REVIEW	
ENOP <i>[Signature]</i>	10/14/71
APPD <i>[Signature]</i>	10/14/71
WESTON-ROTER	
19	
NEXT ASSY	REF SPEC'S
APPLICATION	

ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY.
MATERIAL LIST					
REF B/M					
GRI COMPUTER CORP					
1K STACK					
DRIVE ELECTRONICS					
SIZE	CODE IDENT NO.	DRAWING NO.			
D		17-040-023AC			
SCALE	UNIT WT	SHEET 1 OF 5			

REVISIONS		DATE	APPROVED
ZONE	LTR	DESCRIPTION	

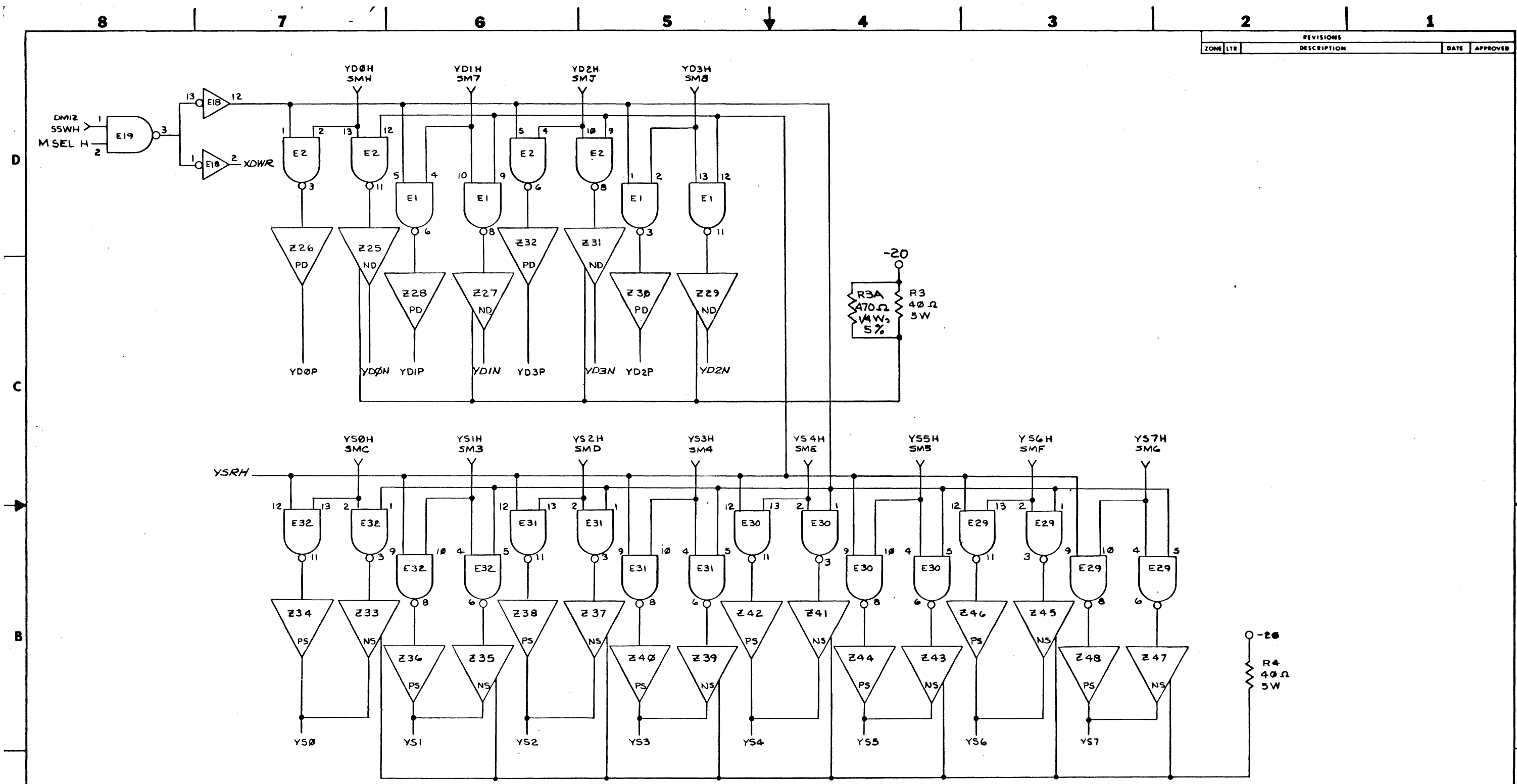


SYM	DESCRIPTION	QTY
	HOLE LEGEND	

UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS ±1/64 DECIMALS .X ±.03 .XX ±.01 .XXX ±.005 ANGLES ±1/2° BENDS 90° FABRICATE PER SPEC 89-002-000	CONTRACT AUTHENTICATION DATE
	DRN LCW 7-17-69
	CHK
	REVIEW
	ENGR
	APPD
	WESTON - ROTEK
	19
NEXT ASSY	REF SPEC'S
APPLICATION	

ITEM	PART NO.	NAME / VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST				
REF B/M				
GRI COMPUTER CORP				
IK STACK				
DRIVE ELECTRONICS				
SIZE	CODE IDENT NO.	DRAWING NO.		
D		17-040-023AC		
SCALE	UNIT WT	SHEET 2 OF 5		

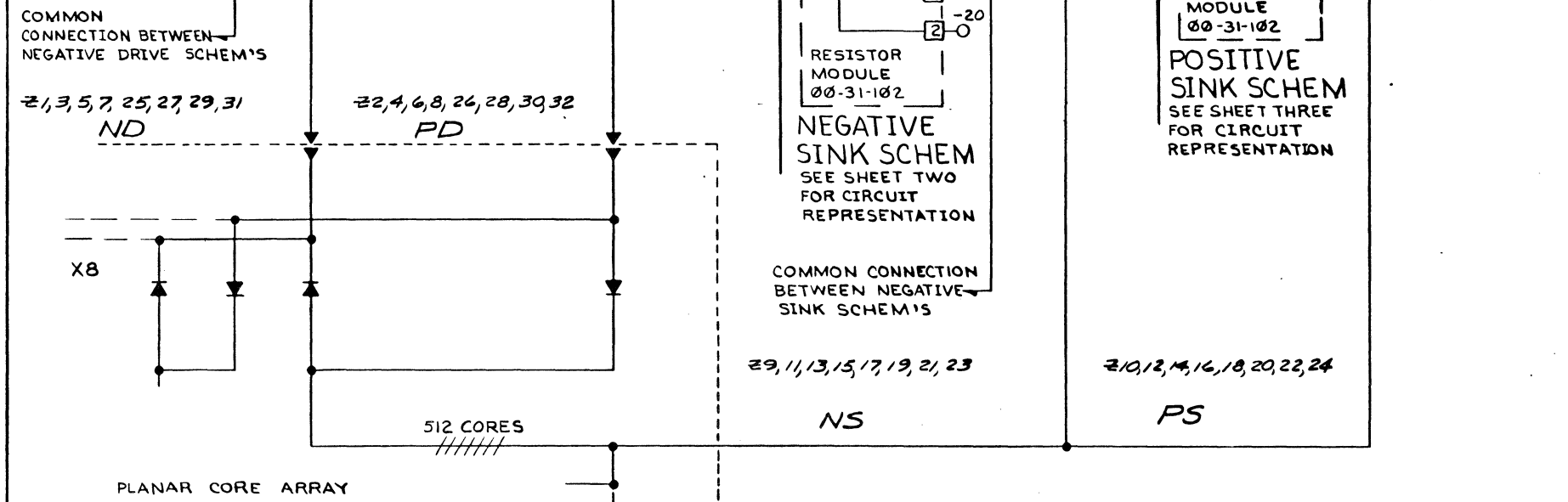
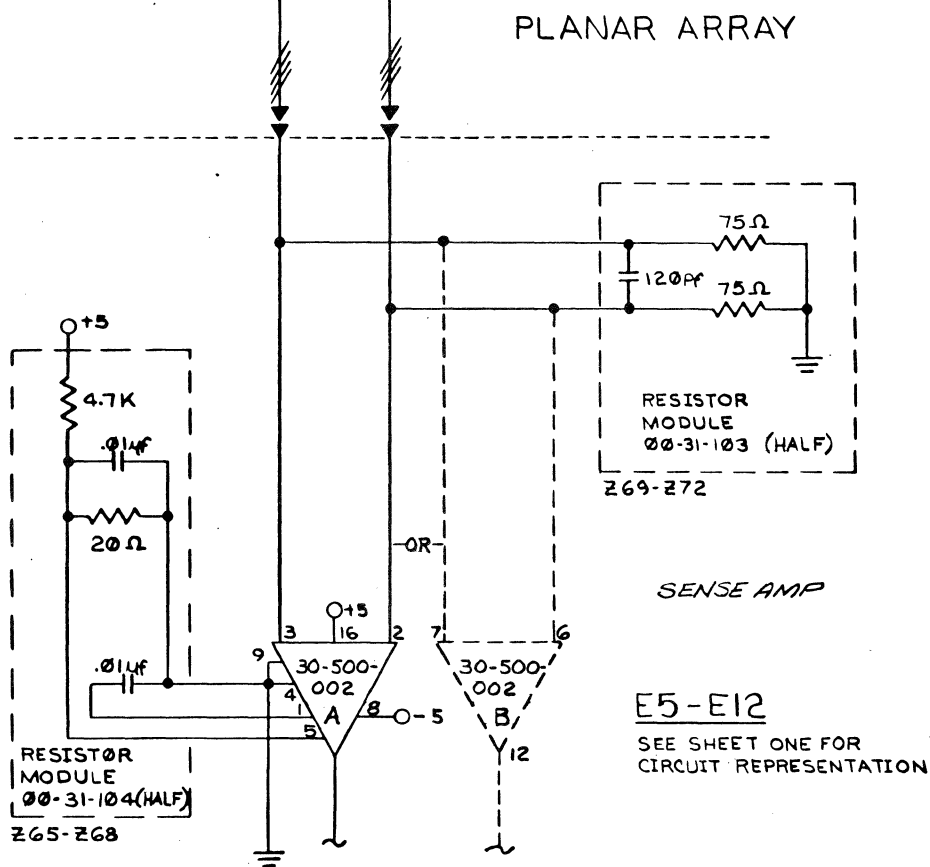
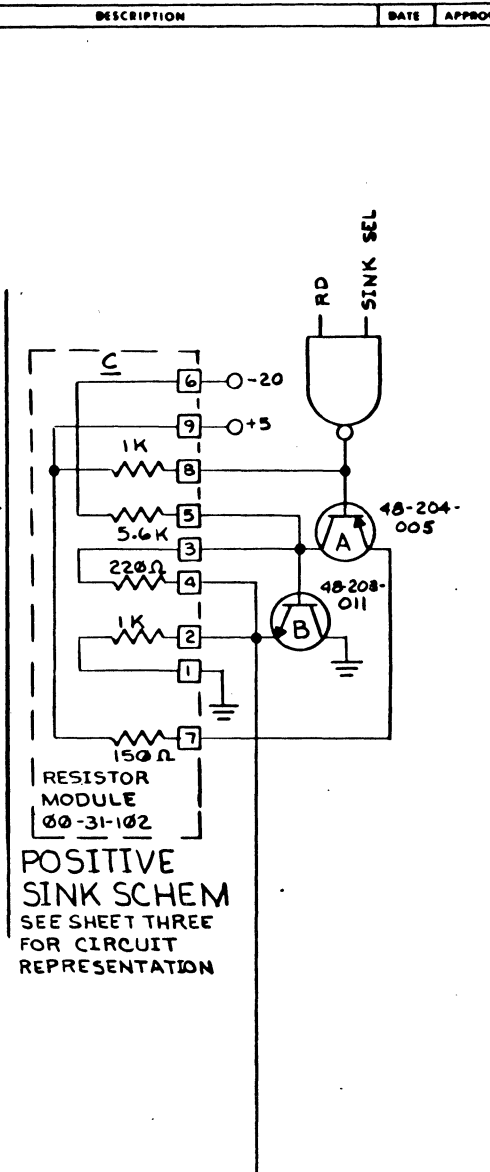
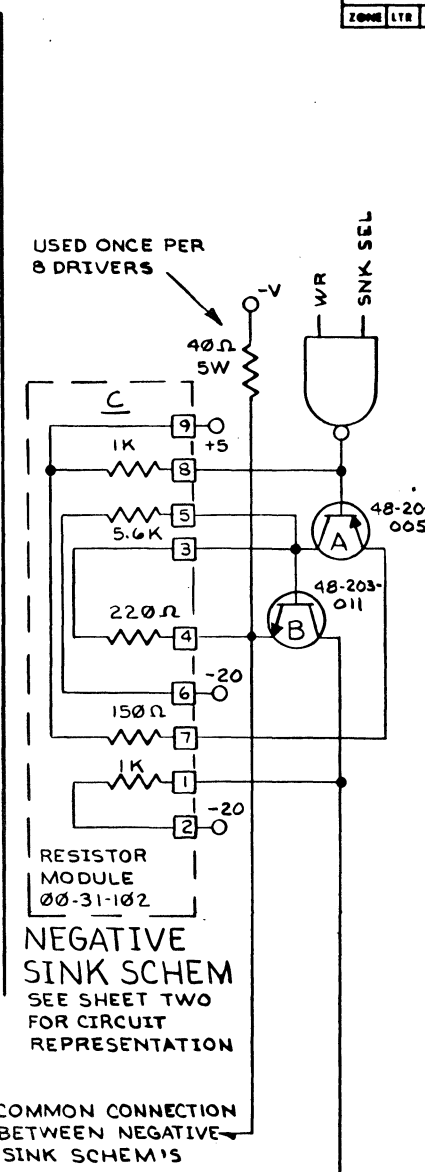
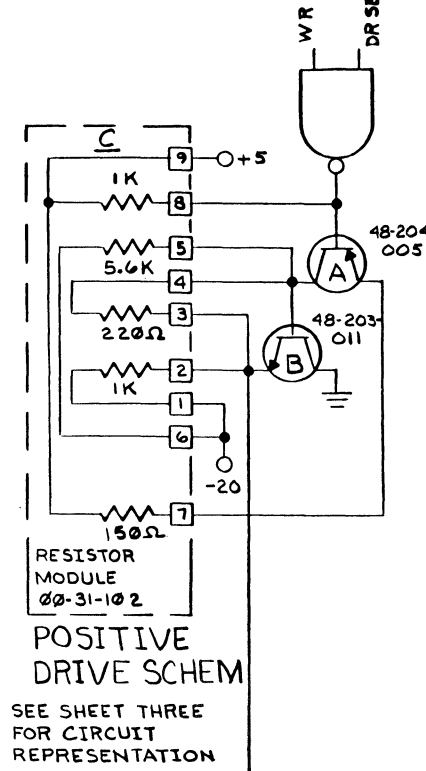
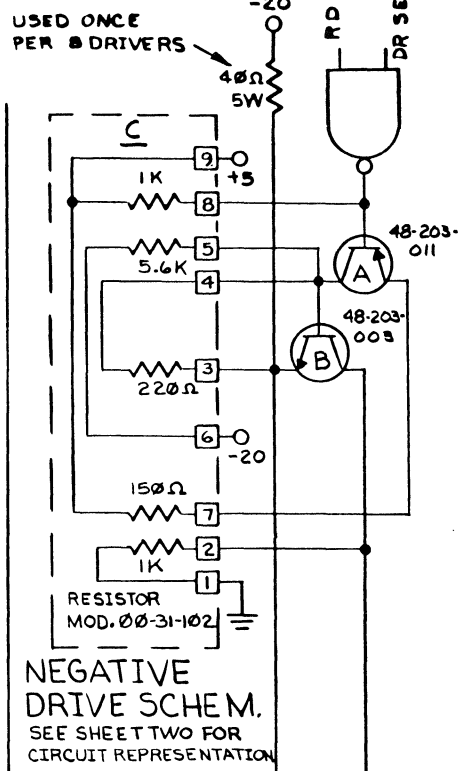
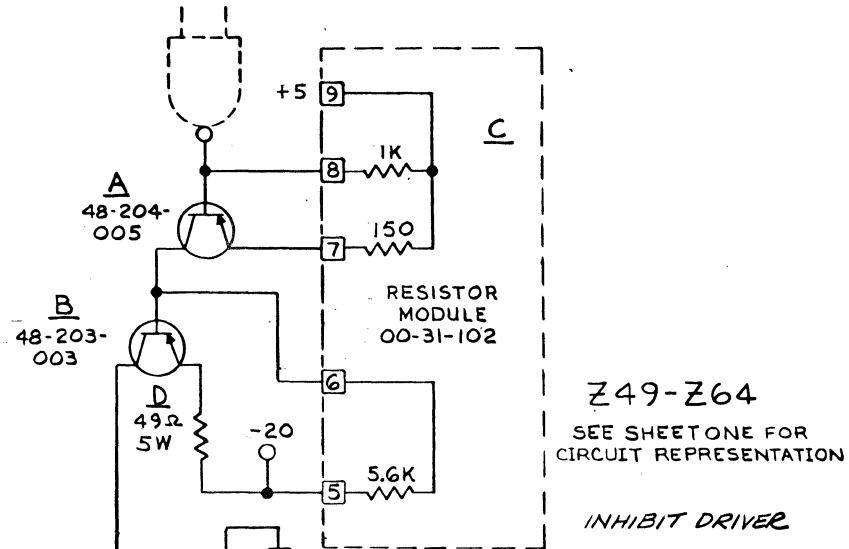
REVISIONS				
ZONE	LTZ	DESCRIPTION	DATE	APPROVED



SYM	DESCRIPTION	QTY

ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST					
REF B M					
GRI COMPUTER CORP					
1K STACK					
DRIVE ELECTRONICS					
UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS ±1/64 DECIMALS .XX ±.01 .XXX ±.005 ANGLES ±1/2° BENDS 90° FABRICATE PER SPEC 89-002-000				CONTRACT AUTHENTICATION	DATE
DRM LCW				7-17-69	
CHK				REVIEW	
ENGR				APPD	
WESTON-ROTER				SIZE	CODE IDENT NO.
19				D	17-040-023AC
DRAWING NO.				SCALE	SHEET 3 OF 5

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED



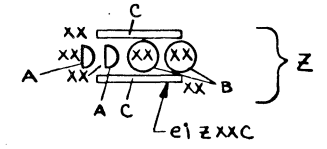
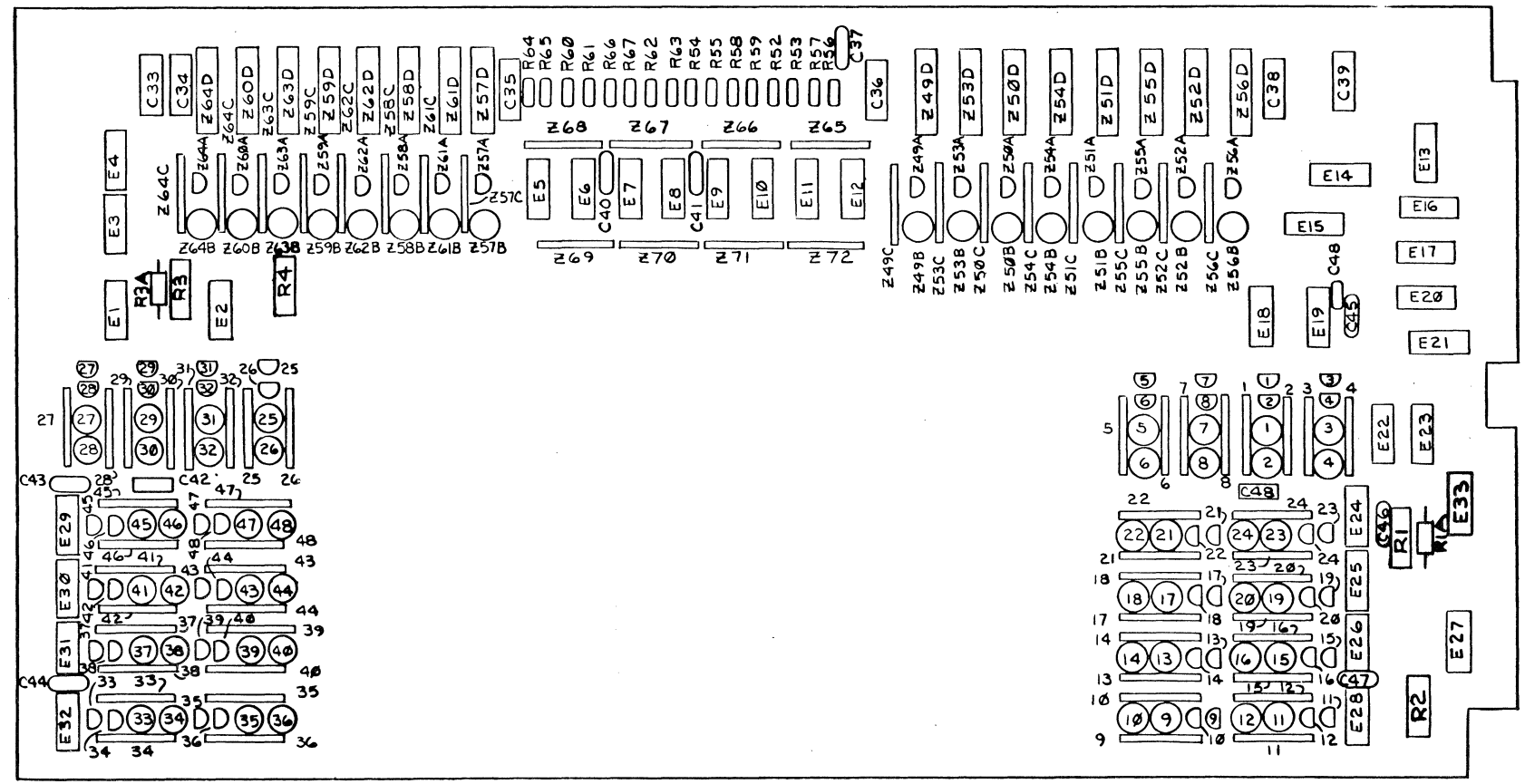
NOTES:
1. LETTERS A, B, C, & D ARE USED FOR COMPONENT IDENTIFICATION
ei Z49A, Z49B, Z49C, Z49D

SYM	DESCRIPTION	QTY

ITEM	PART NO.	NAME / VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST				
REF B/M				
CONTRACT AUTHENTICATION			DATE	
DRN LCW			7/17/65	
CMK			REVIEW	
ENGR			APPB	
WESTON - ROTER			SCALE	
SIZE			CODE IDENT NO.	
D			17-040-023 AC	
UNIT WT			DRAWING NO.	
			17-040-023 AC	
APPLICATION			SHEET 4 OF 5	

8 7 6 5 4 3 2 1

REV. SIGNS		DATE	APPROVED
ZONE	LTR	DESCRIPTION	



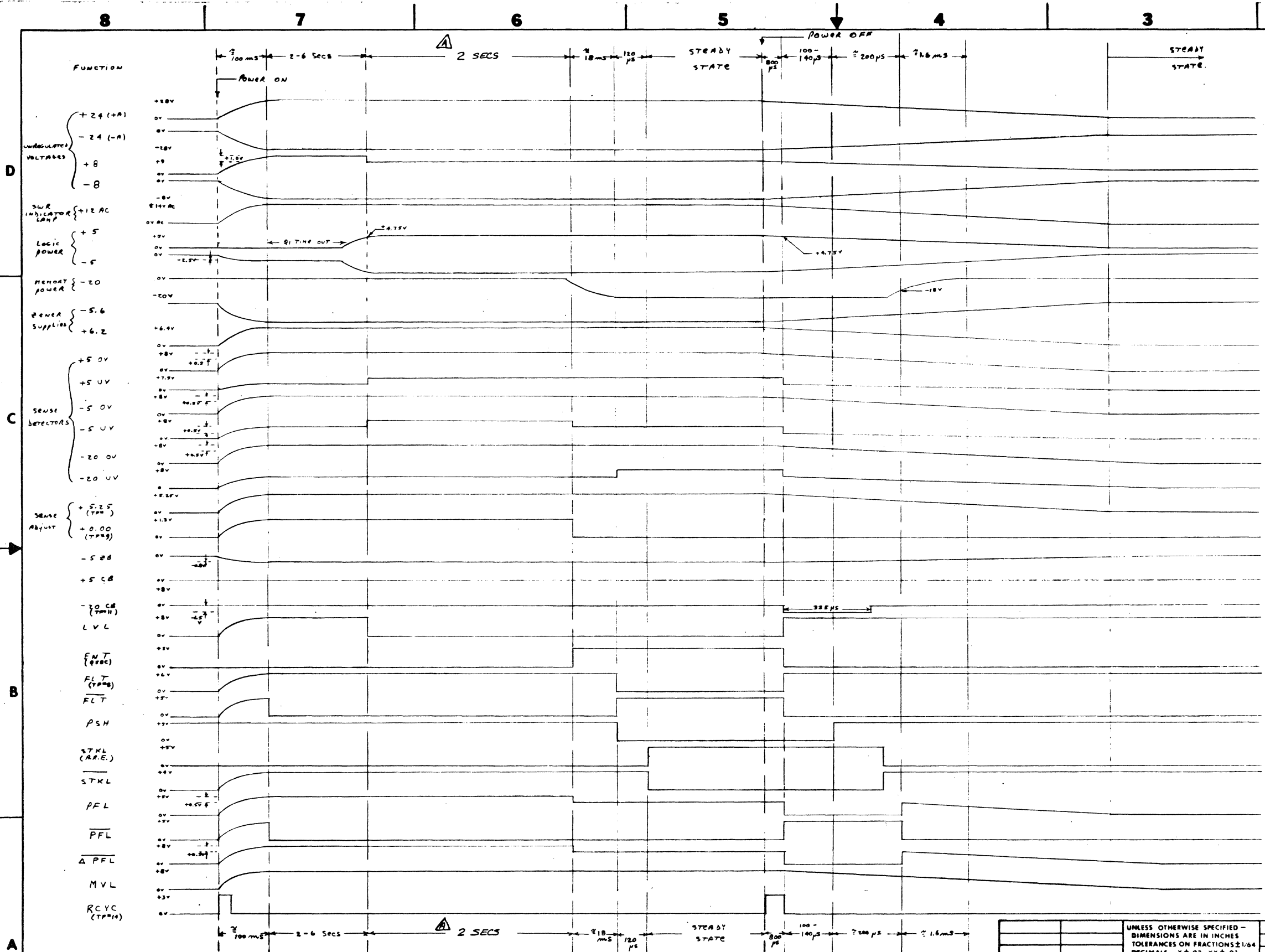
COMPONENT LOCATION VIEW

SYM	DESCRIPTION	QTY
	HOLE LEGEND	

UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS ± 1/64 DECIMALS .X ± .03, .XX ± .01, .XXX ± .005 ANGLES ± 1/2°, BENDS 90° FABRICATE PER SPEC 89-002-000	CONTRACT AUTHENTICATION DATE DRN LCW 7-17-69 CHK REVIEW ENGR APPD WESTON - ROTER
MATERIAL - APPEARANCE - FINISH -	
NEXT ASSY	APP SPEC'S
APPLICATION	

ITEM	PART NO.	NAME / VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST				
REF B M				
			GRI COMPUTER CORP	
			IK STACK DRIVE ELECTRONICS	
			SIZE	DRAWING NO.
			D	17-040-023AC
			SCALE	SHEET 5 OF 5
			UNIT WT	

REVISIONS			
ZONE	LTR	DESCRIPTION	DATE
02-01	A	2 SECS WAS 50-150 MS	9-18-70



NOTES: ANY FAILURE IN A REGULATOR CAUSES OV OR UV SENSE WHICH INITIATES SHUT DOWN SEQUENCE.

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ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST					

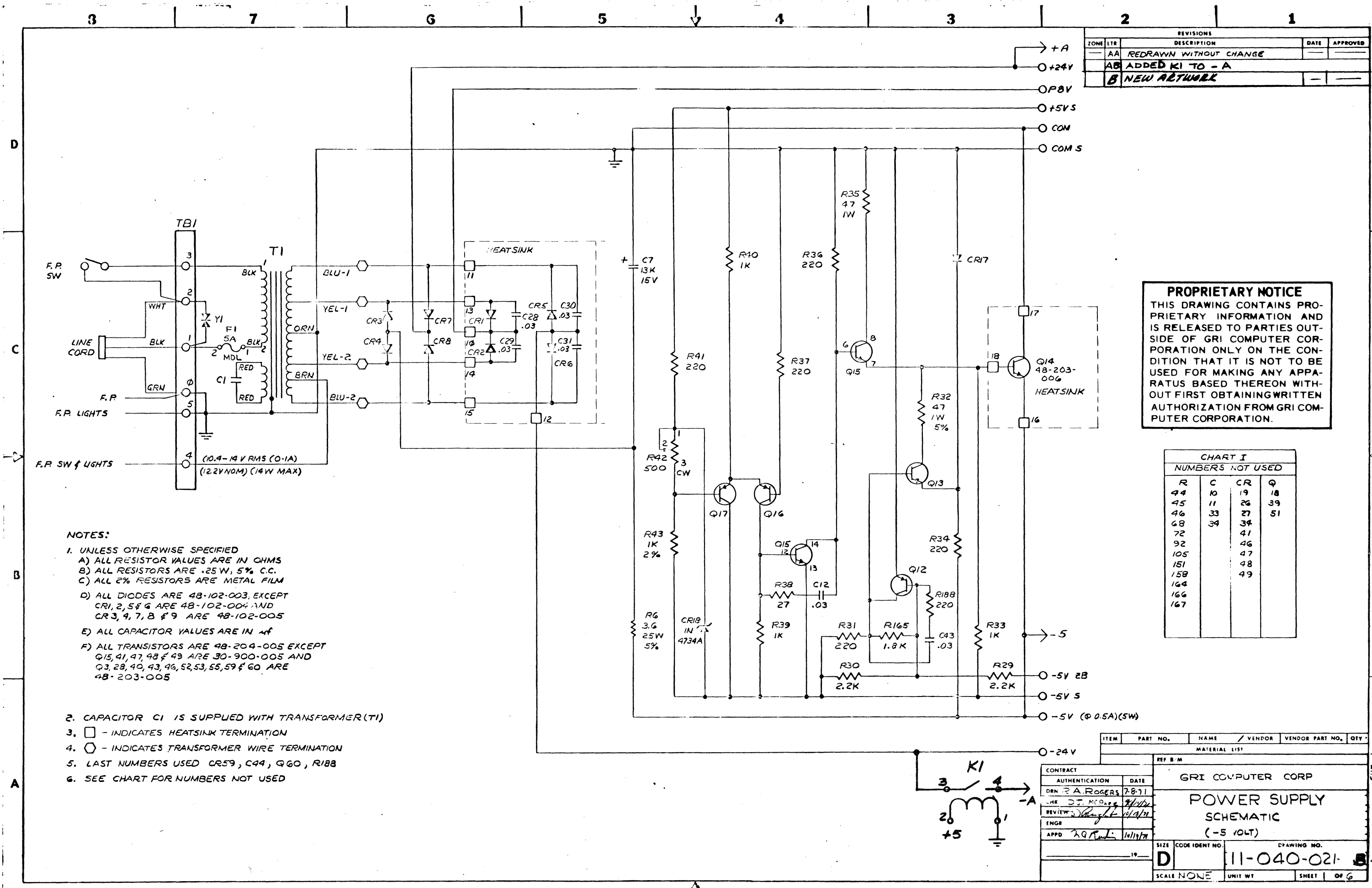
SYM	DESCRIPTION	QTY
HOLE LEGEND		

CONTRACT AUTHENTICATION		DATE
DRN		
CHK		
REVIEW		
ENGR	SR	9/20/70
APPD		

GRI Computer Corp.			
POWER SUPPLY		TIMING SEQUENCE	
SIZE	CODE IDENT NO.	DRAWING NO.	
D		13-040-008-A	
SCALE	UNIT WT	SHEET / OF /	

DRWG # WAS 13-40-008

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	AA	REDRAWN WITHOUT CHANGE		
	AB	ADDED KI TO - A		
	B	NEW NETWORK		



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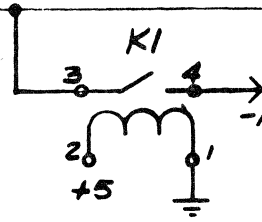
CHART I
 NUMBERS NOT USED

R	C	CR	Q
44	10	19	18
45	11	26	39
46	33	27	51
68	34	34	
72		41	
92		46	
105		47	
151		48	
158		49	
164			
166			
167			

- NOTES:**
- UNLESS OTHERWISE SPECIFIED
 - ALL RESISTOR VALUES ARE IN OHMS
 - ALL RESISTORS ARE .25W, 5% C.C.
 - ALL 2% RESISTORS ARE METAL FILM
 - ALL DIODES ARE 48-102-003, EXCEPT CR1, 2, 5 & 6 ARE 48-102-004 AND CR3, 4, 7, 8 & 9 ARE 48-102-005
 - ALL CAPACITOR VALUES ARE IN μ F
 - ALL TRANSISTORS ARE 48-204-005 EXCEPT Q15, 41, 47, 48 & 49 ARE 30-900-005 AND Q3, 28, 40, 43, 46, 52, 53, 55, 59 & 60 ARE 48-203-005

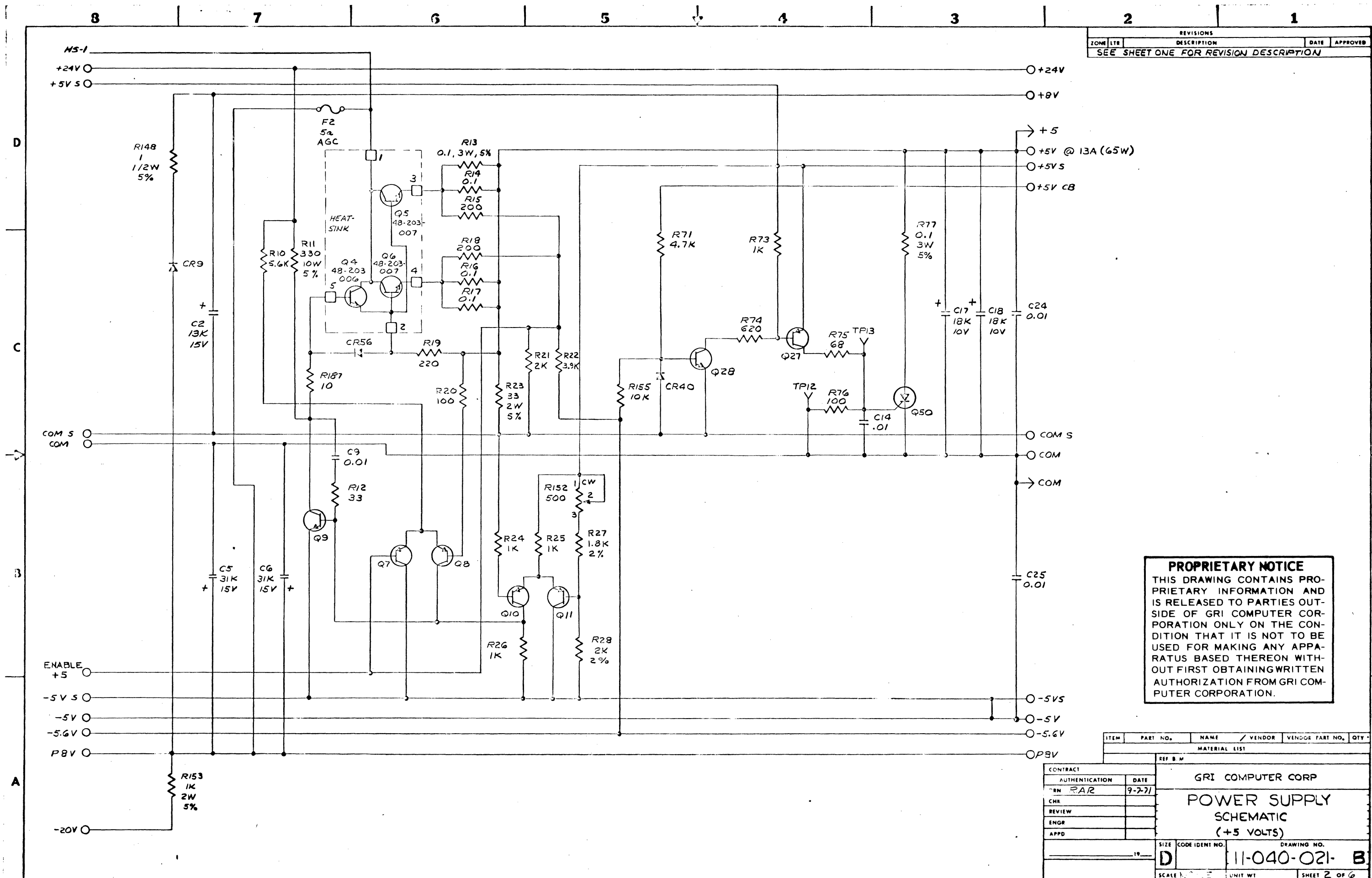
- CAPACITOR C1 IS SUPPLIED WITH TRANSFORMER (T1)
- - INDICATES HEATSINK TERMINATION
- - INDICATES TRANSFORMER WIRE TERMINATION
- LAST NUMBERS USED CR59, C44, Q60, R188
- SEE CHART FOR NUMBERS NOT USED

ITEM	PART NO.	NAME / VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST				
CONTRACT AUTHENTICATION DATE				
DRAWN BY A. ROGERS 7-8-71				
CHK BY J. M. ROSS 7/18/71				
REVIEW BY [Signature] 7/18/71				
ENGR				
APPD [Signature] 7/18/71				
GRI COMPUTER CORP				
POWER SUPPLY SCHEMATIC (-5 VOLT)				
SIZE	CODE IDENT NO.	DRAWING NO.		
D		11-040-021		
SCALE	NONE	UNIT	WT	SHEET 0F 6



17-000-000-01
 17-000-000-01

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
SEE SHEET ONE FOR REVISION DESCRIPTION				

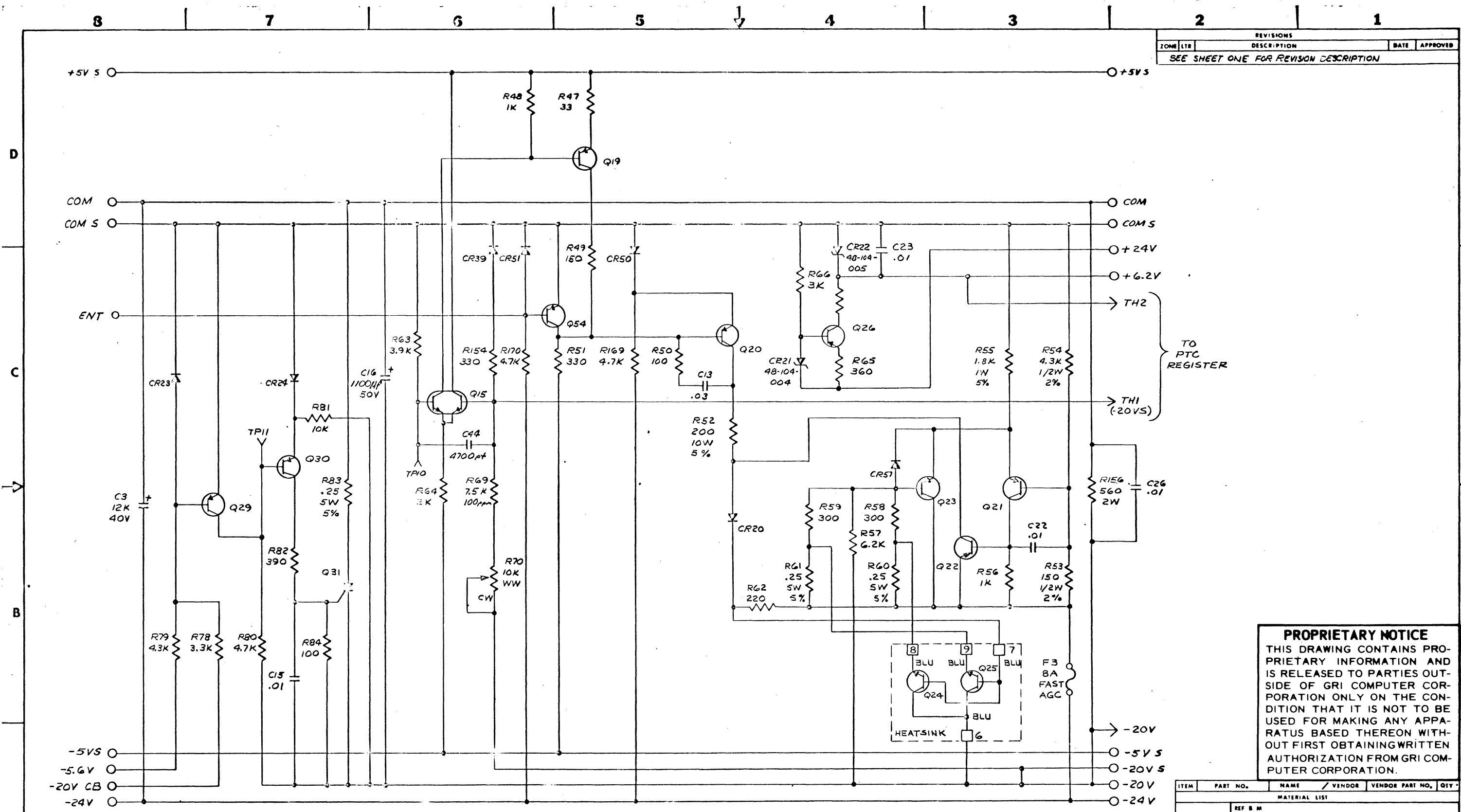


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ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY.
MATERIAL LIST					
REF B/M					
GRI COMPUTER CORP					
POWER SUPPLY SCHEMATIC (+5 VOLTS)					
CONTRACT AUTHENTICATION DATE					
"RN RAR 9-7-71					
CHK					
REVIEW					
ENGR					
APPD					
DRAWING NO. 11-040-021-B					
SHEET 2 OF 6					

11-040-021-B
 SHEET 2 OF 6

REVISIONS			
ZONE/LTR	DESCRIPTION	DATE	APPROVED
SEE SHEET ONE FOR REVISION DESCRIPTION			

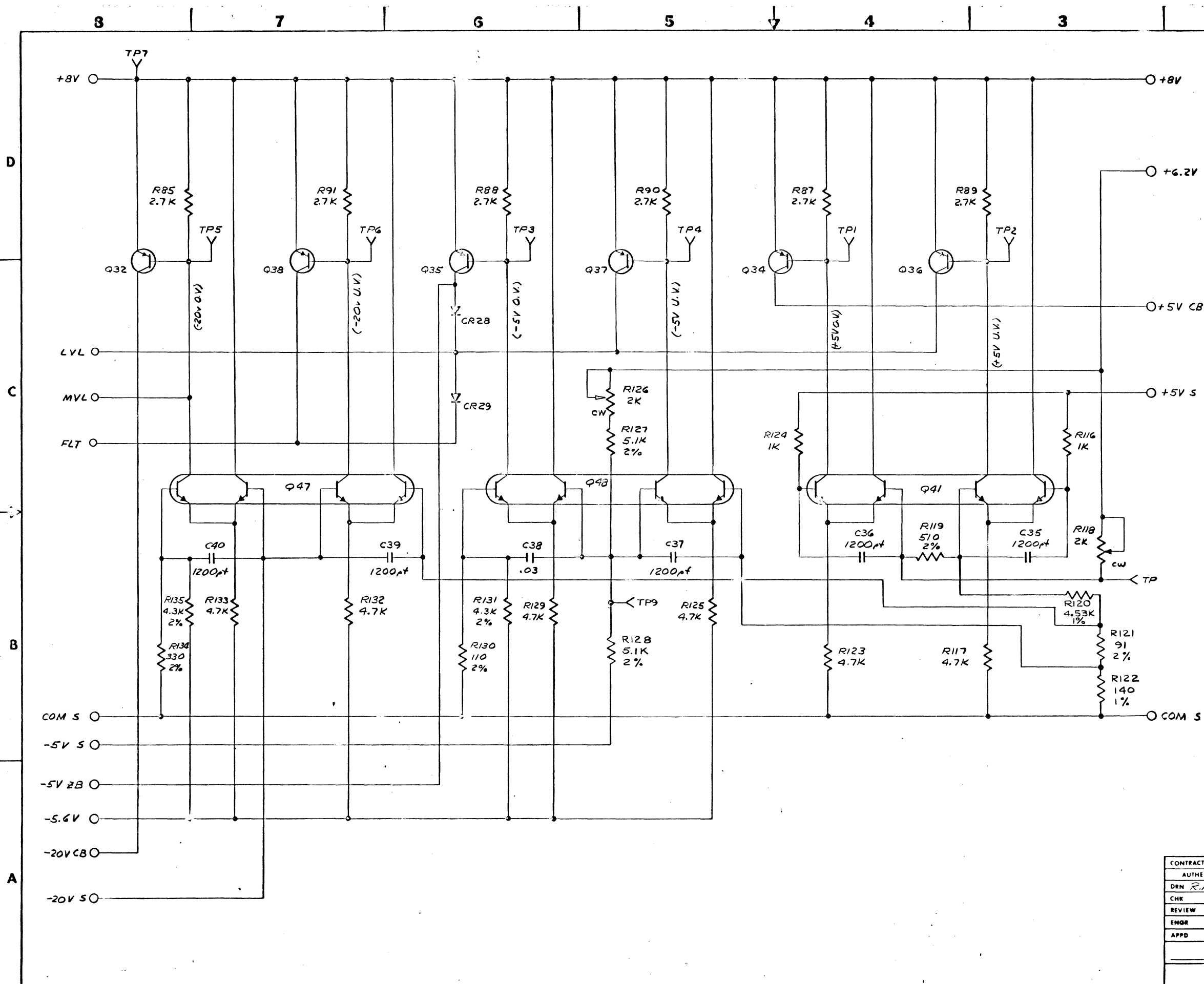


PROPRIETARY NOTICE
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ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST					
REF B M					
GRI COMPUTER CORP					
POWER SUPPLY SCHEMATIC (-20V)					
DRAWING NO. 11-040-021-B					
SHEET 3 OF 6					

11-040-021-SHT 3 OF 6

REVISIONS		DATE	APPROVED
ZONE	LTR	DESCRIPTION	
SEE SHEET ONE FOR REVISION DESCRIPTION			

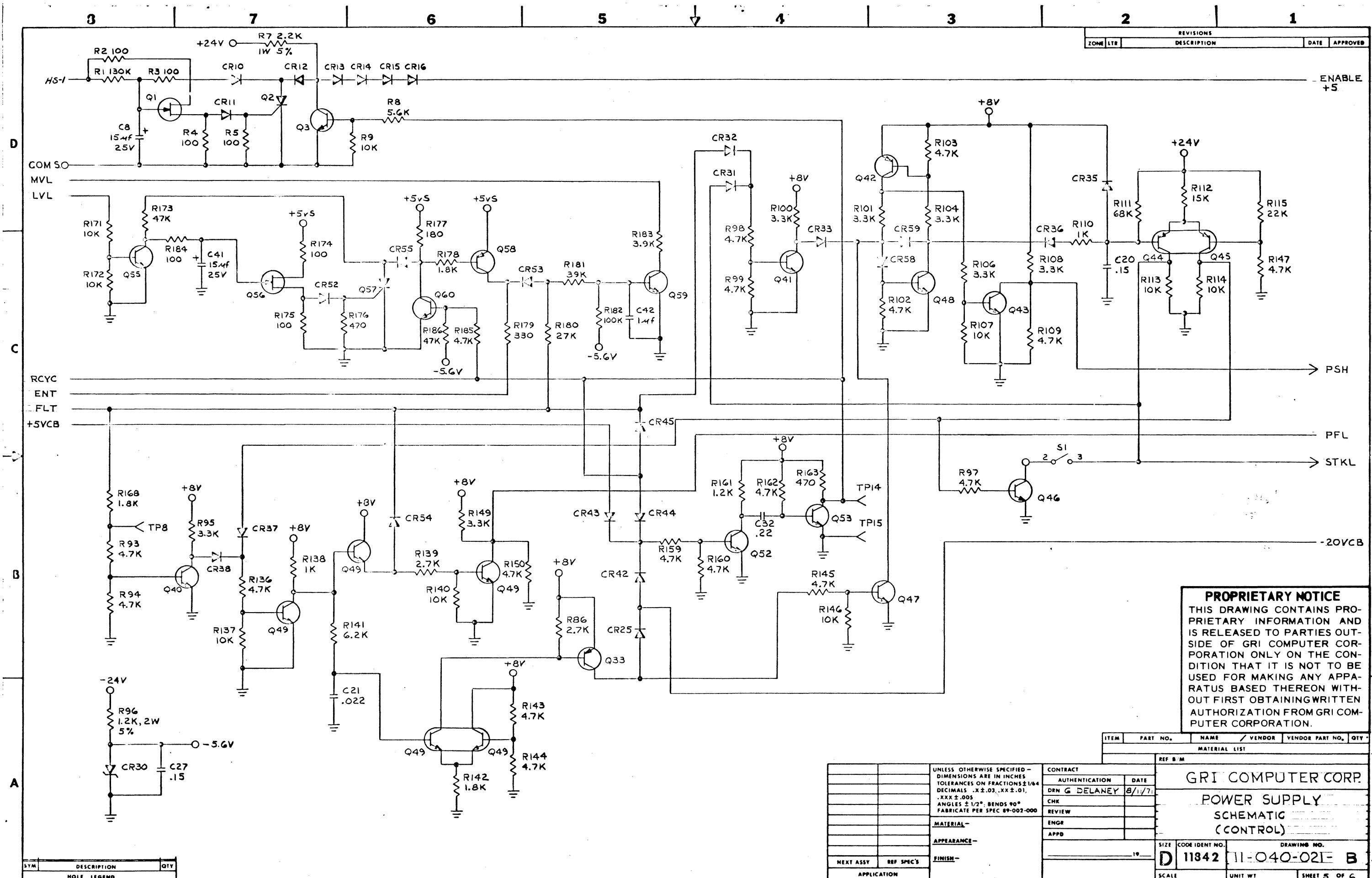


PROPRIETARY NOTICE
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ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST					
REF B/M					
CONTRACT AUTHENTICATION		GRI COMPUTER CORP			
DRN R.A. ROSE		DATE 12-71			
CHK		POWER SUPPLY			
REVIEW		SCHEMATIC			
ENGR		(SENSE)			
APPD		DRAWING NO. 11-040-021-B			
SCALE NONE		UNIT WT		SHEET 4 OF 6	

11-040-021-B

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED



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ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY.
MATERIAL LIST					

UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS ±1/64 DECIMALS .XX ±.03, .XX ±.01, .XXX ±.005 ANGLES ±1/2°, BENDS 90° FABRICATE PER SPEC 89-002-000		CONTRACT AUTHENTICATION DATE		REF B-M	
MATERIAL-		DRN G DELANEY 8/1/71		GRI COMPUTER CORP.	
APPEARANCE-		CHK		POWER SUPPLY SCHEMATIC (CONTROL)	
FINISH-		REVIEW		SIZE CODE IDENT NO. DRAWING NO.	
NEXT ASSY REF SPEC'S APPLICATION		ENGR APPD		D 11842 11-040-021-B	
				SCALE UNIT WT SHEET 5 OF 6	

SYM	DESCRIPTION	QTY
HOLE LEGEND		

8

7

6

5

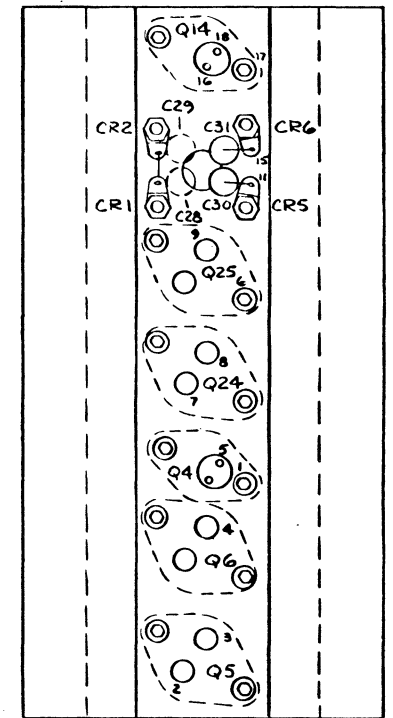
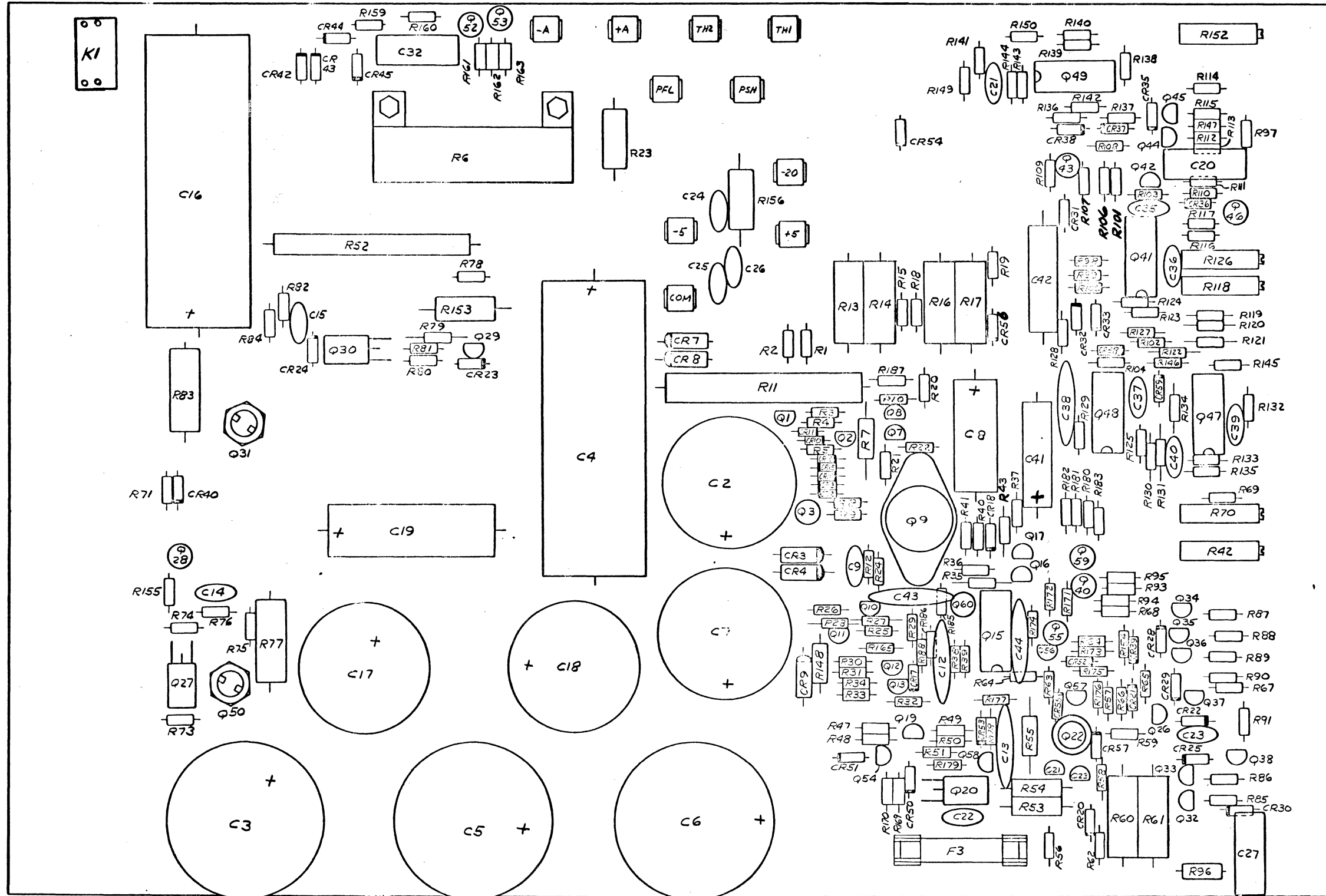
4

3

2

1

REVISIONS			
ZONE LTR	DESCRIPTION	DATE	APPROVED
SEE SHEET ONE FOR REVISION DESCRIPTION			



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ITEM	PART NO.	NAME / VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST				

UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS ±1/64 DECIMALS .XX ±.01, .XXX ±.005 ANGLES ±1/2°, BENDS 90° FABRICATE PER SPEC 89-002-000		CONTRACT AUTHENTICATION DATE DRN RAR/ROG/ELS 7-19-71 CHK REVIEW ENGR APPD	REF B/M GRI COMPUTER CORP POWER SUPPLY SCHEMATIC (PRINTED CIRCUIT BOARD LOCATION) DRAWING NO. 11-040-021-B SHEET 6 OF 6
NEXT ASSY	REF SPEC'S	FINISH	SCALE
APPLICATION			

SYM	DESCRIPTION	QTY
HOLE LEGEND		

4

BOARD IOP					
signal name	origin	used	bus	connector	comments
GROUND				S1	System Ground
GROUND				S1	System Ground
+5 volts				S3	Logic Supply
+5 volts				S2	Logic Supply
EIH				S0	External Instruction Major State
CLIH				S3	System Clear
BKH				S0	Break Major State
DMH				S4	Direct Memory Access Major State
PAUTL				SE	Priority Chain Out
PINL				S5	Priority Chain In
DOUPL				SF	DMA Chain Out
DINL				S6	DMA Chain In
DAB0H		X		SH	Destination Address Bus 0
DAB1H		X		S7	" 1
DAB2H		X		SJ	" 2
DAB3H		X		SS	" 3
DAB4H		X		SK	" 4
DAB5H		X		S9	" 5
XCLK				SL	Crystal Clock (9.09 MHz)
DSTRH				S10	Data Strobe
INTDI				SV	Interrupt Bus
CLIBH				S11	Clear Interrupt Bus
DIREL				SN	DMA Direction Bus
IMBL				S12	DMA Increment Bus
STKL				SP	Start Key
STPKL				S13	Stop Key
DMRL				SP	Direct Memory Request
GRI COMPUTER CORPORATION				GRI 909 SIGNAL ORIGIN, USE	
ENG. <i>D. J. McPherson</i>	DATE	4/26/71	IOP 1 of 4		
APPROVED <i>L. P. Dorman</i>	DATE	4-26-71	A	18	040
			011	A	

BOARD IOP					
signal name	origin	used	bus	connector	comments
EIRL				S14	External Instruction Request
SBO0H				SS	Data Source Bus 00
SBO1H				S15	" 01
SBO2H				ST	" 02
SBO3H				S16	" 03
SBO4H				SU	" 04
SBO5H				S17	" 05
SBO6H				SV	" 06
SBO7H				S18	" 07
SBO8H				SW	" 08
SBO9H				S19	" 09
SB10H				SX	" 10
SB11H				S20	" 11
SB12H				SY	" 12
SB13H				S21	" 13
SB14H				SZ	" 14
SB15H				S22	" 15
GRI COMPUTER CORPORATION				GRI 909 SIGNAL ORIGIN, USE	
ENG.	DATE	IOP 2 of 4			
APPROVED	DATE	A	18	040	011
		A			

BOARD <u>IOP</u>					
signal name	origin	used	bus	connector	comments
DB00L				DA Data Destination Bus	00
DB01L				D1 "	01
DB02L				D2 "	02
DB03L				D2 "	03
DB04L				DC "	04
DB05L				D3 "	05
DB06L				DD "	06
DB07L				D4 "	07
DB08L				DE "	08
DB09L				D5 "	09
DB10L				DF "	10
DB11L				D6 "	11
DB12L				DH "	12
DB13L				D7 "	13
DB14L				DJ "	14
DB15L				D5 "	15
ISYNH				DK Interrupt Sync	
SAB0H		X		D9 Source Address Bit 0	
FTB1L				DL Function Test Bit 1	
SAB1H		X		D10 Source Address Bit 1	
FTB2L				DM Function Text Bit 2	
SAB2H		X		D11 Source Address Bit 2	
FTB3L				DN Function Test Bit 3	
SAB3H		X		D12 Source Address Bit 3	
LINKH				DP Link Bit	
SAB4H		X		D13 Source Address Bit 4	
BOH				DR Bus Overflow	
GRI COMPUTER CORPORATION				GRI 909 SIGNAL ORIGIN, USE	
ENC.	DATE	IOP 3 of 4			
APPROVED	DATE	A	18	040	011
		SIZE	TYPE	PROD	NUMBER

BOARD <u>IOP</u>					
signal name	origin	used	bus	connector	comments
SAB5H		X		D14 Source Address Bit 5	
P2H				DS P2 pulse (during T2H)	
---				D15	
FUNCTION				DT Function Instruction	
---				D16	
CB2H				DU Control Bit 2	
EXXH				D17 Execute Time	
CB0H				DV Control Bit 0	
CB3H				D18 Control Bit 3	
---				DW	
CB1H				D19 Control Bit 1	
---				DX	
---				D20	
-20 volts				DY Memory Supply	
-20 volts				DZ1 Memory Supply	
GROUND				DZ System Ground	
GROUND				DZ2 System Ground	
GRI COMPUTER CORPORATION				GRI 909 SIGNAL ORIGIN, USE	
ENC.	DATE	IOP 4 of 4			
APPROVED	DATE	A	18	040	011
		SIZE	TYPE	PROD	NUMBER

BOARD I/O OPTIONS					
signal name	origin	used	bus	connector	comments
GROUND				SA	System Ground
GROUND				S1	System Ground
+5 volts				SB	System Logic Supply
+5 volts				S2	System Logic Supply
EIH				SC	External Instruction Major State
CLPH				S3	Clear
BKH				SD	Break Major State
DMH				S4	Direct Memory Access Major State
POUTH				SE	Priority Out
PINH				S5	Priority In
DOUTH				SE	Data Priority Out
DINH				S6	Data Priority In
DAB0H				SH	Destination Address Bus 00
DAB1H				S7	" 01
DAB2H				SJ	" 02
DAB3H				S8	" 03
DAB4H				SK	" 04
DAB5H				S9	" 05
XCLL				SL	Crystal Clock 9.09Hz
DSTRH				S10	Data Strobe
INTBL				SM	Interrupt Bus
CLIBH				S11	Clear Interrupt Bus
DTBBL				SN	Direction Bus
INBL				S12	Increment Memory Bus
STKL				SP	Start Key
STPKL				S13	Stop Key
DMRL				SR	Direct Memory Request

BOARD I/O OPTIONS					
signal name	origin	used	bus	connector	comments
EIRL				S14	External Instruction Request
SB00H				SS	Data Source Bus 00
SB01H				S15	" 01
SB02H				ST	" 02
SB03H				S16	" 03
SB04H				SU	" 04
SB05H				S17	" 05
SB06H				SV	" 06
SB07H				S18	" 07
SB08H				SW	" 08
SB09H				S19	" 09
SB10H				SX	" 10
SB11H				S20	" 11
SB12H				SY	" 12
SB13H				S21	" 13
SB14H				SZ	" 14
SB15H				S22	" 15

GRI COMPUTER CORPORATION		GRI-909 SIGNAL ORIGIN, USE			
ENG. <i>P. J. ...</i>	DATE <i>4/26/71</i>	I/O OPTIONS		1 of 4	
APPROVED <i>...</i>	DATE <i>4-26-71</i>	A	18	049	000
		SIZE	TYPE	PCRD	NUMBER

GRI COMPUTER CORPORATION		GRI-909 SIGNAL ORIGIN, USE			
ENG.	DATE	I/O OPTIONS		2 of 4	
APPROVED	DATE	A	18	049	000
		SIZE	TYPE	PCRD	NUMBER

BOARD I/O OPTIONS

signal name	origin	used	bus	connector	comments
DB00L				DA	Destination Bus Bit 0
DB01L				D1	" 1
DB02L				D2	" 2
DB03L				D2	" 3
DB04L				DC	" 4
DB05L				D3	" 5
DB06L				DD	" 6
DB07L				D4	" 7
DB08L				DE	" 8
DB09L				D5	" 9
DB10L				DF	" 10
DB11L				D6	" 11
DB12L				DH	" 12
DB13L				D7	" 13
DB14L				DJ	" 14
DB15L				D8	" 15
ISYNH				DK	Interrupt Sync
SAB0H				D9	Source Address Bit 0
FTB1L				DL	Function Test Bit 1
SAB1H				D10	Source Address Bit 1
FTB2L				DM	Function Test Bit 2
SAB2H				D11	Source Address Bit 2
FTB3L				DN	Function Test Bit 3
SAB3H				D12	Source Address Bit 3
LINKH				DP	Link Bit
SAB4H				D13	Source Address Bit 4
BOH				DR	Bus Overflow

GRI COMPUTER CORPORATION		GRI-909 SIGNAL ORIGIN, USE			
ENG.	DATE	I/O OPTIONS		3 of 4	
APPROVED	DATE	A	18	049	000 A
		SIZE	TYPE	PROD.	NUMBER REV.

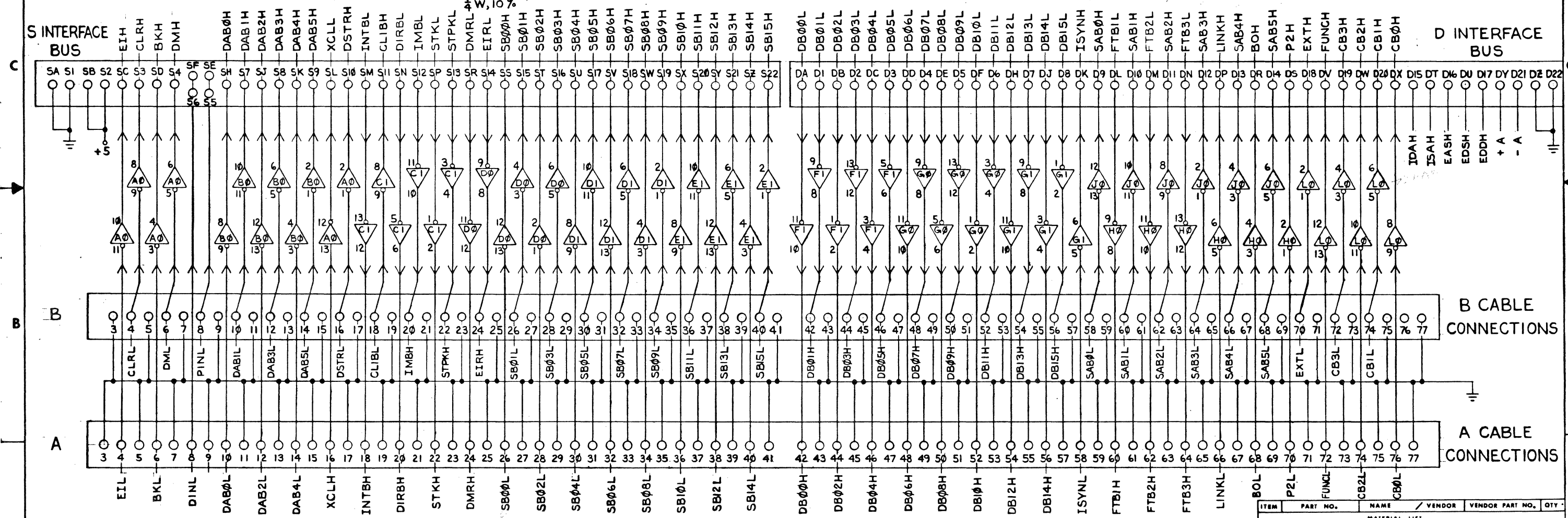
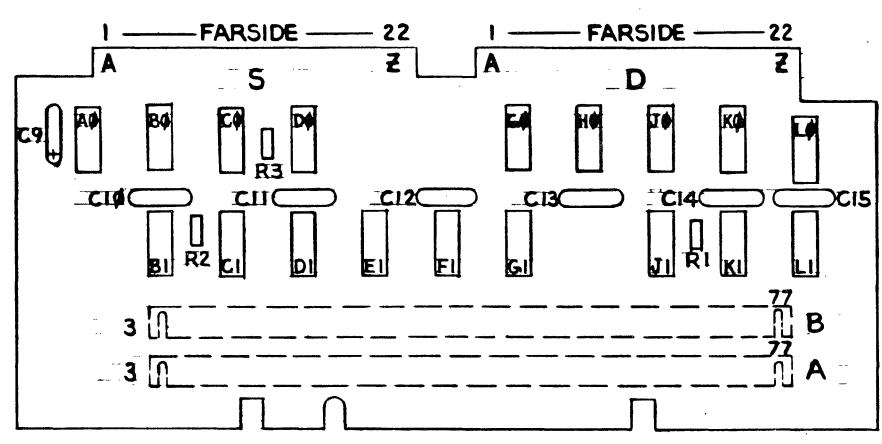
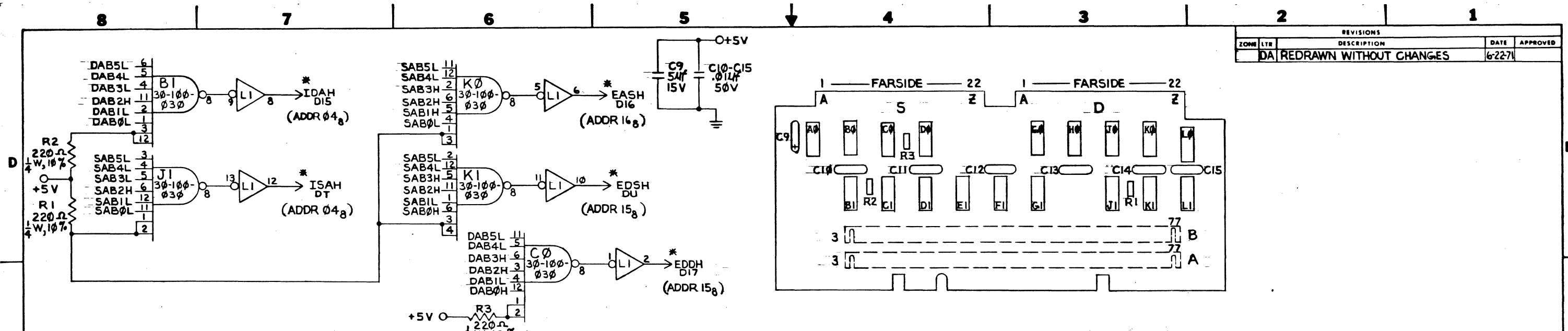
BOARD I/O OPTIONS

signal name	origin	used	bus	connector	comments
SAB5H				D14	Source Address Bit 5
P2H				DS	P2 (T2 time pulse)
IDAH*				D15	
ISAH*				DT	
EADH*				D16	
EDSH*				DU	
EDDH*				D17	
FUNCH				DV	Function Instruction
EXTH				D18	Execute Time
CB2H				DW	Control Bit 2
CB3H				D19	Control Bit 3
CB0H				DX	Control Bit 0
CB1H				D20	Control Bit 1
+A volts				DY	+24 VDC Unregulated
-A volts				D21	-24 VDC Unregulated
GROUND				DZ	System Ground
GROUND				D22	System Ground

GRI COMPUTER CORPORATION		GRI-909 SIGNAL ORIGIN, USE			
ENG.	DATE	I/O OPTIONS		4 of 4	
APPROVED	DATE	A	18	049	000 A
		SIZE	TYPE	PROD.	NUMBER REV.

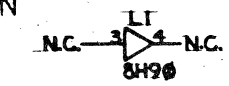
* I/O Buss only - Made on IOI card

REVISIONS			
ZONE	LTR	DESCRIPTION	DATE
DA		REDRAWN WITHOUT CHANGES	6-22-71



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NOTE
I. UNLESS OTHERWISE SPECIFIED:
A. INDICATES 30-200-001

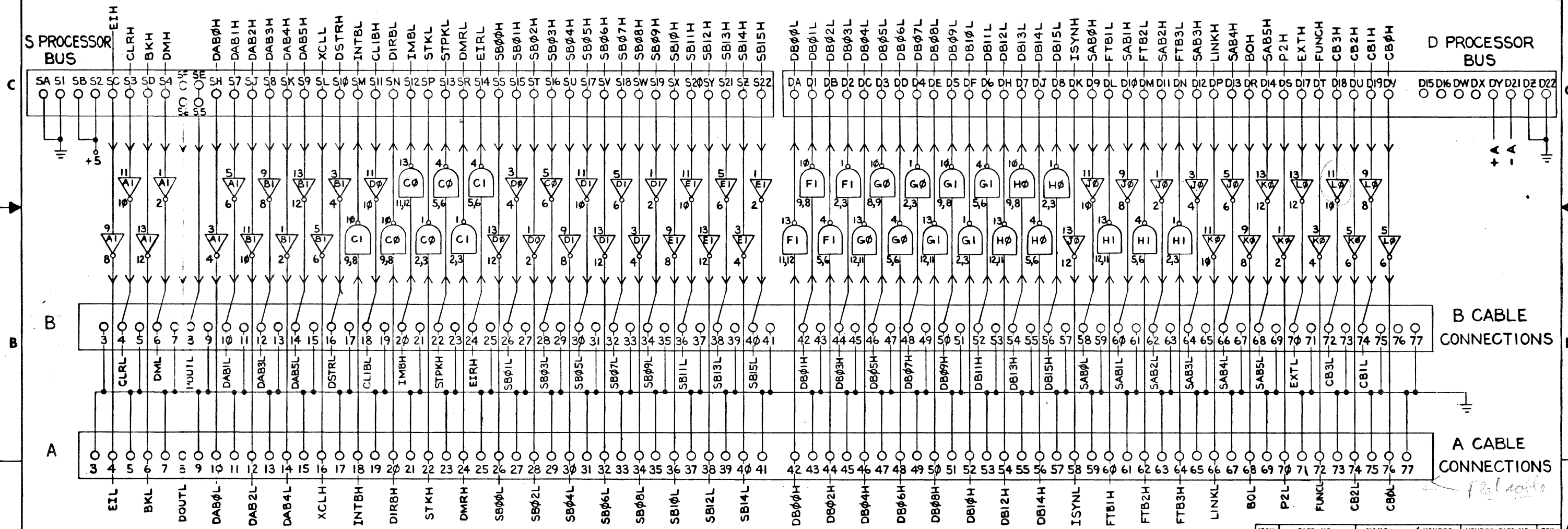
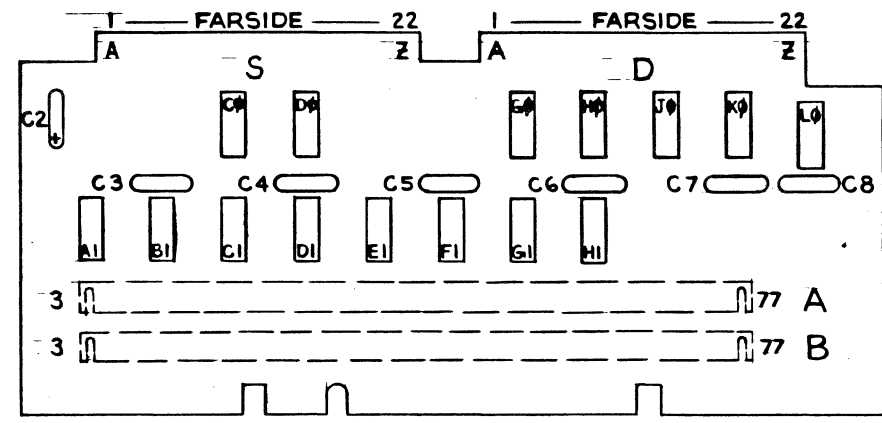
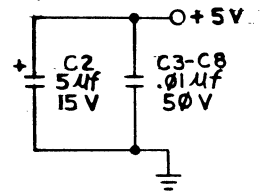


ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY.
MATERIAL LIST					
REF B/M					
GRI COMPUTER CORP					
IOI BUS BUFFER LOGIC					
CONTRACT AUTHENTICATION DATE					
DRN N. RYDGREN 6-22-71					
CHK <i>[Signature]</i> 6/22/71					
REVIEW					
ENGR. <i>[Signature]</i> 8/1/71					
APPD. <i>[Signature]</i> 8/4/71					
SIZE CODE IDENT NO. DRAWING NO.					
D 17-040-032-DA					
SCALE UNIT WT SHEET 1 OF 2					

SYM	DESCRIPTION	QTY
MOM LEGEND		

17-040-032

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
DA	SEE SHT 1 FOR REVISIONS		MR 6-24-71	



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- NOTES:
 1. UNLESS OTHERWISE SPECIFIED:
 A. INDICATES 3Ø-2ØØ-ØØ1
 B. INDICATES 3Ø-1ØØ-ØØ1

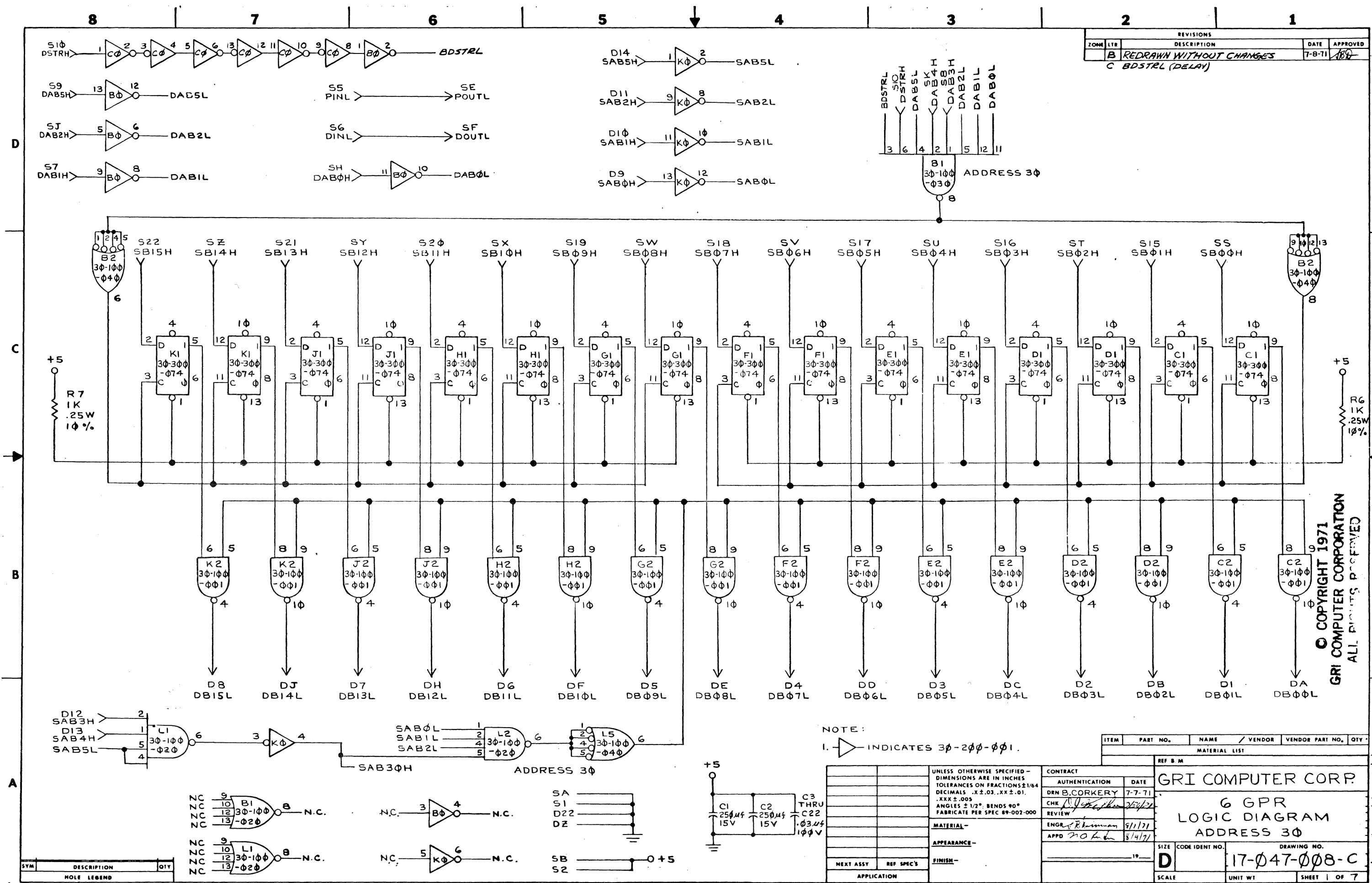
ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST					
REF B/M					
GRI COMPUTER CORP					
IOP BUS BUFFER LOGIC					
DRAWING NO. 17-Ø4Ø-Ø32-DA					
SHEET 2 OF 2					

UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS ±1/64 DECIMALS .XX ±.01, .XXX ±.005 ANGLES ±1/2°, BENDS 90° FABRICATE PER SPEC 89-002-000		CONTRACT AUTHENTICATION	DATE
MATERIAL -		DRNN RYDGREN	6-29-71
APPEARANCE -		CHK <i>[Signature]</i>	
FINISH -		ENGR <i>[Signature]</i>	8/1/71
NEXT ASSY		APPD <i>[Signature]</i>	8/4/71
MFG SPEC'S			
APPLICATION			

SYM	DESCRIPTION	QTY
	HOLE LEGEND	

17-Ø4Ø-Ø32

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
B		REDRAWN WITHOUT CHANGES	7-8-71	ABD
C		BDSTRL (DELAY)		



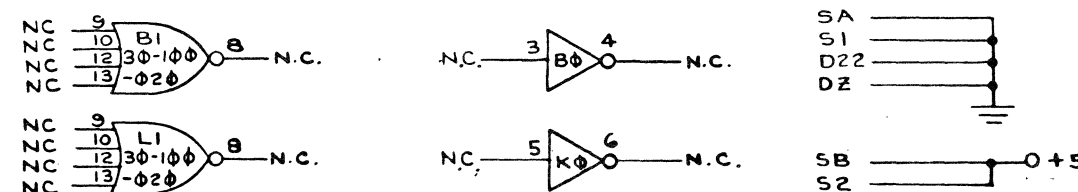
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NOTE:
 1. INDICATES 3Φ-2ΦΦ-ΦΦ1.

ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY.
MATERIAL LIST					

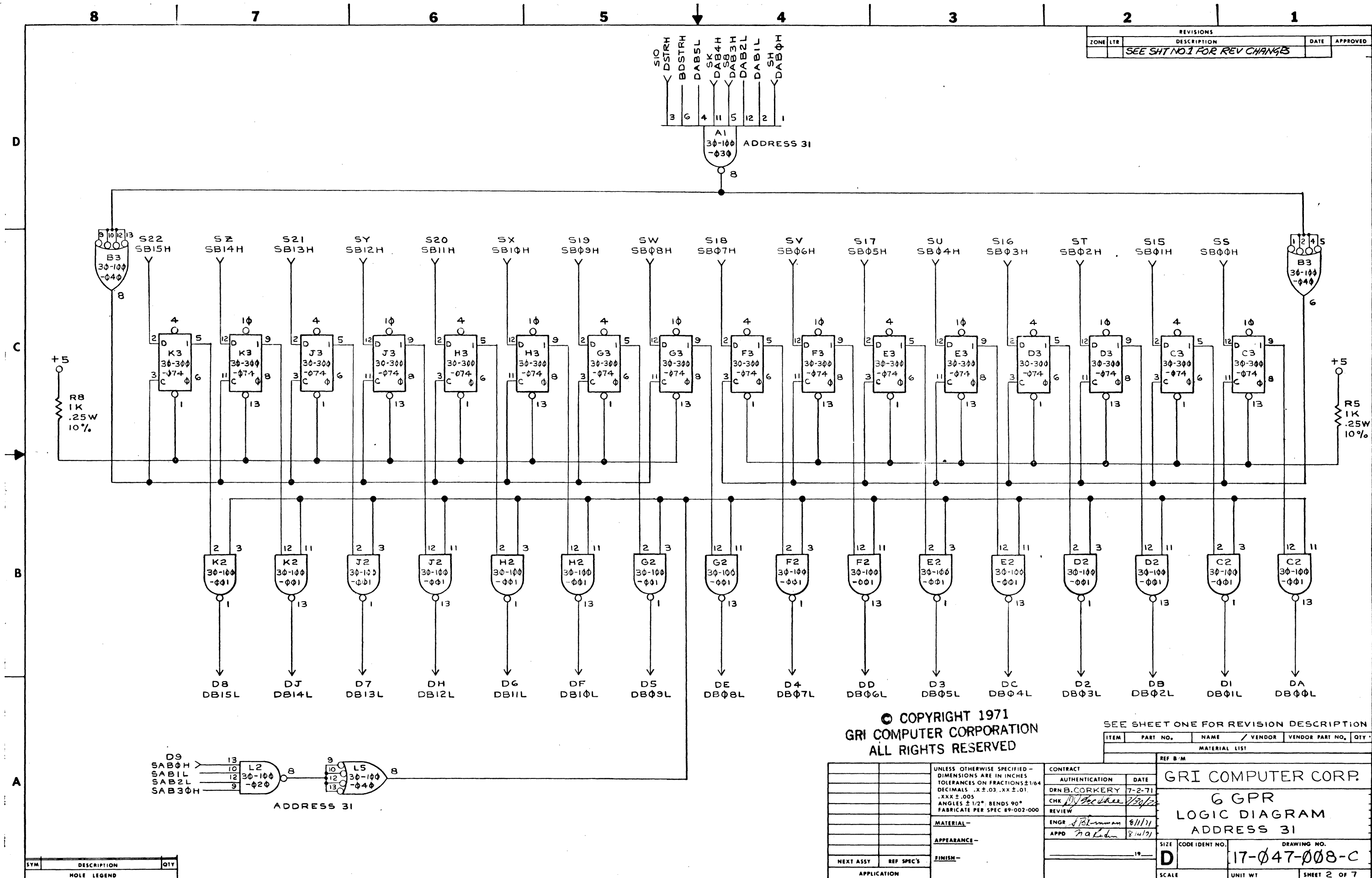
CONTRACT		GRI COMPUTER CORP.	
AUTHENTICATION	DATE	6 GPR LOGIC DIAGRAM ADDRESS 3Φ	
DRN B.CORKERY	7-7-71		
CHK <i>[Signature]</i>	<i>[Date]</i>		
ENGR <i>[Signature]</i>	9/1/71		
APPD <i>[Signature]</i>	8/4/71		
MATERIAL		APPEARANCE	
FINISH		SIZE	
NEXT ASSY		CODE IDENT NO.	
REF SPEC'S		DRAWING NO.	
APPLICATION		17-047-008-C	
		SCALE	
		UNIT WT	
		SHEET 1 OF 7	

SYM	DESCRIPTION	QTY
	HOLE LEGEND	



17-047-008 of 7

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
		SEE SH1 NO.1 FOR REV CHANGES		



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SEE SHEET ONE FOR REVISION DESCRIPTION

ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST					

UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS ±1/64 DECIMALS .XX ±.03 .XX ±.01 .XXX ±.005 ANGLES ±1/2°. BENDS 90° FABRICATE PER SPEC 89-002-000	CONTRACT AUTHENTICATION DATE
	DRN B. CORKERY 7-2-71
	CHK <i>[Signature]</i> 7/29/71
	REVIEW ENGR <i>[Signature]</i> 8/11/71
	APPD <i>[Signature]</i> 8/14/71
MATERIAL -	
APPEARANCE -	
FINISH -	
NEXT ASSY REF SPEC'S	
APPLICATION	

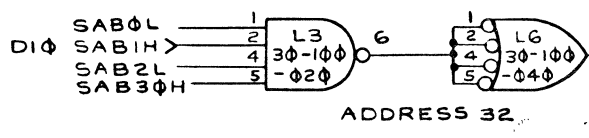
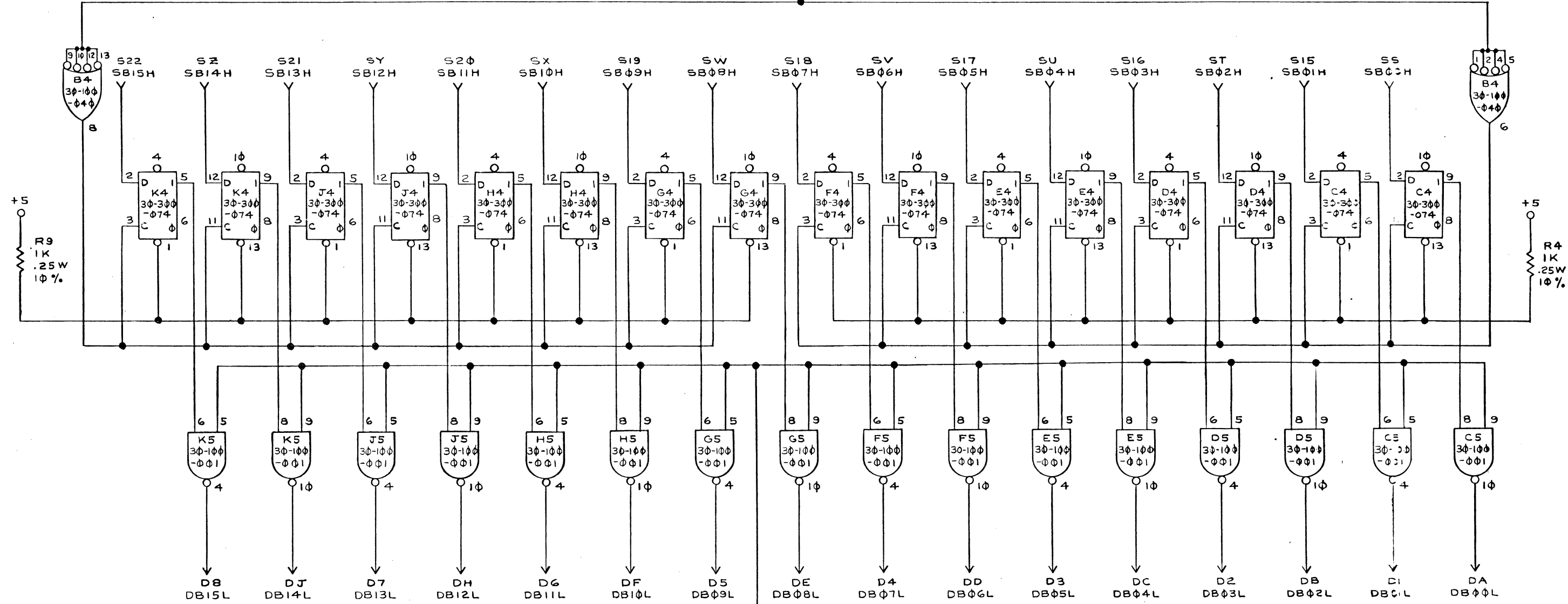
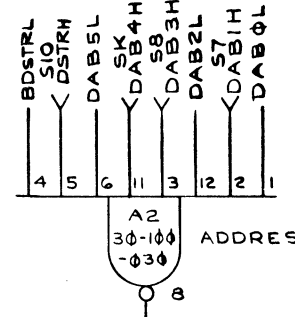
REF B-M	
GRI COMPUTER CORP.	
6 GPR LOGIC DIAGRAM ADDRESS 31	
SIZE	CODE IDENT NO.
D	17-047-008-C
SCALE	DRAWING NO.
	17-047-008-C
UNIT WT	SHEET 2 OF 7

SYM	DESCRIPTION	QTY
	MOLE LEGEND	

17-047-008 OF 7

8 7 6 5 4 3 2 1

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
		SEE SHT NO. 1 FOR REV CHANGES		



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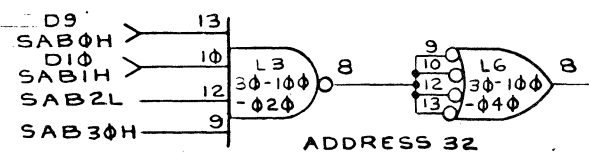
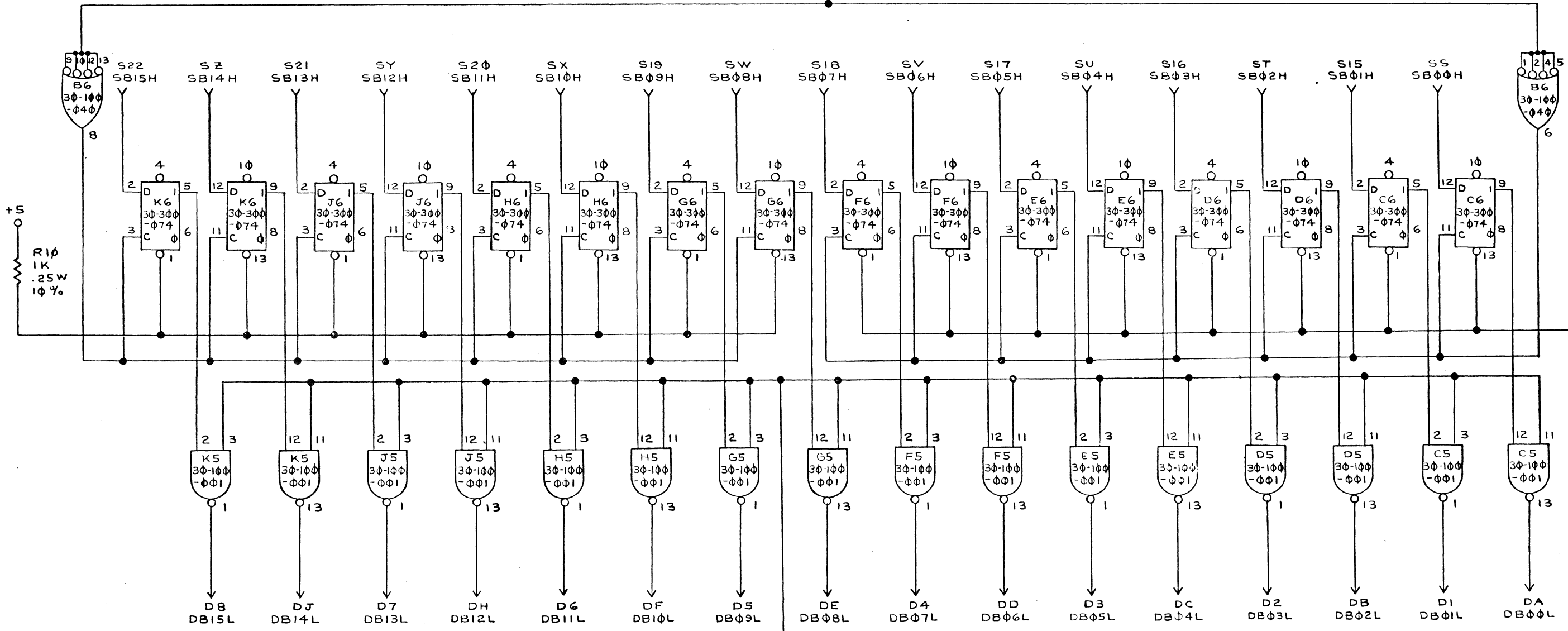
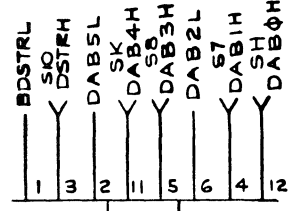
ITEM	PART NO.	NAME / VENDOR	VENDOR PART NO.	QTY.
MATERIAL LIST				

UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS ± 1/64 DECIMALS .XX ± .01 .XXX ± .005 ANGLES ± 1/2°; BENDS 90° FABRICATE PER SPEC 89-002-000		CONTRACT AUTHENTICATION DATE		GRI COMPUTER CORP.
MATERIAL -		DRN B. CORKERY 7-2-71		
APPEARANCE -		CHK [Signature] 8/30/71		6 GPR LOGIC DIAGRAM ADDRESS 32
FINISH -		ENGR [Signature] 9/1/71		
NEXT ASSY REF SPEC'S APPLICATION		APPD [Signature] 8/14/71		SIZE CODE IDENT NO. DRAWING NO. 17-047-008-C
				SCALE UNIT WT SHEET 3 OF 7

SYM	DESCRIPTION	QTY
	MOLE LEGEND	

17-047-008 OF 7

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
SEE SH1 NO. 1 FOR REV CHANGES				



SEE SHEET ONE FOR REVISION DESCRIPTION

ITEM	PART NO.	NAME / VENDOR	VENDOR PART NO.	QTY.
MATERIAL LIST				

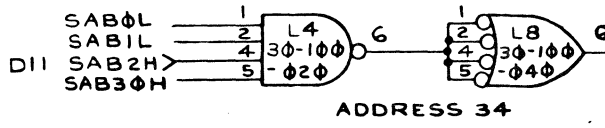
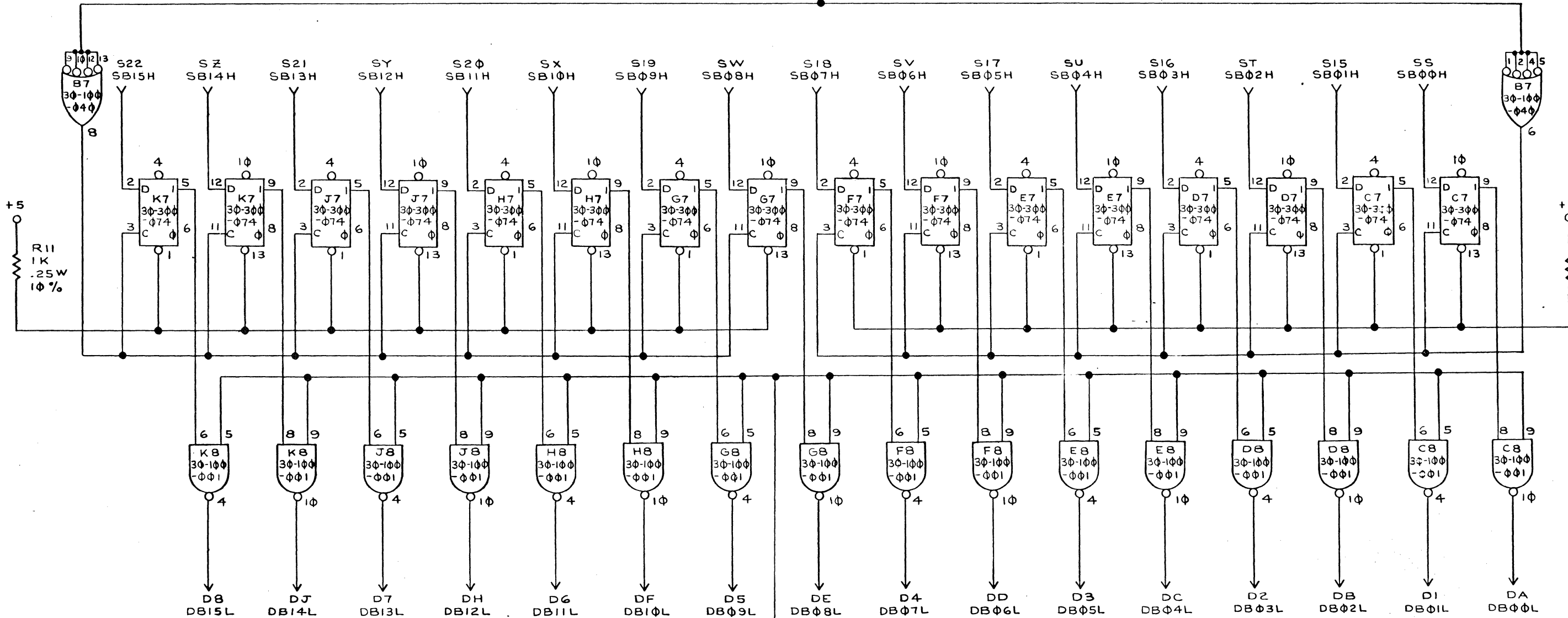
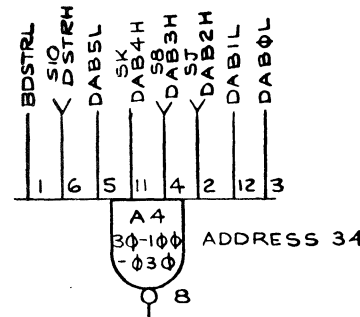
UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES - TOLERANCES ON FRACTIONS 1/64 DECIMALS .XX ± .03 .XX ± .01 .XXX ± .005 ANGLES ± 1/2° BENDS 90° FABRICATE PER SPEC 69-002-000		CONTRACT AUTHENTICATION DATE		REF B M GRI COMPUTER CORP.
MATERIAL -		DRN B. CORKERY 7-2-71		
APPEARANCE -		CHK [Signature] 2/2/72		6 GPR LOGIC DIAGRAM ADDRESS 33
FINISH -		ENGR [Signature] 2/1/71		
NEXT ASSY REF SPEC'S APPLICATION		APPD [Signature] 2/4/71		SIZE CODE IDENT NO. DRAWING NO. 17-047-008-C
		SCALE UNIT WT SHEET 4 OF 7		

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SYM	DESCRIPTION	QTY
MATERIAL LIST		

17-047-008 SH1 4-7

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
		SEE SHT NO. 1 FOR REV. CHANGES		



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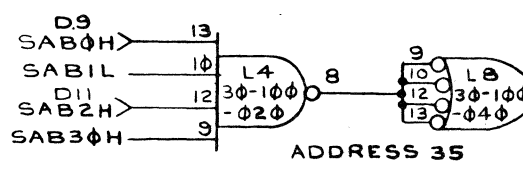
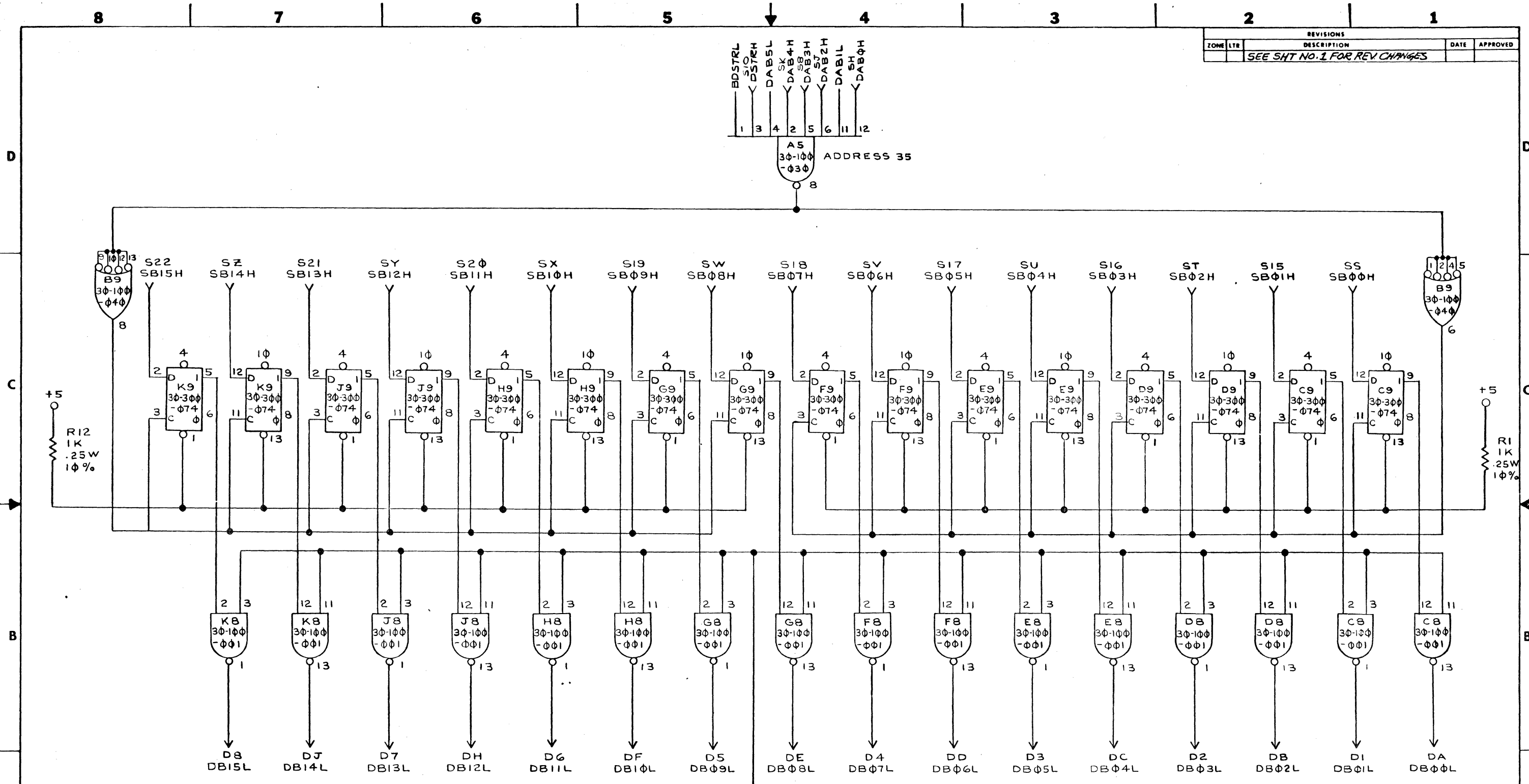
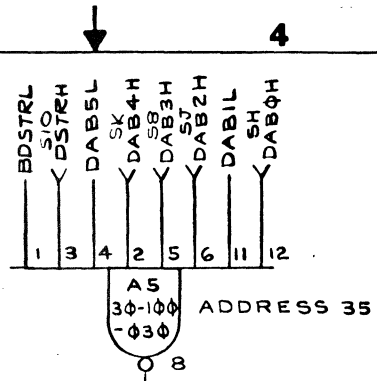
ITEM	PART NO.	NAME / VENDOR	VENDOR PART NO.	QTY.
MATERIAL LIST				

UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS ±1/64 DECIMALS .XX ±.03, .XX ±.01, .XXX ±.005 ANGLES ±1/2°, BENDS 90° FABRICATE PER SPEC 89-002-000	CONTRACT AUTHENTICATION DATE DRN B. CORKERY 7-8-71 CHK [Signature] 7/24/71 REVIEW ENGR [Signature] 8/1/71 APPD [Signature] 8/4/71
MATERIAL - APPEARANCE - FINISH -	REF B M GRI COMPUTER CORP. 6 GPR LOGIC DIAGRAM ADDRESS 34 DRAWING NO. 17-047-008-C SHEET 5 OF 7

SYM	DESCRIPTION	QTY
	MOLE LEGEND	

17-047-008-SHT 5

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
		SEE SHT NO. 1 FOR REV CHANGES		



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UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS ±1/64 DECIMALS .X ±.03, .XX ±.01, .XXX ±.005 ANGLES ±1/2°, BENDS 90° FABRICATE PER SPEC 89-002-000	CONTRACT AUTHENTICATION DATE DRN B. CORKERY 7-2-71 CHK [Signature] ENGR [Signature] 8/1/71 APPD [Signature] 8/1/71
MATERIAL - APPEARANCE - FINISH -	REF B/M
NEXT ASSY REF SPEC'S APPLICATION	SIZE CODE IDENT NO. DRAWING NO. 17-047-008-C

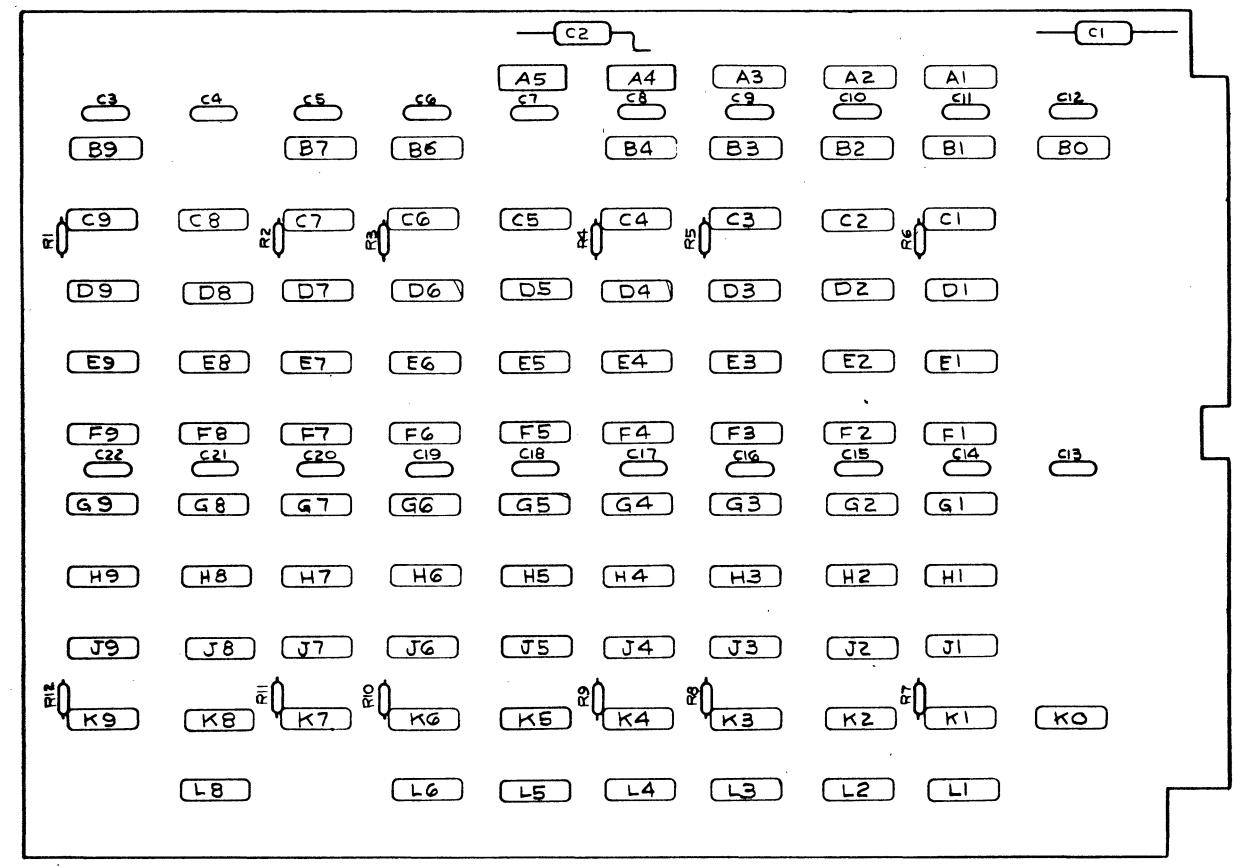
GRI COMPUTER CORP.	
6 GPR LOGIC DIAGRAM ADDRESS 35	
SCALE	SHEET 6 OF 7

SYM	DESCRIPTION	QTY
HOLE LEGEND		

17-047-008 SHT. 6

8 7 6 5 4 3 2 1

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
		SEE SHEET ONE FOR REVISIONS		



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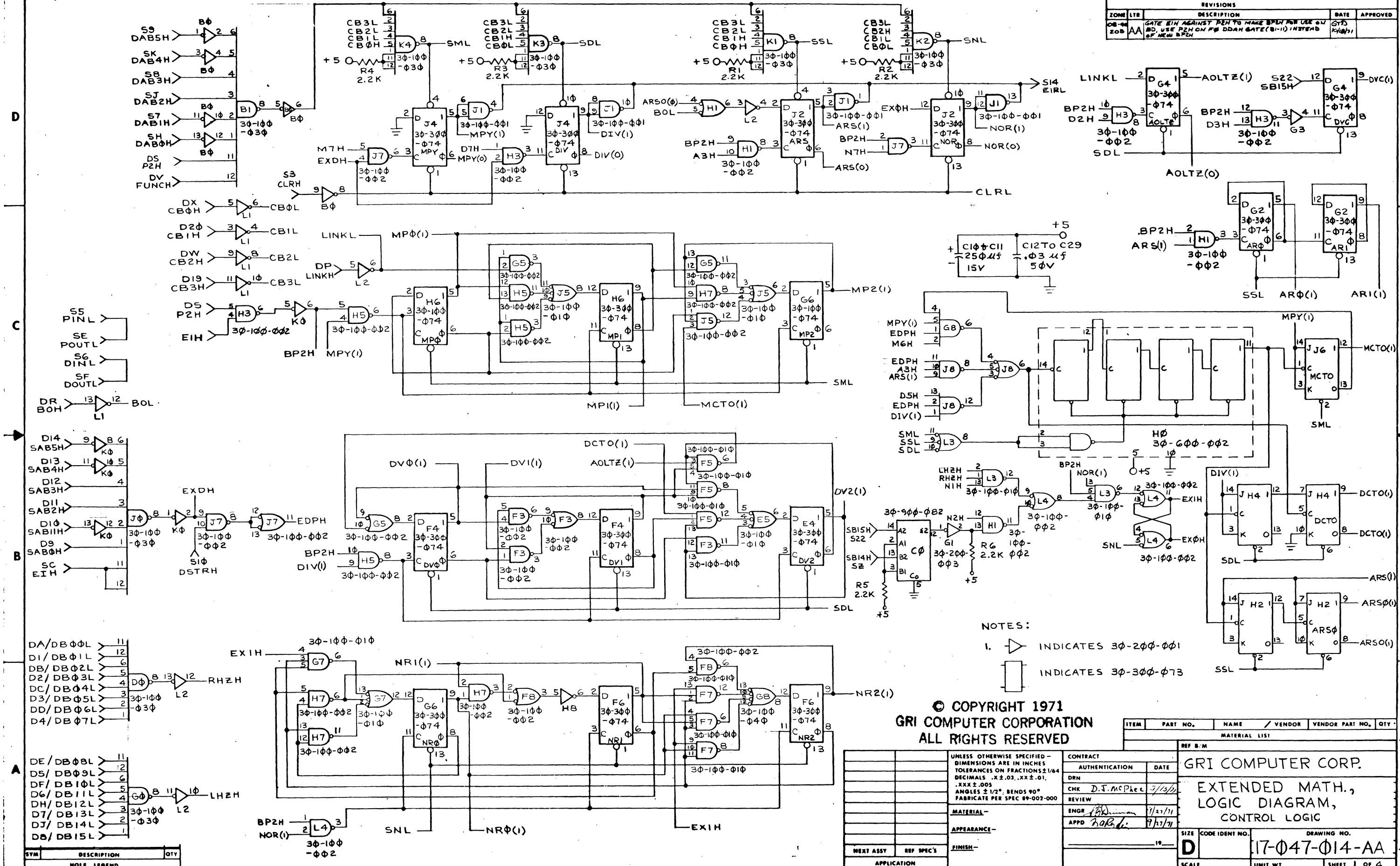
ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST					
REF B/M					
GRI COMPUTER CORPORATION					
SCH., 6 GPR (LOCATION VIEW) REV A2 B DS					
SIZE		CODE IDENT NO.		DRAWING NO.	
D		17-47-008-		C	
SCALE NONE		UNIT WT		SHEET 7 OF 7	

UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES - TOLERANCES ON FRACTIONS 2/64 DECIMALS .X ± .03, .XX ± .01, .XXX ± .005 ANGLES ± 1/2°, BENDS 90° FABRICATE PER SPEC 89-002-000		CONTRACT AUTHENTICATION	DATE
		DRN RAR	6-25-70
		CHK RAR	7-1-70
		REVIEW	
		ENGR <i>[Signature]</i>	7/13/70
		APPD <i>[Signature]</i>	7/15/70
		WESTON - ROTEK	
NEXT ASSY		REF SPEC'S	
APPLICATION		FINISH -	

SYM	DESCRIPTION	QTY
	MOLE LEGEND	

D
C
B
A
17-47-008

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
CB-4		GATE E1H AGAINST P2H TO MAKE OPEN FOR USE OF J1	GTJ	
CB-4		BD, USE P2H ON P2 DDAN GATE (B1-1) INSTEAD	KY/071	
ZOB	AA			



- S9 DAB5H
- SK DAB4H
- S8 DAB3H
- S7 DAB2H
- S6 DAB1H
- SH DAB0H
- DS P2H
- DV FUNCH
- DX CB0H
- D20 CB1H
- DW CB2H
- DI9 CB3H
- DS P2H
- EIH
- DR BOH
- D14 SAB5H
- D13 SAB4H
- D12 SAB3H
- D11 SAB2H
- D10 SAB1H
- D9 SAB0H
- SC E1H
- DA/DB0L
- D1/DB01L
- D2/DB02L
- D3/DB03L
- D4/DB04L
- D5/DB05L
- D6/DB06L
- D7/DB07L
- DE/DB08L
- D5/DB09L
- DF/DB10L
- D6/DB11L
- DH/DB12L
- D7/DB13L
- D7/DB14L
- D8/DB15L

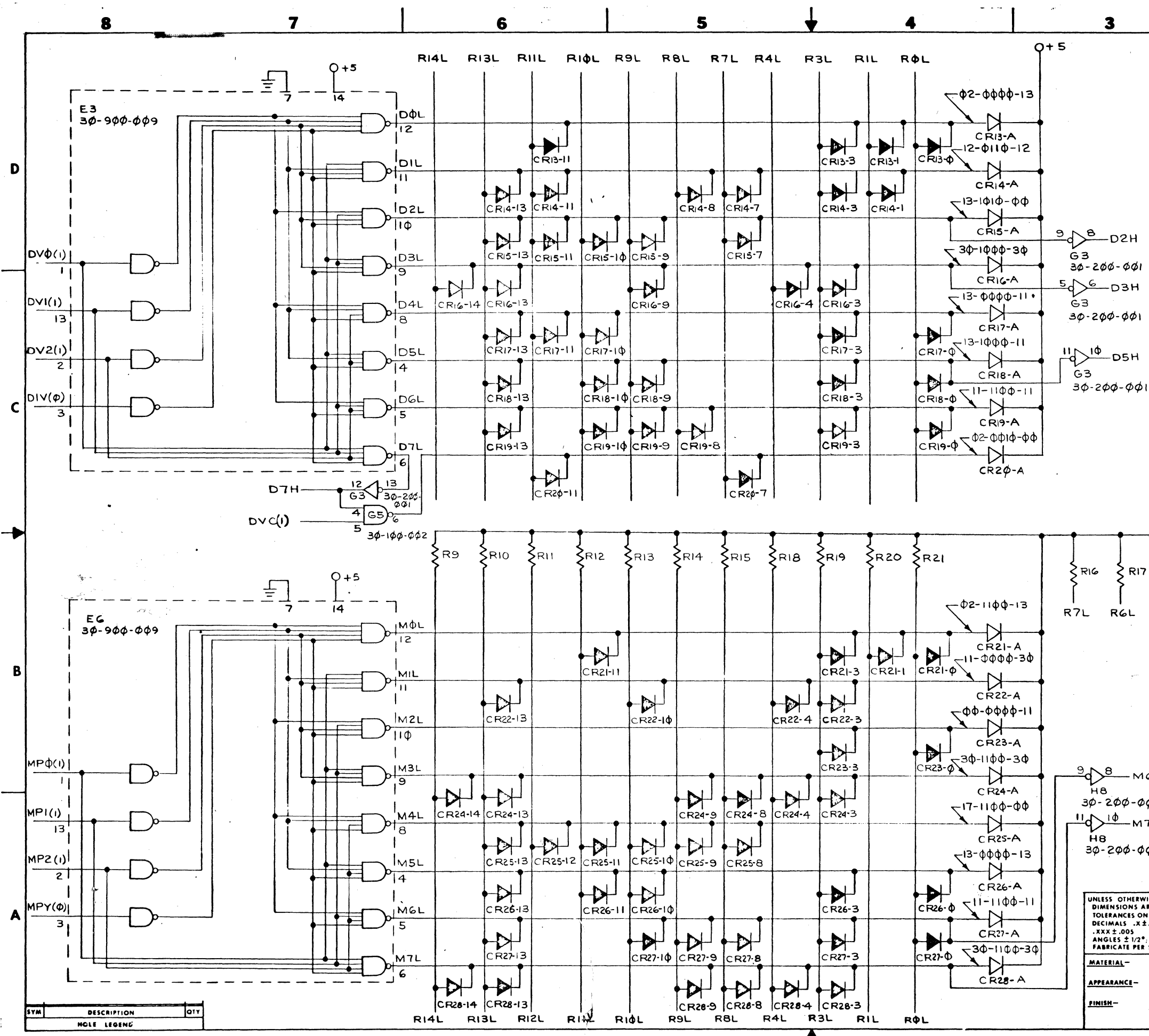
SYM	DESCRIPTION	QTY
HOLE LEGEND		

NOTES:
 1. INDICATES 3φ-2φ-φ1
 INDICATES 3φ-3φ-φ3

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ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY.
MATERIAL LIST					
REF B/M					
GRI COMPUTER CORP.					
EXTENDED MATH., LOGIC DIAGRAM, CONTROL LOGIC					
UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS ±1/64 DECIMALS .XX ±.03, .XX ±.01, .XXX ±.005 ANGLES ±1/2°, BENDS 90° FABRICATE PER SPEC 89-002-000		CONTRACT AUTHENTICATION	DATE	DRAWING NO.	
DRN	CHK D.J.M.P.kcc	7/13/71	17-047-014-AA		
REVIEW	ENGR [Signature]	11/21/71	SIZE CODE IDENT NO.		
APPD [Signature]	7/21/71	DRAWING NO. 17-047-014-AA			
NEXT ASSY		REF SPEC'S	SCALE		
APPLICATION		SHEET 1 OF 4			

REVISIONS			
ZONE	LTR	DESCRIPTION	DATE



DVO PROGRAM

- NOTES:
 1. ALL DIODES ARE TYPE 48-102-003.

MPO PROGRAM

- NOTES:
 1. ALL RESISTORS ARE 4.7 K OHMS, 1/4 WATT.
 2. ALL DIODES ARE TYPE 48-102-003.

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SYM	DESCRIPTION	QTY
	MOLE LEGEND	

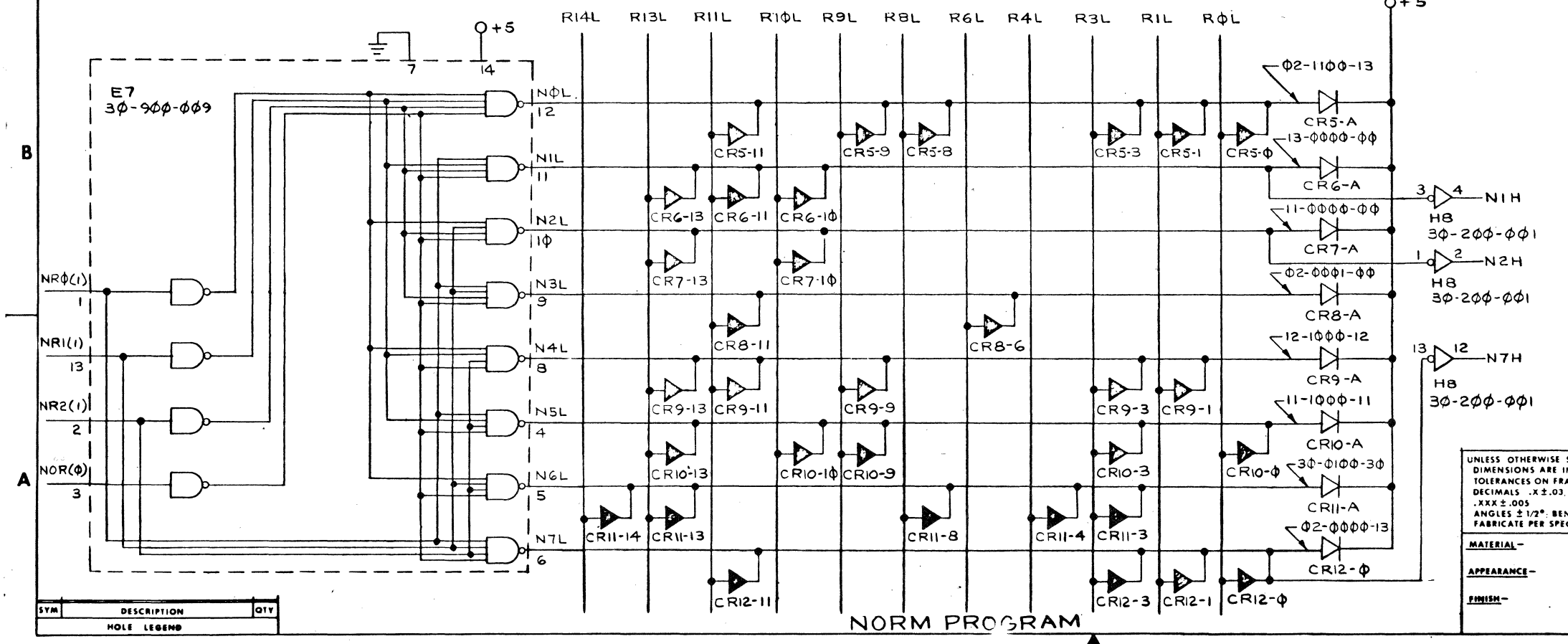
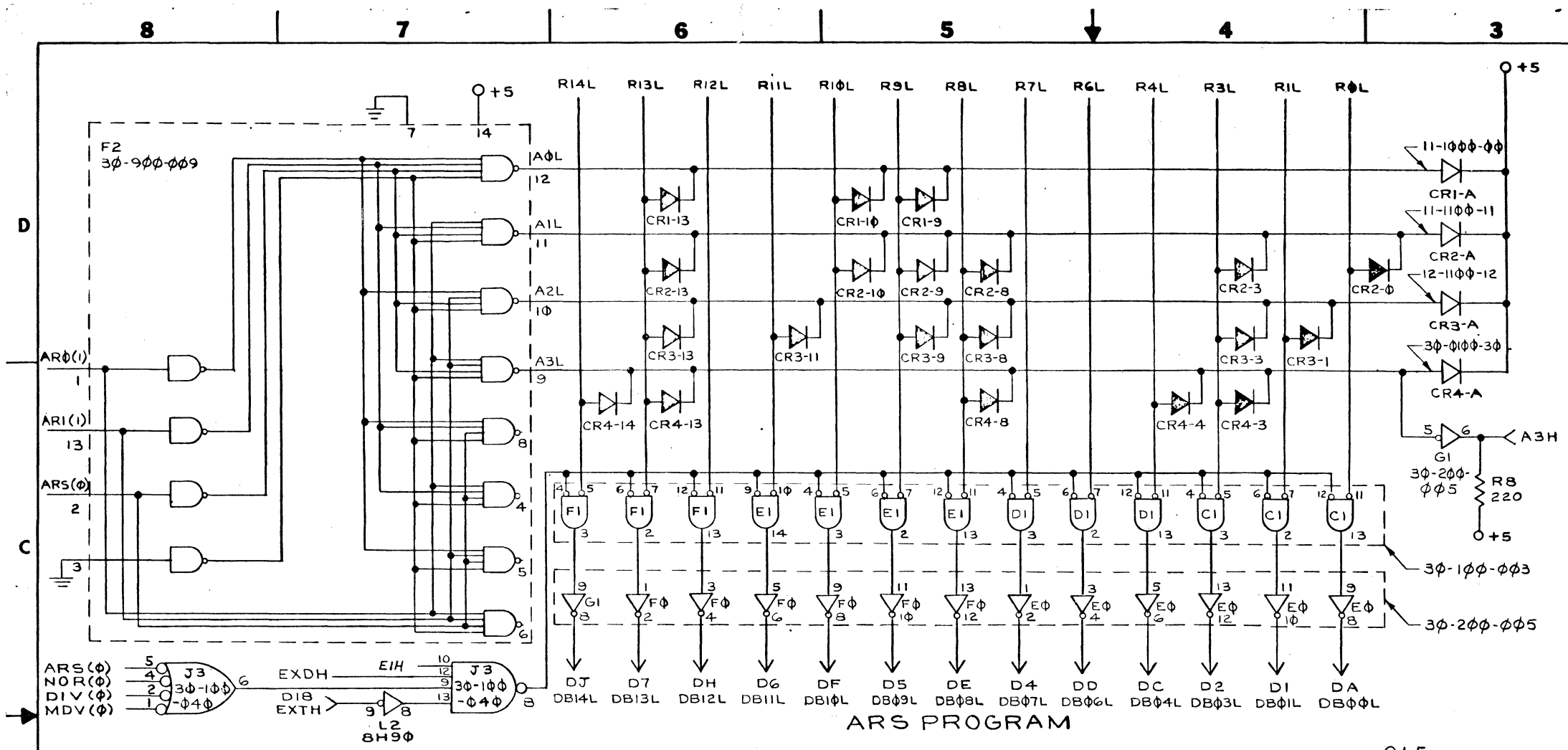
UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES
 TOLERANCES ON FRACTIONS ±1/64
 DECIMALS .XX ±.01, .XXX ±.005
 ANGLES ±1/2°, BENDS 90°
 FABRICATE PER SPEC 89-002-000

CONTRACT	
AUTHENTICATION	DATE
DRN B. CORKERY	7-20-71
CHK JF McPherson	9/1/72
REVIEW	
ENGR	
APPD	

MATERIAL LIST			
ITEM	PART NO.	NAME	VENDOR
REF B/M			
GRI COMPUTER CORP.			
EXTENDED MATH., LOGIC DIAGRAM, (DVO MPO) ROM			
SIZE	CODE IDENT NO.	DRAWING NO.	
D		17-047-014-AA	
SCALE	UNIT WT	SHEET 2 OF 4	

17-047-014 SHT. 2 OF 4

REVISIONS		DATE	APPROVED
ZONE	LTR	DESCRIPTION	



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CONTRACT AUTHENTICATION	DATE
DRN B.CORKERY	7-9-71
CHK D.T.P.P.H.C.	9/15/72
REVIEW ENGR	
APPD	

REF B M	
GRI COMPUTER CORP.	
EXTENDED MATH., LOGIC DIAGRAM, (ARS, NORM) ROM	
SIZE	CODE IDENT NO.
D	17-047-014-AA
SCALE	UNIT WT
	SHEET 3 OF 4

SYM	DESCRIPTION	QTY
HOLE LEGEND		

17-047-014-SHT. 3 OF 4

8

7

6

5

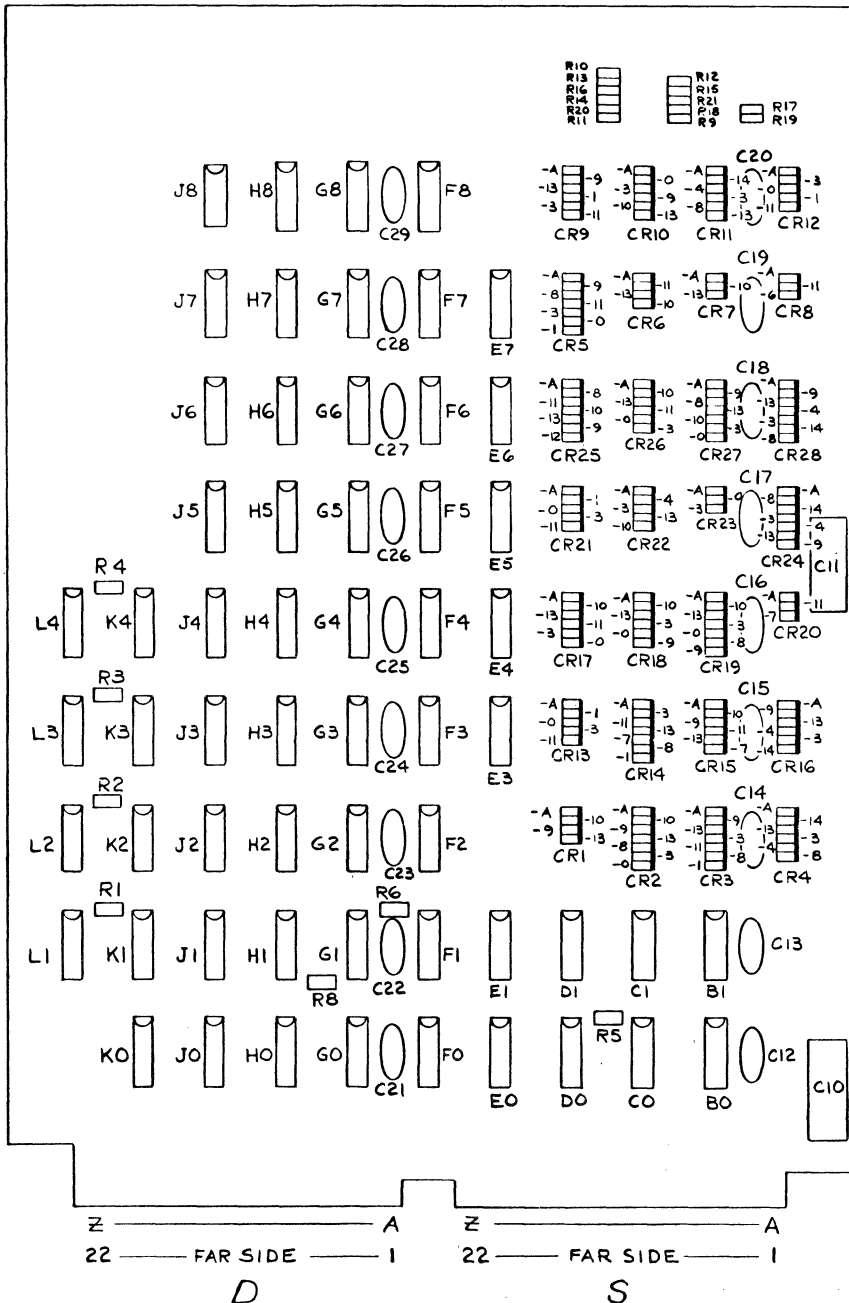
4

3

2

1

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED



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ITEM	PART NO.	NAME	VENDOR	VENDOR PART NO.	QTY
MATERIAL LIST					

UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN INCHES	CONTRACT AUTHENTICATION	DATE
TOLERANCES ON FRACTIONS ± 1/64	DRN G DELANEY	8/12/71
DECIMALS .X ± .03, .XX ± .01, .XXX ± .005	CHK D J McPherson	9/15/71
ANGLES ± 1/2°, BENDS 90°	REVIEW	
FABRICATE PER SPEC 89-002-000	ENGR B Derman	9/21/71
MATERIAL -	APPD	
APPEARANCE -		
FINISH -		
NEXT ASSY	REF SPEC'S	
APPLICATION		

GRI COMPUTER CORP.	
EXTENDED MATH BOARD LOCATION DWG	
SIZE	CODE IDENT NO.
D	17-047-014-AA
SCALE	UNIT WT
	SHEET 4 OF 4

SYM	DESCRIPTION	QTY
HOLE LEGEND		