

**D-112  
MSI  
12-BIT  
DIGITAL  
COMPUTER**

**Installation and Maintenance Manual**

**Volume II**



**DIGITAL COMPUTER CONTROLS INC**

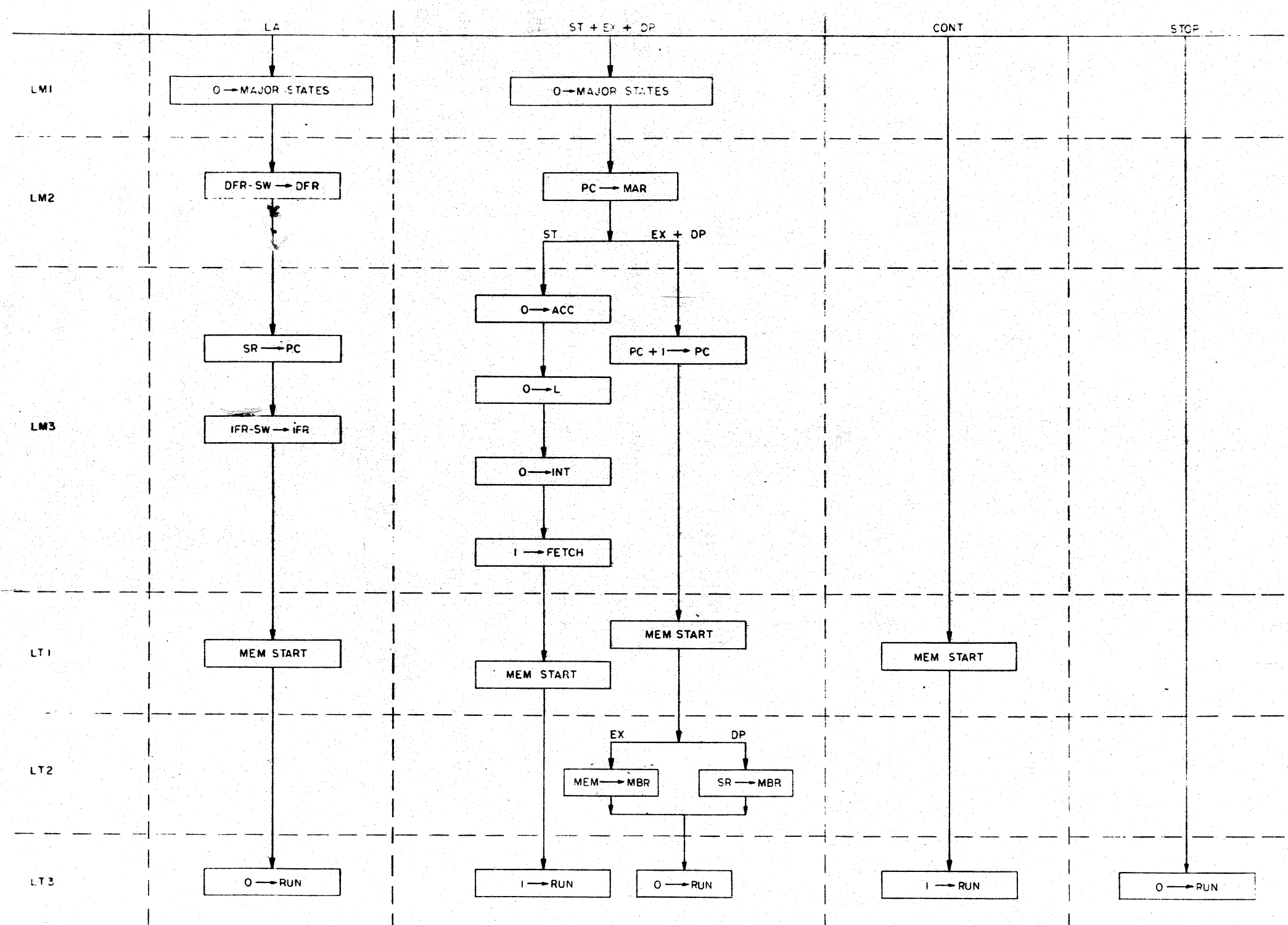
12 Industrial Road, Fairfield, New Jersey 07006 • (201) 227-4861

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SOUTHWEST: 777 So. Central Expressway, Richardson, Texas 75080 • (214) 234-3222.

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400001	CU-1 And Inst & Interrupt Control -----	8
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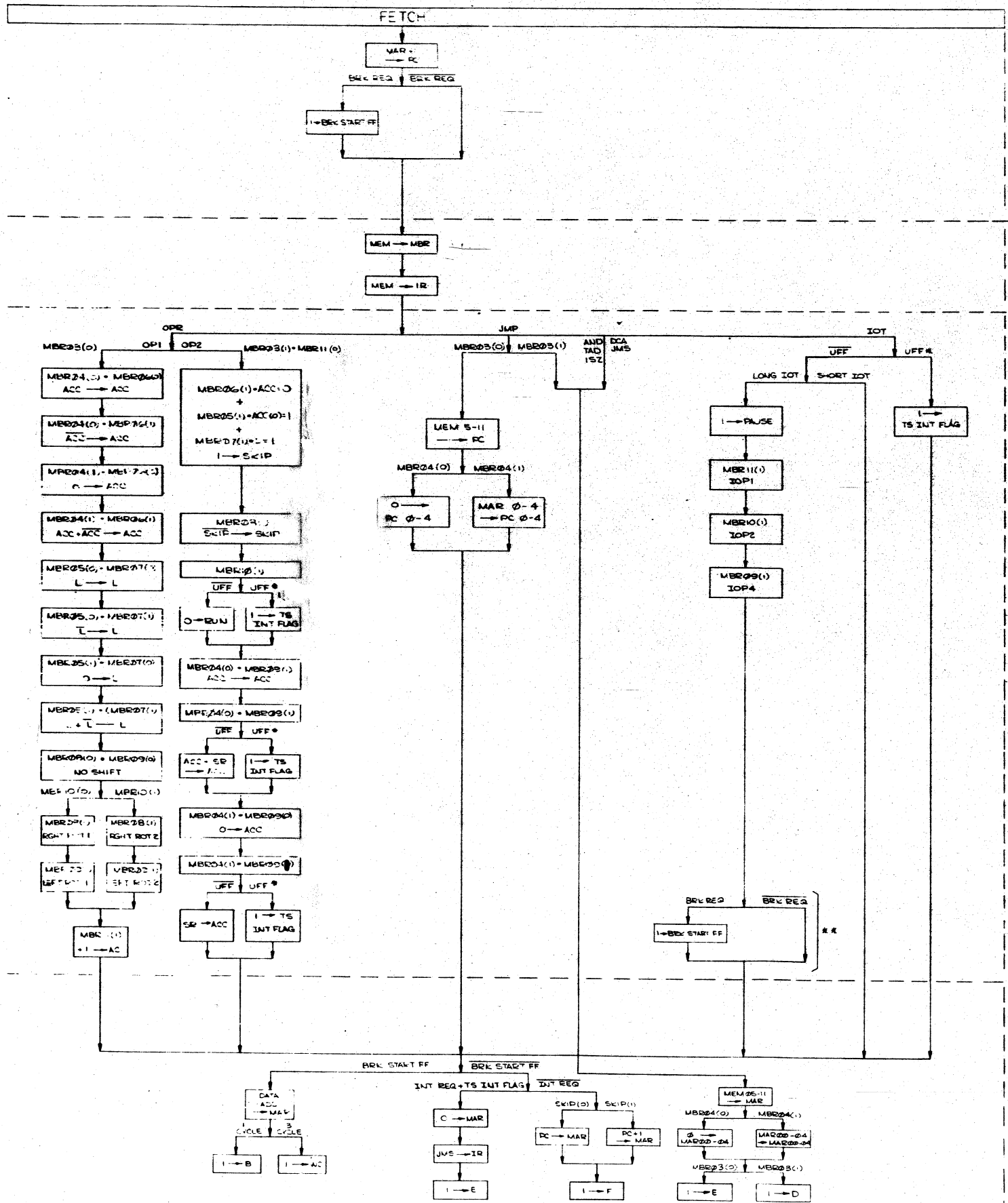
DRAWING NUMBER	NOMENCLATURE	PAGE NUMBER
400026	I/O Interface Positive Direct Data Channel Drivers and Receivers -----	25
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REVISIONS			
SYM ZONE	DESCRIPTION	DATE	APPROVED



Q6	Q5	Q4	Q3	Q2	Q1	ITEM NO.	SIZE	PART NO.	DESCRIPTION	U	M
LIST OF MATERIAL											
EXCEPT AS MAY BE OTHERWISE PROVIDED BY CONTRACT THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DIGITAL COMPUTER CONTROLS, INC. ARE LOANED TO YOU IN CONFIDENCE AND SHALL NOT BE REPRODUCED OR COPIED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS WITHOUT PERMISSION.										<b>DIGITAL COMPUTER CONTROLS, INC.</b> FAIRFIELD, NEW JERSEY 07006	
UNLESS OTHERWISE SPECIFIED						APPROVAL	DATE	DR. K. THORPE 7/28/70			
DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES						CHK		ENG PROD			
TOLERANCES											
2 PLACE DECIMALS		3 PLACE DECIMALS		ANGLES							
- .01		- .008		- 1/2°							
HOLE DIAMETER TOLERANCE											
0 THRU .250		.251 THRU .500		.501 & LARGER							
+ .003		+ .005		+ .010							
- .003		- .005		- .010							
THREADS EXT CL 2A INT CL 2B											
NEXT ASSY.		USED ON						D 900005		SCALE SHEET 1 OF 3	

REVISIONS		DATE	APPROVED
SYMBOL	DESCRIPTION		
A	REVISED PER ECN 0021	1/18/70	[Signature]



LT1

LT2

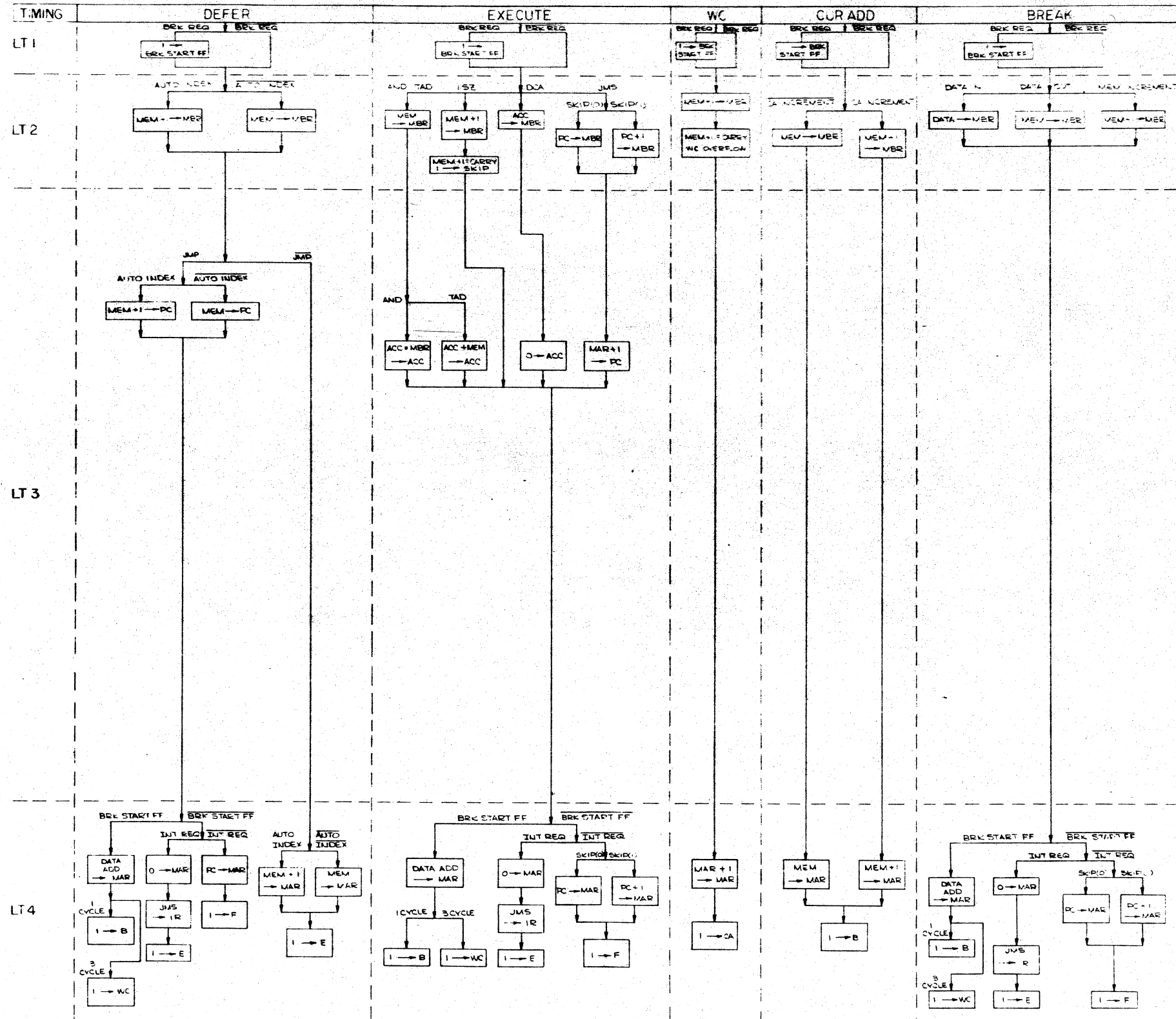
LT3

LT4

\* UFF = TIME SHARING (SEE EIA ONLY FOR TIME SCALES SECTION)  
 \*\* - OPTIONAL

QTY	Q3	Q4	Q2	Q1	ITEM	SIZE	PART NO.	DESCRIPTION	M	U	OF	N
LIST OF MATERIAL												
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<b>DIGITAL COMPUTER CONTROLS, INC.</b> FAIRFIELD, NEW JERSEY 07006												
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES AND INCLUDES CHROMIUM PLATED FINISHES.												
APPROVAL: [Signature] DATE: 7/28/70 DATE: 8/21/70 PREP: [Signature]												
<b>D-112</b> <b>TIMING FUNCTIONS</b> <b>FLW DIAGRAM</b>												
PART: 900005A SCALE: SHEET 2 OF 3												

REVISIONS			
SYM	ZONE	DESCRIPTION	DATE APPROVED
A		REVISED PER ECU 0021	7/1/70

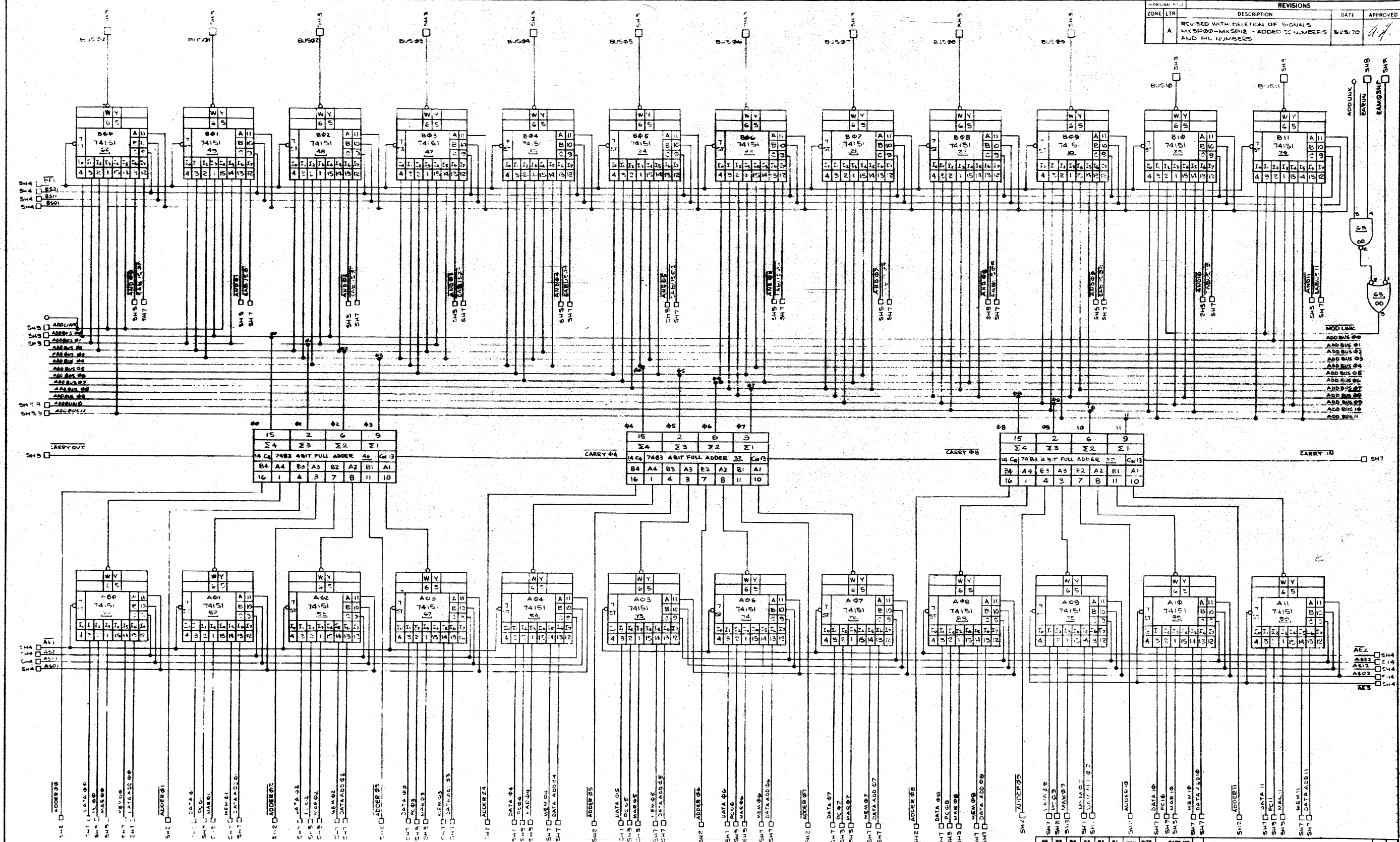


REVISION TABLE

SHEET	2	3
REVISION	A	A

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	ITEM	SIZE	PART NO	DESCRIPTION	H	U	M
LIST OF MATERIAL																
EXCEPT AS MAY BE OTHERWISE PROVIDED BY CONTRACT, THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DIGITAL COMPUTER CONTROLS, INC. AND ARE LOANED TO THE USER IN CONFIDENCE AND SHALL NOT BE REPRODUCED OR COPIED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS WITHOUT PERMISSION.													<b>DIGITAL COMPUTER CONTROLS, INC.</b> FAIRFIELD, NEW JERSEY 07004			
UNLESS OTHERWISE SPECIFIED:													APPROVAL DATE DR. K. THORNTON 7/29/70 CHK. S. HUNTER 8/12/70 DWO. S. HUNTER 8/12/70 PRD. S. HUNTER			
DIMENSIONS ARE IN INCHES AND INCLUDE UNLESS OTHERWISE SPECIFIED:													D-112 TIMING FUNCTIONS FLOW DIAGRAM			
TOLERANCES													MATL. F 900005A FINISH:			
HOLE DIAMETER TOLERANCE													SCALE SHEET 3 OF 5			
THREADS BY CL 3A INT CL 2B																

ZONE	LTR	DESCRIPTION	DATE	APPROVED
A		REVISED WITH DELETION OF SIGNALS WAS 5000-MX SP12 - ADDED TO NUMBERS AND PIN NUMBERS	8/25/70	<i>[Signature]</i>



IC COUNT

IC	GATES	PINS
7400	2	28
7483	3	3
74151		24

QTY	GROUP	SIZE	PART NO.	DESCRIPTION	
00	00	04	03	01	ITEM NO.
					DRAWING NO.

EXCEPT AS MAY BE OTHERWISE PROVIDED BY CONTRACT THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DIGITAL COMPUTER CONTROLS, INC. AND ARE LOANED IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN ANY MANNER FOR THE MANUFACTURE OR SALE OF APPARATUS WITHOUT PERMISSION.

**DIGITAL COMPUTER CONTROLS, INC.**  
FAIRFIELD, NEW JERSEY 07006

UNLESS OTHERWISE SPECIFIED:  
DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES.

PLACE	TOLERANCE	APPROVAL	DATE
F	FRACTIONS	DE	8/25/70
	DECIMALS	CH	8/25/70
	ANGLES	PROJ	8/25/70

HOLE DIAMETER TOLERANCE:  
D thru .250 ±.001 thru .500 ±.002  
.500 thru 1.000 ±.003  
1.000 thru 1.500 ±.004  
1.500 thru 2.000 ±.005

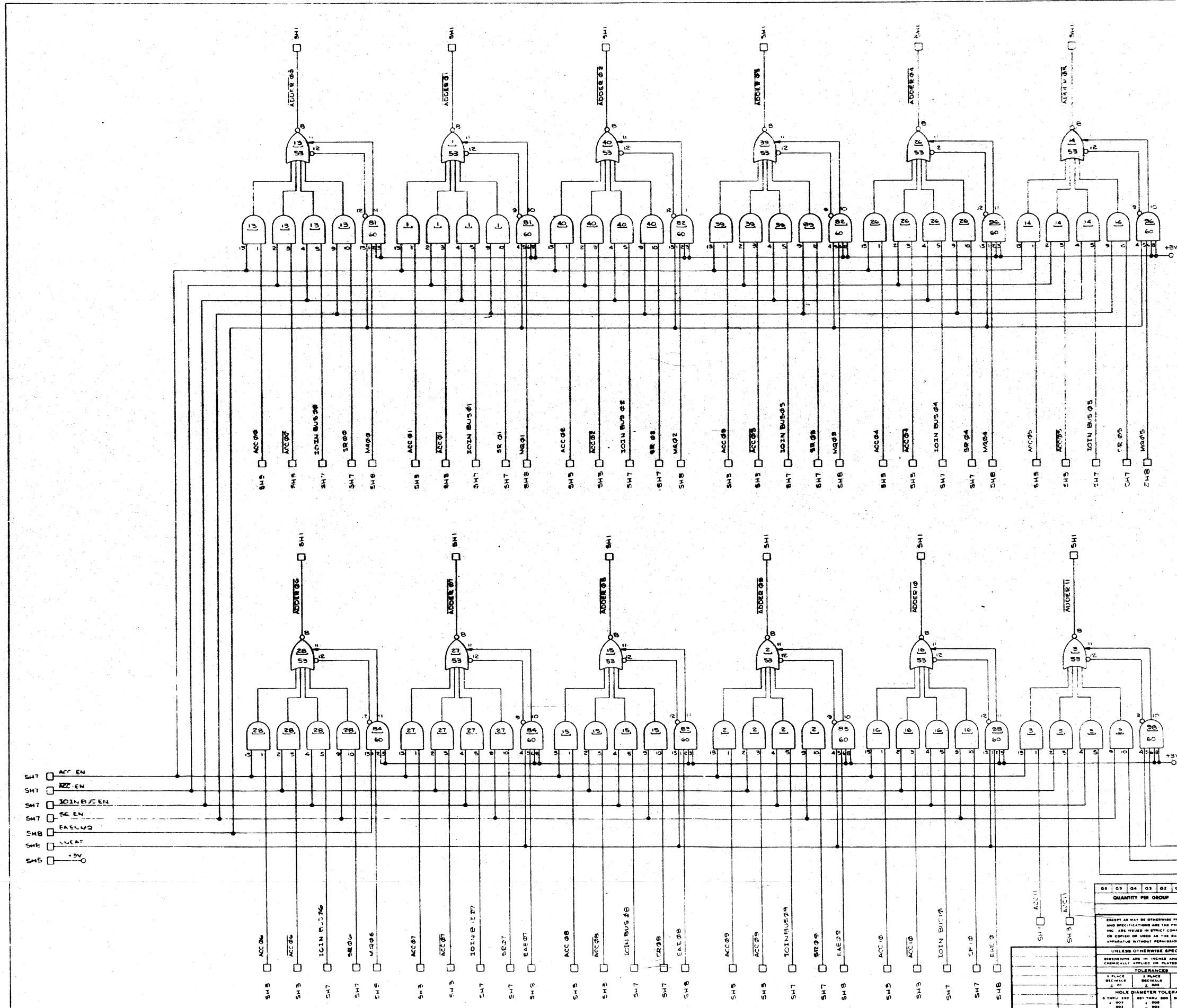
THREADS EXCEPT AS NOTED: UNF-2A

APPROVAL: *[Signature]* DATE: 8/25/70

SCALE: 1 OF 2

400001A

SYNOZYME		REVISIONS	DATE	APPROVED
A		REVISED WITH ADDITION OF IC NUMBERS AND PIN NUMBERS	3/25/70	<i>adl</i>



IC COUNT		
IC	GATES	PKGS
7453	12	12
7463	12	6

- SH7 ACC EN
- SH7 ACC EN
- SH7 JOIN BUS EN
- SH7 SC EN
- SH8 FAULT
- SH5 +5V

- EAE1 SH8
- EAE1 SH7
- 1153B NE01 SH5

Q8	Q7	Q6	Q5	Q4	Q3	Q2	Q1	Q0	ITEM NO	SIZE	PART NO	DESCRIPTION	QUANTITY PER GROUP	DRAWING NO	REV

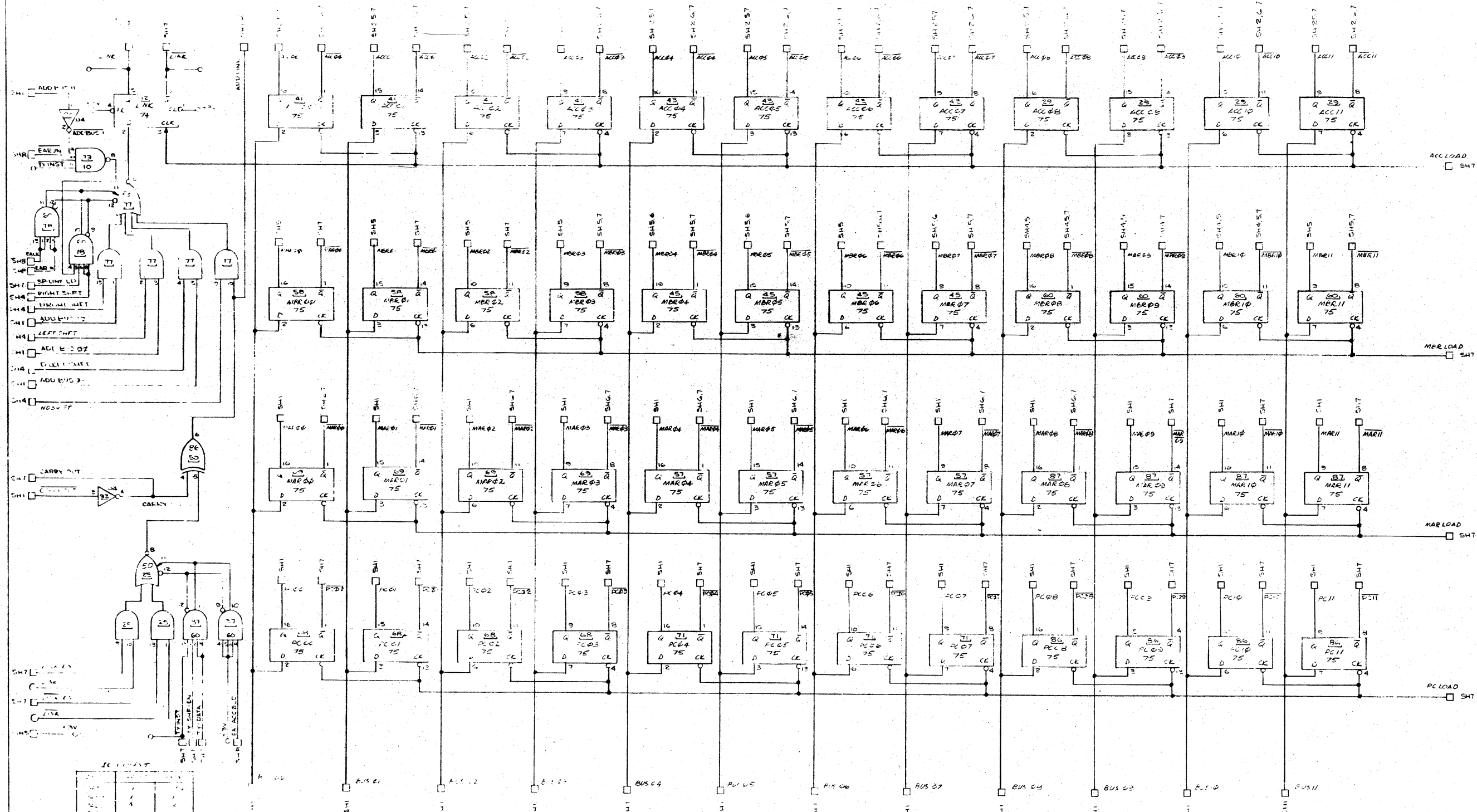
LIST OF MATERIAL			
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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE COMMERCIALLY APPLIED OR PLATED FINISHES		APPROVAL	
TOLERANCES		DATE	
DECIMALS	FRACTIONS	DR K. Th... 3/25/70	
±0.010	±1/16"	CHE A. Hernandez 3/25/70	
±0.005	±1/32"	PROG	
HOLE DIAMETER TOLERANCE		PART	
Ø thru .500	Ø1 thru .800	400001A	
+ .015	+ .010	SCALE	
Ø .500 thru 1.000	Ø 1.000 thru 1.500	SHEET 2 OF 8	
+ .010	+ .008		
THREADS	EXT CL BA INT CL 2B		

**DIGITAL COMPUTER CONTROLS, INC.**  
 FAIRFIELD, NEW JERSEY 07004

D-112  
 CU-1  
 ADDRESS B' INPUT CONTROL

400001A

REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED
A	REVISED WITH ADDITION OF IC AND PIN NUMBERS	5/27/70	[Signature]
B	REVISED PER ECU 00031	12/29/70	[Signature]

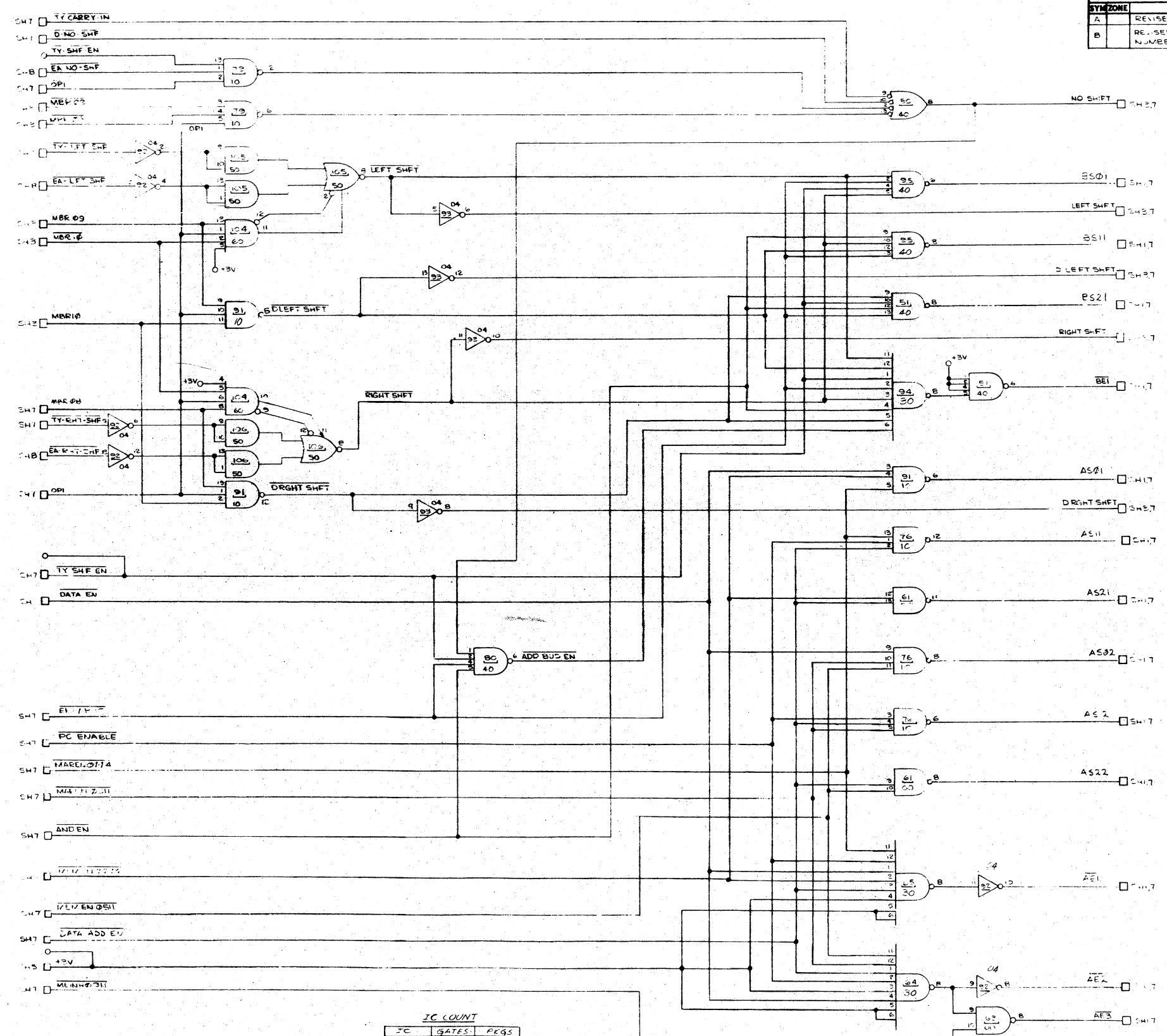


IC	QTY	REF
74LS75	1	1
74LS04	1	1
74LS00	1	1
74LS02	1	1
74LS03	1	1
74LS05	1	1
74LS06	1	1
74LS07	1	1
74LS08	1	1
74LS09	1	1
74LS10	1	1
74LS11	1	1
74LS12	1	1
74LS13	1	1
74LS14	1	1
74LS15	1	1
74LS16	1	1
74LS17	1	1
74LS18	1	1
74LS19	1	1
74LS20	1	1
74LS21	1	1
74LS22	1	1
74LS23	1	1
74LS24	1	1
74LS25	1	1
74LS26	1	1
74LS27	1	1
74LS28	1	1
74LS29	1	1
74LS30	1	1
74LS31	1	1
74LS32	1	1
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74LS92	1	1
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74LS94	1	1
74LS95	1	1
74LS96	1	1
74LS97	1	1
74LS98	1	1
74LS99	1	1
74LS100	1	1

QTY	GROUP	ITEM NO	SIZE	PART NO	DESCRIPTION	M	U
LIST OF MATERIAL							
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<b>DIGITAL COMPUTER CONTROLS, INC.</b> FAIRFIELD, NEW JERSEY 07006							
UNLESS OTHERWISE SPECIFIED:				APPROVAL		DATE	
DIMENSIONS ARE IN INCHES AND INCLUDE DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED.				DR. [Signature]		3/25/70	
TOLERANCES				ENGR. [Signature]		3/25/70	
F. PLACE DECIMALS				PROD. [Signature]		3/25/70	
HOLE DIAMETER TOLERANCE				MATERIAL		FINISH	
0.0015" - 0.0025" ±0.0005"				400001B		SCALE	
THREADS EXT. CL. BA. INT. CL. 2B				NEXT ASSY		USED ON	
						SHEET 3 OF 8	



REVISIONS				
SYN	ZONE	DESCRIPTION	DATE	APPROVED
A		REVISED SIGNAL NAME	4/2/73	[Signature]
B		REVISED WITH ADDITION OF IC AND PIN NUMBERS	3/25/74	[Signature]

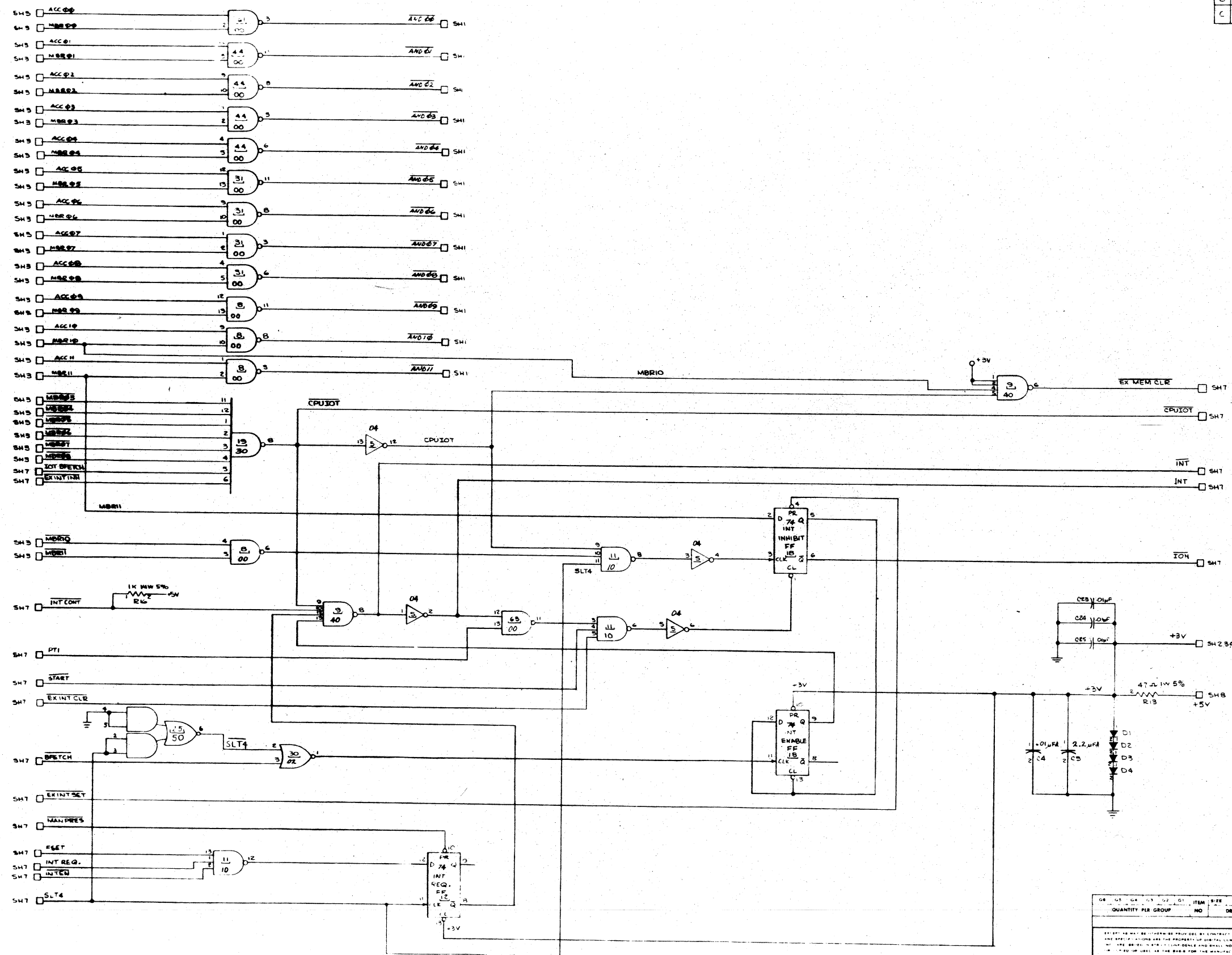


IC COUNT

IC	GATES	PCGS
7404	10	2 3/4
7410	8	2 2/5
7430	3	3
7440	6	3
7400	5	3/4
7450	2	1
7460	2	1

GR	GS	GA	G3	G2	G1	ITEM	SIZE	PART NO.	DESCRIPTION	M	U	P
LIST OF MATERIAL												
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<b>DIGITAL COMPUTER CONTROLS, INC.</b> FAIRFIELD, NEW JERSEY 07006												
D-112 CU-1 SHIFT AND ADDER INPUT CONTROL												
400001B												
SCALE: SHEET 4 OF 8												

REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED
A	REVISED WITH ADDITION OF IC AND PIN NUMBERS	5/25/70	[Signature]
B	ADDED C23, C24 & C25 - REVISED LTA SIGNAL	8/22/70	[Signature]
C	REVISED PER ECN 0073 CR	5/4/71	[Signature]



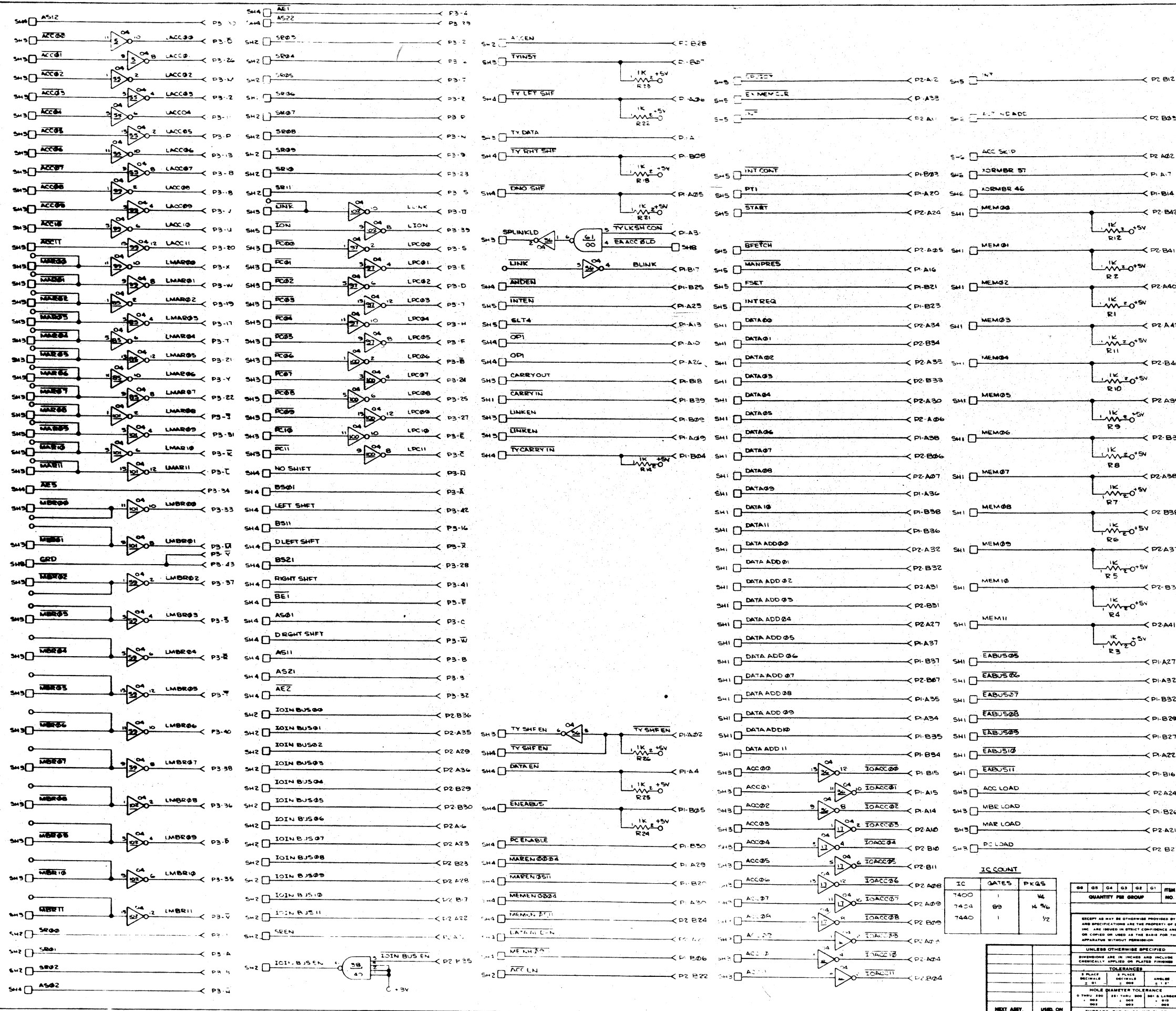
IC COUNT

IC	GATES	PKGS
7400	14	3 3/4
7402	1	1/4
7404	4	1/6
7410	3	1
7430	1	1
7440	2	1
7474	3	1 1/2
7450	1	1/2

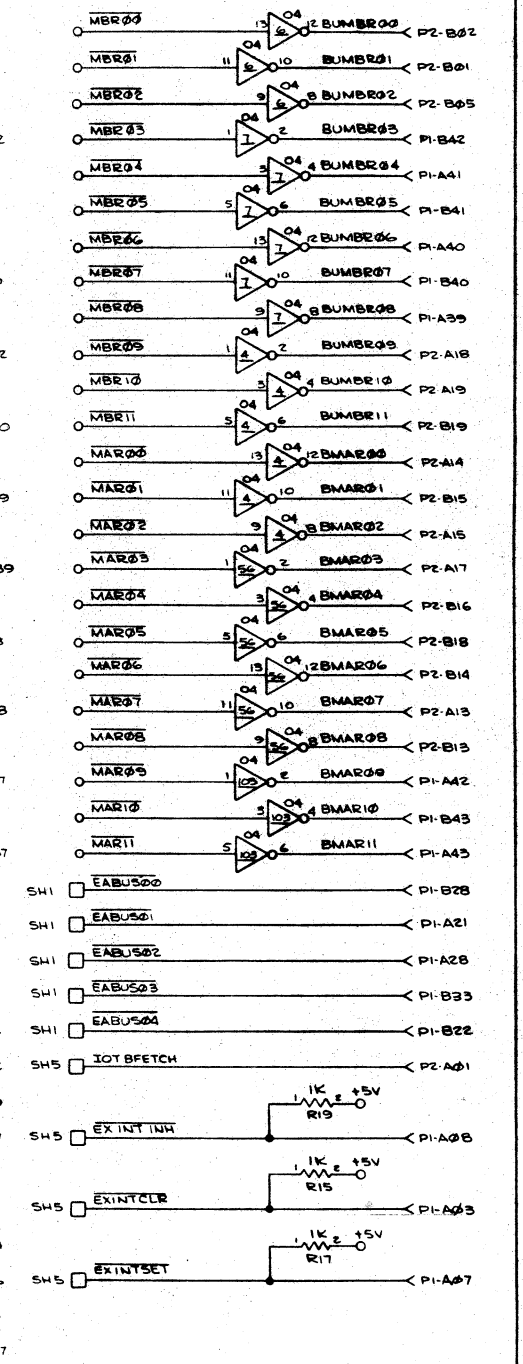
QTY	GROUP	NO	DESCRIPTION	U	OF	IN
LIST OF MATERIAL						
DIGITAL COMPUTER CONTROLS, INC. FAIRFIELD, NEW JERSEY 07006						
UNLESS OTHERWISE SPECIFIED			APPROVAL	DATE		
DIMENSIONS ARE IN INCHES AND INCLUDE TOLERANCES UNLESS OTHERWISE SPECIFIED			DE [Signature]	5/25/70		
TOLERANCES			CHK [Signature]	8/25/70		
FINISH			ENG [Signature]	8/25/70		
MATERIAL			PROD			
NEXT ASSY			USED ON			
SCALE			400001C			
			SHEET 5 OF 8			



SR = SW REG



SYMBOL	DESCRIPTION	DATE	APPROVED
A	DELETED CONNECTIONS BELEGATE AND ITS REVISED BE1 TO BE1, SPUNKLD TO SPUNKLD	4/9/70	AH
B	REVISED WITH DELETION OF SIGNALS MKSP00 - MKSP11, ADDED IC AND PIN NUMBERS	5/25/70	AH
C	REVISED VALUES OF R1-12 FROM 220Ω TO 1K - REVISED L74 SIGNAL TO SLT4	6/10/70	F83
D	REVISED PER ECN 0073 RR	5/4/71	AH



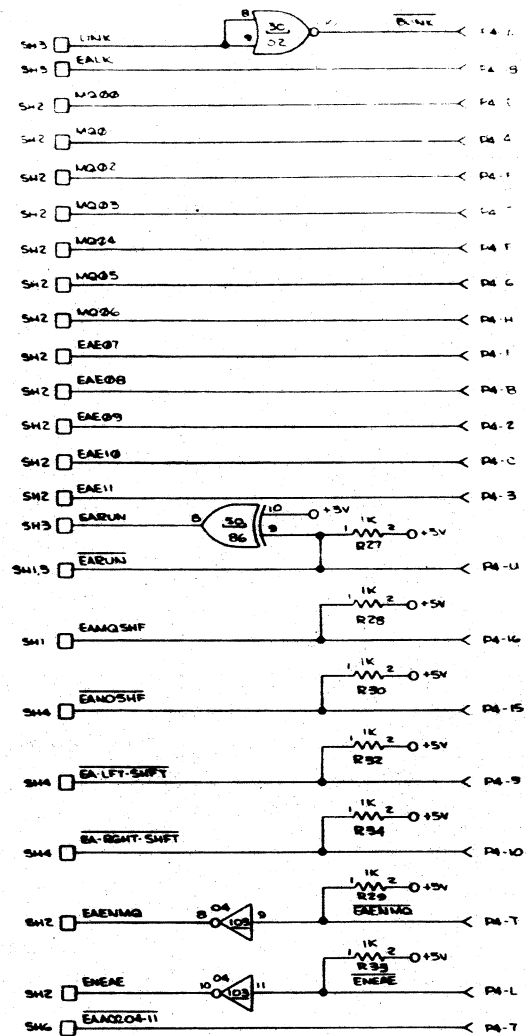
IC	GATES	PKGS
7400	1	1/4
7404	99	14 3/4
7440	1	1/2

Q8	Q5	Q4	Q3	Q2	Q1	ITEM	SIZE	PART NO.	DESCRIPTION	QTY	U	OF
QUANTITY PER GROUP												
DRAWING NO.												
LIST OF MATERIAL												
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UNLESS OTHERWISE SPECIFIED												
DIMENSIONS ARE IN INCHES AND INCLUDE UNLESS OTHERWISE SPECIFIED												
TOLERANCES												
FRACTIONS DECIMALS ANGLES												
HOLE DIAMETER TOLERANCE												
MATERIAL												
FINISH												
APPROVAL												
DATE												
DRAWN BY												
CHECKED BY												
APP'D												
MATERIAL												
FINISH												
SCALE												
SHEET 7 OF 8												

DIGITAL COMPUTER CONTROLS, INC.  
 FAIRFIELD, NEW JERSEY 07006

D-112  
 CU-1  
 EXTERNAL CONNECTIONS

400001 D



PART LIST TABLE

MP. NO.	SHEET 1	SHEET 2	SHEET 3	SHEET 4	SHEET 5	SHEET 6	SHEET 7	SHEET 8	SHEET 9	SPARE	QTY	QTY	QTY
7400	24			24	5/24						5	5	5
7402				14	14	24	14				1	1	1
7404			24	4/24	4/24		14/24	3/24			12	12	12
7410			3	3/24							4	4	4
7430				3	1	2					6	6	6
7430				3	1	2	1/2	1/2			5	5	5
7450			1/2	1/2	1/2					2/2	3	3	3
7455		12	1								13	13	13
7460		6	2	1							2	9	3
7474			1/2		1/2						2	2	2
7475			12								12	12	12
7482	3										3	3	3
7486			1/4			3/4		1/4			1	1	1
7451	24										24	24	24
1KΩ				R20	R16	R17, R18, R19, R20	R21, R22, R23, R24				33	33	33
47Ω					R15						1	1	1
0.1μF					C4	C5, C14, C17, C22					20	20	20
22μF					C3						1	1	1
0.2μF						C2, C6					2	2	2
68μF						C1, C15					2	2	2
1N4148				D1, D2, D3, D4							4	4	4

NOTES:

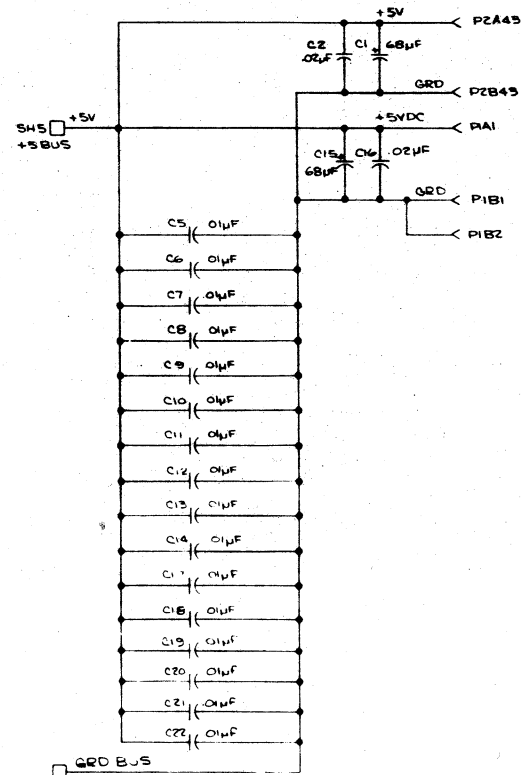
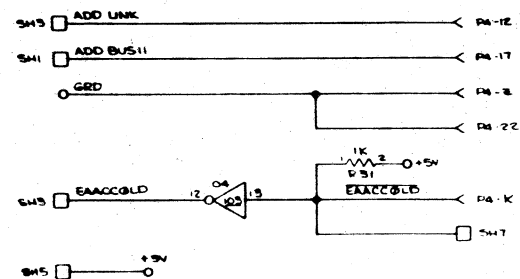
- THIS SYMBOL REFERS TO A CONNECTOR PIN.
- THIS SYMBOL REFERS TO AN INTERCONNECTION ON A DIFFERENT SHEET.
- THIS SYMBOL REFERS TO AN INTERCONNECTION WITHIN THE SAME SHEET.
- ALL UNDERLINED NUMBERS DENOTE IC LOCATION ON THE PCB.

REVISION TABLE

SHEET	1	2	3	4	5	6	7	8
REVISION	A	A	B	B	C	A	D	H

OPTIONS

Q1	BASIC COMPUTER
Q2	BASIC COMPUTER PLUS EX-ARITHMETIC OPTION
Q3	BASIC COMPUTER PLUS TTY OPTION



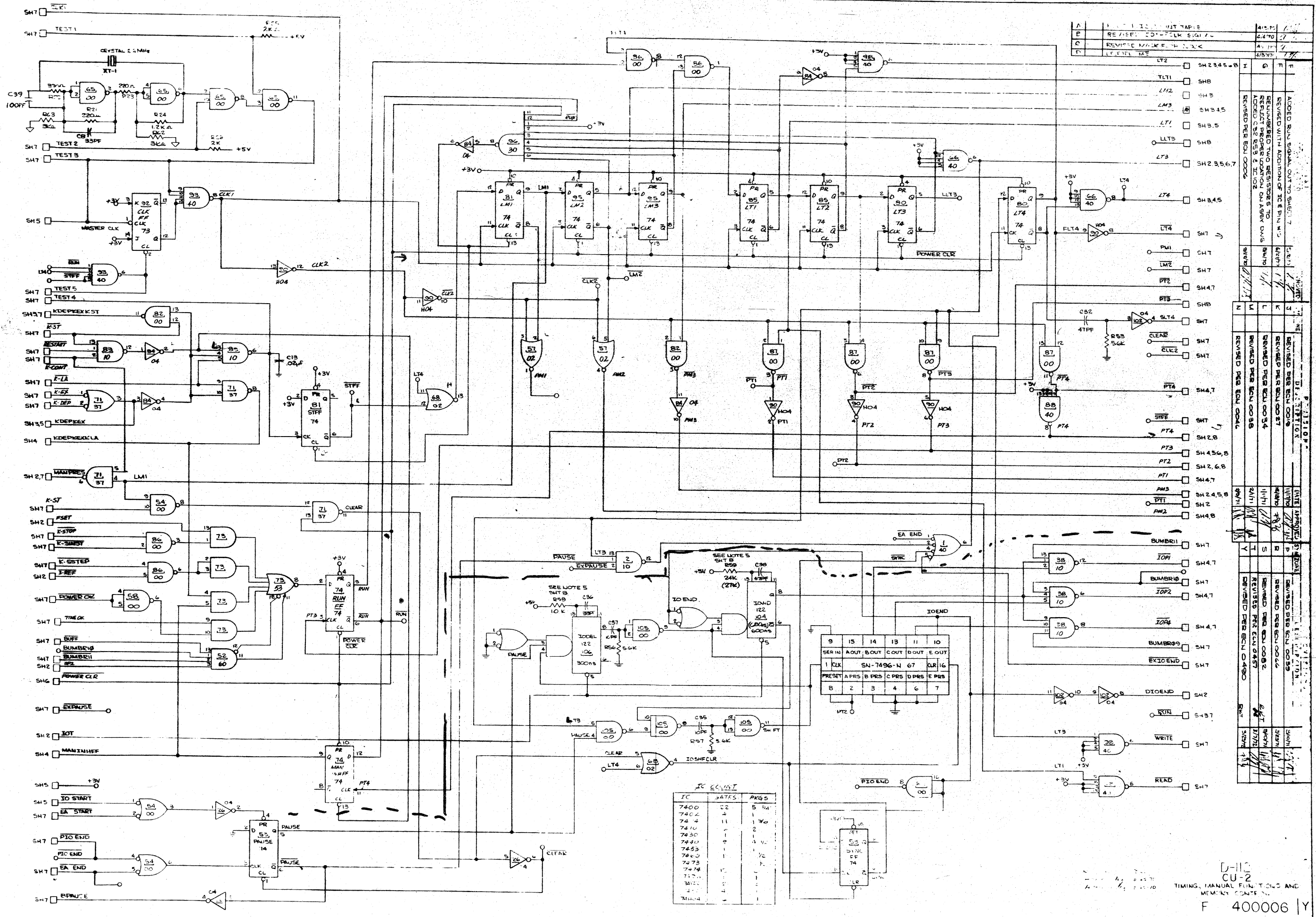
IC COUNT

IC	GATES	PKGS
7404	5	5/6
7402	1	1/4
7486	1	1/4

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30	

DR. K. THIBAU  
 DATE: 4/25/70  
 3:25-70  
 3:45-70  
 APPROVAL: DR. K. THIBAU  
 DATE: 4/25/70  
 3:25-70  
 3:45-70  
 PART NO. 400001H  
 SCALE: 1:1  
 SHEET 8 OF 8

A	IC UNIT TABLE	4/12/70
B	REvised IC UNIT TABLE	2/4/70
C	REvised IC UNIT TABLE	4/1/70
D	IC UNIT TABLE	1/5/70

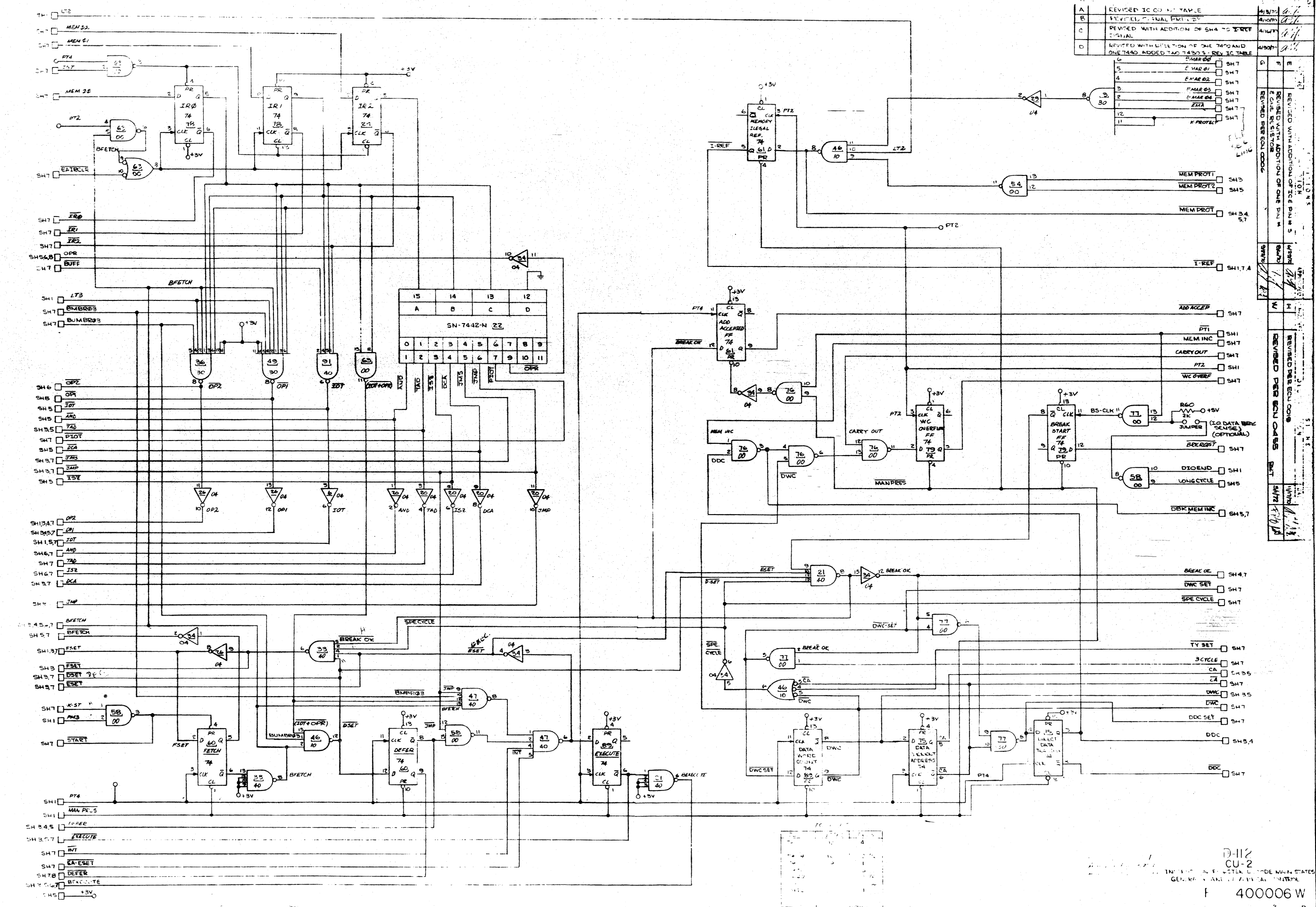


LT2	SH 2,3,4,5,6,7	I	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
-----	----------------	---	---	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

IC	DATES	PKGS
7400	12	5 1/4
7402	4	1 1/2
7404	11	1 1/2
7410	7	2
7430	1	1
7440	0	4 1/2
7453	1	1 1/2
7460	1	1 1/2
7473	7	7
7474	1	1
7475	1	1
7476	1	1
7477	1	1
7478	1	1
7479	1	1
7480	1	1
7481	1	1
7482	1	1
7483	1	1
7484	1	1
7485	1	1
7486	1	1
7487	1	1
7488	1	1
7489	1	1
7490	1	1
7491	1	1
7492	1	1
7493	1	1
7494	1	1
7495	1	1
7496	1	1
7497	1	1
7498	1	1
7499	1	1
7500	1	1

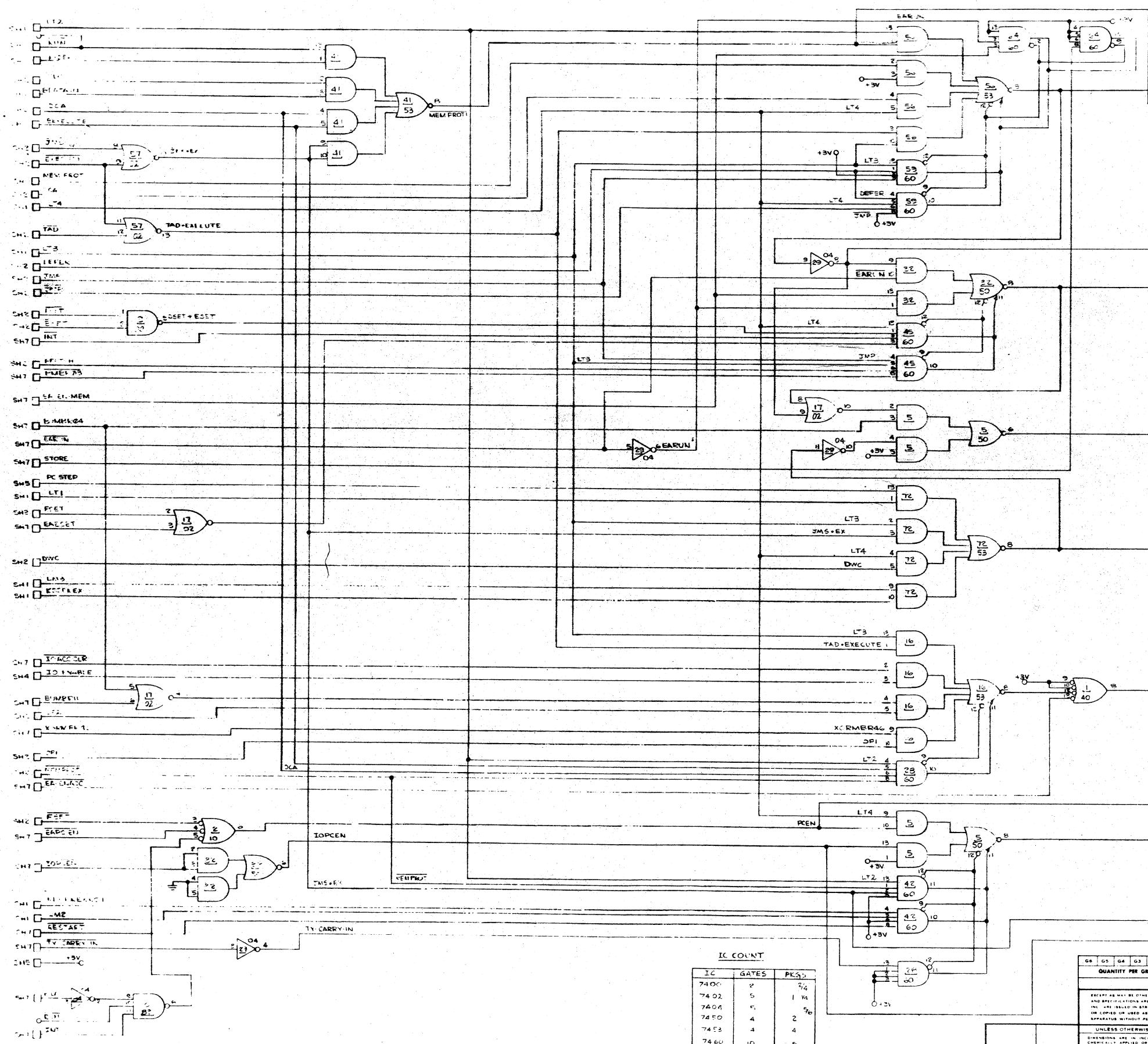
D-110  
 CU-2  
 TIMING MANUAL FOR IC AND MEMORY CONTROLS  
 F 40006 | Y

A	REVISED IC CU #1 TABLE	4/13/70	0.1
B	REVISED IC SIGNAL TABLE	4/13/70	0.1
C	REVISED WITH ADDITION OF SH4 TO I-REF SIGNAL	4/13/70	0.1
D	REVISED WITH ADDITION OF ONE 7400 AND ONE 7440 ADDED TAG 7400'S - REV IC TABLE	4/13/70	0.1

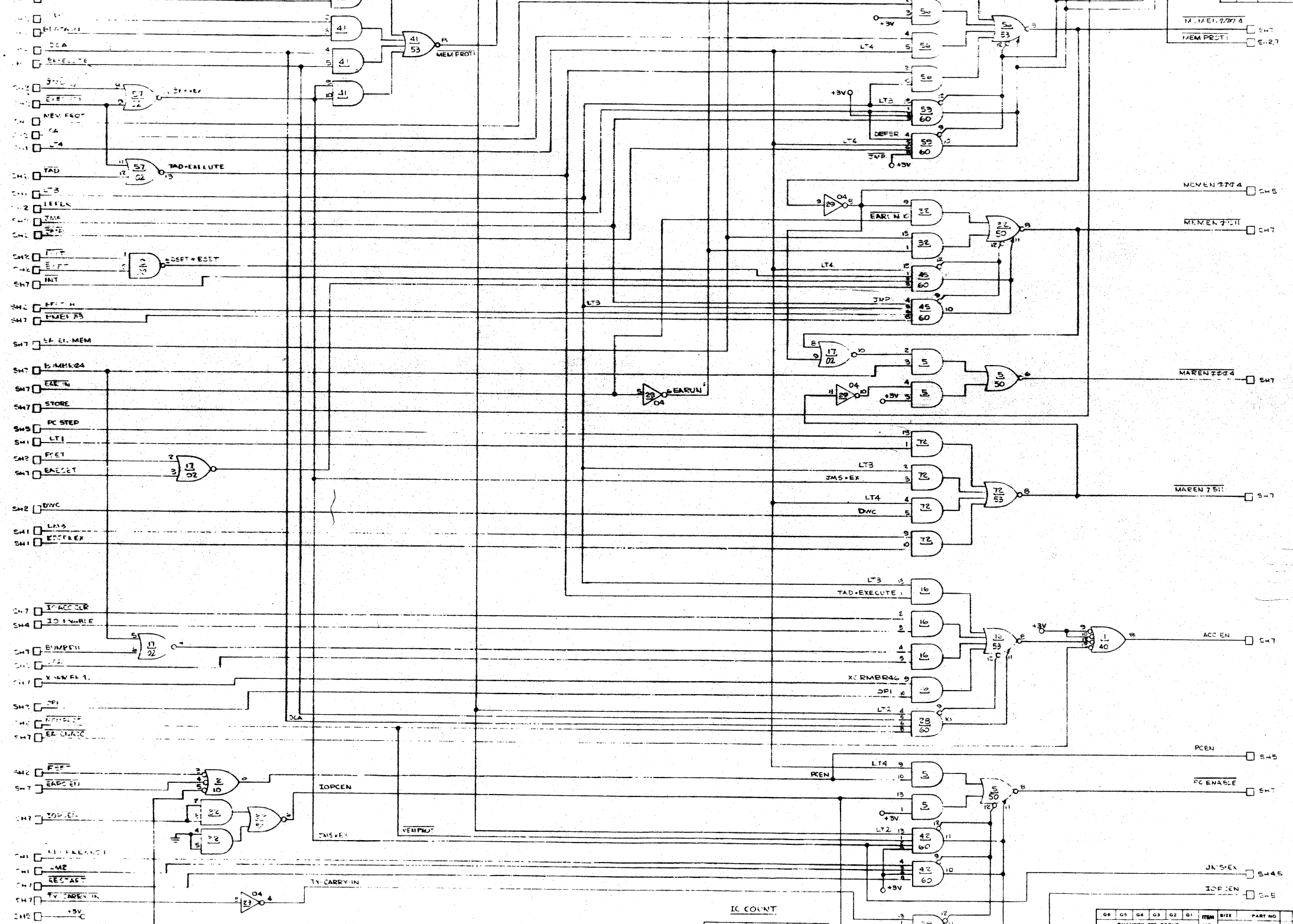


REVISED WITH ADDITION OF ONE 7400 AND ONE 7440 ADDED TAG 7400'S - REV IC TABLE	REVISED WITH ADDITION OF ONE 7400 AND ONE 7440 ADDED TAG 7400'S - REV IC TABLE	REVISED WITH ADDITION OF ONE 7400 AND ONE 7440 ADDED TAG 7400'S - REV IC TABLE	REVISED WITH ADDITION OF ONE 7400 AND ONE 7440 ADDED TAG 7400'S - REV IC TABLE
REVISED WITH ADDITION OF ONE 7400 AND ONE 7440 ADDED TAG 7400'S - REV IC TABLE	REVISED WITH ADDITION OF ONE 7400 AND ONE 7440 ADDED TAG 7400'S - REV IC TABLE	REVISED WITH ADDITION OF ONE 7400 AND ONE 7440 ADDED TAG 7400'S - REV IC TABLE	REVISED WITH ADDITION OF ONE 7400 AND ONE 7440 ADDED TAG 7400'S - REV IC TABLE
REVISED WITH ADDITION OF ONE 7400 AND ONE 7440 ADDED TAG 7400'S - REV IC TABLE	REVISED WITH ADDITION OF ONE 7400 AND ONE 7440 ADDED TAG 7400'S - REV IC TABLE	REVISED WITH ADDITION OF ONE 7400 AND ONE 7440 ADDED TAG 7400'S - REV IC TABLE	REVISED WITH ADDITION OF ONE 7400 AND ONE 7440 ADDED TAG 7400'S - REV IC TABLE
REVISED WITH ADDITION OF ONE 7400 AND ONE 7440 ADDED TAG 7400'S - REV IC TABLE	REVISED WITH ADDITION OF ONE 7400 AND ONE 7440 ADDED TAG 7400'S - REV IC TABLE	REVISED WITH ADDITION OF ONE 7400 AND ONE 7440 ADDED TAG 7400'S - REV IC TABLE	REVISED WITH ADDITION OF ONE 7400 AND ONE 7440 ADDED TAG 7400'S - REV IC TABLE

D-112  
CU-2  
F 400006 W



REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED
A	REVISED FOR... [unclear]	4/10/54	[signature]
B	REVISED FOR... [unclear]	4/10/54	[signature]
C	REVISED WITH ADDITION OF... [unclear]	6/23/54	[signature]
D	REVISED PER ECH 2005	9/2/70	[signature]



IC	GATES	PKGS
7400	2	2/4
7402	5	1/4
7404	5	5/6
7405	4	2
7406	4	4
7407	10	5
7410	1	1/2
7410	1	1/8

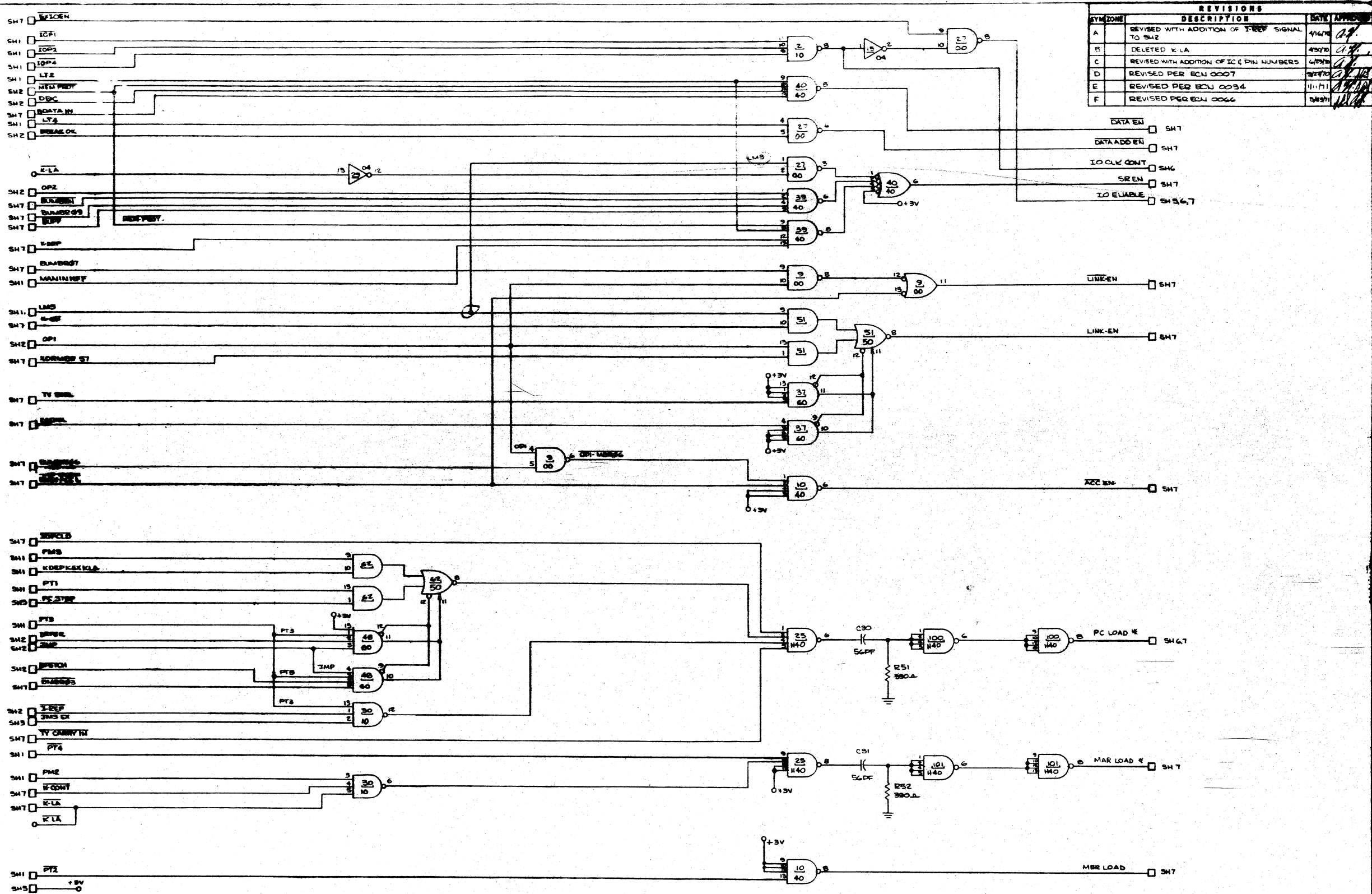
Q4	Q3	Q2	Q1	Q0	ITEM	SIZE	PART NO	DESCRIPTION	U	OF	U
Q4	Q3	Q2	Q1	Q0	NO		DRAWING NO				
LIST OF MATERIAL											
EXCEPT AS MAY BE OTHERWISE PROVIDED BY CONTRACT THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DIGITAL COMPUTER CONTROLS, INC. AND ARE ISSUED IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED OR COPIED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF EQUIPMENT WITHOUT PERMISSION.											
UNLESS OTHERWISE SPECIFIED						APPROVAL			DATE		
DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES.						DR [signature]			[signature]		
TOLERANCES						FRACTIONAL			DECIMALS		
2 PLACE						3 PLACE			4 PLACE		
0.15						0.005			0.001		
HOLE DIAMETER TOLERANCE						HOLE DIA			HOLE DIA		
0.0015 +0.0005						0.0015 +0.0005			0.0015 +0.0005		
FINISH						MATERIAL			FINISH		
						BOND			BOND		
THREADS: EXT CL 2A INT CL 2B						SCALE			PRINT 3 OF 8		

**DIGITAL COMPUTER CONTROLS, INC.**  
 FAIRFIELD, NEW JERSEY 07006

**D-112**  
**CU-2**  
 MAJ. REGISTER ENABLE CONTR.

**400006D**





REVISIONS			
SYMBL	DESCRIPTION	DATE	APPROV
A	REVISED WITH ADDITION OF T-REF SIGNAL TO SH2	4/16/70	AK
B	DELETED K-LA	4/30/70	AK
C	REVISED WITH ADDITION OF IC PIN NUMBERS	4/30/70	AK
D	REVISED PER ECN 0007	4/30/70	AK
E	REVISED PER ECN 0034	4/11/71	AK
F	REVISED PER ECN 0066	04/28/71	AK

IC COUNT

IC	GATES	PKGS
7400	6	1 2A
7408	2	5A
7410	3	1
7440	6	3
7450	2	2-E
7460	4	2
74H40	6	3

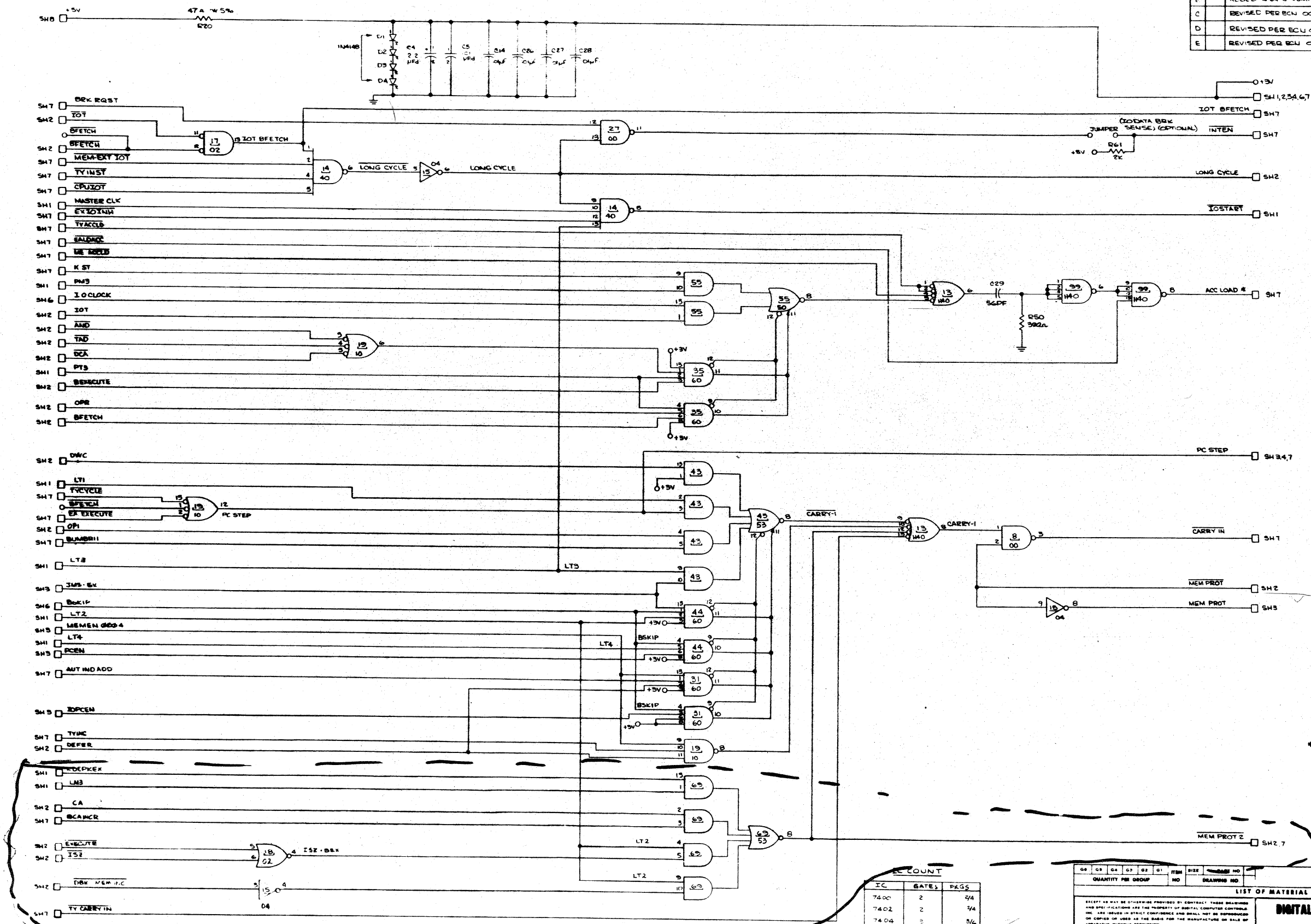
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40
QUANTITY PER GROUP		DRAWING NO.		PART NO.		DESCRIPTION		M		U		P		M		M		M		M		M		M		M		M		M		M		M		M		M	
LIST OF MATERIAL																																							
EXCEPT AS MAY BE OTHERWISE PROVIDED BY CONTRACT, THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DIGITAL COMPUTER CONTROLS, INC. AND ARE LOANED IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED OR COPIED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPLIANCE WITHOUT PERMISSION.																																							
UNLESS OTHERWISE SPECIFIED:																																							
DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES															APPROVAL					DATE																			
TOLERANCES															DR. K. THREE					5/23/70																			
F. PLACE															ONE A. Hernandez					5/26/70																			
HOLE DIAMETER TOLERANCE															ONE A. Hernandez					5/26/70																			
MATERIAL															MATERIAL					SCALE																			
NEXT ASSY.															USED ON					PART NO.																			
THREADS BY CL 2A INT CL 2B															FINISH					SCALE																			

DIGITAL COMPUTER CONTROLS, INC.  
FAIRFIELD, NEW JERSEY 07006

D-112  
CU-2  
MAIN REG. LOAD AND ADDRESS CONTROL

400006F

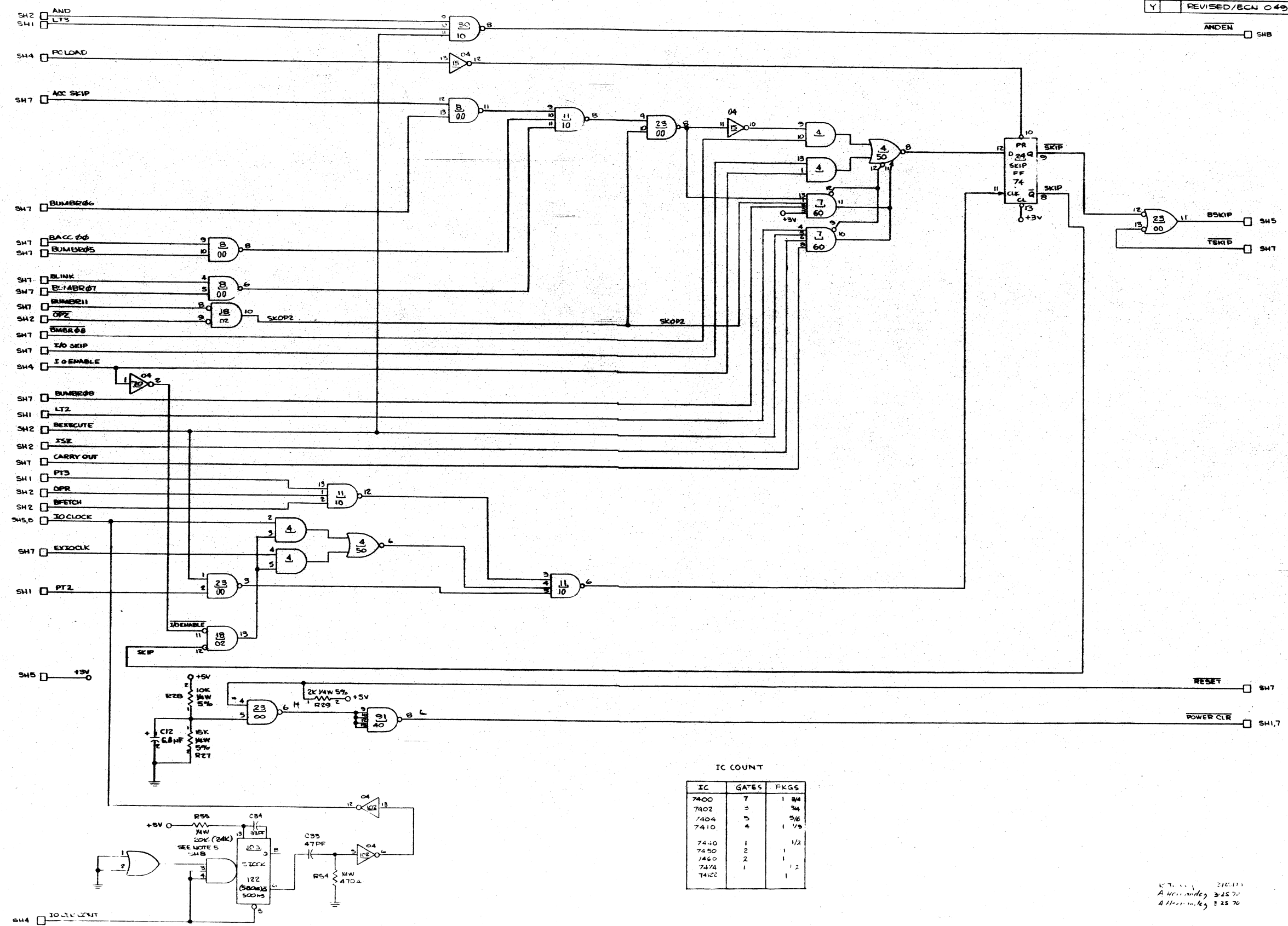
REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED
A	REVISED WITH ADDITION OF IC PIN #S	4/2/70	[Signature]
B	ADDED D54 & JUMPER	5/14/70	[Signature]
C	REVISED PER BCN 0007	5/27/70	[Signature]
D	REVISED PER BCN 0034	11/1/71	[Signature]
E	REVISED PER BCN 0066	3/23/74	[Signature]



IC	GATES	PAGES
7400	2	2/4
7402	2	3/4
7404	2	3/6
7410	2	1
7412	2	1
7415	1	1/2
7420	2	2
7430	6	3
7440	4	2

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40
LIST OF MATERIAL																																							
EXCEPT AS MAY BE OTHERWISE PROVIDED BY CONTRACT THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DIGITAL COMPUTER CONTROLS, INC. AND ARE TO BE KEPT IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS WITHOUT PERMISSION.																																							
UNLESS OTHERWISE SPECIFIED:																																							
DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES																																							
TOLERANCES:																																							
F. PLACE DECIMALS																																							
HOLE DIAMETER TOLERANCE:																																							
H. THRU LENS: 1ST THRU 3RD DR. 4 THRU 6TH DR. 7TH DR. 8TH DR. 9TH DR. 10TH DR. 11TH DR. 12TH DR. 13TH DR. 14TH DR. 15TH DR. 16TH DR. 17TH DR. 18TH DR. 19TH DR. 20TH DR. 21ST DR. 22ND DR. 23RD DR. 24TH DR. 25TH DR. 26TH DR. 27TH DR. 28TH DR. 29TH DR. 30TH DR. 31ST DR. 32ND DR. 33RD DR. 34TH DR. 35TH DR. 36TH DR. 37TH DR. 38TH DR. 39TH DR. 40TH DR.																																							
NEXT ASMT: USED ON: THREADS: EXT. CL. 2A INT. CL. 2B																																							
APPROVAL: DATE: 5/25/70																																							
DIGITAL COMPUTER CONTROLS, INC. FAIRFIELD, NEW JERSEY 07004																																							
D-112 CU-2 CARRY IN AND ACC LOAD CONTROL																																							
F 400006E																																							

A	REVISIONS TO BE MADE	DATE	BY
B	REVISED WITH ADDITION OF IC PIN NUMBERS	4/27/70	JH
C	ADDED CBF 034, 034, 035, IC 102 & 103 AND IO CLK OPTIONAL JUMP	2/11/70	JH
D	REVISED PER ECU 0007	3/11/70	JH
E	REVISED PER ECU 0019	11/17/70	JH
F	REVISED PER ECU 0027	12/18/70	JH
G	REVISED PER ECU 0046	2/11/71	JH
Y	REVISED/ECU 0490 DKT	2/23/71	JH

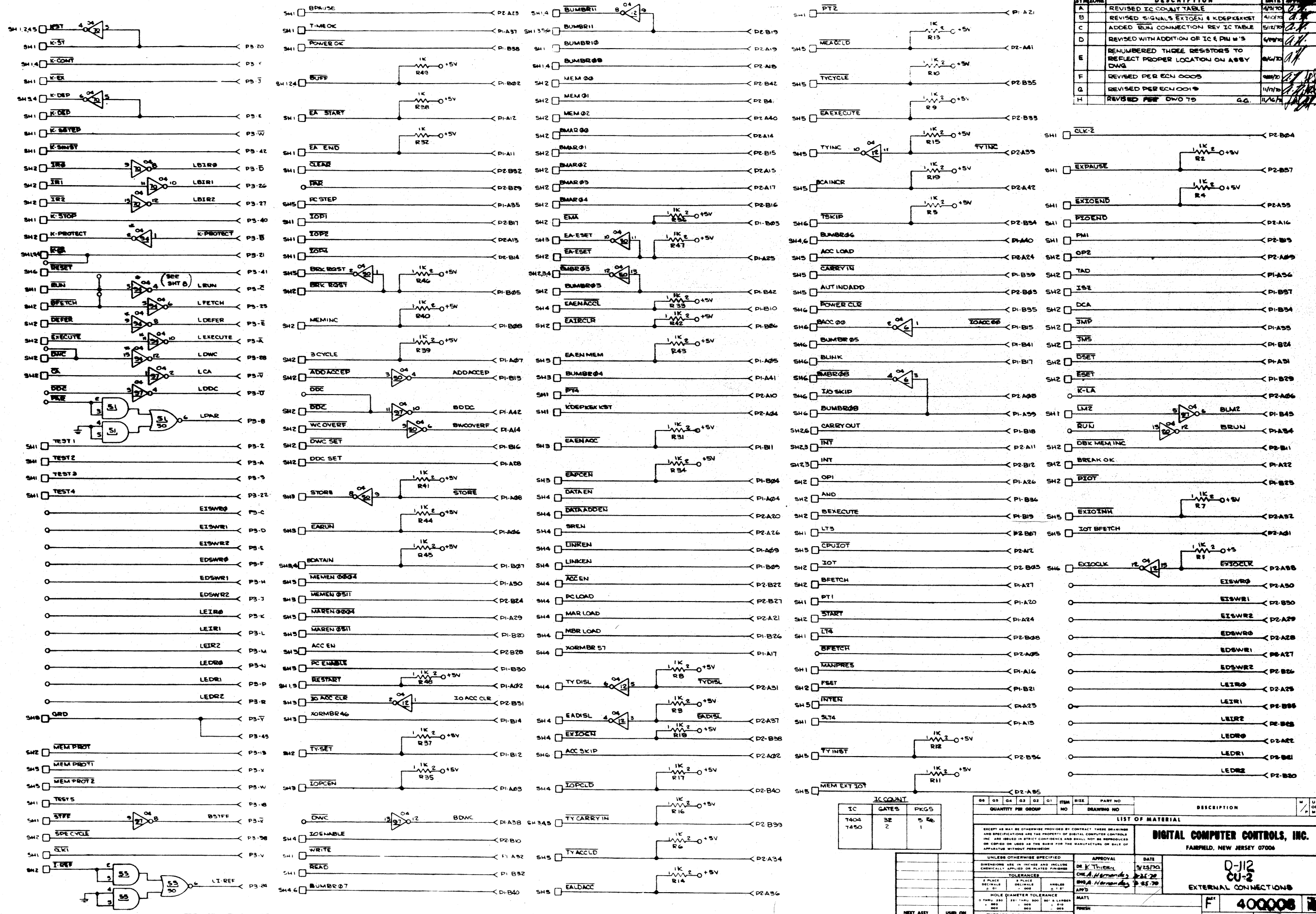


IC COUNT

IC	GATES	PKGS
7400	7	1 3/4
7402	5	3/4
7404	5	5/6
7410	4	1 1/2
7411	1	1/2
7412	2	1
7414	2	1
7415	1	1

REVISED 2/23/71  
 A Newmiller 2/25/71  
 A Newmiller 2/25/71

D-112  
 CU-2  
 SKIP CONTROL  
 F 400006 Y  
 6 8



REVISIONS		
SYMBOL	DESCRIPTION	DATE
A	REVISED IC COUNT TABLE	4/15/70
B	REVISED SIGNALS EXTGEN & KDEPKR KST	4/15/70
C	ADDED BUN CONNECTION REV IC TABLE	5/12/70
D	REVISED WITH ADDITION OF IC PIN #'S	6/11/70
E	RENUMBERED THREE RESISTORS TO REFLECT PROPER LOCATION ON ASSY DWG	8/14/70
F	REVISED PER ECN 0005	11/11/70
G	REVISED PER ECN 0019	11/11/70
H	REVISED PER DWG 79	G.G. 11/16/70

IC COUNT		
IC	GATES	PKGS
7404	32	5
7450	2	1

QUANTITY PER GROUP		DRAWING NO		DESCRIPTION	
Q3	Q4	Q2	Q1	ITEM	NO
LIST OF MATERIAL					
EXCEPT AS MAY BE OTHERWISE PROVIDED BY CONTRACT THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DIGITAL COMPUTER CONTROLS, INC. AND ARE LOANED IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED OR COPIED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS WITHOUT PERMISSION.					
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES AND INCLUDE TOLERANCES UNLESS OTHERWISE SPECIFIED OR INDICATED OTHERWISE.					
TOLERANCES: 2 PLACE DECIMALS 0.01; 3 PLACE DECIMALS 0.005; 4 PLACE DECIMALS 0.0005.					
HOLE DIAMETER TOLERANCE: 0 THRU .250 .001; .250 THRU .500 .0015; .500 THRU .750 .002; .750 THRU 1.000 .0025.					
NEXT ASSY: USED ON: THREADS: EST. CL. 24 INT. CL. 28.					

APPROVAL		
DATE	BY	CHKD.
3/25/70	DE K. Thier	3/25/70
	CHK. Hernandez	3/25/70
	APP'D	

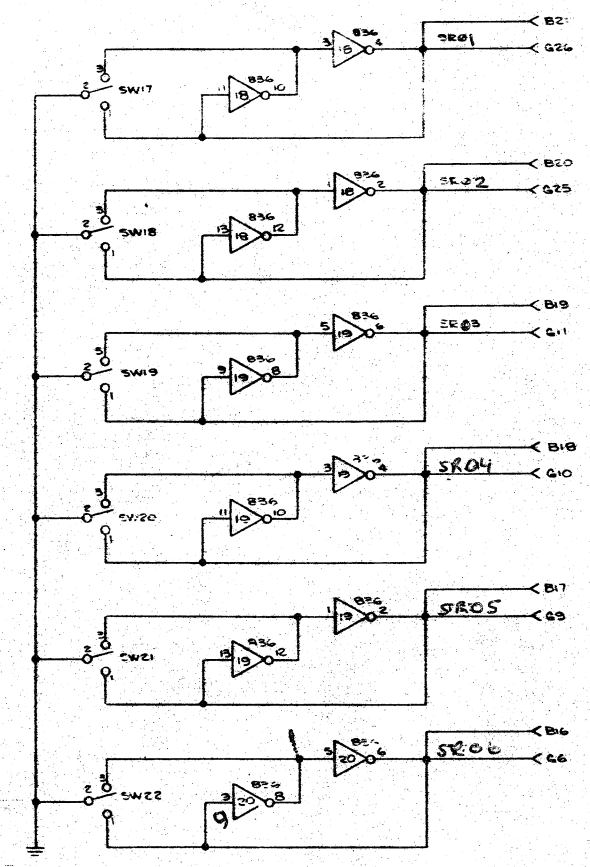
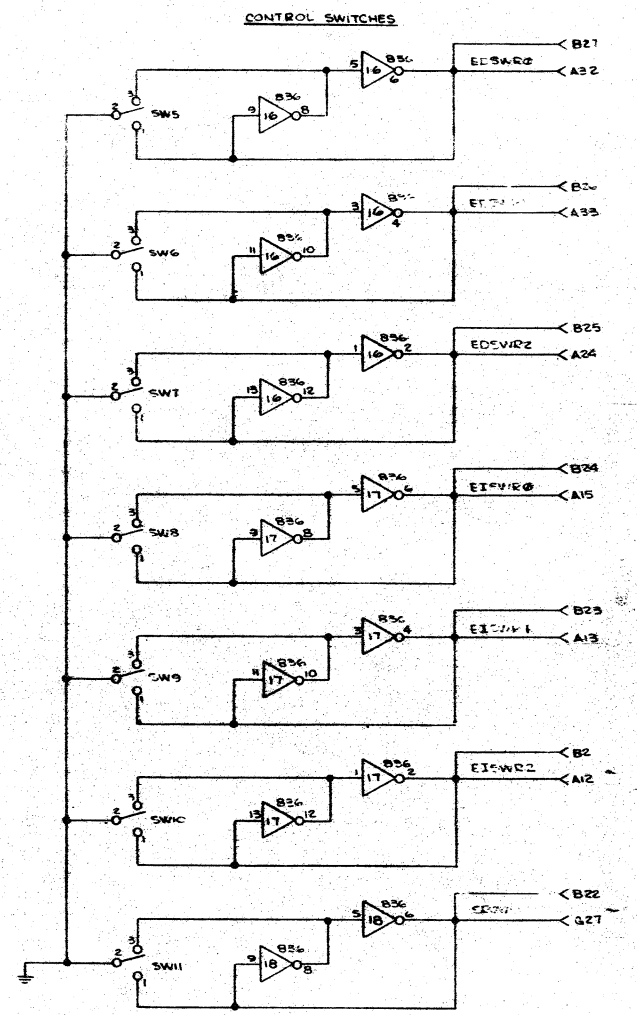
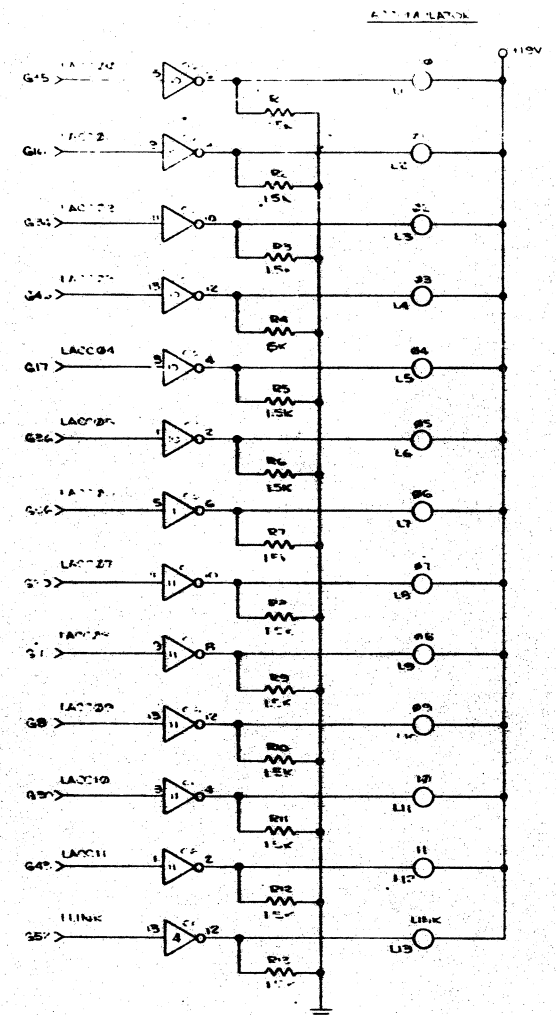
DIGITAL COMPUTER CONTROLS, INC.  
FAIRFIELD, NEW JERSEY 07004

Q-112  
CU-2

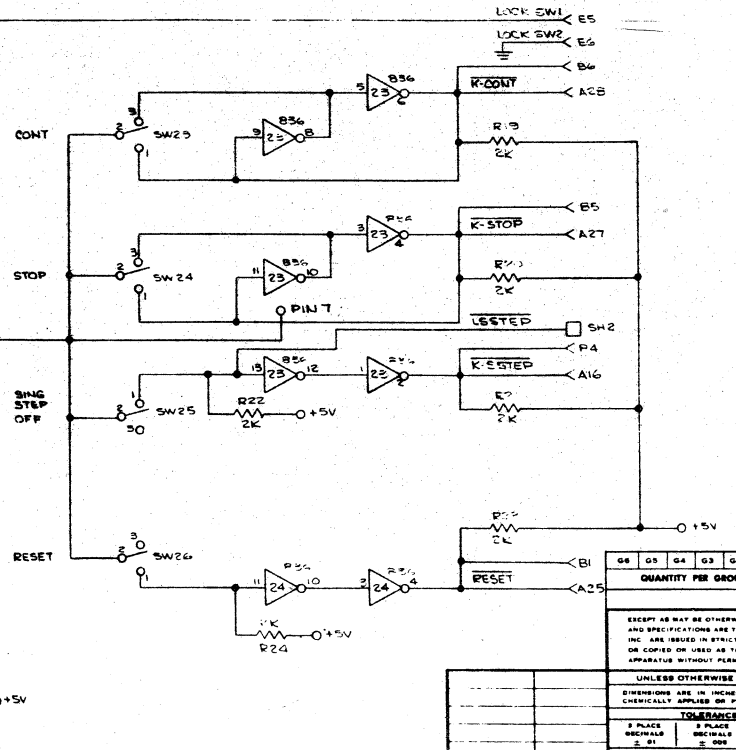
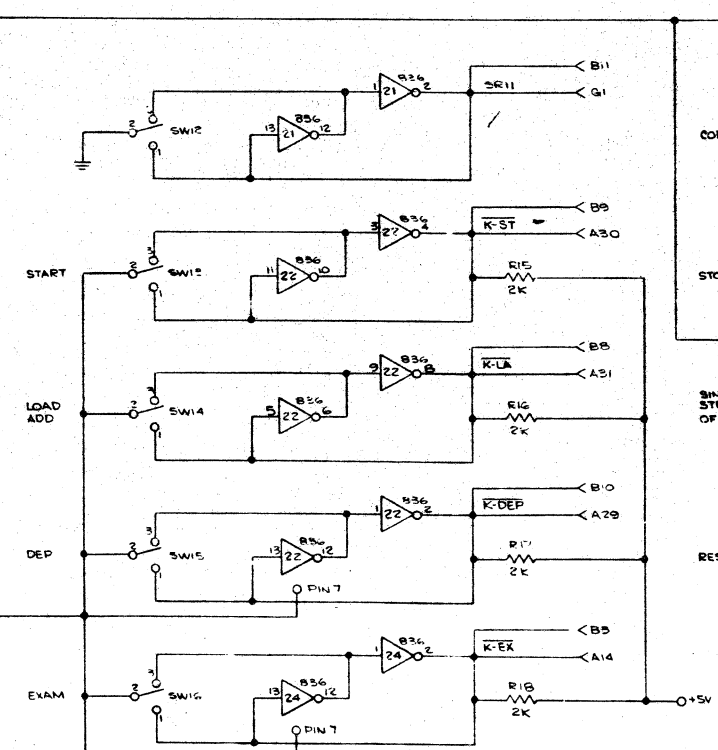
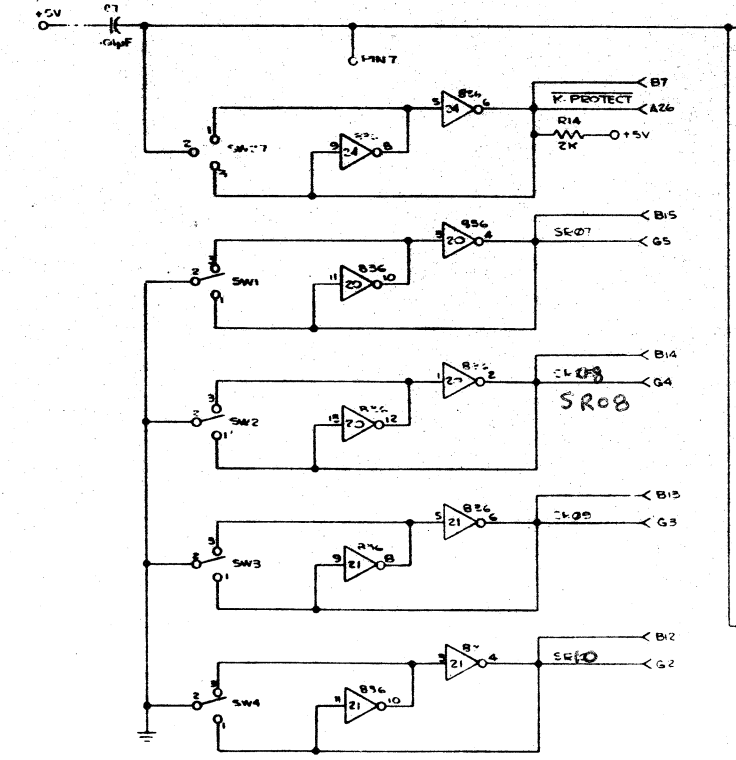
EXTERNAL CONNECTIONS

SCALE: 400008





REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED
A	REVISED CONTROL SWITCHES - ADDED SW 27 DELETED R14 - R18 REV. IC COUNT	4/16/70	<i>[Signature]</i>
B	REVISED CONTROL SWITCHES & ACCUMULATOR WITH ADDITION OF PIN #3 AND GATES #5. ADDED 07 REVISED RESISTOR NUMBERS TO AGREE WITH FINAL ART WORK.	4/29/70	<i>[Signature]</i>
C	REVISED GATE NUMBERS	5/4/70	<i>[Signature]</i>
D	REVISED LS STEP SIGNAL TO LS STEP WITH CHANGE FROM IC 23 PIN 12-13	7/8/70	<i>[Signature]</i>



TERMINAL PINS

	A	B	G
TO OR FROM	CU-2	I/O OUTPUT CONNECTOR	CU-1

IC CO. 1-1

IC	GATES	PKGS
836	54	3
7476	12	2 1/6

LIST OF MATERIAL

QTY	GR	SA	GB	QC	Q1	ITEM NO.	SIZE	PART NO.	U OF P.

EXCEPT AS MAY BE OTHERWISE PROVIDED BY CONTRACT THESE DIMENSIONS AND SPECIFICATIONS ARE THE PROPERTY OF DIGITAL COMPUTER CONTROLS, INC. AND ARE ISSUED IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED OR COPIED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS WITHOUT PERMISSION.

UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES AND INCLUDE CHAMFERED EDGES OR PLATED FINISHES.  
 TOLERANCES:  
 3 PLACES 1/16" ± .005  
 2 PLACES 1/8" ± .005  
 HOLE DIAMETER TOLERANCE:  
 + .005 THROUGH .125  
 + .010 .125 THROUGH .250  
 + .015 .250 THROUGH .500  
 + .020 .500 THROUGH 1.000  
 THREADS: EXT. CL. 2A. INT. CL. 2B

APPROVAL: DR. V. [Signature] DATE: 4/31/70  
 CHECKED: [Signature] DATE: 4/30/70

PROOF: [Signature]

MATERIAL: F 400021D

FINISH: [Signature]

DIGITAL COMPUTER CONTROLS, INC.  
 FAIRFIELD, NEW JERSEY 07006

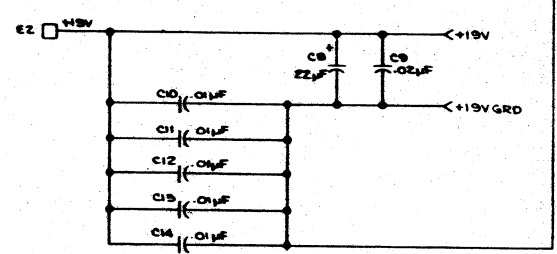
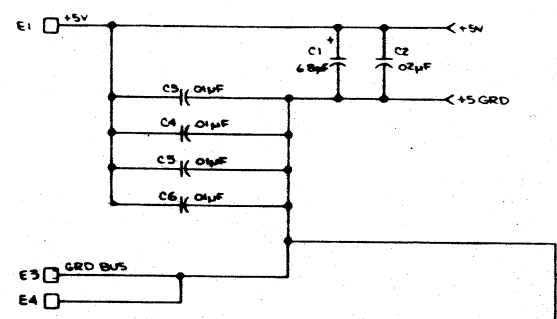
D-112  
 FRONT PANEL CONTROL SWITCHES & LAMP DRIVERS

SCALE: [Signature]

SHEET 1 OF 5



REVISIONS		
SYMBOL	DESCRIPTION	DATE APPROVED
A	REVISED PART LIST TABLE ADDED REVISION TABLE	4/16/70 <i>[Signature]</i>
B	REVISED REVISION TABLE TO SHOW CHANGES ON SW. REVISED PART LIST TABLE	4/16/70 <i>[Signature]</i>
C	REVISED PART LIST TABLE, REVISION TABLE, DELETED C7 AND NOTES 1-3.	4/23/70 <i>[Signature]</i>
D	REVISED PART LIST TABLE AND REVISION TABLE	5/12/70 <i>[Signature]</i>
E	REVISED PART LIST TABLE, REVISION TABLE TO REFLECT CHANGES TO SHTS 112	7/24/70 <i>[Signature]</i>
F	REVISED PER ECN 0105 CHANGED IC'S PART NUMBER FROM SN7406N TO SN7406A	7/27/70 <i>[Signature]</i>
G	REVISED PER ECN 0115	8/13/70 <i>[Signature]</i>



PART LIST TABLE

COMPONENT	SHEET 1	SHEET 2	SHEET 3	G4	SPARE	DCC PART NUMBER	G1	G2	G3
836	9			9		000336	7	9	7
7406A	2 1/2	12 3/4		15	2 1/2	000106A	11	12	14
LAMP	L1-L3	L4-L8		87		008000	64	70	81
SWITCH R5-26-1				20		008201	20	20	20
SWITCH R5-9-3				7		008202	7	7	7
.01µF			C5-C7 C8-C14	10		007001	10	10	10
.02µF			C2, C9	2		007002	2	2	2
22µF			C8	1		007144	1	1	1
6.8µF			C1	1		007133	1	1	1
15KΩ	R1-13	R20-24 R25-29		87		002766	64	70	81
2KΩ	R4-24	R22, 100		13		002769	13	13	13

OPTIONS

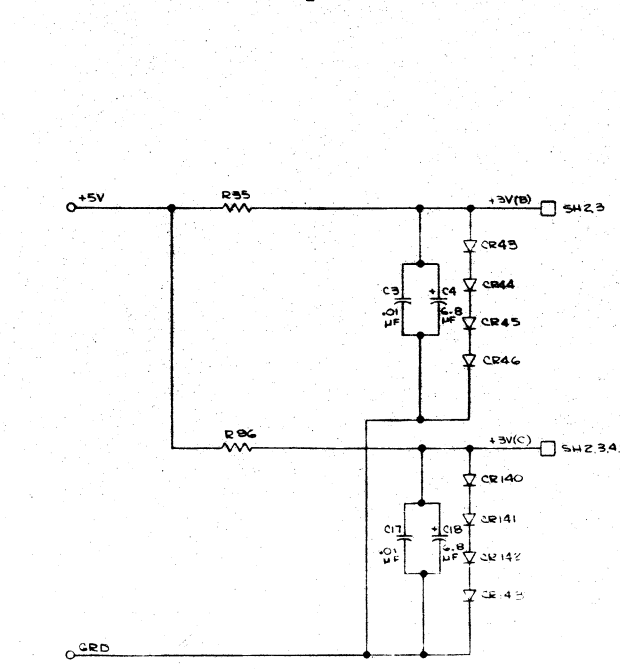
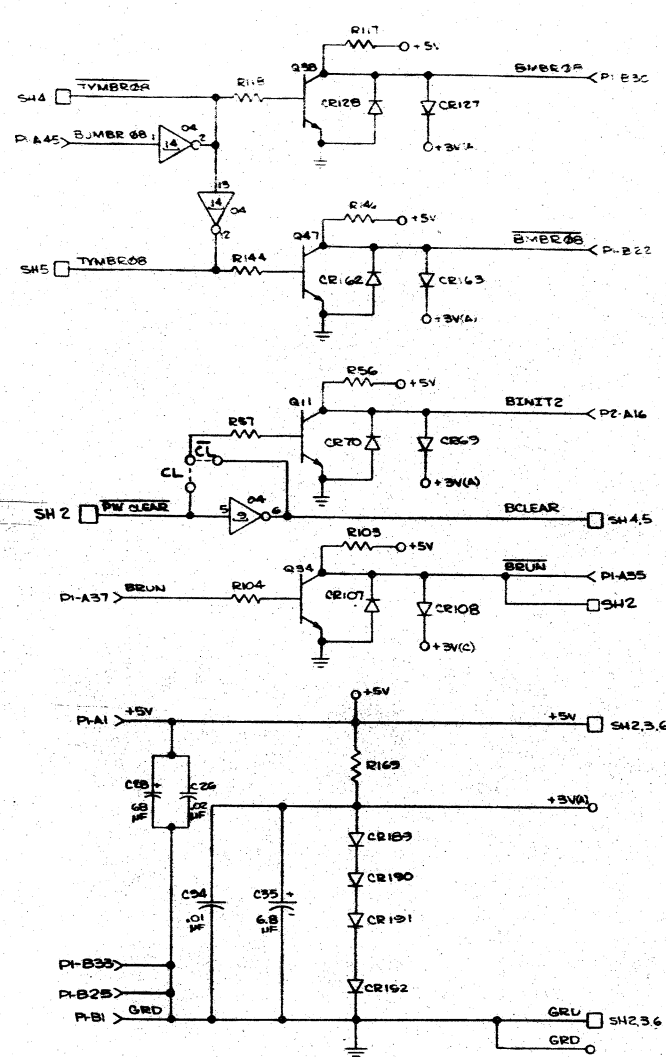
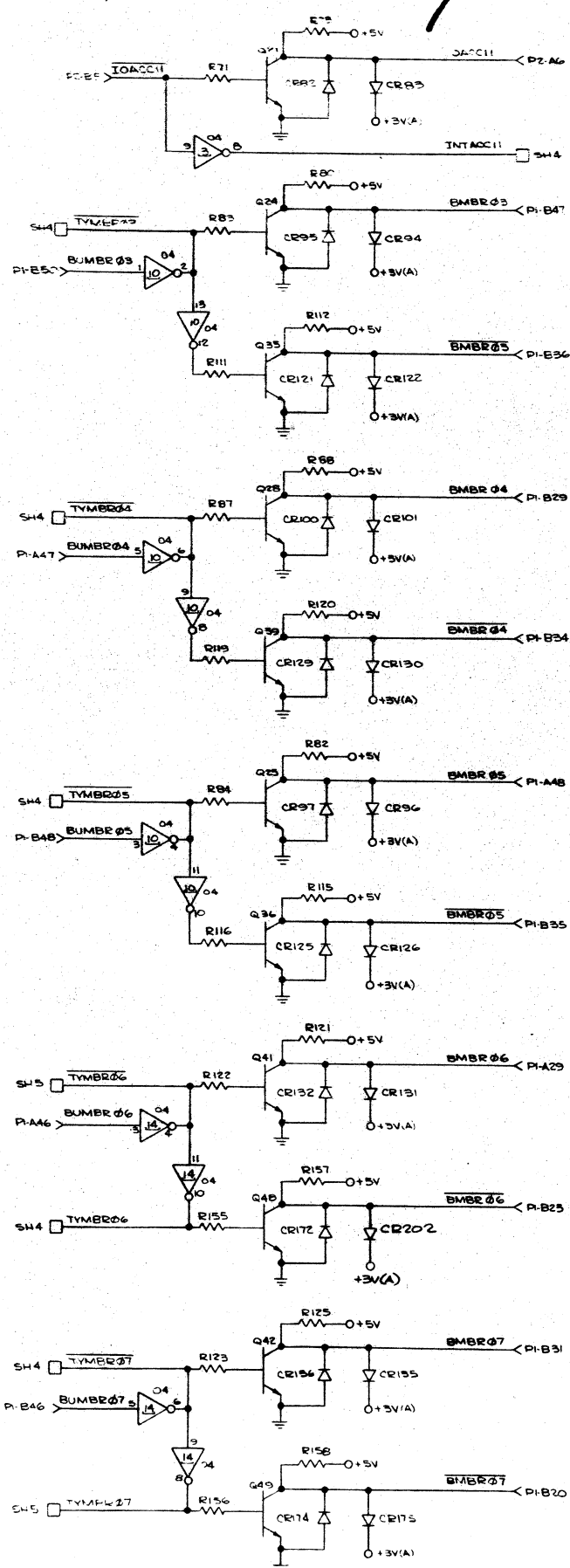
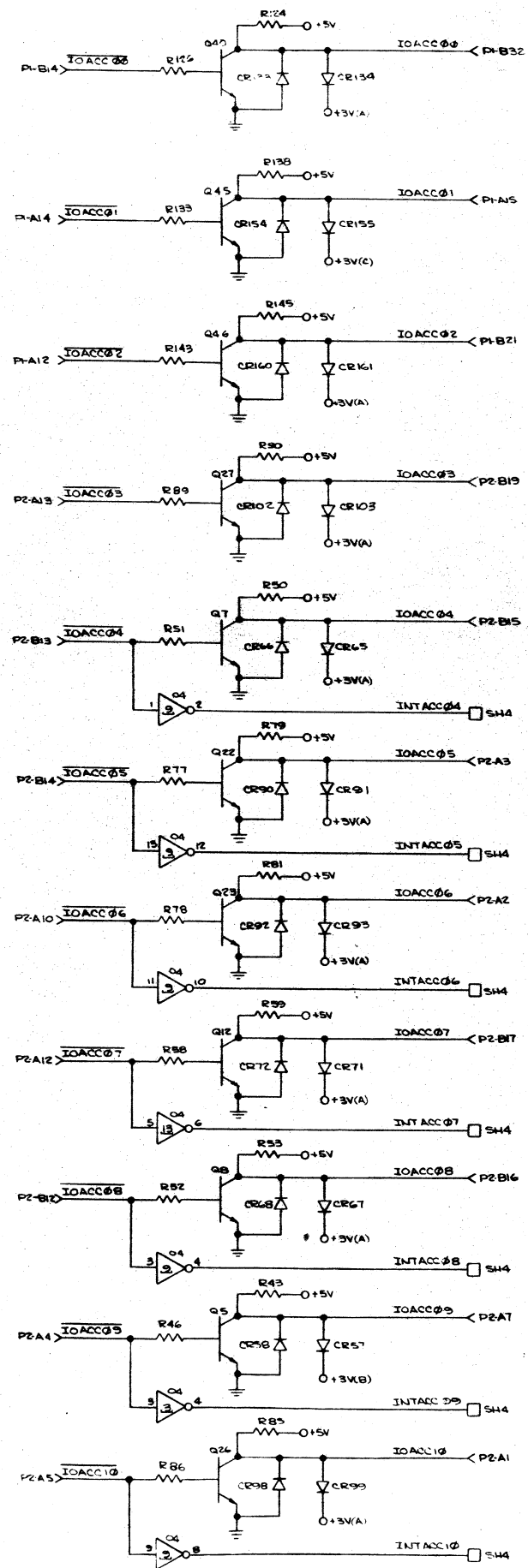
G1	BASIC COMPUTER
G2	BASIC COMPUTER PLUS EX-MEMORY
G3	BASIC COMPUTER PLUS EX-ARITH
G4	BASIC COMPUTER PLUS EX-MEMORY & EX-ARITH

REVISION TABLE

SHEET	1	2	3
REVISION	D	D	G

Q3	Q4	Q3	Q2	Q1	ITEM	SIZE	PART NO	DESCRIPTION	U OF M
					NO				
LIST OF MATERIAL									
<small>EXCEPT AS MAY BE OTHERWISE PROVIDED BY CONTRACT, THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DIGITAL COMPUTER CONTROLS, INC. AND ARE LOANED IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED OR COPIED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS WITHOUT PERMISSION.</small>									
<b>DIGITAL COMPUTER CONTROLS, INC.</b>								FAIRFIELD, NEW JERSEY 07006	
<small>UNLESS OTHERWISE SPECIFIED</small> DIMENSIONS ARE IN INCHES AND INCLUDE DIMENSIONS OF PLATED THROUGH HOLES TOLERANCES 3 PLACE DECIMALS ± .005 2 PLACE DECIMALS ± .010 ANGLES ± 1/2° HOLE DIAMETER TOLERANCE 0 THRU .500 ± .005 .500 THRU .800 ± .010 .800 THRU 1.000 ± .015 1.000 THRU 2.000 ± .020 2.000 THRU 5.000 ± .030 5.000 THRU 10.000 ± .040 10.000 THRU 25.000 ± .050 25.000 THRU 50.000 ± .060 50.000 THRU 100.000 ± .080 100.000 THRU 250.000 ± .010 250.000 THRU 500.000 ± .015 500.000 THRU 1000.000 ± .020 THREADS EST. CL 2A INT. CL 2B								APPROVAL DR. K. Th... CH... DATE 4/16/70 4/17/70 4/23/70	
D-112								FRONT PANEL	
POWER CONN AND PART LIST								400021	
NEXT ASSY.								SCALE	





A	REVISED WITH ADDITION OF PIN NUMBERS AND NOTE 3	2/1/72	A/1
B	REVISED WITH ADDITION OF PIN NUMBERS AND DELETION OF NOTE 3	2/1/72	A/1
C	REVISED WITH ADDITION OF IC PIN NUMBERS, RENUMBERED RESISTORS, CAPACITORS, DIODES AND TRANSISTORS DELETED NOTES 1 & 2	7/6/70	A/1
D	GATE 9 PINS WAS TO P2-B23 CLEAR. R57 WAS TO P1-B25 TO CLEAR	9/14/71	A/1
U	REVISED PER ECN 0497528	8/24/72	F/2
P	REVISED/ECN 0673	2/4/72	F/2

IC COUNT

IC	GATES	PKGS
7404	21	3%

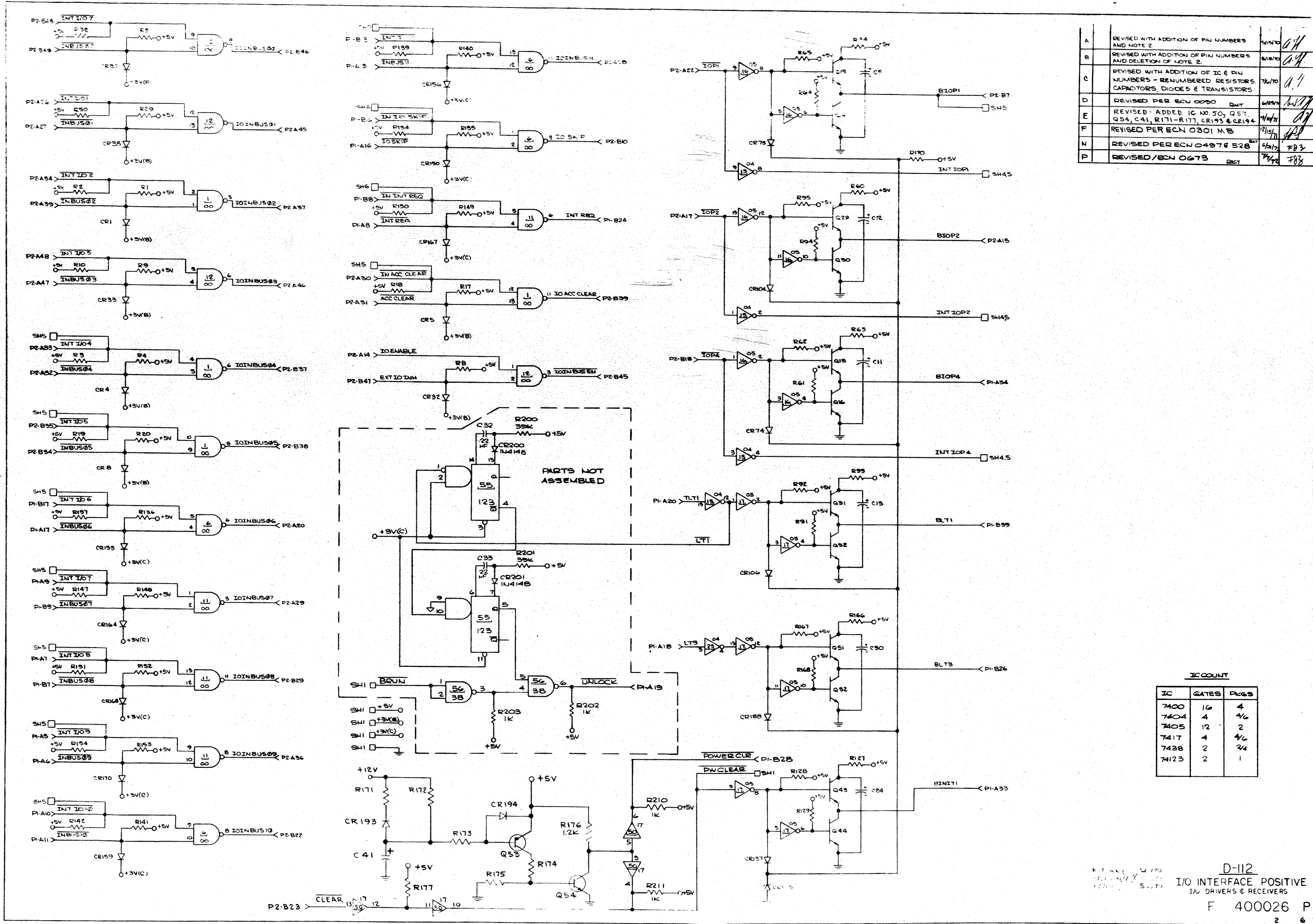
D-112  
I/O INTERFACE POSITIVE  
I/O DRIVERS  
F 400026 P

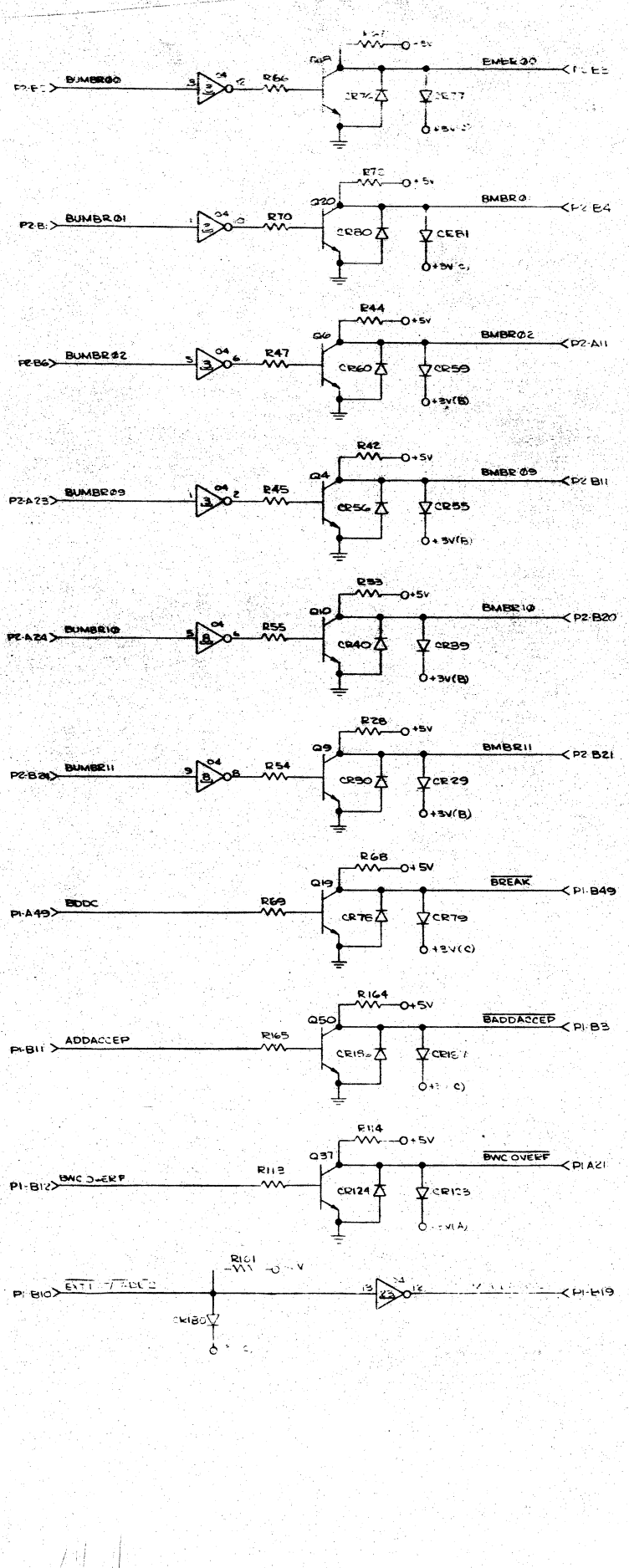
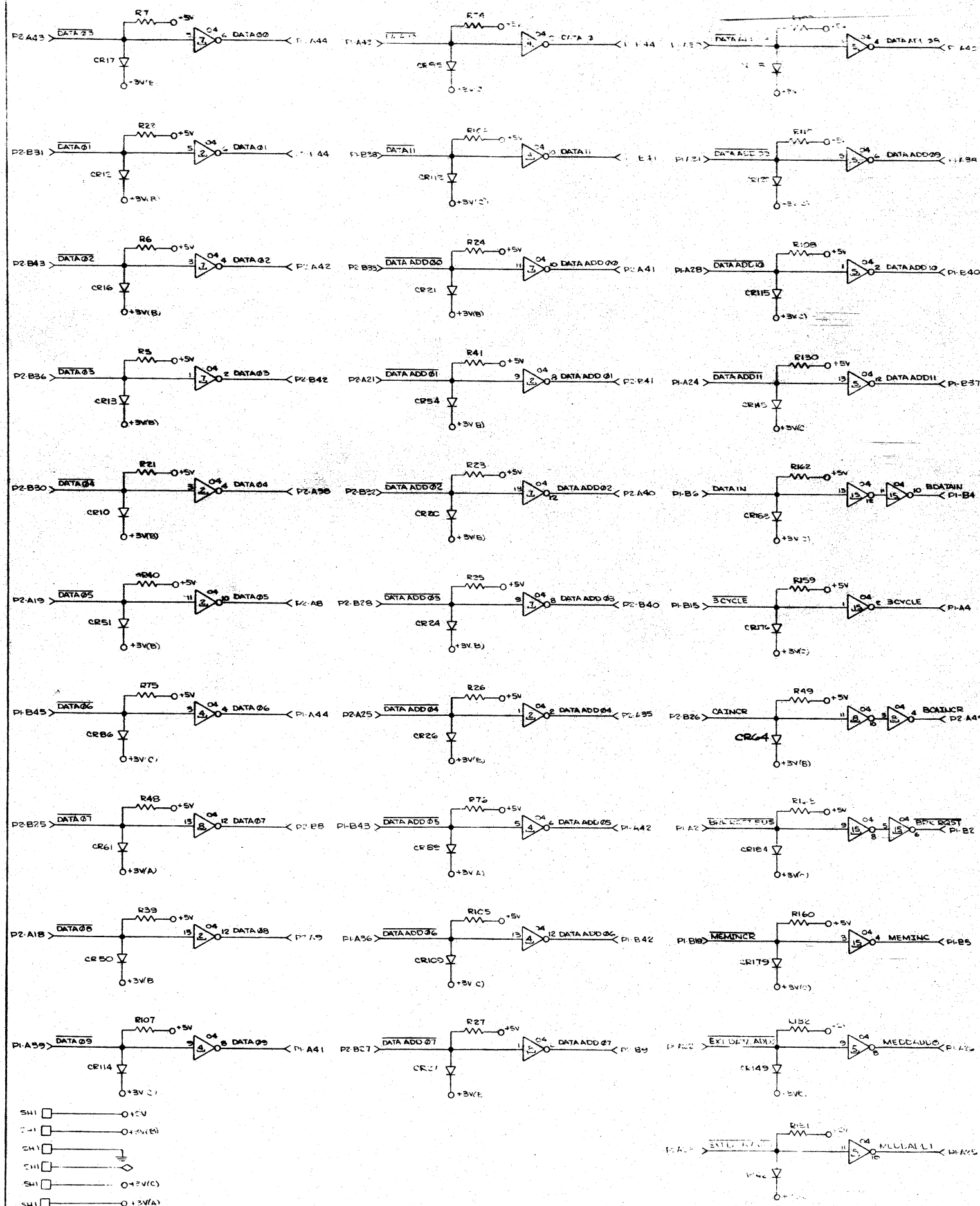
A	REVISED WITH ADDITION OF PIN NUMBERS AND NOTE 2	5/14/70	0.1
B	REVISED WITH ADDITION OF PIN NUMBERS AND DELETION OF NOTE 2	6/18/70	0.1
C	REVISED WITH ADDITION OF IC & PIN NUMBERS - RENUMBERED RESISTORS, CAPACITORS, DIODES & TRANSISTORS	7/6/70	0.1
D	REVISED PER ECN 0050	QNT	6/24/70
E	REVISED - ADDED IC NO. 50, Q52, Q54, C41, R171-R177, CR193 & CR194	QNT	9/14/71
F	REVISED PER ECN 0301 N.B.	QNT	2/15/71
N	REVISED PER ECN 0497 & 528	QNT	6/17/72
P	REVISED PER ECN 0673	QNT	7/7/72

IC COUNT

IC	GATES	PKGS
7400	16	4
7404	4	4
7405	12	2
7417	4	4
7438	2	3
74123	2	1

D-112  
I/O INTERFACE POSITIVE  
I/O DRIVERS & RECEIVERS  
F 400026 P



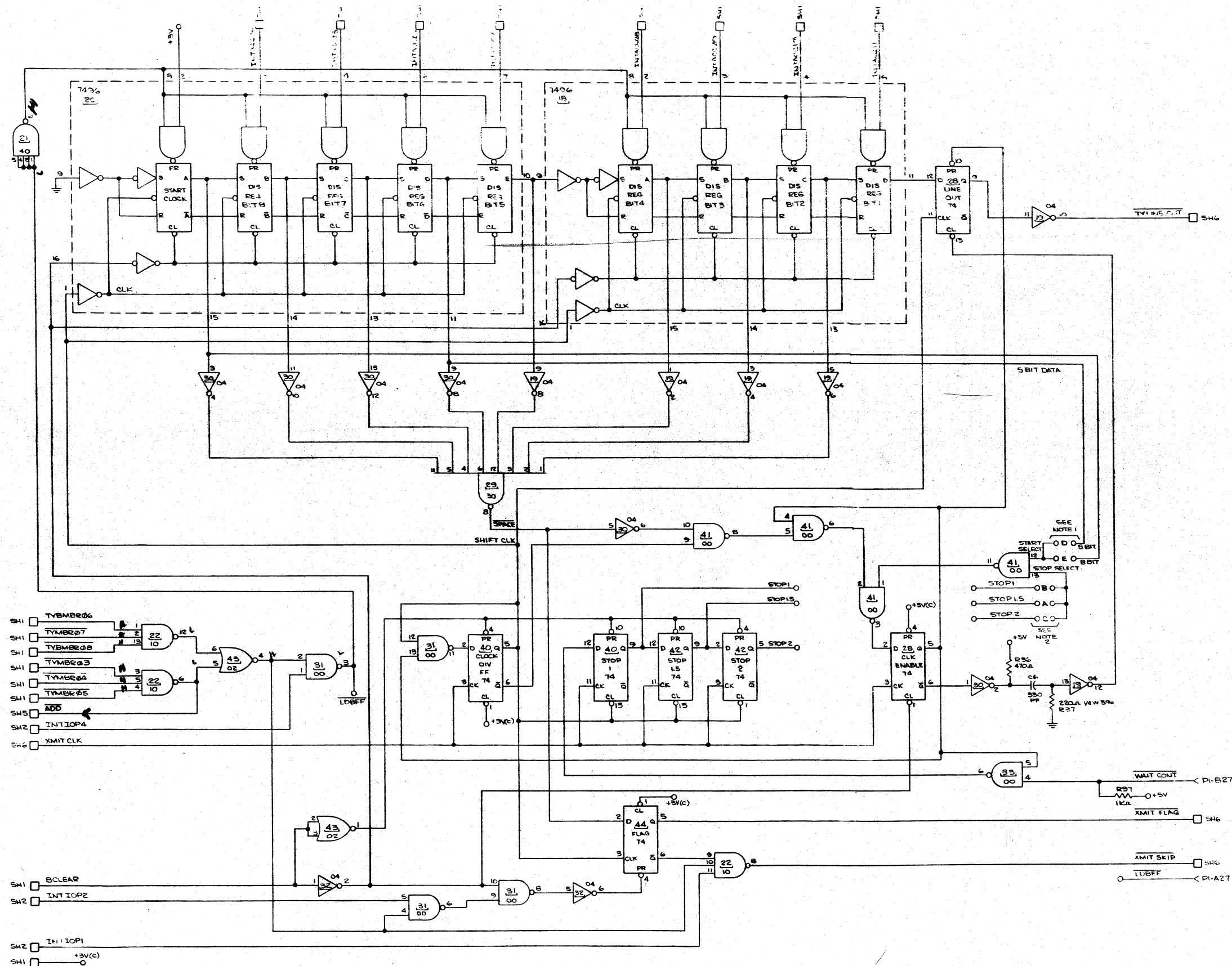


A	REVISED PER ECN 0497	8/27/70
P	REVISED WITH ADDITION OF PIN NUMBERS AND DELETION OF NOTE 2	8/27/70
C	REVISED WITH ADDITION OF PIN NUMBERS AND RENUMBERED RESISTORS TO 100 OHM 1/4 WATT 5% DIODES	7/17/70
D	REVISED 1 SIGNAL NAMES	8/7/70
I	REVISED PER ECN 0000	6/29/70
N	REVISED PER ECN 0497	8/27/70
Q	REVISED PER ECN 0724	8/14/70

ICOUNT		
IC	GATES	PKGS
7414	33	6 PKGS

- SH1 □ — 0+5V
- SH1 □ — 0+5V(B)
- SH1 □ — 0+5V(C)
- SH1 □ — 0+5V(D)
- SH1 □ — 0+5V(E)

A	REVISION 1	DATE	1/1/70	BY	1/1
B	REVISION 2	DATE	1/1/70	BY	1/1
C	REVISION 3	DATE	1/1/70	BY	1/1
P	REVISED/ECN 0673	DATE	7/7/70	BY	FRZ



- NOTES:
- EXTERNAL WIRED JUMP TO SELECT DATA BITS (5 BIT DATA FOR ASCII)
  - JUMPS FOR STOP BITS SELECT 1 AND 2 (STOP 2 FOR TTY ASCII)

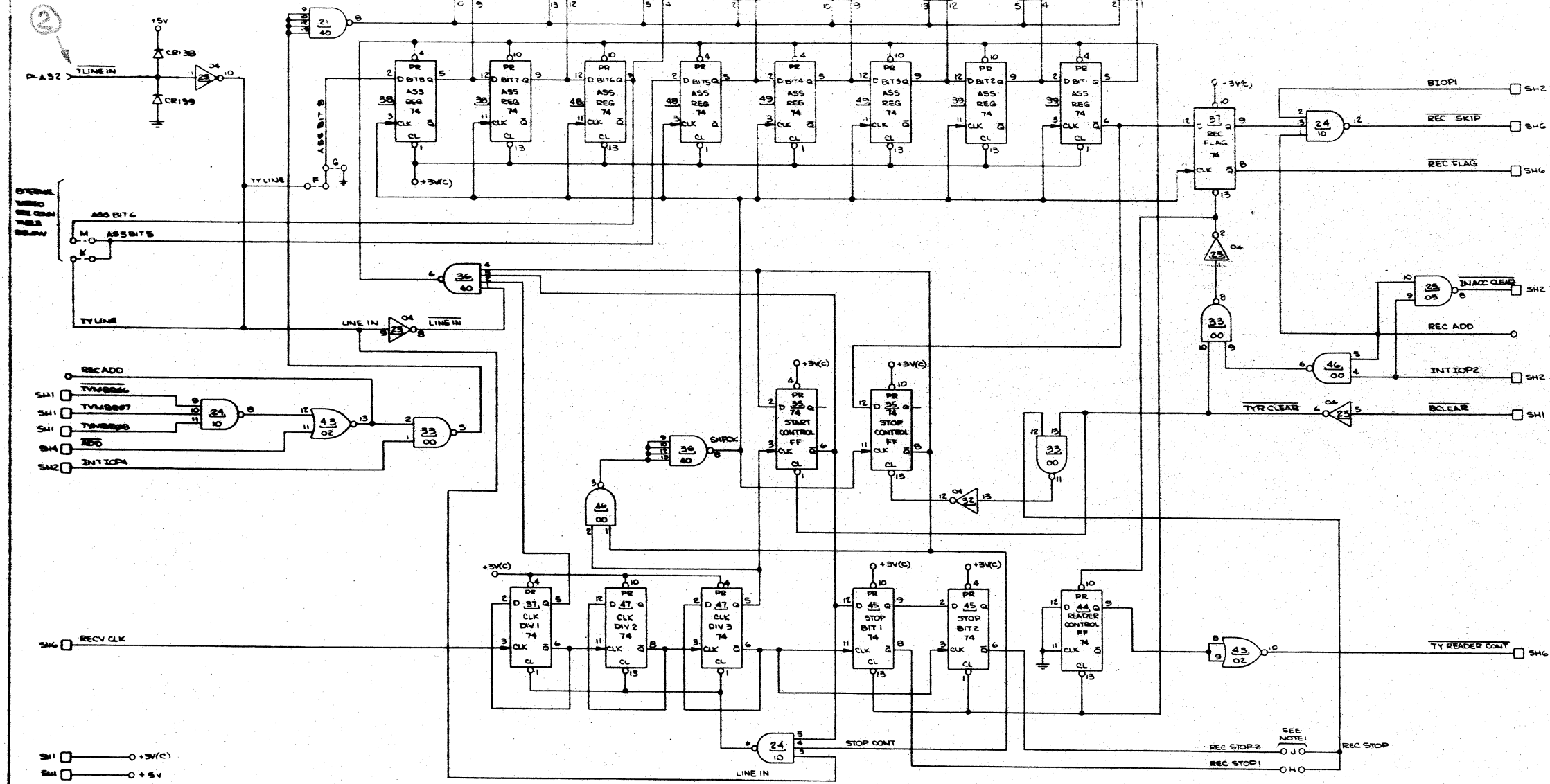
IC COUNT

IC	GATES	PKGS
7400	9	2 1/4
7402	1	2 3/4
7410	3	1 2 1/4
7440	1	1
7474	1	1 1/2
7496	2	3 1/2

D-112  
I/O INTERFACE POSITIVE  
TELETYPE TRANSMITTER  
F 400026 P  
4

SYMBOL	DESCRIPTION	DATE	APPROVAL
A	REVISED TO PROVIDE JUMP TERMINALS REC 6 BIT, REC 5 BIT, TYLINE, REC STOP 1 & 2	5/17/70	A.H.
B	REVISED WITH ADDITION OF IC & PIN NUMBERS	7/17/70	A.H.
C	REVISED PER ECU 0036	11/17/71	A.H.
D	REVISED PER ECU 0090	6/26/72	A.H.

CRT  
R5232



CONNECTION TABLE  
FOR ASCII OR 5 BIT TTY

	ASCII	5BIT
	ASS BIT 0	ASS BIT 5
TY LINE	X	X
REC 6 BIT		X
GRU		X

IC COUNT

IC	GATES	PkGS
7400	5	1 1/4
7402	2	2/4
7404	5	5/4
7410	3	1 1/2
7440	3	1 1/2
7474	17	8 1/2
7405	9	2 1/4

NOTE:  
1. JUMP TO SELECT STOP BIT LENGTH  
(STOP BIT 2 FOR TTY ASCII)

QTY	GROUP	DESCRIPTION	DATE	APPROVAL

UNLESS OTHERWISE SPECIFIED:  
DIMENSIONS ARE IN INCHES AND INCLUDE  
CHEMICALLY APPLIED OR PLATED FINISHES

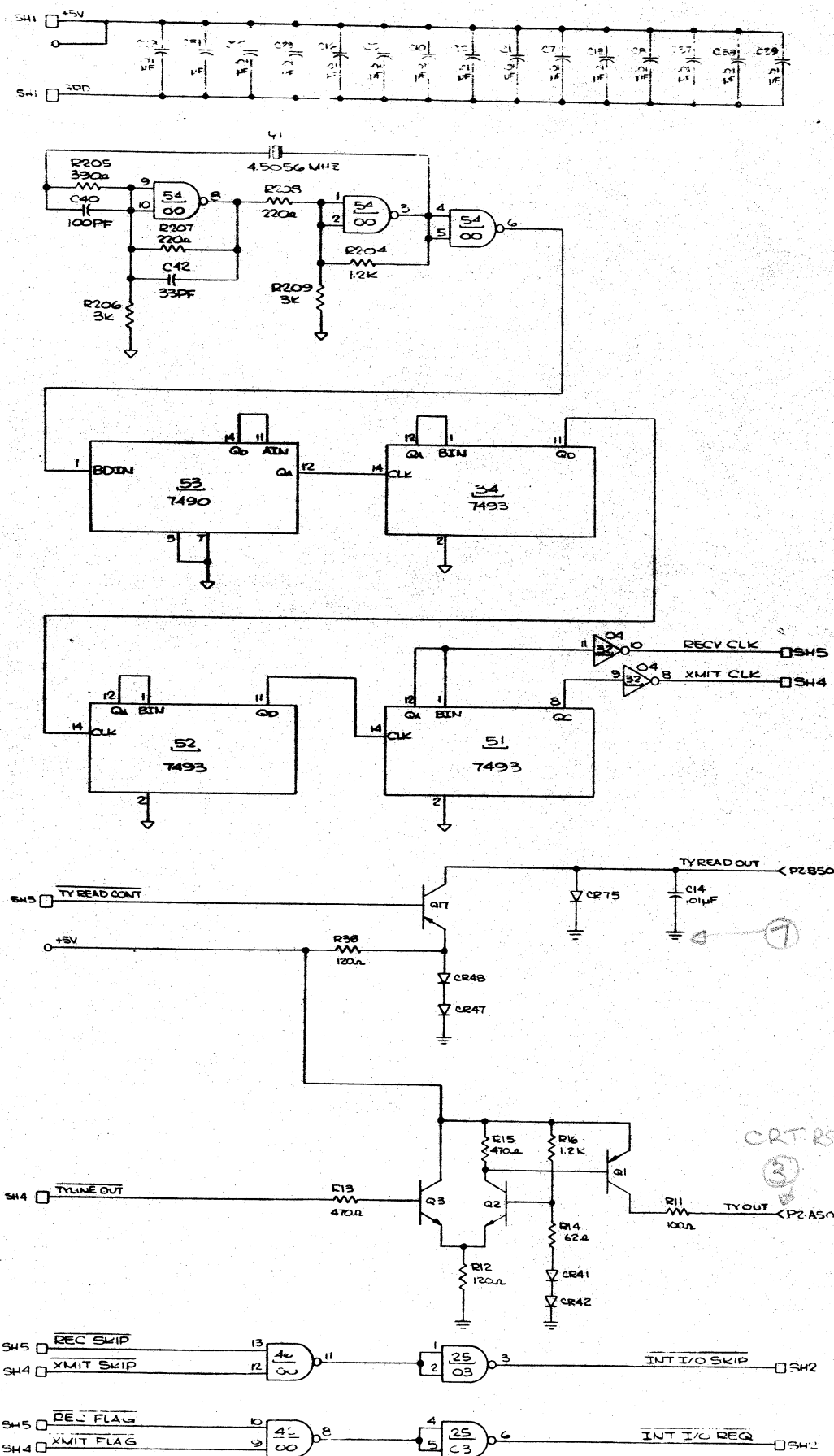
TOLERANCES:  
FRACTIONS DECIMALS ANGLES  
FRACTIONS DECIMALS ANGLES  
HOLE DIAMETER TOLERANCE  
0 THRU .999 .001  
1.000 .001  
HOLE DIAMETER TOLERANCE  
THREADS EXT CL 2A INT CL 2B

APPROVAL: DR. K. THOMPSON  
DATE: 5/17/70  
CHK. J. HERNANDEZ  
DATE: 5/17/70  
APP'D: J. HERNANDEZ

DIGITAL COMPUTER CONTROLS, INC.  
FARMFIELD, NEW JERSEY 07006

D-112  
I/O INTERFACE POSITIVE  
TELETYPE RECEIVER

400026D



COMPONENT	SHEET 1	SHEET 2	SHEET 3	SHEET 4	SHEET 5	SHEET 6	TOTAL QTY	STAFF	DOC PART NUMBER
7417		4/6					1	3/6	000117
7417		4			1/4	1/4	3	3/4	000117
7417				3/4	2/4	2/4	3	1/4	000117
7417		3/6	4/6	5/6	2/6	5/6	15	5/6	000117
7417		2					2		000117
7417				1	1		2		000117
7417					1/2	1/2	1		000117
7438		3/4					1	3/4	000138
7474				2/2	3/2		12		000174
7496				2			2		000196
220k 1/4W 5%	A	B	C	R37		R207, R208	86		002746
390k 1/4W 5%	D	R175	E			R105	37		002752
510k 1/4W 5%							3		002955
1k 1/4W 5%		J		R97			22		002762
470k 1/4W 5%		R12, R13, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62, R63, R64, R65, R66, R67, R68, R69, R70, R71, R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, R92, R93, R94, R95, R96, R97, R98, R99, R100		R36		R13, R15	9		002754
1500k 1/4W 5%							7		002766
27k 1/4W 5%							6		002934
74123							1		000223
1.2k 1/4W 5%		R176				R6, R204	3		002764
62k 1/4W 5%						R14	1		002783
2k 1/4W 5%		R173					1		002769
3k 1/4W 5%						R206, R209	2		002773
120k 1/4W 5%						R12, R98	2		002740
1k 1/4W 5%						R11	1		002788
39k		R200, R201					2		002799
.01uF	C5, 17, 34					F	20		007001
6.8uF	C4, 18, 35	C5, 17, 15, 24, 30					9		007139
68uF	C2B						1		007153
.02uF	C2G						1		007002
330pF				C6			1		007029
100pF						C40	1		007292
33pF						C42	1		007020
.22uF		C32					1		007316
1N4148	G	H	I		CR18, 127	CR41, 42, 47, 48, 75	134		000500
1N4933	CR43, 44, 10, 14, 18, 19, 127	CR193					13		000501
1N750 ZENER		CR105					1		000502
MPS 3646	Q5, 18, 19, 21, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100					Q2, Q3	50		001502
MPS 6534						Q1, Q17	3		001503
4.5056 MHz						Y1	1		009262
47k 1/4W 5%	R96						1		002930
10k 1/4W 5%	R171						1		002714
27k 1/4W 5%	R172						1		002795
33uF	C41						1		007150
22uF	C33						1		007317
7490							1		000190
7493							3	3	000193

NOTES:  
 1. < THIS SYMBOL REFERS TO A CONNECTOR PIN  
 2. □ THIS SYMBOL REFERS TO AN INTERCONNECTION ON A DIFFERENT SHEET  
 3. ○ THIS SYMBOL REFERS TO AN INTERCONNECTION WITHIN THE SAME SHEET  
 4. ALL UNDERLINED NUMBERS DENOTE IC LOCATION ON THE PCB  
 \* L ON VER 9111 G1 & G2: VALUE OF R96 IS 510k 1/2W 5%  
 ON VERSION 92: VALUE OF R96 IS 47k 1/4W 5%

ASSEMBLY	PARTS TO BE ASSEMBLED	OPTION
G1	ALL BUT CR253, IC35, 58, R200-203, CR200, 201	BASIC COMP 11C
G2	SAME AS G1 PLUS BINIT2 INV. POL. IMP.	BASIC COMP 11C PLUS BINIT2 SIGNAL POLARITY INVERTED
G3	IC1, 3, 6, 9, 11-14, 18-54, R1, 4, 8-20, 23-32, 36, 37, 38, 96, 97, 134-137, 140-142, 147-154, 171-177, 204-211, C1, 2, 5-9, 13, 14, 16, 22, 26, 28, 29, 37, 40, Y1, CR2, 42, 47, 49, 75, 136, 139, 143, 150-154, 162, 173, 175, 177, 205, 207	INTERNAL TELETYPE ONLY

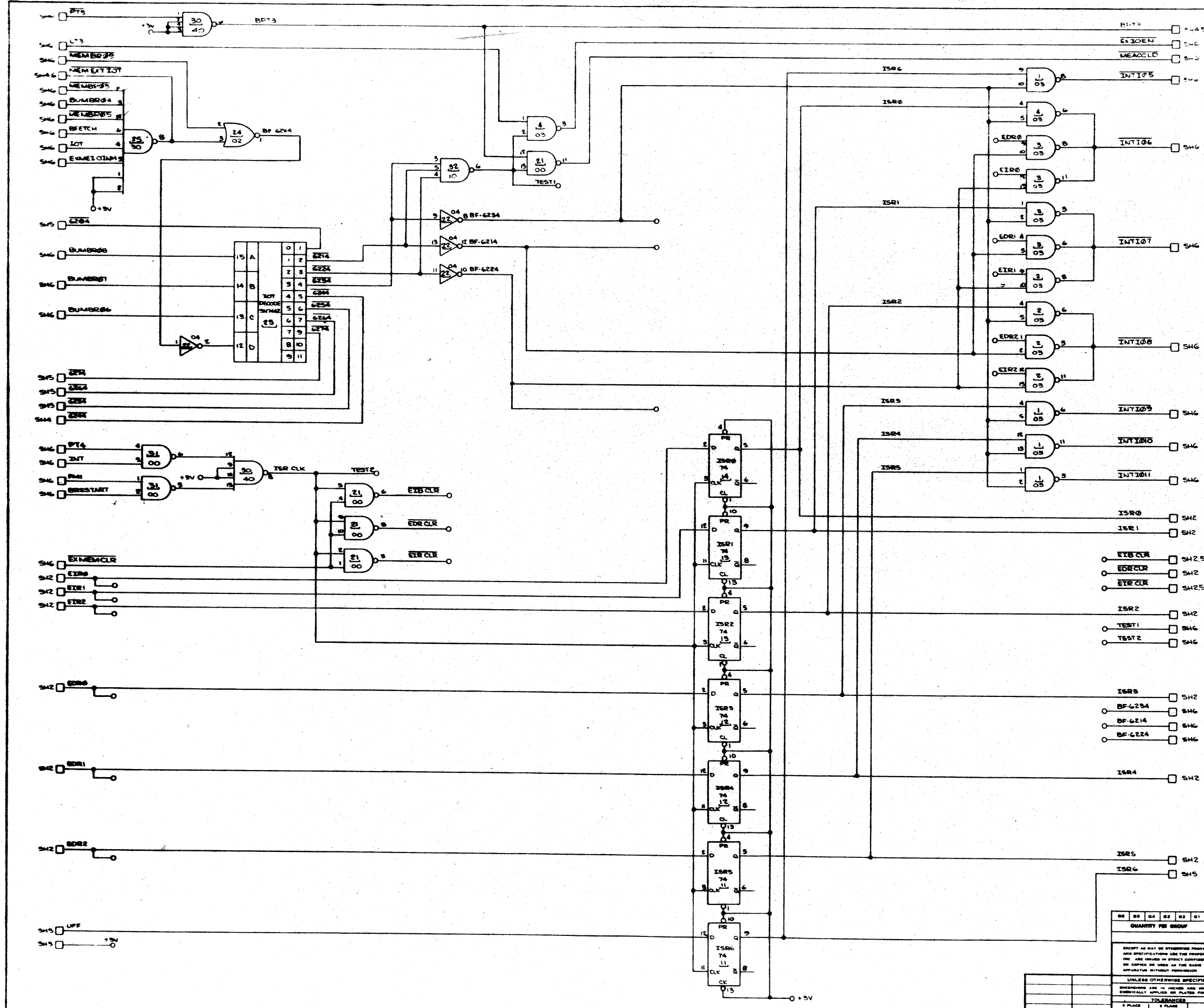
REV	DESCRIPTION	DATE	BY
A	REVISED PART LIST TABLE TO REFLECT CHANGES TO SHEETS 1 & 2	8/1/70	JF
B	REVISED PART LIST TABLE AND REVISION TABLE TO REFLECT CHANGES TO SHEETS 12 & 14	8/10/70	JF
C	REVISED REVISION TABLE TO REFLECT CHANGES TO SHEETS 12 & 14	8/10/70	JF
D	REVISED WITH ADDITION OF IC PIN NUMBERS, REVISIONS, RESISTORS, CAPACITORS, TRANSISTORS & DIODES DELETED NOTES 1 & 2 REVISED REVISION TABLE & PART LIST TABLE	7/8/70	JF
E	REVISED PART LIST TABLE - ADDED 1 CAPACITOR - REVISED REVISION TABLE TO PERFECT CHANGES TO SHEET 5	8/1/70	JF
F	ADDED G VERSION OPTION TABLE	8/1/70	FJZ
G	REVISED SPTS 546 PER ECN 00036	1/14/71	JF
H	REVISED PER ECN 00668	8/10/71	JF
J	REVISED PER ECN 00990	6/11/71	JF
K	REVISED PER ECN 0151 C33 WAS CS REVISED PART LIST TABLE REVISED REVISION TABLE	9/10/71	JF
L	REVISED PER ECN 0277	12/16/71	JF
M	REVISED PER ECN 0301 MB	12/16/71	JF
N	REVISED PER ECN 0497 & 528	3/11/72	JF
P	REVISED / ECN 0675	7/17/72	JF
Q	REVISED / ECN 0734	8/14/72	FJZ

REV	DESCRIPTION
A	R45, 50, 53, 54, 59, 79, 82, 85, 88, 90, 102, 112, 115, 117, 120, 121, 124, 125, 138, 145, 146, 157, 158
B	R1, 4, 8, 9, 17, 20, 29, 31, 135, 136, 140, 141, 148, 149, 152, 153
C	R5, 6, 7, 21-25, 33, 39, 40-42, 44, 48, 49, 67, 68, 72, 74-76, 105-110, 114, 130-132, 159, 160-164
D	R46, 51, 52, 57, 58, 71, 77, 78, 83, 84, 86, 97, 89, 104, 111, 116, 118, 119, 122, 123, 126, 133, 143, 144, 155, 156
E	R45, 47, 54, 55, 66, 69, 70, 113, 165
F	C1, 2, 7-10, 13, 14, 16, 22, 23, 27, 29, 31, 37-39
G	CR5, 58, 65-72, 82, 85, 90-105, 107, 108, 121, 122, 125-136, 154, 155, 160-163, 172, 174, 175, 200-208
H	CR1, 4, 5, 8, 32, 33, 73, 74, 104, 106, 137, 150, 39, 153, 156, 159, 164, 167, 168, 170, 180, 194, 217
I	CR10, 12, 13, 16, 17, 20, 21, 24, 26, 27, 29, 30, 32, 40, 50, 51, 54-56, 59-61, 64, 76-81, 85, 86, 88, 109, 112, 114, 115, 118, 120, 123, 124, 145, 146, 149, 176, 180, 183, 184, 186, 187, 179
J	R2, 3, 10, 18, 19, 30, 32, 134, 137, 139, 142, 147, 150, 151, 154, 174, 177, 202, 203, 210, 211

REVISION TABLE					
SHEET	1	2	3	4	5
REVISION	P	Q	P	D	Q

D-112  
 I/O INTERFACE POSITIVE  
 MISC AND TTY CLK.  
 F 400026 Q

REVISIONS		
SYM	DESCRIPTION	DATE APPROVED
A	REVISED WITH ADDITION OF IC PIN #1'S	10/28/70
B	REVISED PER ECU 0155	10/14/70
C	REVISED PER ECU 0207	10/14/70



IC COUNT

IC	GATES	PNOS
7400	6	1 84
7402	1	1 84
7403	14	3 84
7404	4	4 84
7410	1	1 85
7414	2	1 1
7416	7	1 1

04	03	02	01	00	REV	SIZE	PART NO.	DESCRIPTION

QUANTITY PER GROUP: NO. DRAWING NO.

LIST OF MATERIAL

EXCEPT AS MAY BE OTHERWISE PROVIDED BY CONTRACT THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DIGITAL COMPUTER CONTROLS, INC. ARE ISSUED IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED OR COPIED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS WITHOUT PERMISSION.

DIGITAL COMPUTER CONTROLS, INC.  
FAIRFIELD, NEW JERSEY 07004

UNLESS OTHERWISE SPECIFIED

DRAWINGS ARE IN INCHES AND INCLUDE DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED

APPROVAL: DR. E. THOMPSON DATE: 4/20/70

CHEK: D. Thompson DATE: 6/14/70

DRG: D. Thompson DATE: 5/14/70

APP'D:

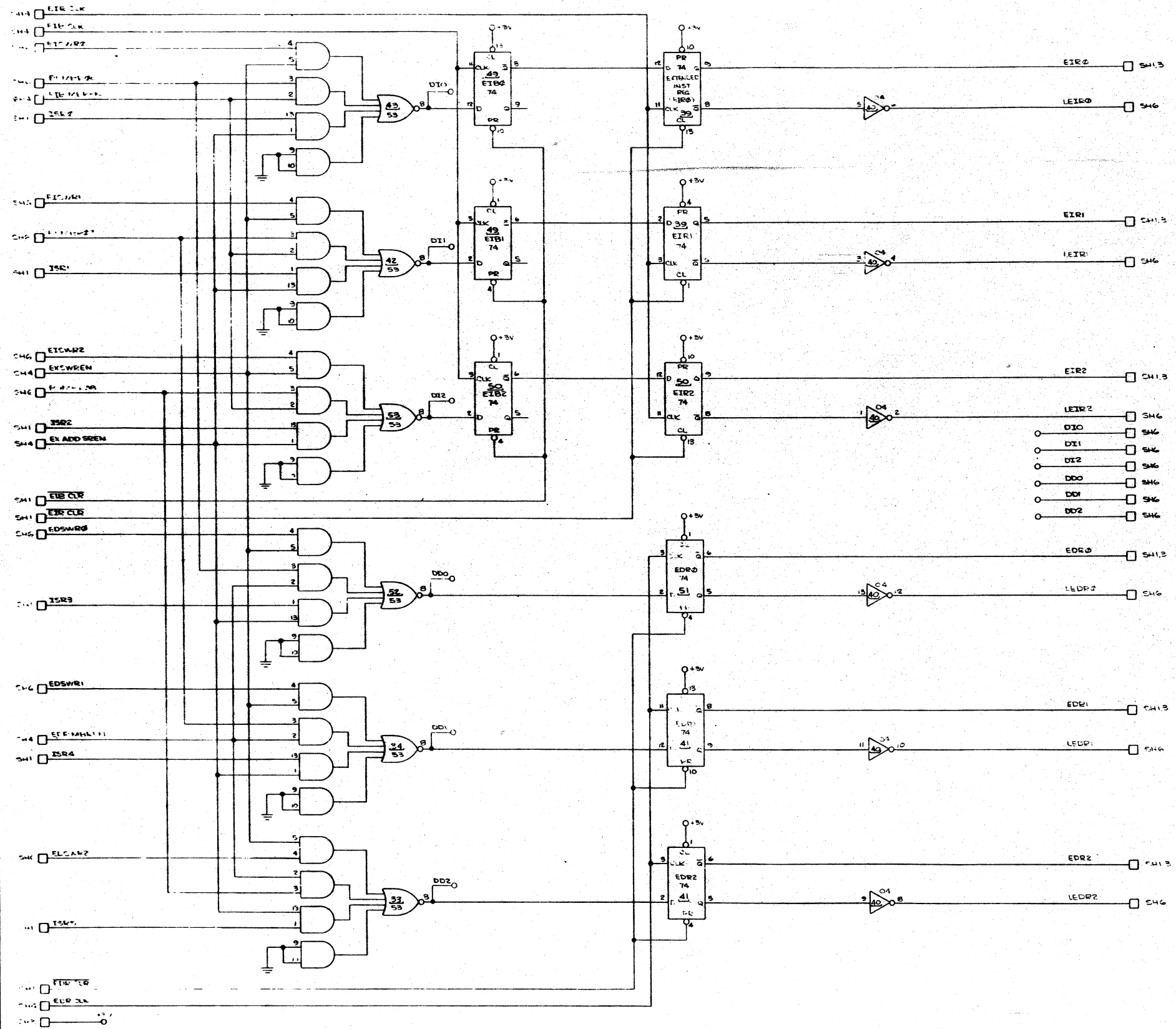
TOLERANCES: 3 PLACES: DECIMALS: 3 PLACES: ANGLES: 3 PLACES

HOLE DIAMETER TOLERANCE: 1/16" DIA. 3/32" DIA. 1/8" DIA. 3/16" DIA. 1/4" DIA. 5/16" DIA. 3/8" DIA. 1/2" DIA. 5/8" DIA. 3/4" DIA. 1" DIA.

MATL: F 400036

SCALE: 1 OF 6

REVISIONS			
SYMZONE	DESCRIPTION	DATE	APPROVED
A	REVISED WITH ADDITION OF IC PIN # 5	4/24/70	[Signature]



IC	GATES	PKGS
7404	6	1
7453	6	6
7474	0	4 Pz

Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54	Q55	Q56	Q57	Q58	Q59	Q60	Q61	Q62	Q63	Q64	Q65	Q66	Q67	Q68	Q69	Q70	Q71	Q72	Q73	Q74	Q75	Q76	Q77	Q78	Q79	Q80	Q81	Q82	Q83	Q84	Q85	Q86	Q87	Q88	Q89	Q90	Q91	Q92	Q93	Q94	Q95	Q96	Q97	Q98	Q99
QUANTITY PER GROUP		DRAWING NO.		DESCRIPTION		MATERIAL		APPROVAL		DATE		MATERIAL		FINISH																																																																																	

EXCEPT AS MAY BE OTHERWISE PROVIDED BY CONTRACT THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DIGITAL COMPUTER CONTROLS, INC. AND ARE ISSUED IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED OR COPIED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS WITHOUT PERMISSION.

**DIGITAL COMPUTER CONTROLS, INC.**  
FAIRFIELD, NEW JERSEY 07006

UNLESS OTHERWISE SPECIFIED:  
DIMENSIONS ARE IN INCHES AND INCLUDE DIMENSIONAL TOLERANCES.  
FINISH: UNLESS OTHERWISE SPECIFIED, ALL SURFACES SHALL BE PLAIN.  
HOLE DIAMETER TOLERANCE: HOLE DIA. TOL. IN INCHES: .0004, .0008, .0015, .0025, .0040, .0060, .0080, .0100, .0120, .0150, .0180, .0200, .0250, .0300, .0350, .0400, .0500, .0600, .0700, .0800, .0900, .1000, .1250, .1500, .1750, .2000, .2500, .3000, .3500, .4000, .5000, .6000, .7000, .8000, .9000, 1.0000.

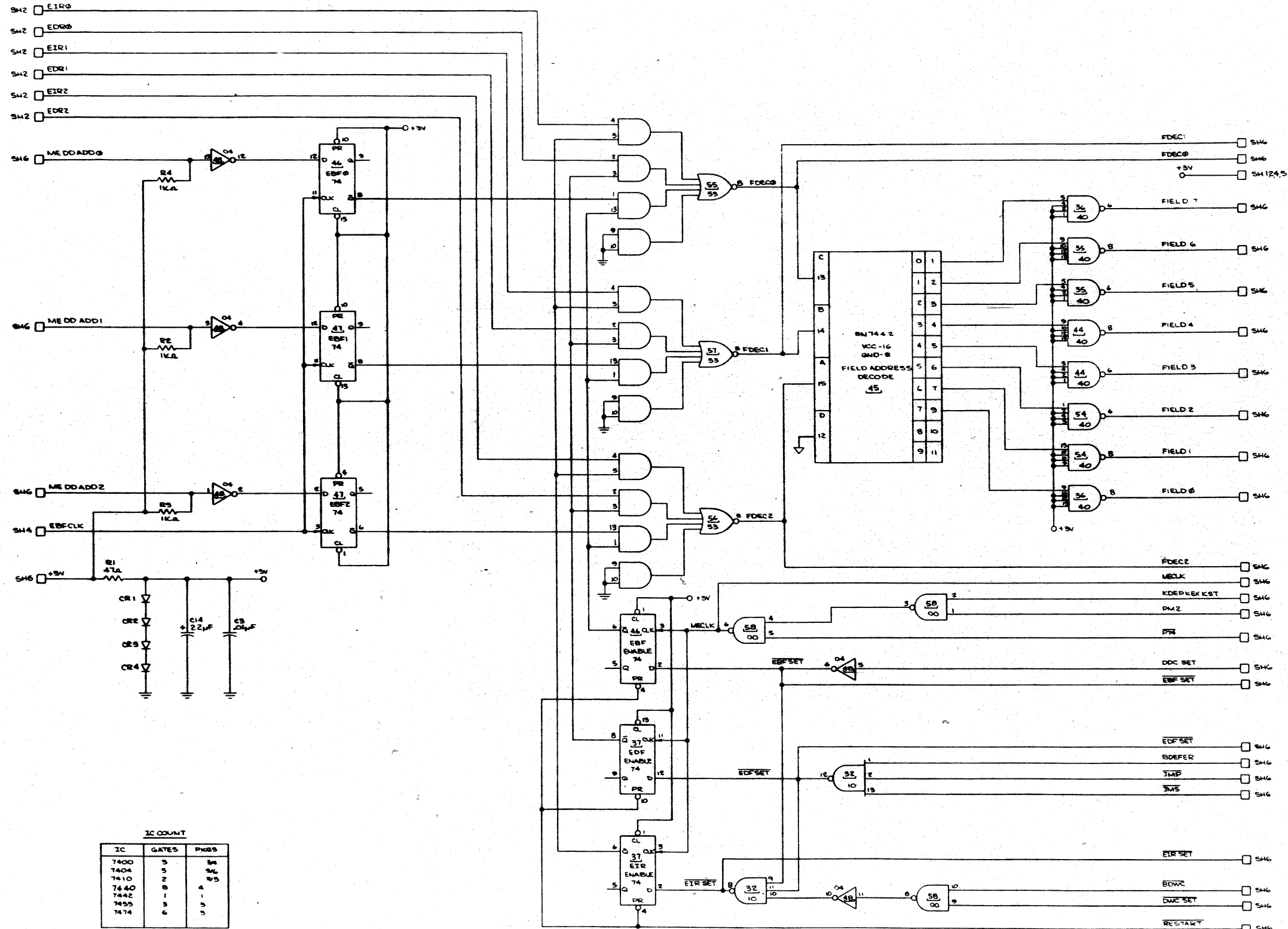
APPROVAL: [Signature]  
DATE: 5/14/70

MATERIAL: 400036A

FINISH: [Blank]



REVISIONS			
SYMZONE	DESCRIPTION	DATE	APPROVED
A	REVISED WITH ADDITION OF IC'S P/N'S	4/20/70	<i>[Signature]</i>
B	REVISED PER ECN 0005	4/20/70	<i>[Signature]</i>
C	REVISED PER ECN 0165	5/14/70	<i>[Signature]</i>
D	REVISED PER ECN 0207	5/14/70	<i>[Signature]</i>
E	REVISED PER ECN 0421	2/11/71	<i>[Signature]</i>



IC COUNT		
IC	GATES	Pkgs
7400	3	34
7404	5	34
7410	2	15
7411	1	4
7412	1	1
7455	3	3
7474	6	3

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40
QUANTITY		PART NO.		DESCRIPTION		REV.		DATE		APPROVED		DRAWING NO.		SIZE		MATERIAL		FINISH		MATERIAL		FINISH		MATERIAL		FINISH		MATERIAL		FINISH		MATERIAL		FINISH		MATERIAL		FINISH	

LIST OF MATERIAL

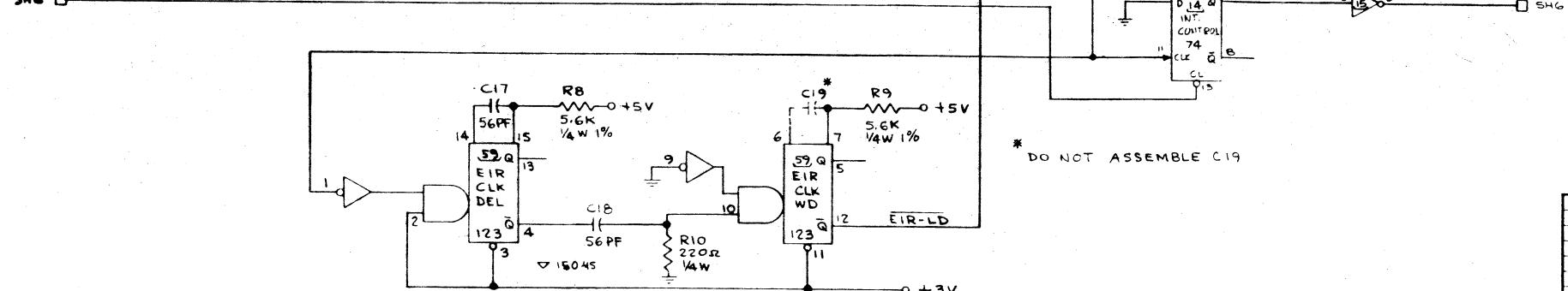
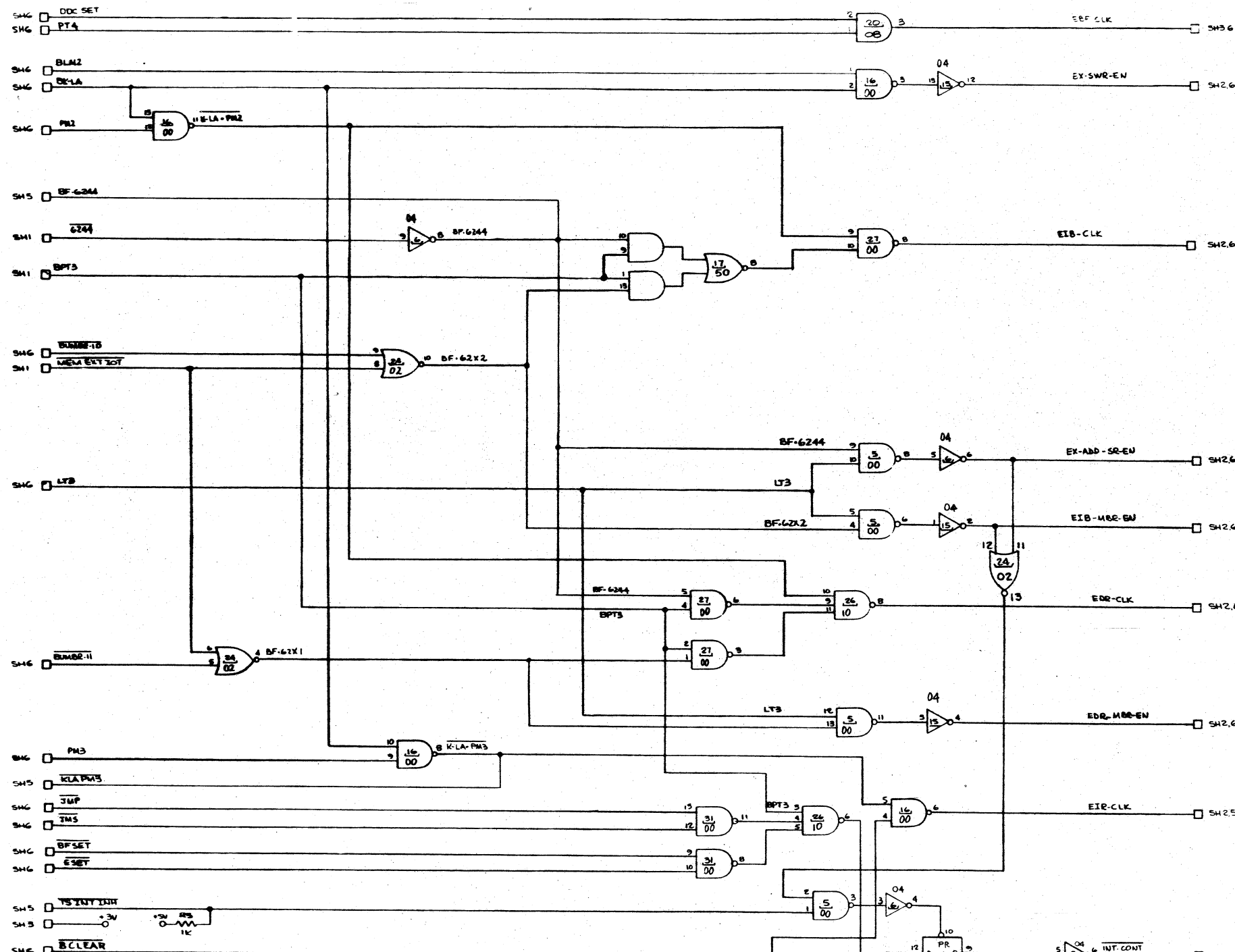
DIGITAL COMPUTER CONTROLS, INC.  
FAIRFIELD, NEW JERSEY 07008

D-112  
MEMORY EXTENSION CONTROL  
FIELD ADDRESS DECODE & CONTROL  
HIGH SPEED CHN EXT ADD

APPROVAL: DR. K. T. CRY... DATE: 4/20/70  
 ENG. J. J. ... DATE: 5/14/70  
 APP'D. ... DATE: 5/14/70

MATERIAL: F 400036 E  
 FINISH: ...  
 SCALE: 1:1  
 SHEET: 3 OF 6

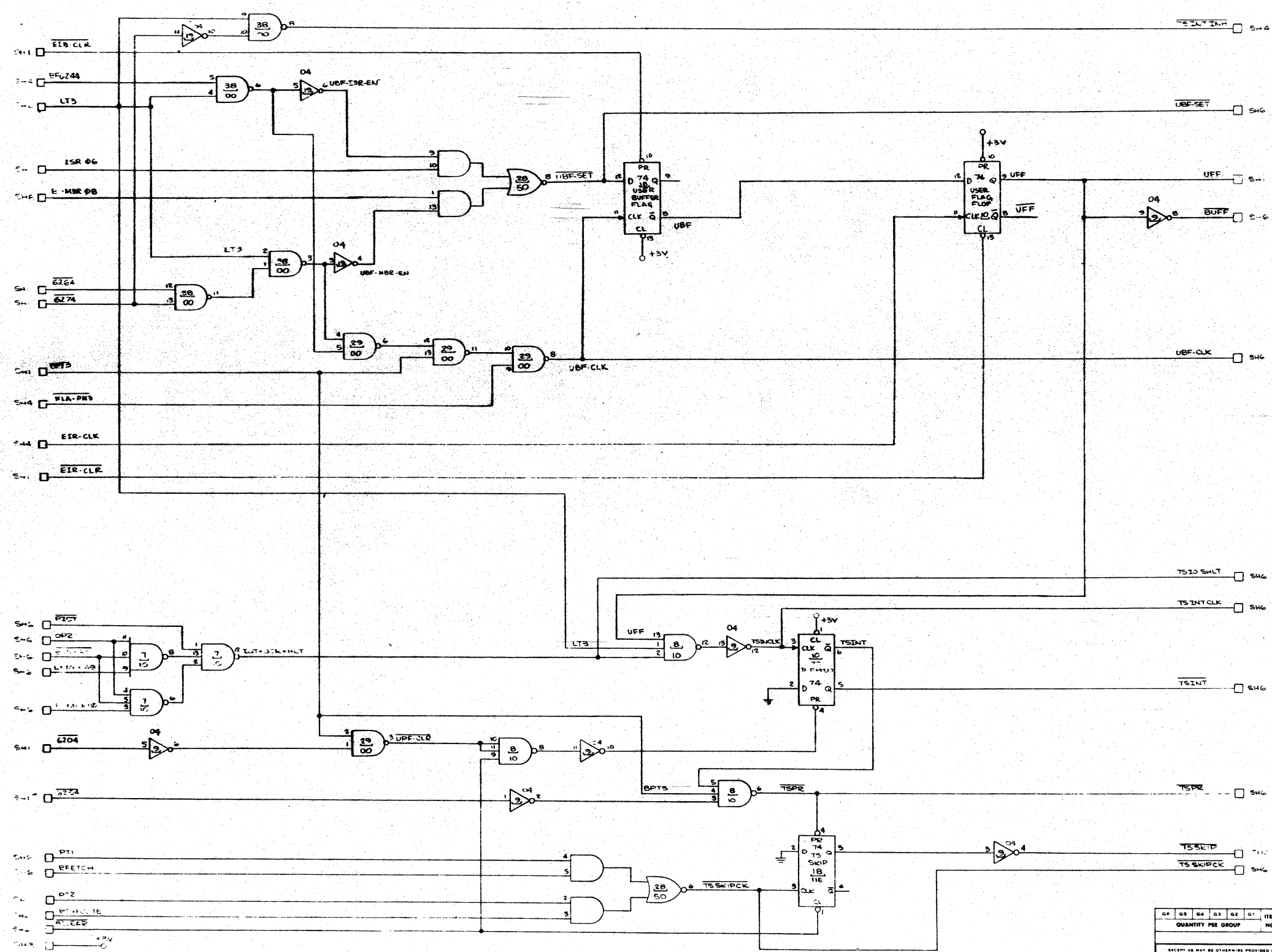
REVISIONS			
SYMZONE	DESCRIPTION	DATE	APPROVED
A	REVISED WITH ADDITION OF IC PIN #3	4/16/70	[Signature]
B	REVISED PER ECN 0072	4-18-71	[Signature]
C	REVISED PER ECN 0207	10/15/71	[Signature]
D	REVISED PER ECN 0421	2/14/72	[Signature]



IC	GATES	PKGS
7400	13	5 1/4
7402	3	3/4
7404	7	1 1/2
7410	2	2 1/2
7450	1	1/2
7474	1	1 1/2
74123	2	1
7408	1	1 1/4

Q8	Q9	Q4	Q3	Q2	Q1	ITEM	SIZE	PART NO.	DESCRIPTION	QTY	U	OF
QUANTITY PER GROUP										NO	DRAWING NO	DESCRIPTION
LIST OF MATERIAL												
EXCEPT AS MAY BE OTHERWISE PROVIDED BY CONTRACT, THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DIGITAL COMPUTER CONTROLS, INC. AND SHOULD BE KEPT IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN THE MAKING OF THE MANUFACTURE OR SALE OF APPARATUS WITHOUT PERMISSION.												
<b>DIGITAL COMPUTER CONTROLS, INC.</b>										FAIRFIELD, NEW JERSEY 07006		
UNLESS OTHERWISE SPECIFIED:										APPROVAL		
DIMENSIONS ARE IN INCHES AND INCLUDE DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED										DATE		
TOLERANCES										DR		
FRACTIONS										CHK		
DECIMALS										APP'D		
ANGLES										DATE		
HOLE DIAMETER TOLERANCE										MATERIAL		
HOLE DIA. 1/16" TO 1/8" ± .001										FINISH		
HOLE DIA. 1/8" TO 1/4" ± .002										SCALE		
HOLE DIA. 1/4" TO 1/2" ± .003										SHEET 4 OF 6		
HOLE DIA. 1/2" TO 1" ± .004										NEXT ASSY.		
HOLE DIA. 1" TO 2" ± .005										USED ON		
HOLE DIA. 2" TO 4" ± .006										DATE		
HOLE DIA. 4" TO 6" ± .008										DRAWN		
HOLE DIA. 6" TO 12" ± .010										CHECKED		
HOLE DIA. 12" TO 24" ± .012										APPROVED		
HOLE DIA. 24" TO 48" ± .015										DATE		
HOLE DIA. 48" TO 96" ± .020										DRAWING NO		
HOLE DIA. 96" TO 192" ± .025										DESCRIPTION		
HOLE DIA. 192" TO 384" ± .030										QTY		
HOLE DIA. 384" TO 768" ± .035										U		
HOLE DIA. 768" TO 1536" ± .040										OF		
HOLE DIA. 1536" TO 3072" ± .045										M		

REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED
A	REVISED WITH ADDITION OF IC PIN #'S	11/28/70	AH



IC	GATES	PIN'S	SQUARE
7400	8	2	96
7404	8	1	
7410	1	1	
7420	1	1	
7430	1	2	

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50								

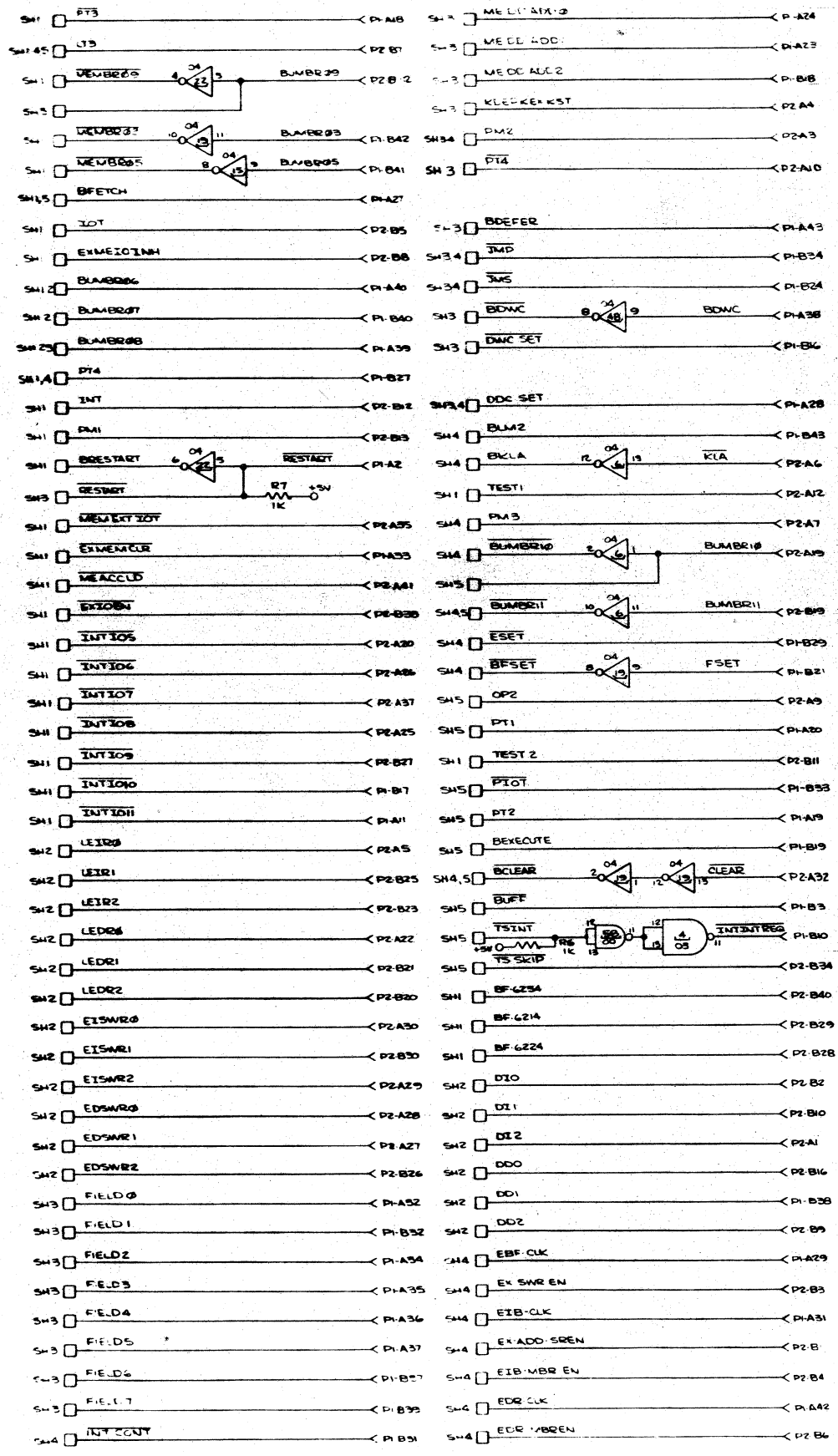
  

UNLESS OTHERWISE SPECIFIED										APPROVAL	DATE
DIMENSIONS ARE IN INCHES AND INCLUDE DIMENSIONS UNLESS OTHERWISE SPECIFIED										DR 1	11/28/70
TOLERANCES										CHK 1	11/28/70
FRACTIONS										ENG 1	11/28/70
DECIMALS											
HOLE DIAMETER TOLERANCE											
0 THRU .999											
1.000 THRU .999											
.001 THRU .009											
.010 THRU .009											
FINISH											

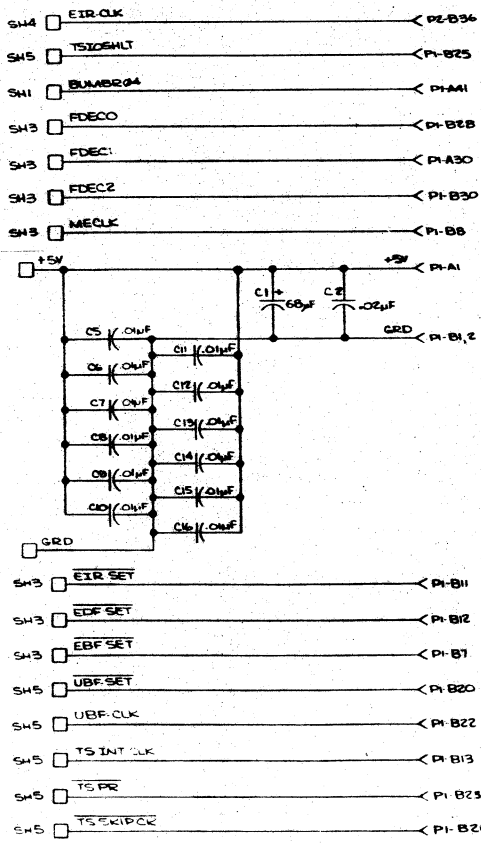
DIGITAL COMPUTER CONTROLS, INC.	
FAIRFIELD, NEW JERSEY 07006	
D-112	
TIME SHARING CONTROL	
F	400036A
SCALE	SHEET 1 OF 4

REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED
A	REVISED PART LIST TABLE, ADDED REVISION TABLE, IC & PIN NUMBERS DELETED NOTES 1, 2, 3, 7, 8, 9 RENUMBERED NOTES 4, 5, 6 TO 12, 3, ADDED NOTE 4 & 5	4/27/70	<i>[Signature]</i>
B	REVISED PER ECN'S 0005 & 0004	5/11/70	<i>[Signature]</i>
C	REVISED PER ECN 0008	5/11/70	<i>[Signature]</i>
D	REVISED PER ECN 0159	10/14/70	<i>[Signature]</i>
E	REVISED PER ECN 0207	10/14/70	<i>[Signature]</i>
F	REVISED PER ECN 0421	2/4/70	<i>[Signature]</i>



PART LIST TABLE

COMPONENT	SHEET 1	SHEET 2	SHEET 3	SHEET 4	SHEET 5	SHEET 6	Q2	SPACE	PART NUMBER	Q1
7400	1	1	3/4	2	1/4	8	1/4		000100	6
7402				3/4		1			000102	1
7403	3/4					4	1/4		000103	4
7404	1/2	1	3/4	1 1/2	2	1 1/2	7	3/4	000104	6
7410	1/2		3/4	2/3	2		4	1/2	000110	2
7430	1						1		000130	1
7440	1		4				5		000140	5
7442	1		1				2		000142	2
7450				1/2	1		2	1/2	000150	1
7453		6	3				9		000153	9
7474	3/2	4/2	3	1	2		14		000174	12
1K 1/2 W			R2-R4	R5	R6-R7		6		002762	6
47k 1 W			R1				1		003190	1
22µF			C4						007183	1
.01µF			C3			C5-C6	13		007001	13
.05µF						C1	1		007153	1
.02µF						C2	1		007002	1
1M40B			10N-04				4		000500	4
74123				1			1		000223	1
220Ω 1/4 W				R10			1		002746	1
5.6kΩ 1/4 W				R8, R9			2		002580	2
5.6PF				C17, C18			2		007290	2
7408				1/4			1	1/4	000108	1



- NOTES:
- THIS SYMBOL REFERS TO A CONNECTOR PIN
  - THIS SYMBOL REFERS TO AN INTERCONNECTION ON A DIFFERENT SHEET.
  - THIS SYMBOL REFERS TO AN INTERCONNECTION WITHIN THE SAME SHEET
  - ALL UNDERLINED NUMBERS DENOTE IC LOCATION ON THE DC.
  - SHEET 5 CONTAINS TIME SHARING OPTION.

REVISION TABLE

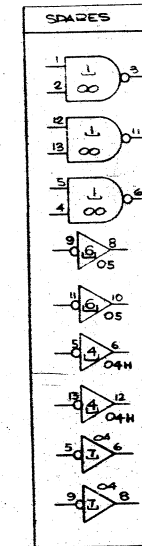
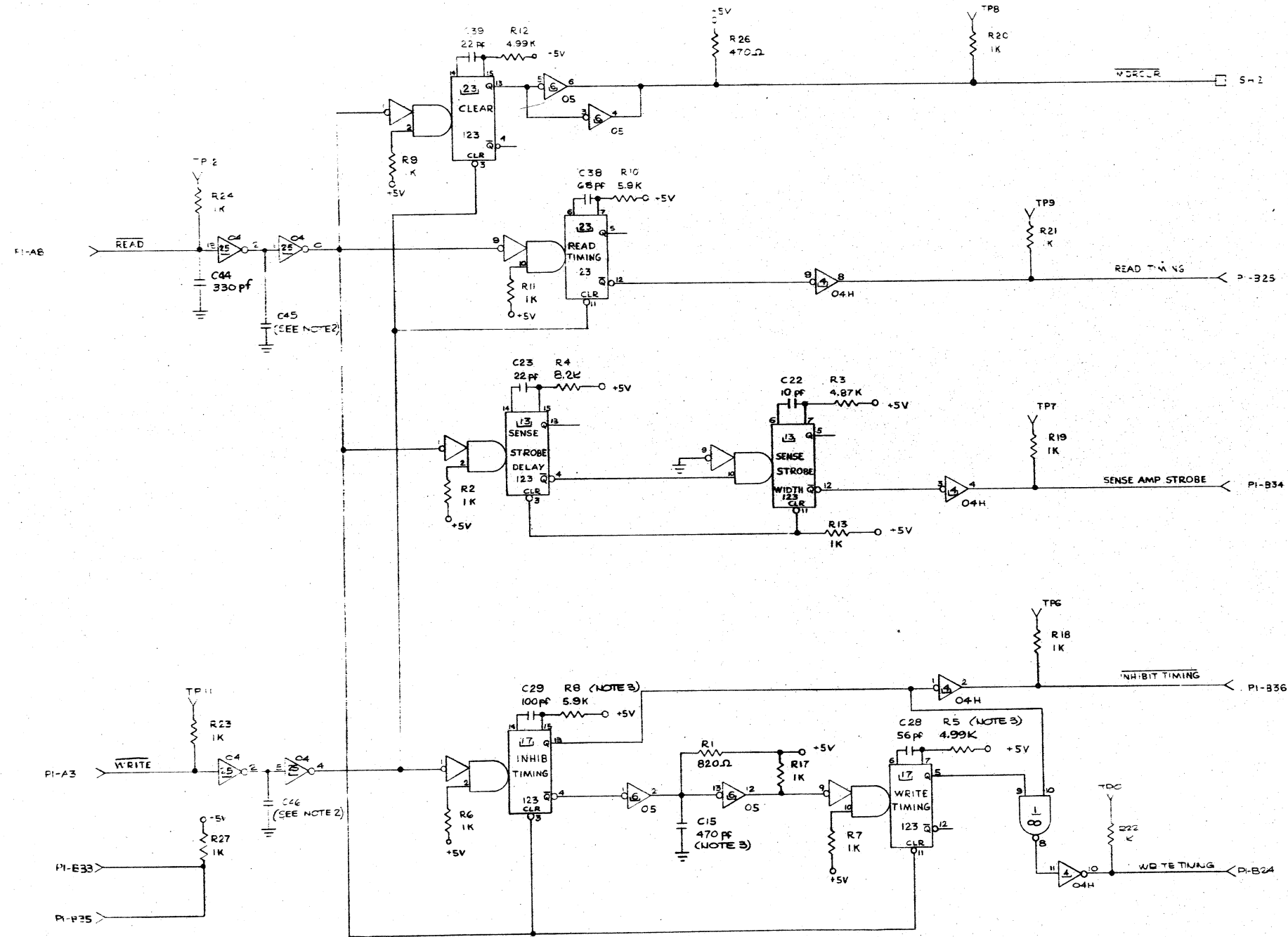
SHEET	1	2	3	4	5	6
REVISION	C	A	E	D	A	F

IC COUNT

IC	QATES	PROGS
7404	11	256
7403	1	1/4
7400	1	1/4

QTY	Q3	Q4	Q2	Q1	ITEM	SIZE	PART NO	DESCRIPTION	M	Q1	Q2
QUANTITY	PRI	GROUP			NO		DRAWING NO				
LIST OF MATERIAL								DIGITAL COMPUTER CONTROLS, INC.			
EXCEPT AS MAY BE OTHERWISE PROVIDED BY CONTRACT, THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DIGITAL COMPUTER CONTROLS, INC. AND ARE ISSUED IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED OR COPIED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS WITHOUT PERMISSION.								FAIRFIELD, NEW JERSEY 07004			
UNLESS OTHERWISE SPECIFIED								APPROVAL		DATE	
DIMENSIONS ARE IN INCHES AND INCLUDE DIMENSIONAL APPLIED OR PLATED FINISHES								DR. <i>[Signature]</i>		4/27/70	
TOLERANCES								CHK. <i>[Signature]</i>		5/11/70	
± .01		± .002		± .001		± .001		± .001		± .001	
HOLE DIAMETER TOLERANCE								MATERIAL		PART NO	
± .001		± .001		± .001		± .001		± .001		± .001	
THREADS EXCEPT CL 24 INT CL 28								FINISH		SCALE	
								400036		F	

A	DEFINITION ECN 008 100	REV	2/27/71	1/1
B	REVISED PER ECN 3101	GC	3/15/71	1/1
E	REVISED PER DWD 489	RWT	3/24/72	1/1
F	REVISED / ECN 0627	RWT	3/24/72	1/1

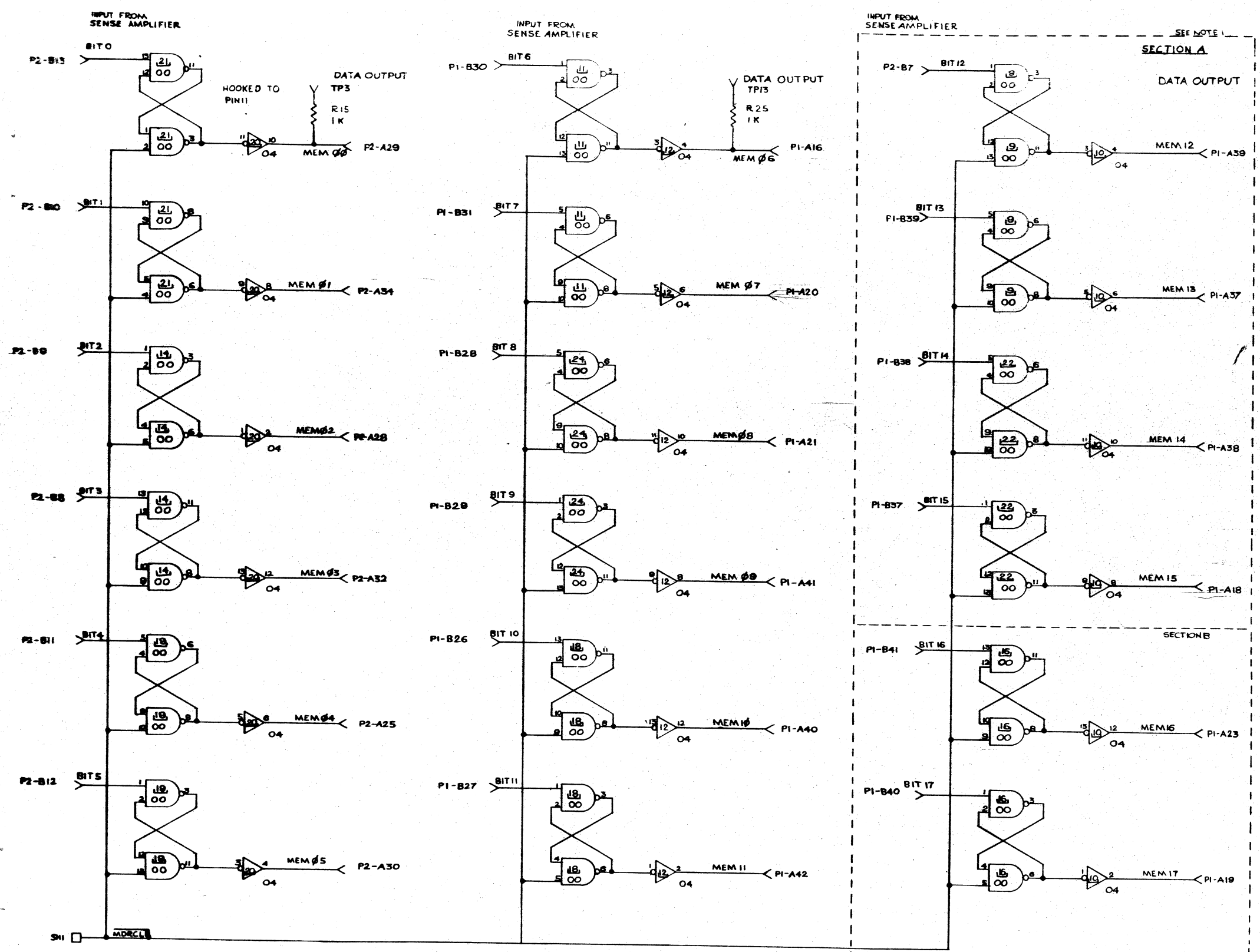


IC	GATES	PKGS
74104	4	4/6
7405	4	4/6
74123	6	3
7404	4	4/6
7400	1	1/4

NOTE:

- DO NOT ASSEMBLE
- FOR G5 ASSY R5 IS 5.9K (002645) AND C15 IS 330PF (007336)
- FOR G6 ASSY R5 IS 5.9K (002645) AND R8 IS 6.49K (002650) C15 IS 330PF (007336)

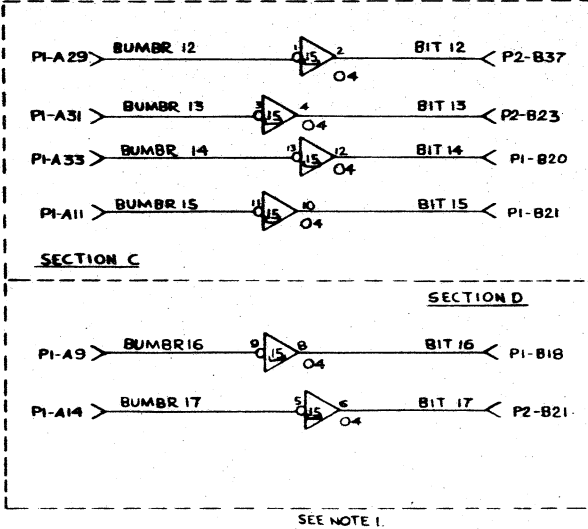
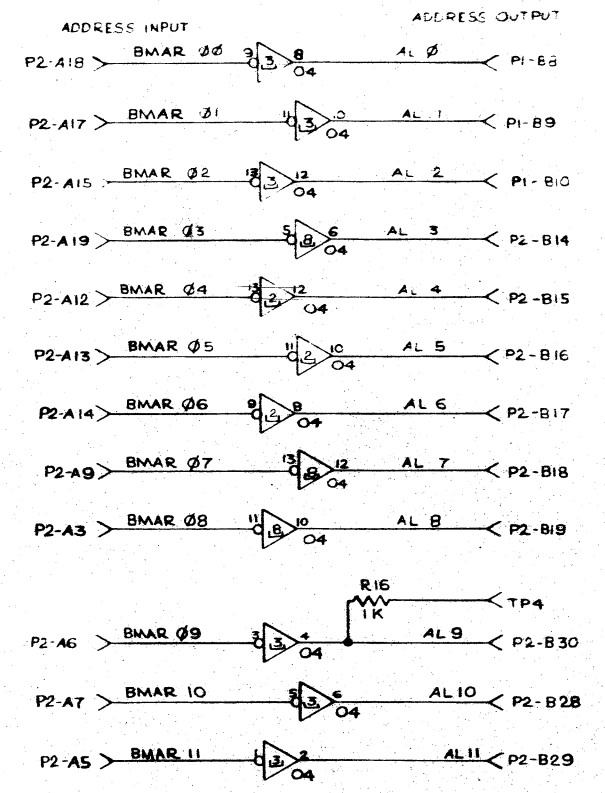
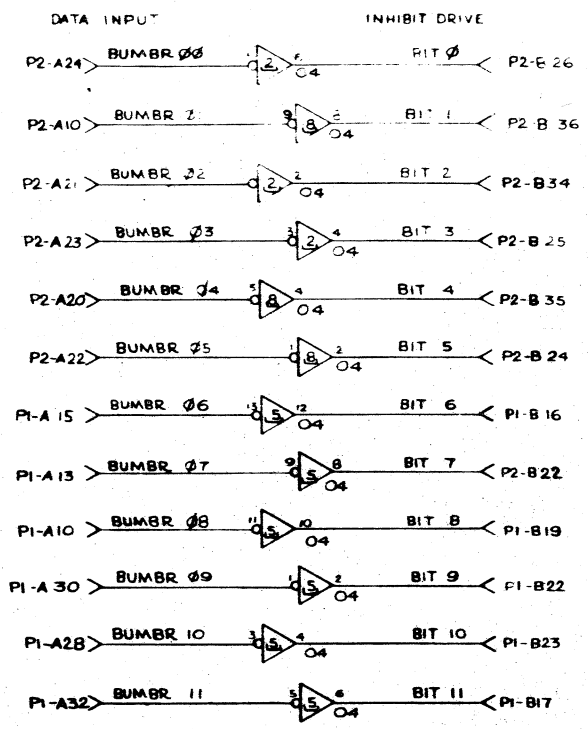
REVISED 3/24/72  
 D-112  
 CORE MEMORY CONTROL  
 F-40031F



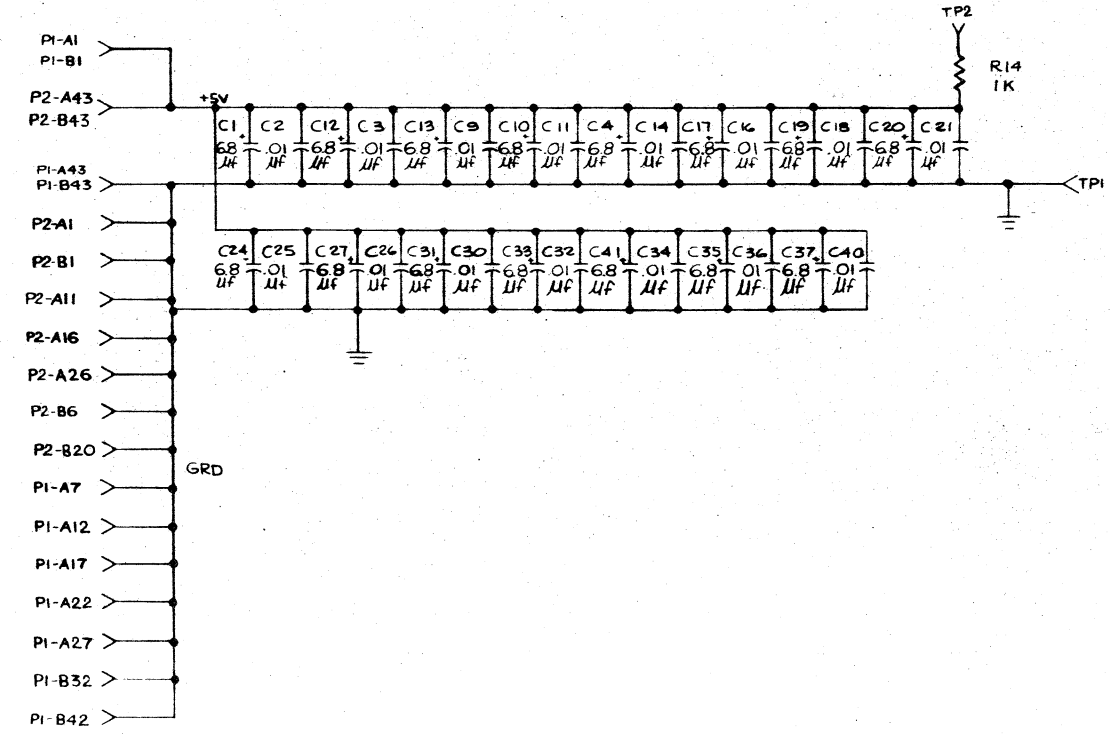
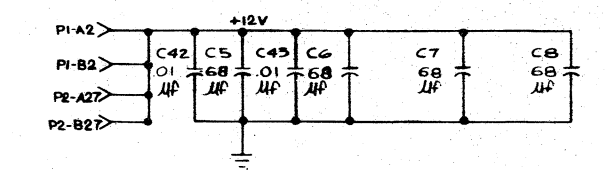
IC COUNT

IC	GATES	PKGS
7400	36	9
7404	18	3

Q4	Q3	Q2	Q1	ITEM	SIZE	PART NO	DESCRIPTION	
QUANTITY PER GROUP							NO	DRAWING NO.
LIST OF MATERIAL								
EXCEPT AS MAY BE OTHERWISE PROVIDED BY CONTRACT THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DIGITAL COMPUTER CONTROLS, INC. AND ARE LOANED TO YOUR COMPANY AND SHALL NOT BE REPRODUCED OR COPIED OR USED AS THE BASIS FOR THE MANUFACTURE OF ANY APPARATUS WITHOUT PERMISSION.								
<b>DIGITAL COMPUTER CONTROLS, INC.</b> FAIRFIELD, NEW JERSEY 07004								
UNLESS OTHERWISE SPECIFIED				APPROVAL		DATE		
DIMENSIONS ARE IN INCHES AND INCLUDE DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED				DR. R. RINALDI		6/2/71		
TOLERANCES				CHK. AAC		6/23/71		
2 PLACE DECIMALS				ENG. AAC		6/23/71		
3 PLACE DECIMALS				FRGO				
HOLE DIAMETER TOLERANCE				MAT.				
0.001 - 0.009				FINISH				
0.010 - 0.049				SCALE		2 OF 4		
0.050 - 0.249				NEXT ASSY		USED ON		
0.250 - 1.000				THREADS		BY CL ZA INT CL 2B		



SEE NOTE 1.



IC COUNT

IC	GATES	PKGS
7404	30	5

Q4	Q3	Q4	Q2	Q1	ITEM	DATE	PART NO	DESCRIPTION	M	U
QUANTITY	P	GROUP	NO	DRAWING NO						
LIST OF MATERIAL										
EXCEPT AS MAY BE OTHERWISE PROVIDED BY CONTRACT, THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DIGITAL COMPUTER CONTROLS, INC. AND ARE LOANED TO YOU IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF DIGITAL COMPUTER CONTROLS, INC.										
<b>DIGITAL COMPUTER CONTROLS, INC.</b> FARMFIELD, NEW JERSEY 07004										
UNLESS OTHERWISE SPECIFIED:		APPROVAL		DATE		D-112				
DIMENSIONS AND TOLERANCES ARE IN INCHES UNLESS OTHERWISE SPECIFIED.		DR. R. RINALDI		6/3/71		CORE MEMORY CONTROL.				
FINISH: UNLESS OTHERWISE SPECIFIED, ALL SURFACES ARE TO BE PLATED FINISH.		CHG AAC		5/23/71		F 400191				
HOLE DIA: .0015		MATERIAL		FINISH		SCALE: 3 OF 4				
THREADS: 24 INT CL 28		NEXT ASSY		USED ON						

A	REVISED PER EQU 0099 & 000	RKT	6/27/71
B	REVISED PER ECN 0101 014	G.G.	7/9/71
C	REVISED PER ECN 0120	RKT	8/28/71
D	REVISED PER ECN 0278	RKT	12/8/71
E	REVISED PER ECN 0489	RKT	3/24/72
F	REVISED/ ECN 0627	RKT	5/14/72

COMPONENTS	SHEET 1	SHEET 2	SHEET 3	SPARE	QTY	DCC NUMBER
7400	1/4	9		3/4	10	000100
7404	1/2	3	5	2/6	9	000104
7405	1/6			2/6	1	000105
74123	3				3	000223
470Ω 1/4W	R26				1	002754
820Ω 1/4W	R				1	002760
1K 1/4W	A	R15, R25	R14, R16		19	002762
4.7K 1/8W	R3				1	002644
4.99K 1/8W	RE, R2				2	002646
5.9 K 1/8W	RS, R10				2	002645
.01µF 50V			B		17	007001
6.8µF 35V			C		15	007139
6.8µF 15V			C5-B		4	007153
10µF 50CV	C22				1	007286
56pf 500V	C18				1	007290
2.2pf 500V	C23, C39				2	007291
100pf 500V	C28				1	007292
470pf 500V	C15				1	007295
8.2K 1/4W	R4				1	009254
741404	1/2			2/6	1	000104H
1µF	C38					007288
330 pf	C44				1	007029

A - R2, 6, 7, 9, 11, 13, 17, 24, 27  
B - C2, 3, 9, 11, 14, 16, 18, 21, 25, 26, 30, 32, 34, 36, 40, 42  
C - C1, 4, 10, 12, 13, 17, 19, 20, 24, 27, 31, 33, 35, 37, 41

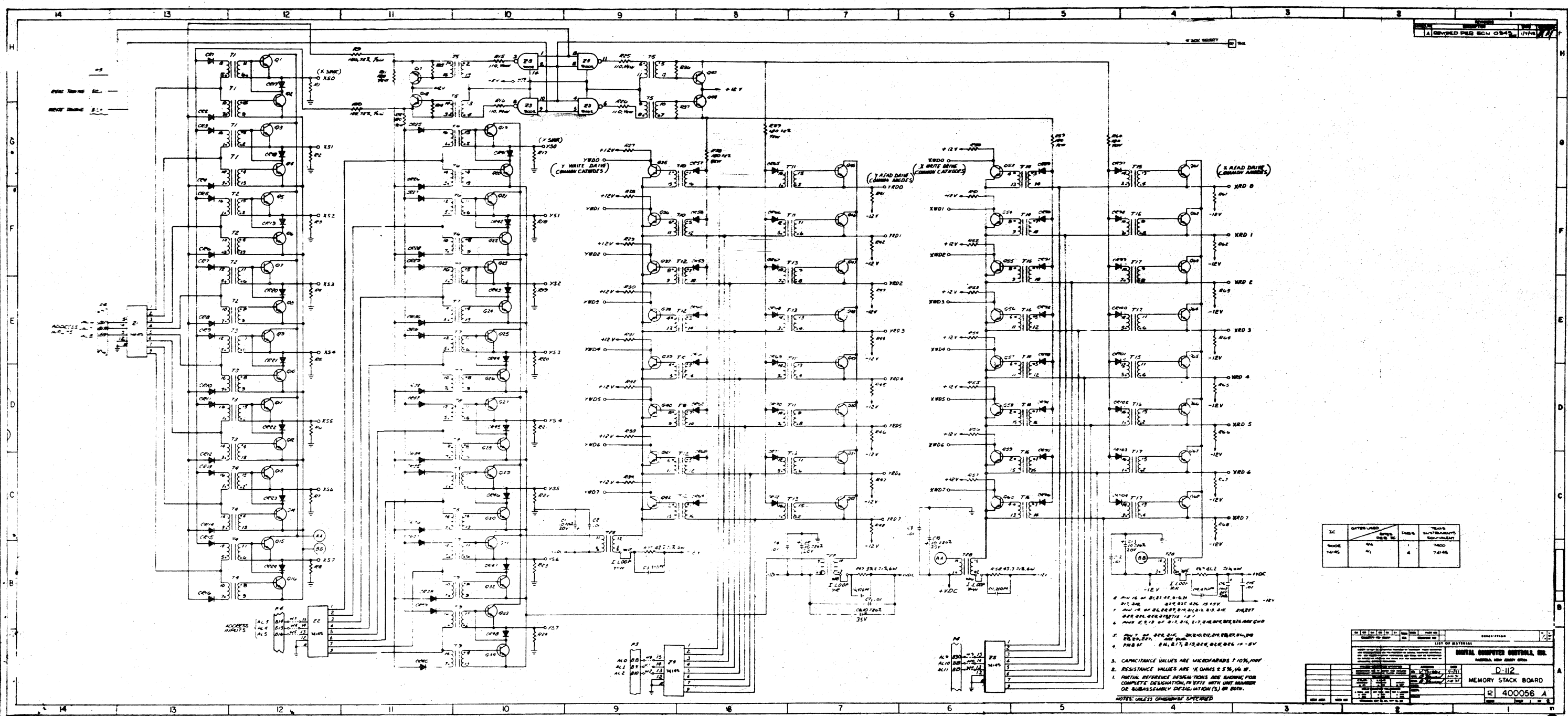
NOTES:

- 12 BIT OPTION DOES NOT REQUIRE SECTIONS A, B, C, D  
16 BIT OPTION DOES NOT REQUIRE SECTIONS B, D
- PIN 8 OF IC 15, 17 & 23 IS GROUND  
PIN 16 OF IC 15, 17 & 23 IS +5 VOLTS  
ALL OTHER IC'S: PIN 7 IS GROUND  
PIN 14 IS +5 VOLTS

REVISION TABLE				
SHEET	1	2	3	4
REVISION	F			F

K. KIRAL 1/7/72  
D-112  
CPU MEMORY CONTROL  
CUM. BUILT LIST  
E-100114 F

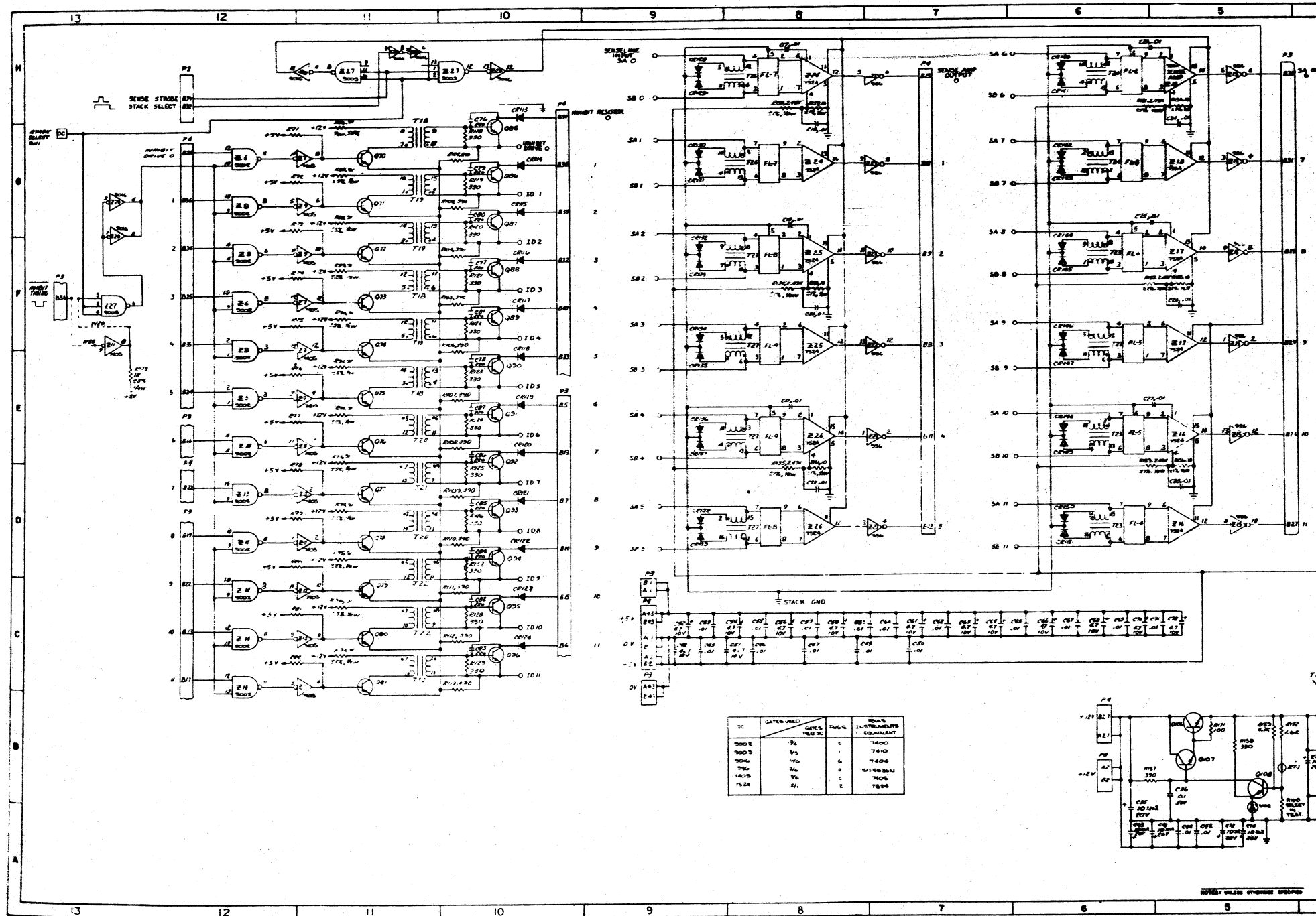




QC	DIFFERENTIAL	TYPE	VALUES	VALUES
WIDE	44	1	4	7445
14145	41	4	4	7445

1. PARTIAL REFERENCE DESIGNATIONS ARE SHOWN FOR COMPLETE DESIGNATION IN THIS WITH UNIT NUMBER OR SUBASSEMBLY DESIGNATION IN PARENT.
2. CAPACITANCE VALUES ARE MICROFARADS 1.0% TOL.
3. RESISTANCE VALUES ARE 1% OHMS ± 5%, 1/4 W.
4. PARTIAL REFERENCE DESIGNATIONS ARE SHOWN FOR COMPLETE DESIGNATION IN THIS WITH UNIT NUMBER OR SUBASSEMBLY DESIGNATION IN PARENT.

LIST OF MATERIAL		QUANTITY	DESCRIPTION
1	6X4	1	6X4
2	6X5	1	6X5
3	6X6	1	6X6
4	6X7	1	6X7
5	6X8	1	6X8
6	6X9	1	6X9
7	6X10	1	6X10
8	6X11	1	6X11
9	6X12	1	6X12
10	6X13	1	6X13
11	6X14	1	6X14
12	6X15	1	6X15
13	6X16	1	6X16
14	6X17	1	6X17
15	6X18	1	6X18
16	6X19	1	6X19
17	6X20	1	6X20
18	6X21	1	6X21
19	6X22	1	6X22
20	6X23	1	6X23
21	6X24	1	6X24
22	6X25	1	6X25
23	6X26	1	6X26
24	6X27	1	6X27
25	6X28	1	6X28
26	6X29	1	6X29
27	6X30	1	6X30
28	6X31	1	6X31
29	6X32	1	6X32
30	6X33	1	6X33
31	6X34	1	6X34
32	6X35	1	6X35
33	6X36	1	6X36
34	6X37	1	6X37
35	6X38	1	6X38
36	6X39	1	6X39
37	6X40	1	6X40
38	6X41	1	6X41
39	6X42	1	6X42
40	6X43	1	6X43
41	6X44	1	6X44
42	6X45	1	6X45
43	6X46	1	6X46
44	6X47	1	6X47
45	6X48	1	6X48
46	6X49	1	6X49
47	6X50	1	6X50
48	6X51	1	6X51
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64	6X67	1	6X67
65	6X68	1	6X68
66	6X69	1	6X69
67	6X70	1	6X70
68	6X71	1	6X71
69	6X72	1	6X72
70	6X73	1	6X73
71	6X74	1	6X74
72	6X75	1	6X75
73	6X76	1	6X76
74	6X77	1	6X77
75	6X78	1	6X78
76	6X79	1	6X79
77	6X80	1	6X80
78	6X81	1	6X81
79	6X82	1	6X82
80	6X83	1	6X83
81	6X84	1	6X84
82	6X85	1	6X85
83	6X86	1	6X86
84	6X87	1	6X87
85	6X88	1	6X88
86	6X89	1	6X89
87	6X90	1	6X90
88	6X91	1	6X91
89	6X92	1	6X92
90	6X93	1	6X93
91	6X94	1	6X94
92	6X95	1	6X95
93	6X96	1	6X96
94	6X97	1	6X97
95	6X98	1	6X98
96	6X99	1	6X99
97	6X100	1	6X100



**PART LIST TABLE**

COMPONENT	SHEET	QTY	DOC REF#
7400	23	6	000100
7404	23	1	000104
7405	23	4	000105
7524	24	6	000124
7415	24	4	000145
7410	27	1	000110
7527	28	5	000149
7528	28	22	000146
110A	28	4	000119
330A	28	15	000120
330B	28	15	000121
100A	27	1	000122
1.6M	27	1	000123
1M	A	65	000124
100A	27	2	000125
100A	27	8	000126
270A	27	1	000127
10A	27	6	000128
2.4M	27	6	000129
4.7M	27	1	000131
100A	27	1	000132
100A	27	2	000133
100A	27	1	000134
100A	27	1	000135
100A	27	1	000136
100A	27	1	000137
100A	27	1	000138
100A	27	1	000139
100A	27	1	000140
100A	27	1	000141
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100A	27	1	000191
100A	27	1	000192
100A	27	1	000193
100A	27	1	000194
100A	27	1	000195
100A	27	1	000196
100A	27	1	000197
100A	27	1	000198
100A	27	1	000199
100A	27	1	000200

IC	GATE USED	QTY	DOC REF#
7400	NAND	6	7400
7404	NAND	1	7404
7405	NAND	4	7405
7524	NAND	6	7524
7410	NAND	1	7410
7527	NAND	5	7527
7528	NAND	22	7528

**REVISION TABLE**

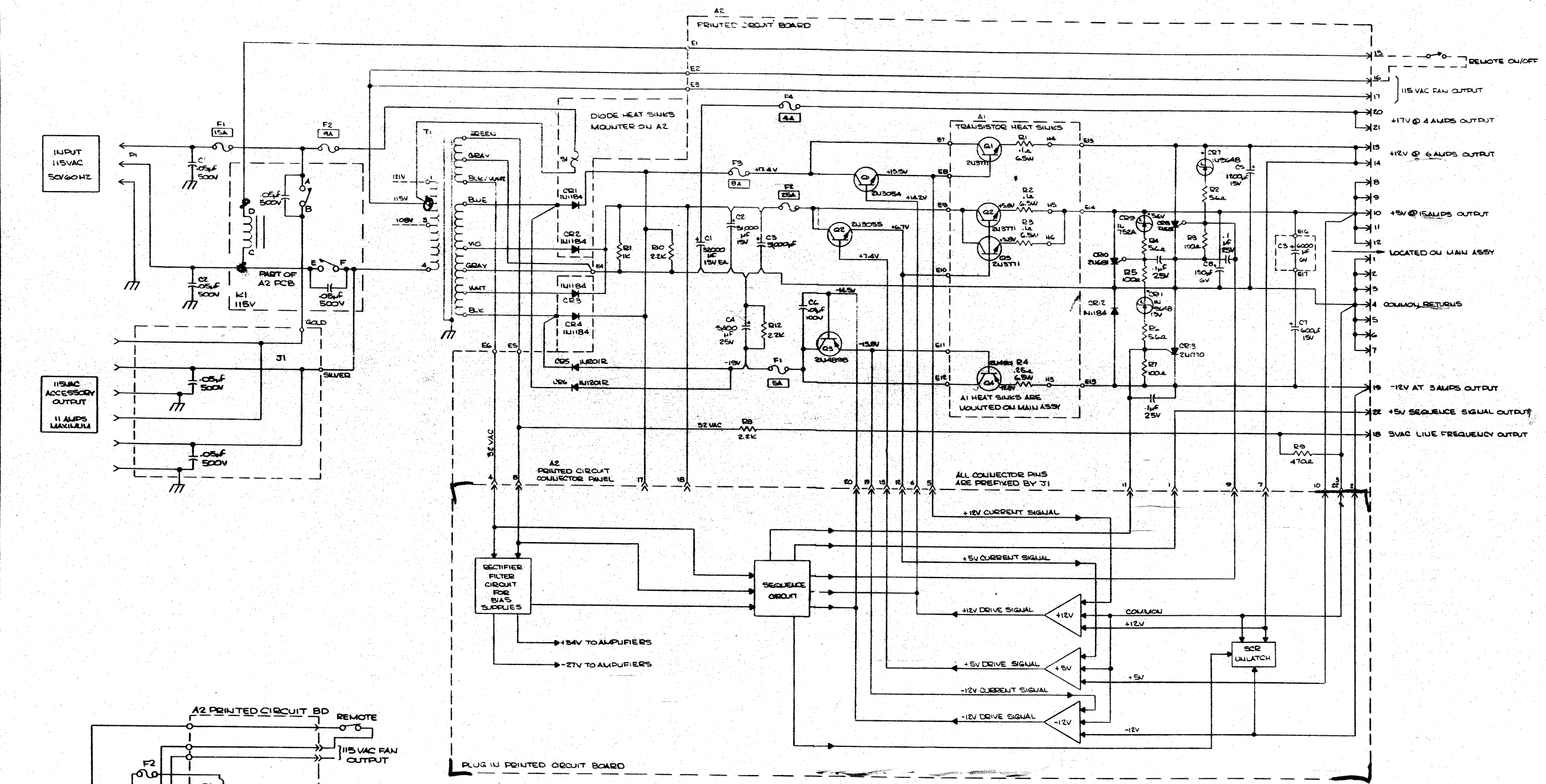
REV	DATE	DESCRIPTION
A	11/15/64	INITIAL DESIGN
B	12/15/64	REVISED FOR BOARD
C	1/15/65	REVISED FOR BOARD
D	2/15/65	REVISED FOR BOARD

**DIGITAL COMPUTER CONTROLS, INC.**

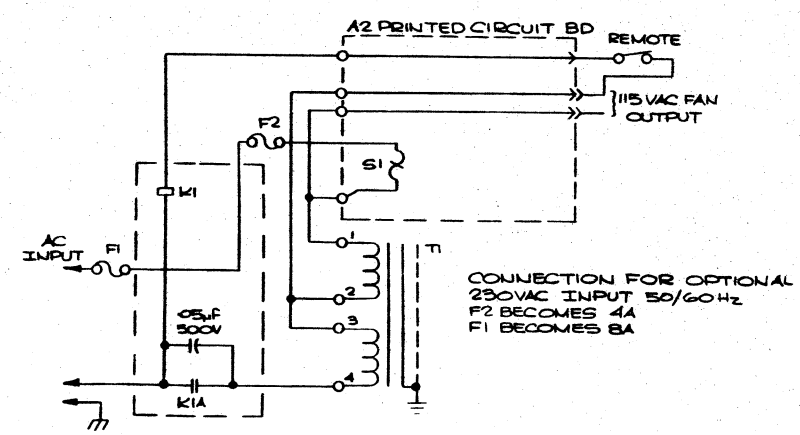
**D-112**

**MEMORY STACK BOARD**

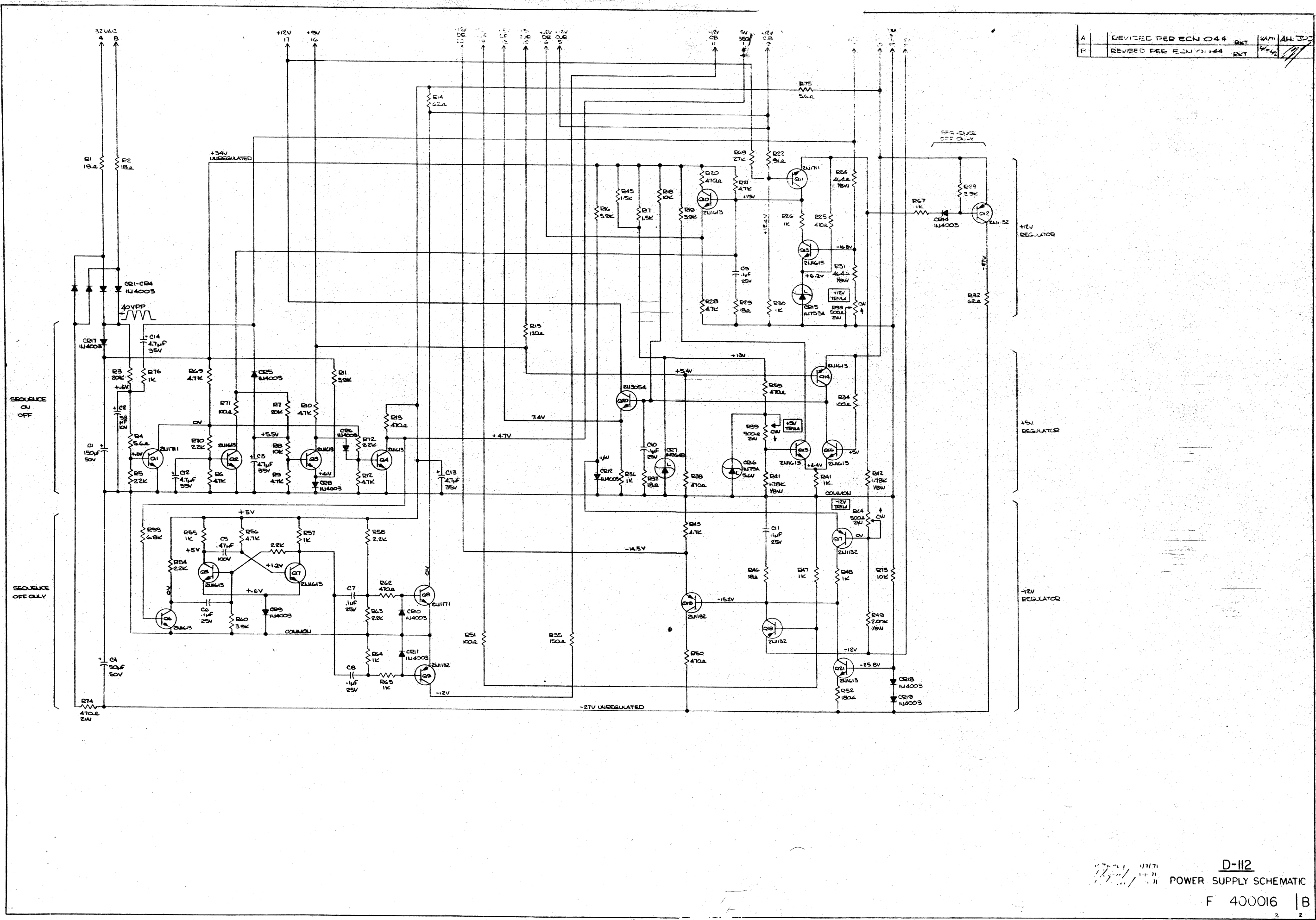
**400056 A**



ALL VOLTAGES ARE MEASURED FROM COMMON WITH 115VAC INPUT AND FULL LOAD ON ALL OUTPUTS  
 ALL RESISTORS ARE 1/2W 5% UNLESS OTHERWISE NOTED

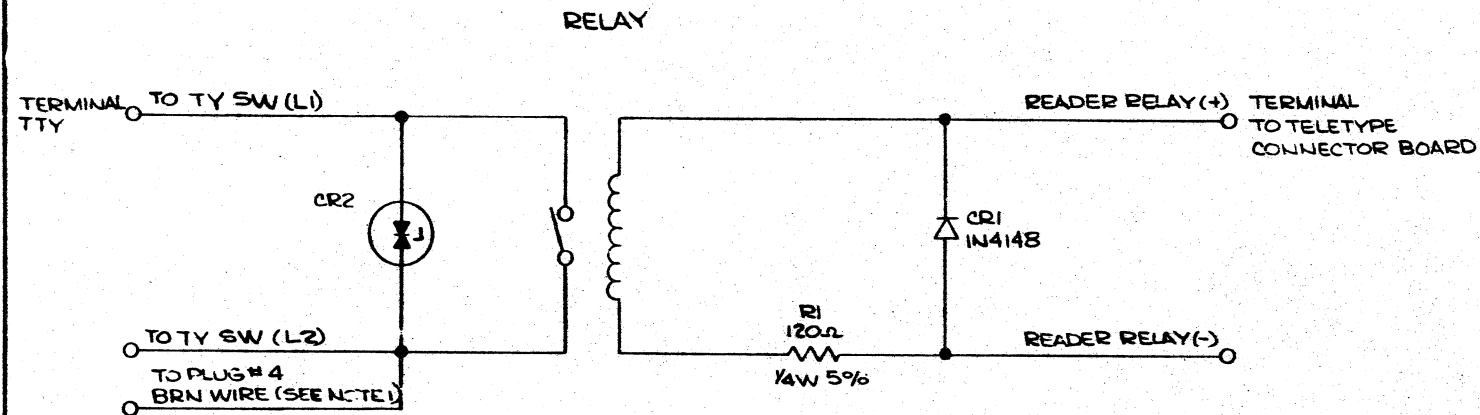


A	REVISED PER ECN 044	RKT	4/7/71	AH: JDC
F	REVISED PER ECN 044	RKT	4/7/71	



D-112  
POWER SUPPLY SCHEMATIC  
F 400016 | B

REVISIONS				
SYM	ZONE	DESCRIPTION	DATE	APPROVED
A		REVISED TERMINAL DESIGNATIONS	6/11/70	<i>A. J.</i>



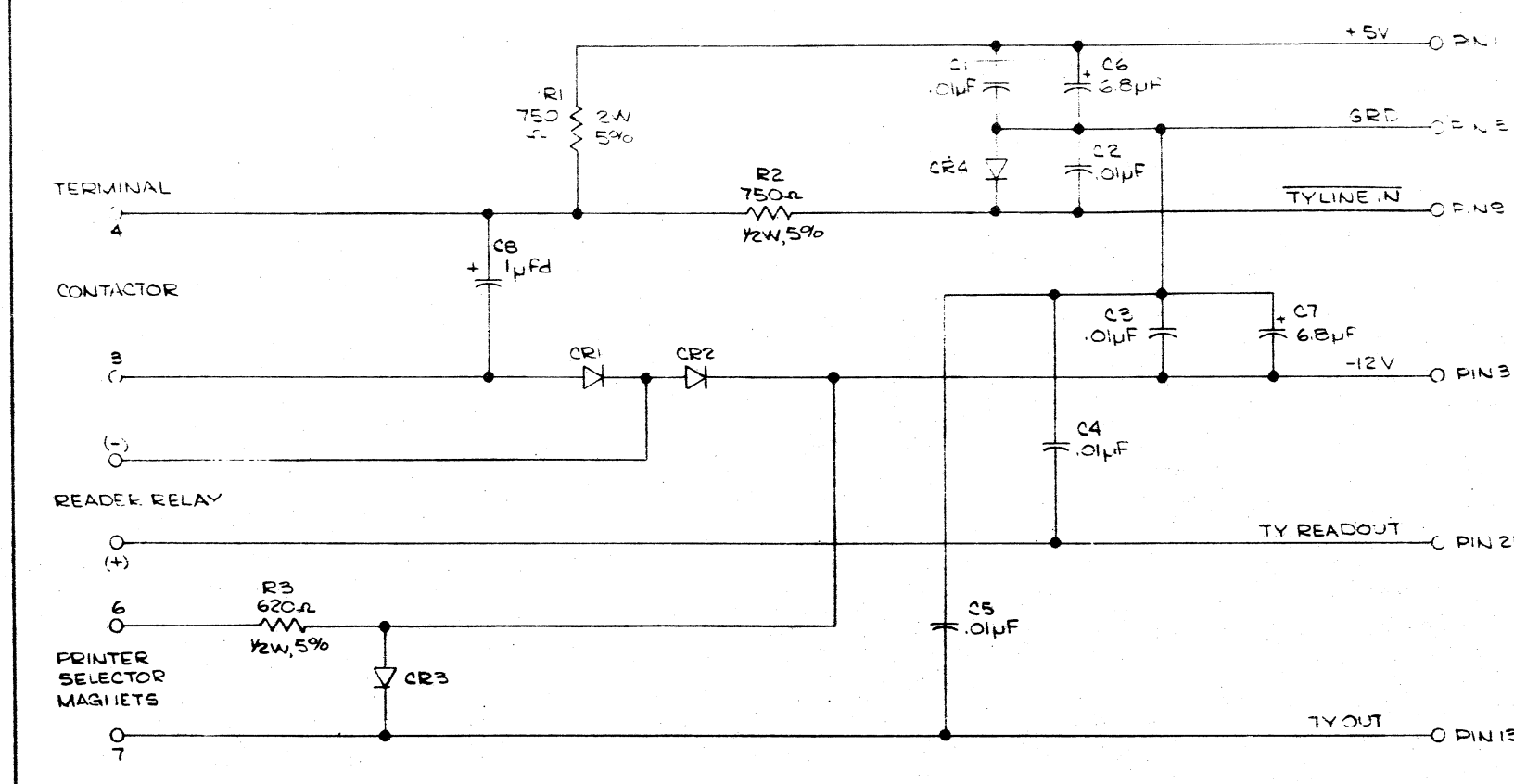
NOTE:  
 1. CONNECT TO LARGE BRN WIRE IN PLUG #4 OF THE PLUG PANEL IN BACK OF TTY

PART LIST TABLE

	DESCRIPTION	QUANTITY	DOC PART NUMBER
RELAY	WHEELOCK RELAY	1	009203
CR1	1N4148	1	000500
R1	120Ω 1/4W 5%	1	002740
CR2	THYRECTOR DIODE	1	000503

G6	G5	G4	G3	G2	G1	ITEM NO.	SIZE	PART NO.	DESCRIPTION	M	U	
QUANTITY PER GROUP						NO.	DRAWING NO.					
LIST OF MATERIAL												
EXCEPT AS MAY BE OTHERWISE PROVIDED BY CONTRACT, THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DIGITAL COMPUTER CONTROLS, INC. ARE ISSUED IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED OR COPIED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS WITHOUT PERMISSION.									<b>DIGITAL COMPUTER CONTROLS, INC.</b> FAIRFIELD, NEW JERSEY 07006			
UNLESS OTHERWISE SPECIFIED						APPROVAL		DATE	TY READER CONTROL BOARD			
DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES						DR. <i>K. Thierly</i>		6/11/70				
TOLERANCES						CHK. <i>S. Hayward</i>		6-5-70				
2 PLACE DECIMALS ± .01						3 PLACE DECIMALS ± .005		ANGLES ± 1/2°				
HOLE DIAMETER TOLERANCE						PROD.						
0 THRU .250		.251 THRU .500		.501 & LARGER		MAT'L.		C 400066A				
+ .003		+ .005		+ .010		FINISH						
- .002		- .003		- .005		THREADS. EXT CL 2A. INT CL 2B		SCALE — SHEET 1 OF 1				
NEXT ASSY.	USED ON											

REVISION 3			
SYM	ZONE	DESCRIPTION	DATE APPROVED



PART LIST TABLE

DESCRIPTION	QUANTITY	DCC PART NUMBER
R1 750Ω, 2W, 5%	1	003359
R2 750Ω, 1/2W, 5%	1	002959
R3 620Ω, 1/2W, 5%	1	002957
CR-4 1N4148	4	000500
C1-5 .01μF	5	007001
C6,C7 6.8μF	2	007139
C8 1μF, 150V	1	007301

G6	G5	G4	G3	G2	G1	ITEM	SIZE	PART NO.	DESCRIPTION	M	U
QUANTITY PER GROUP						NO.	DRAWING NO.			P	M
LIST OF MATERIAL											
EXCEPT AS MAY BE OTHERWISE PROVIDED BY CONTRACT, THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DIGITAL COMPUTER CONTROLS, INC. ARE ISSUED IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED OR COPIED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS WITHOUT PERMISSION.									<b>DIGITAL COMPUTER CONTROLS, INC.</b> FAIRFIELD, NEW JERSEY 07006		
UNLESS OTHERWISE SPECIFIED						APPROVAL		DATE	TELETYPE CONNECTOR BOARD		
DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES						DR. K. Thier		6/3/70			
TOLERANCES						CHK. W. Hernandez		6-5-70			
2 PLACE DECIMALS ± .01						ENG. W. Hernandez		6-5-70			
3 PLACE DECIMALS ± .005						PROD.			F 400071		
ANGLES ± 1/2°						MATERIAL					
HOLE DIAMETER TOLERANCE						FINISH			SCALE SHEET 1 OF 1		
0 THRU .250		.251 THRU .500		.501 & LARGER		THREADS EXT CL 2A, INT CL 2B					