

TEXAS INSTRUMENTS

Improving Man's Effectiveness Through Electronics

Model 980B Computer Maintenance Manual Electrical Drawings

MANUAL NO. 943012-9704
ORIGINAL ISSUE 15 OCTOBER 1974
REVISED AND REISSUED 1 FEBRUARY 1976

Digital Systems Division



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Model 980B Computer Maintenance Manual: Electrical Drawings
(943012-9704)

Original Issue 15 October 1974

Revised and Reissued 1 February 1976 (ECN 408203)

Total number of pages in this publication is 52 consisting of the following:

PAGE NO.	CHANGE NO.	PAGE NO.	CHANGE NO.	PAGE NO.	CHANGE NO.
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Eff. Pages	0				
iii - iv	0				
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Bus. Reply	0				
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Cover	0				



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SECTION I
INTRODUCTION

This volume contains the electrical drawings necessary to properly maintain and service the Texas Instruments Model 980B Computer.

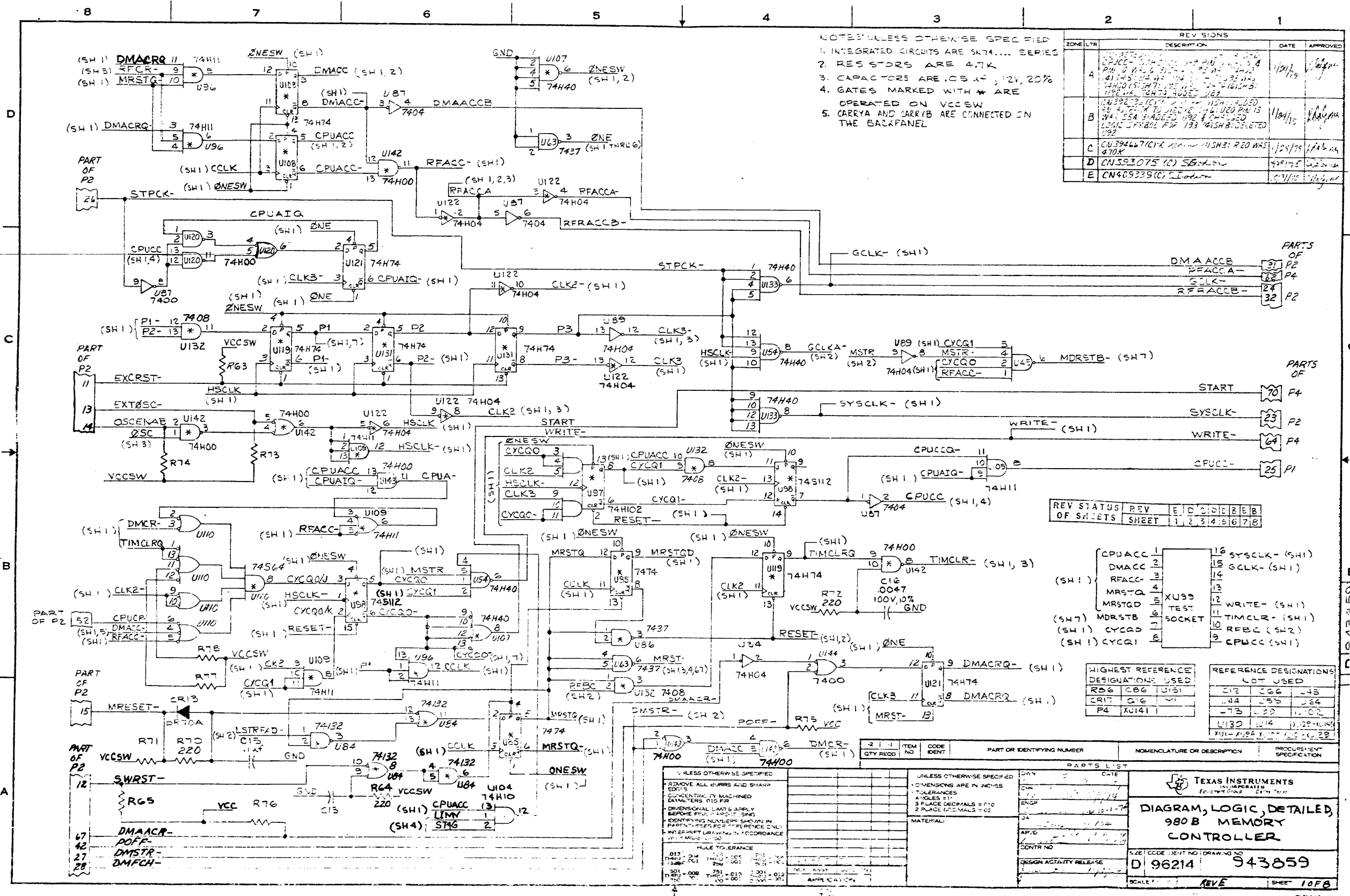
Drawings of the Direct Memory Access Channel (DMAC), Input/Output (I/O) Interface board, I/O Expander board, and power supply are included in separate volumes. The load, pin, wire, and logic documentation lists are also in separate volumes. These publications are the following:

<u>Title</u>	<u>Manual No.</u>
Model 960/980 Computers Direct Memory Access Channel Manual	966312-9701
Model 980 Computer Maintenance Manual: Input/Output and Input/Output Expansion	960699-9704
Model 960B/980B Computer Maintenance Manual: Power Supply	942773-9703
Model 980B Computer Maintenance Manual: Load, Pin and Wire Lists	943012-9705
Model 980B Computer Maintenance Manual: Logic Documentation List	943012-9706

SECTION II
DRAWINGS

The Model 980B electrical drawings are listed below according to function and are included on the pages that follow.

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NOTES UNLESS OTHERWISE SPECIFIED
 1. INTEGRATED CIRCUITS ARE SN74... SERIES
 2. RESISTORS ARE 4.7K
 3. CAPACITORS ARE .05µF, .1µF, 20%
 4. GATES MARKED WITH * ARE OPERATED ON VCCSW
 5. CARRYA AND CARRYB ARE CONNECTED ON THE BACKPANEL

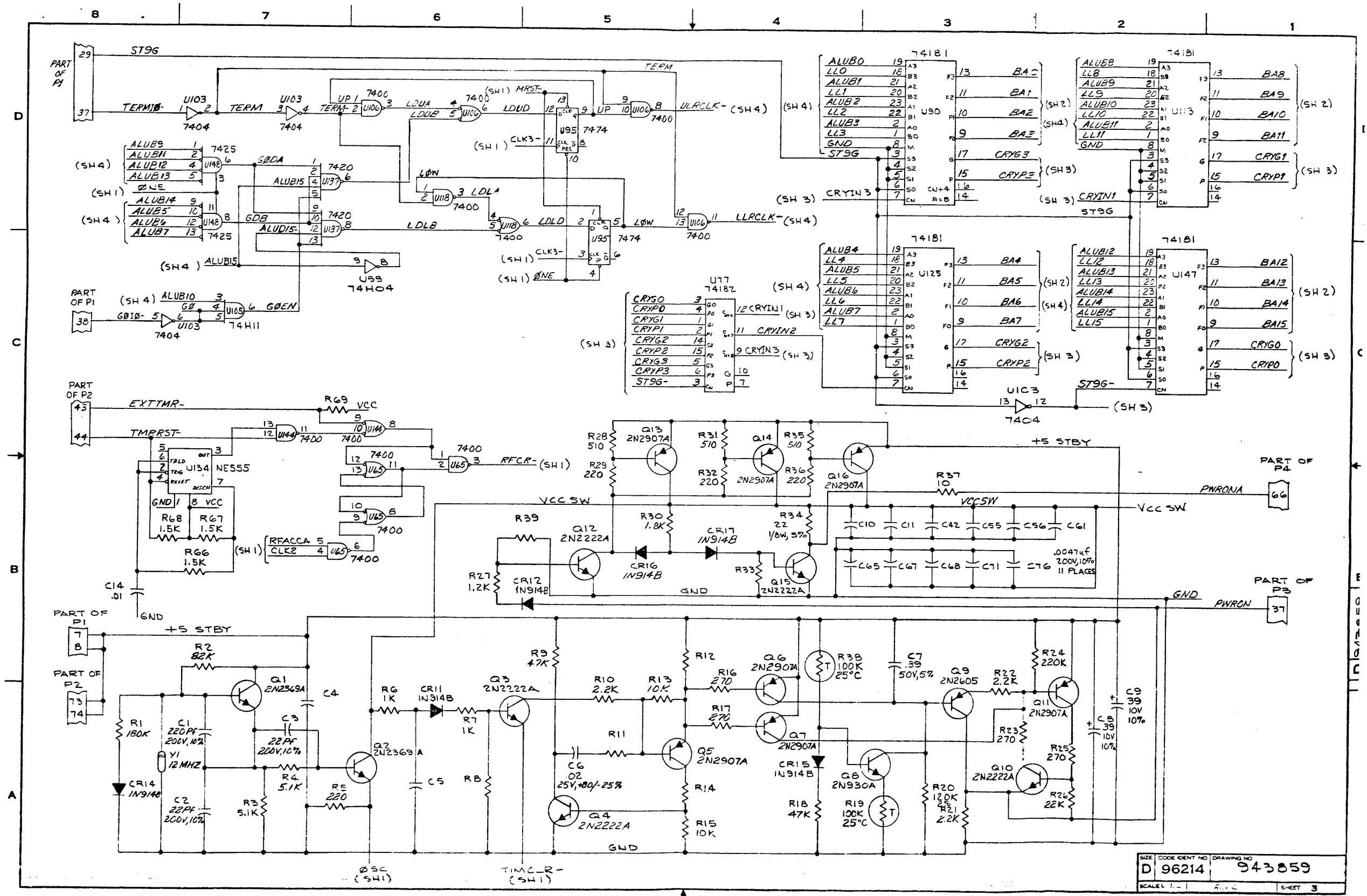
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C	...	1/24/75	...
D	...	4/21/75	...
E	...	9/11/75	...

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OF SHEETS	SHEET	1	2	3	4	5	6	7	8

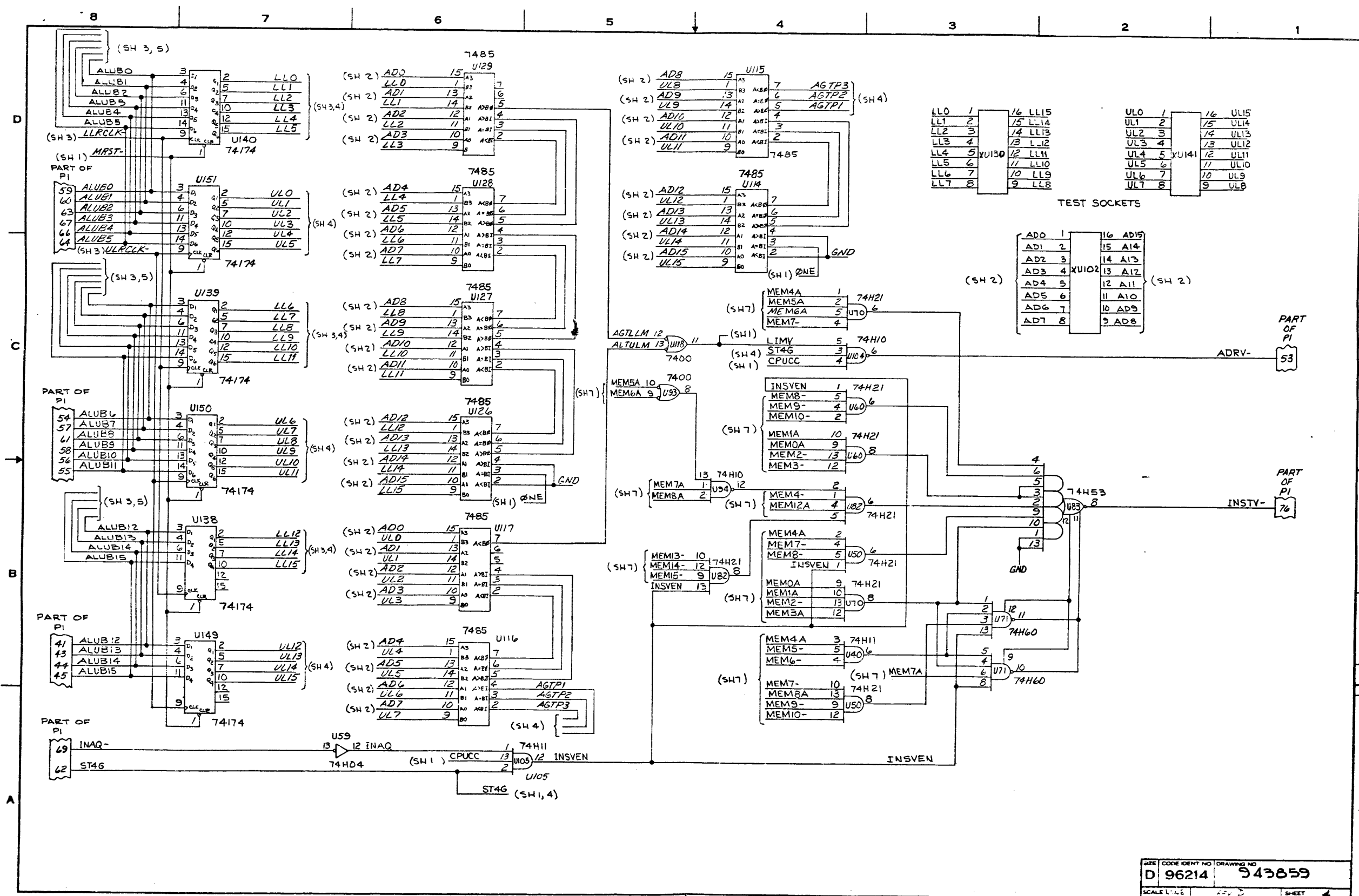
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R11	C11	U11	U12
R12	C12	U13	U14
R13	C13	U15	U16
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R39	C39	U67	U68
R40	C40	U69	U70
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R43	C43	U75	U76
R44	C44	U77	U78
R45	C45	U79	U80
R46	C46	U81	U82
R47	C47	U83	U84
R48	C48	U85	U86
R49	C49	U87	U88
R50	C50	U89	U90
R51	C51	U91	U92
R52	C52	U93	U94
R53	C53	U95	U96
R54	C54	U97	U98
R55	C55	U99	U100

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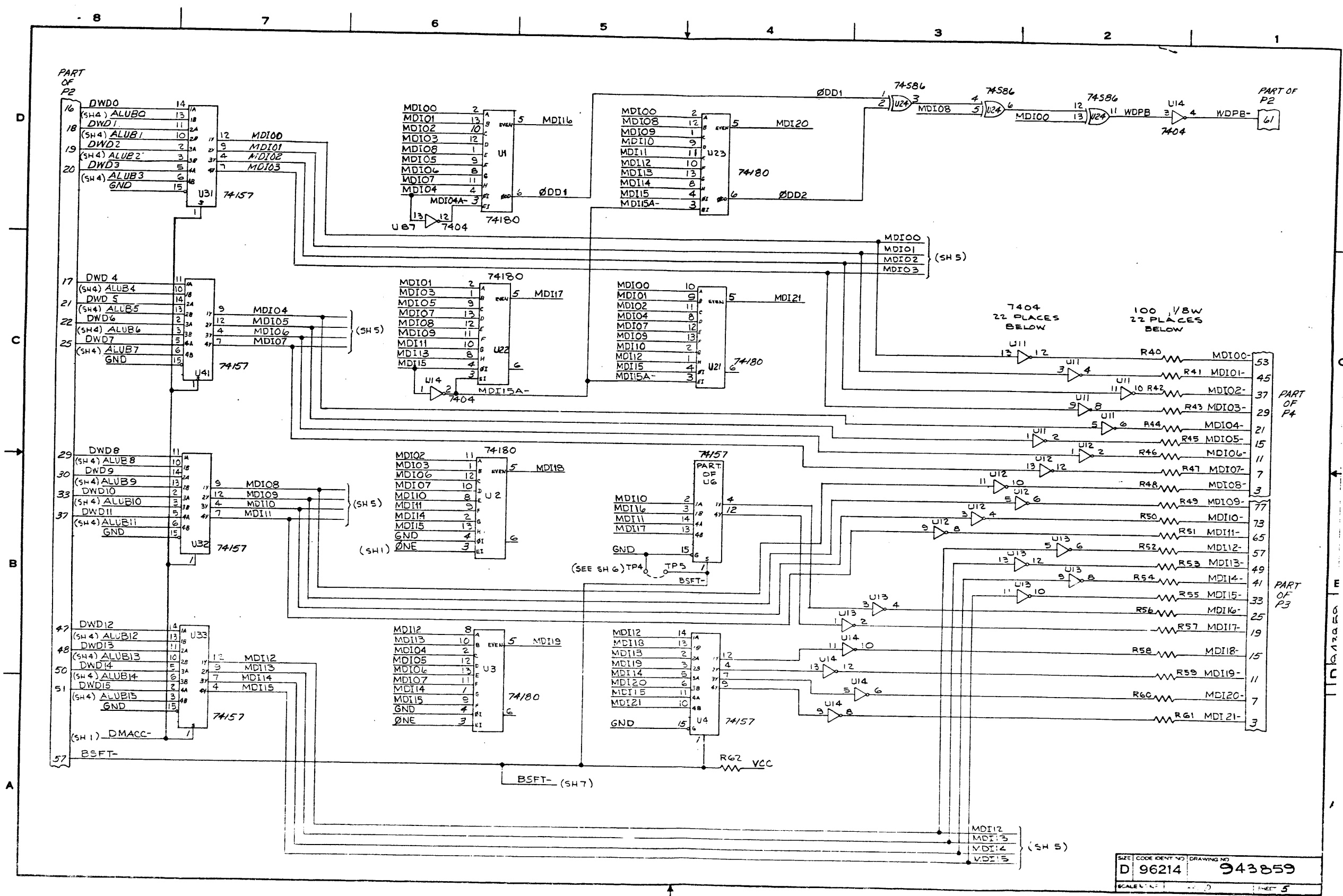
TEXAS INSTRUMENTS
 INDEPENDENT ELECTRONIC GROUP
 980B MEMORY CONTROLLER
 D 96214 943859
 SCALE: REV E SHEET 10FB



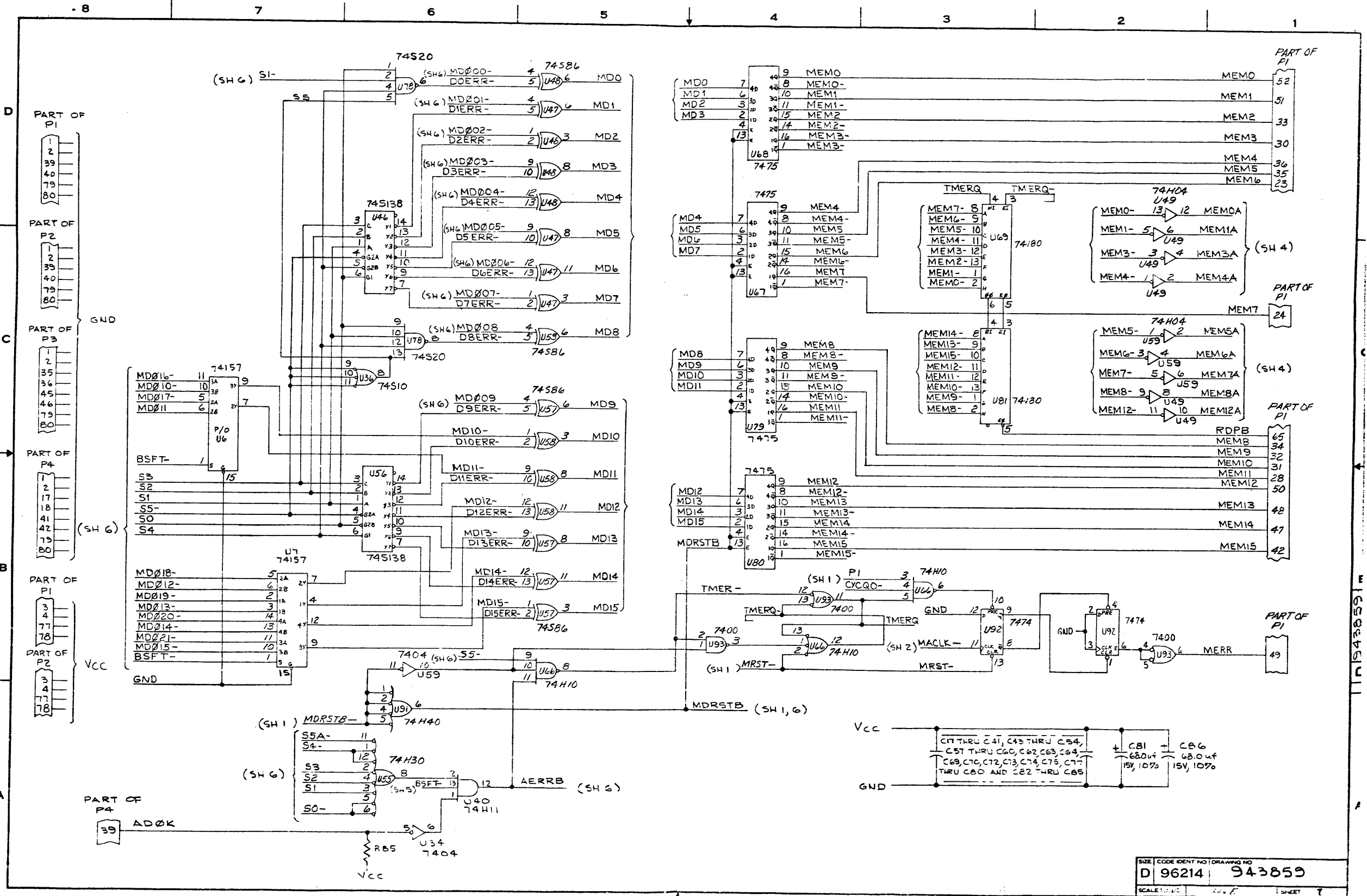
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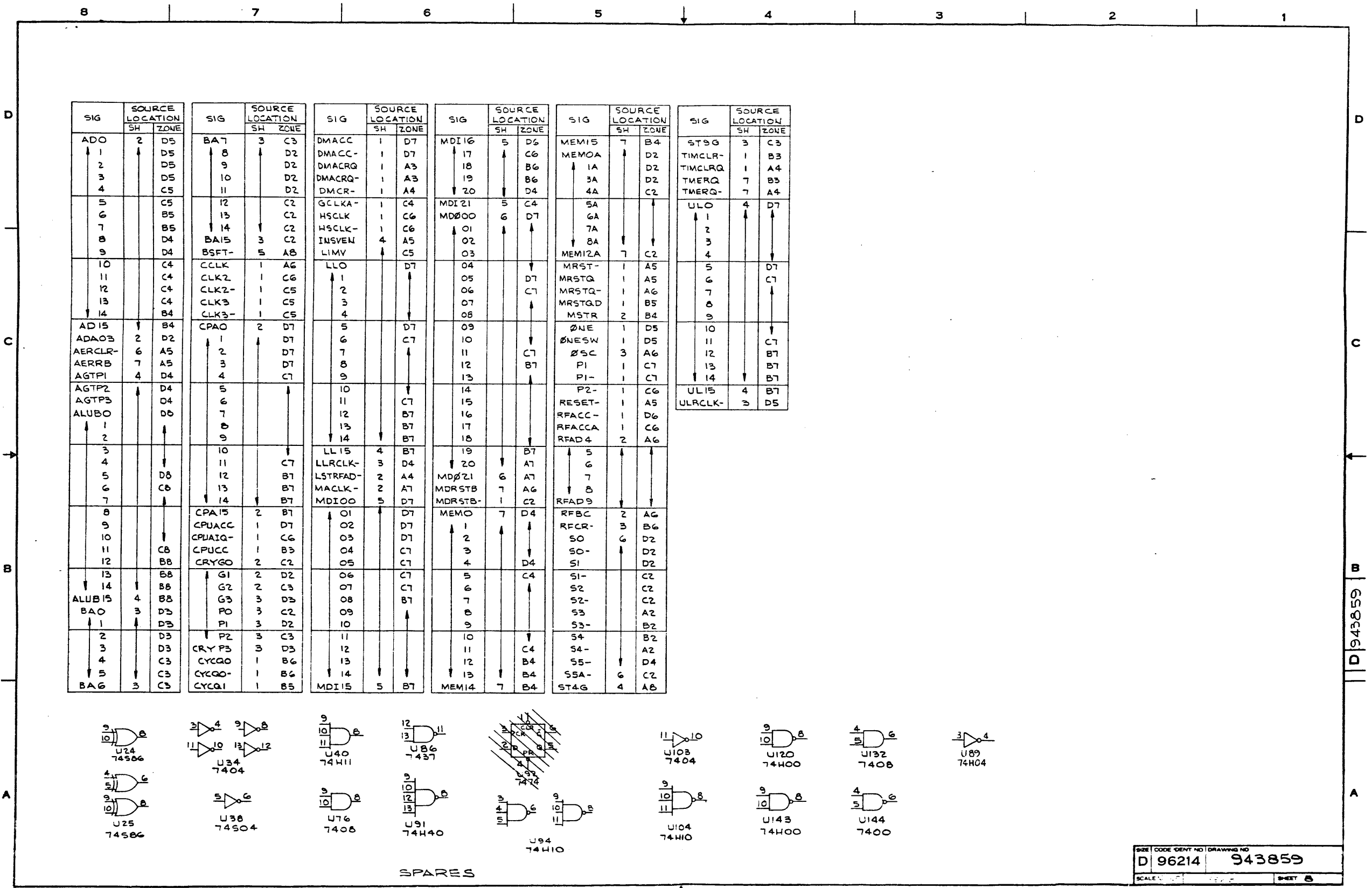
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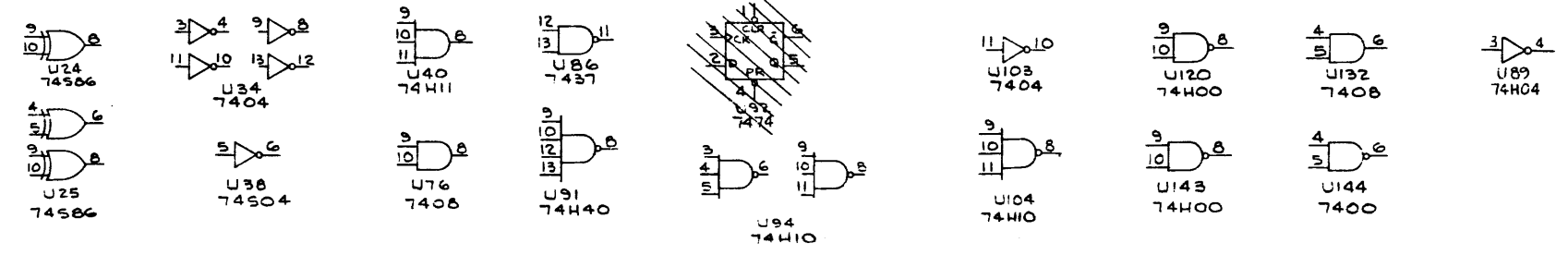
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SCALE	1:1	SHEET 7

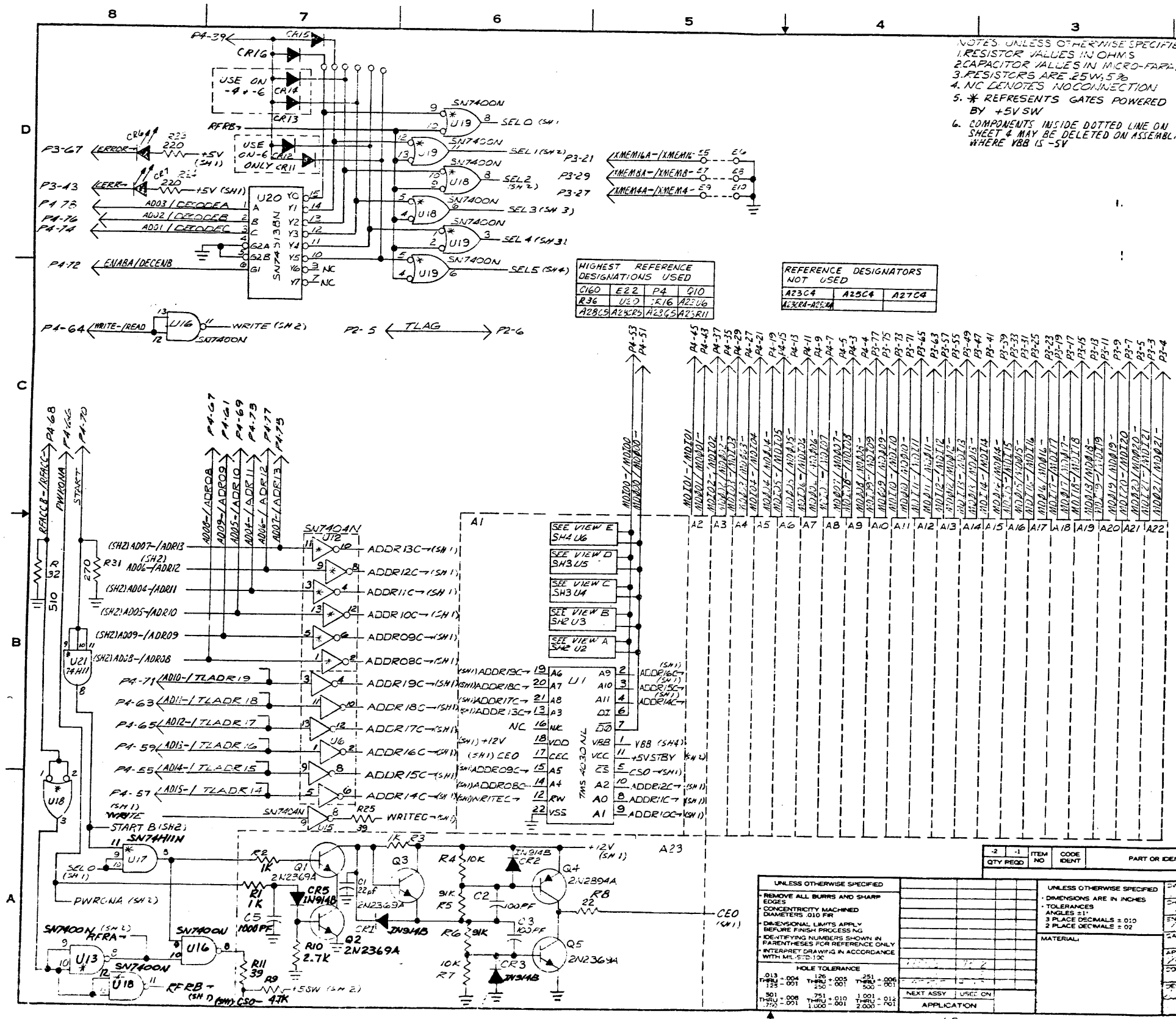


SIG	SOURCE LOCATION		SIG	SOURCE LOCATION		SIG	SOURCE LOCATION		SIG	SOURCE LOCATION		SIG	SOURCE LOCATION		SIG	SOURCE LOCATION	
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ADO	2	D5	BA7	3	C3	DMACC	1	D7	MDI16	5	D6	MEM15	7	B4	STSG	3	C3
1	↑		8	↑		DMACC-	1	D7	17	↑		MEMOA	↑		TIMCLR-	1	B3
2	↑		9	↑		DMACRQ	1	A3	18	↑		1A	↑		TIMCLRQ	1	A4
3	↑		10	↑		DMACRQ-	1	A3	19	↑		3A	↑		TMERQ	7	B3
4	↑		11	↑		DMCR-	1	A4	20	↑		4A	↑		TMERQ-	7	A4
5	↑		12	↑		GCLKA	1	C4	MDI21	5	C4	5A	↑		ULO	4	D7
6	↑		13	↓		HSCCLK	1	C6	MD000	6	D7	6A	↑		1	↑	
7	↑		14	↓		HSCCLK-	1	C6	01	↑		7A	↑		2	↑	
8	↑		BA15	3	C2	INSVEN	4	A5	02	↑		8A	↓		3	↑	
9	↑		BSFT-	5	A8	LIMV	↑	C5	03	↑		MEM12A	7	C2	4	↑	
10	↑		CCLK	1	A6	LLO	↑	D7	04	↑		MRST-	1	A5	5	↑	
11	↑		CLK2	1	C6	1	↑		05	↑		MRSTQ	1	A5	6	↑	
12	↑		CLK2-	1	C5	2	↑		06	↑		MRSTQ-	1	A6	7	↑	
13	↑		CLK3	1	C5	3	↑		07	↑		MRSTQD	1	B5	8	↑	
14	↑		CLK3-	1	C5	4	↑		08	↑		MSTR	2	B4	9	↑	
AD15	↓		CPAO	2	D7	5	↑		09	↑		ONE	1	D5	10	↑	
ADA03	2	D2	1	↑		6	↑		10	↑		ONESW	1	D5	11	↑	
AERCLR-	6	A5	2	↑		7	↑		11	↑		OSC	3	A6	12	↑	
AERRB	7	A5	3	↑		8	↑		12	↑		PI	1	C7	13	↑	
AGTPI	4	D4	4	↑		9	↑		13	↑		PI-	1	C7	14	↑	
AGTP2	↑		5	↑		10	↑		14	↑		P2-	1	C6	UL15	4	B7
AGTP3	↑		6	↑		11	↑		15	↑		RESET-	1	A5	ULRCLK-	3	D5
ALUBO	↑		7	↑		12	↑		16	↑		RFACC-	1	D6			
1	↑		8	↑		13	↑		17	↑		RFACCA	1	C6			
2	↑		9	↑		14	↑		18	↑		RFAD4	2	A6			
3	↑		10	↑		LL15	4	B7	19	↑		5	↑				
4	↑		11	↑		LLRCLK-	3	D4	20	↑		6	↑				
5	↑		12	↑		LSTRFAD-	2	A4	MD021	6	A7	7	↑				
6	↑		13	↑		MACLK-	2	A7	MDRSTB	7	A6	8	↑				
7	↑		14	↑		MDIOD	5	D7	MDRSTB-	1	C2	RFAD9	↑				
8	↑		CPA15	2	B7	01	↑		MEMO	7	D4	RFBC	2	A6			
9	↑		CPUACC	1	D7	02	↑		1	↑		RFCL-	3	B6			
10	↑		CPUIQ-	1	C6	03	↑		2	↑		SO	6	D2			
11	↑		CPUCC	1	B3	04	↑		3	↑		SO-	↑				
12	↑		CRYGO	2	C2	05	↑		4	↑		SI	↑				
13	↑		G1	2	D2	06	↑		5	↑		SI-	↑				
14	↑		G2	2	C3	07	↑		6	↑		S2	↑				
ALUB15	4	B8	G3	3	D3	08	↑		7	↑		S2-	↑				
BAO	3	D3	PO	3	C2	09	↑		8	↑		S3	↑				
1	↑		PI	3	D2	10	↑		9	↑		S3-	↑				
2	↑		P2	3	C3	11	↑		10	↑		S4	↑				
3	↑		CRY P3	3	D3	12	↑		11	↑		S4-	↑				
4	↑		CYCQ0	1	B6	13	↑		12	↑		S5-	↑				
5	↑		CYCQ0-	1	B6	14	↑		13	↑		S5A-	6	C2			
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SPARES

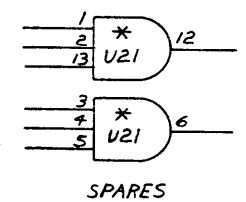
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SCALE			SHEET 8



NOTES UNLESS OTHERWISE SPECIFIED
 1. RESISTOR VALUES IN OHMS
 2. CAPACITOR VALUES IN MICRO-FARADS
 3. RESISTORS ARE .25W, 5%
 4. NC DENOTES NO CONNECTION
 5. * REPRESENTS GATES POWERED BY +5V SW
 6. COMPONENTS INSIDE DOTTED LINE ON SHEET & MAY BE DELETED ON ASSEMBLIES WHERE YBB IS -5V

REVISIONS		DATE	APPROVED
A	CU 394291 (C) REVISED PER EXTENSIVE ENGINEERING CHANGES	1/27/74	V. H. Jones
B-3	CU 394291 (C) REVISED PER EXTENSIVE ENGINEERING CHANGES	1/16/75	V. H. Jones
A-8	P35 & P3-62, R33 & P3-24, P36 & P3-69 AND R36 & P3-60	1/16/75	V. H. Jones
C	CU 402647 (C) REVISED PER EXTENSIVE ENGINEERING CHANGES	8/11/75	V. H. Jones

HIGHEST REFERENCE DESIGNATIONS USED		REFERENCE DESIGNATORS NOT USED	
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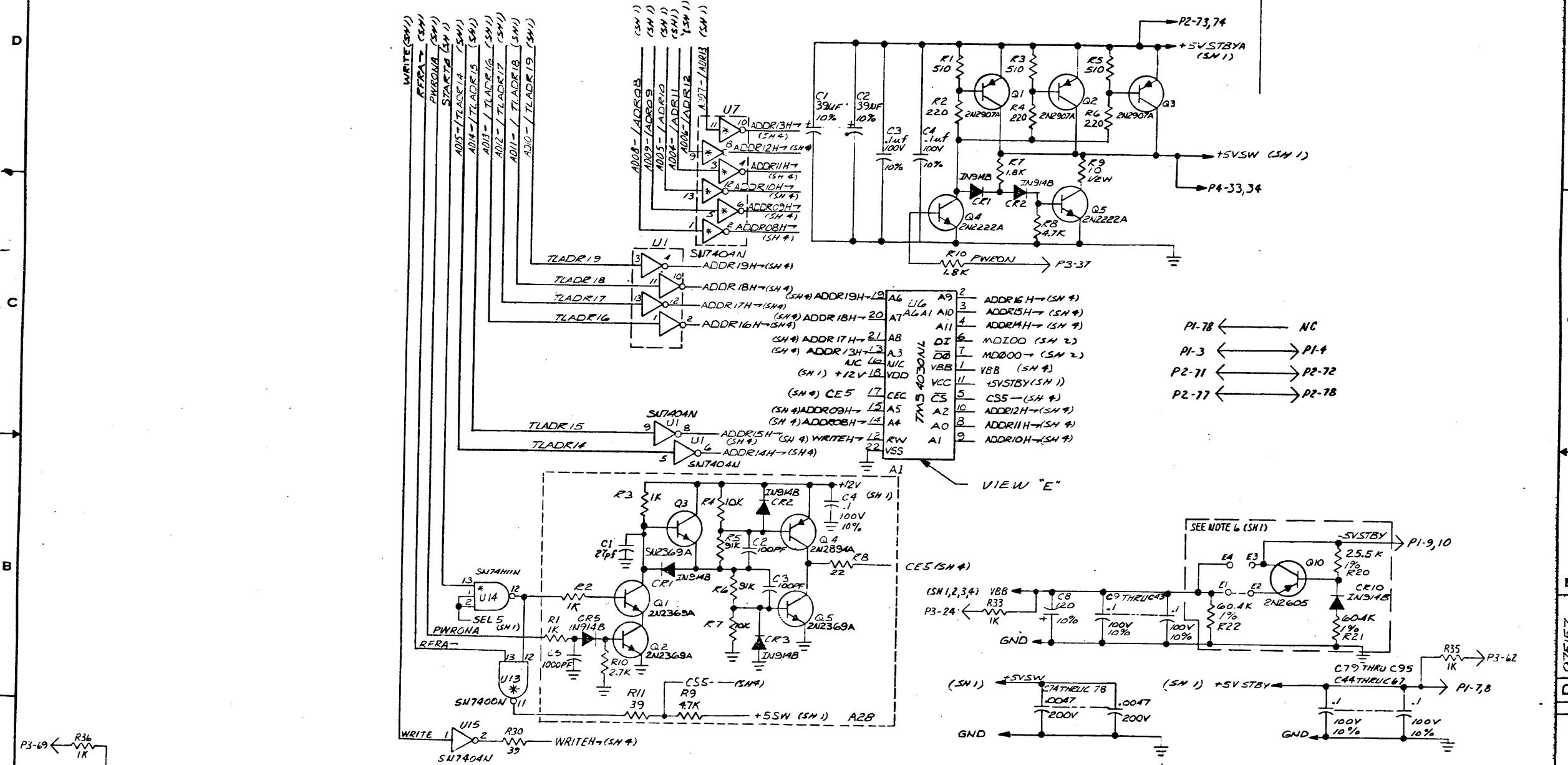


REV STATUS	REV	C	C	C	C
OF SHEETS	SH	1	2	3	4

UNLESS OTHERWISE SPECIFIED		UNLESS OTHERWISE SPECIFIED	
REMOVE ALL BURRS AND SHARP EDGES	CONCENTRICITY MACHINED DIAMETERS .010 FIR	DIMENSIONS ARE IN INCHES	TOLERANCES ANGLES 21°
DIMENSIONAL LIMITS APPLY BEFORE FINISH PROCESSING	IDENTIFYING NUMBERS SHOWN IN PARENTHESES FOR REFERENCE ONLY	3 PLACE DECIMALS ± 0.00	2 PLACE DECIMALS ± 0.01
INTERPRET DRAWING IN ACCORDANCE WITH MIL-STD-129			

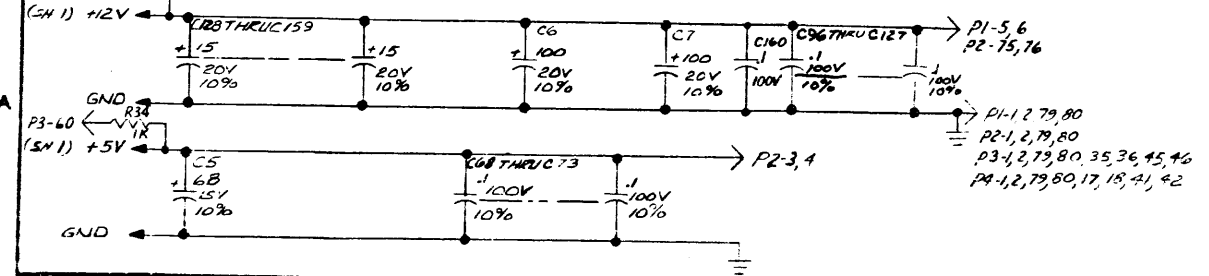
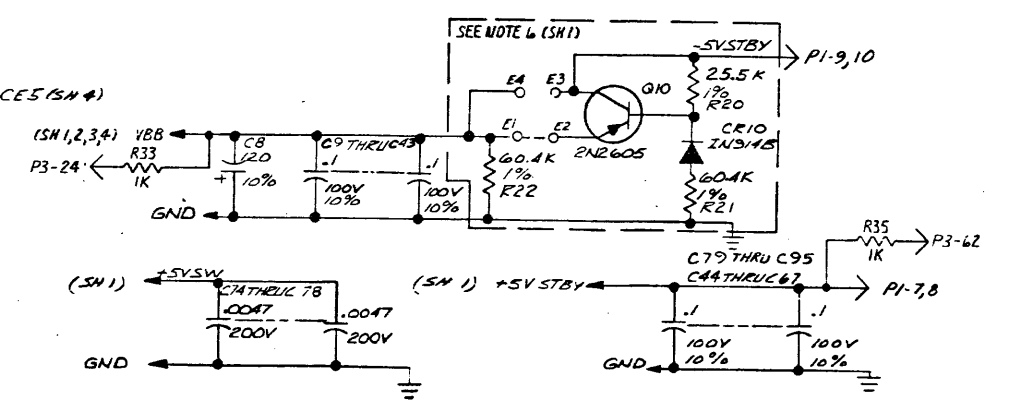
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Q196	2N2369A	Q197	2N2369A	Q198	2N2369A
Q199	2N2369A	Q200	2N2369A	Q201	2N2369A
Q202	2N2369A	Q203	2N2369A	Q204	2N2369A
Q205	2N2369A	Q206	2N2369A	Q207	2N2369A
Q208	2N2369A	Q209	2N2369A	Q210	2N2369A
Q211	2N2369A	Q212	2N2369A	Q213	2N2369A
Q214	2N2369A	Q215	2N2369A	Q216	2N2369A
Q217	2N2369A	Q218	2N2369A	Q219	2N2369A
Q220	2N2369A	Q221	2N2369A	Q222	2N2369A
Q223	2N2369A	Q224	2N2369A	Q225	2N2369A
Q226	2N2369A	Q227	2N2369A	Q228	2N2369A
Q229	2N2369A	Q230	2N2369A	Q231	2N2369A
Q232	2N2369A	Q233	2N2369A	Q234	2N2369A
Q235	2N2369A	Q236	2N2369A	Q237	2N2369A
Q238	2N2369A	Q239	2N2369A	Q240	2N2369A
Q241	2N2369A	Q242	2N2369A	Q243	2N2369A
Q244	2N2369A	Q245	2N2369A	Q246	2N2369A
Q247	2N2369A	Q248	2N2369A	Q249	2N2369A
Q250	2N2369A	Q251	2N2369A	Q252	2N2369A
Q253	2N2369A	Q254	2N2369A	Q255	2N2369A
Q256	2N2369A	Q257	2N2369A	Q258	2N2369A
Q259	2N2369A	Q260	2N2369A	Q261	2N2369A
Q262	2N2369A	Q263	2N2369A	Q264	2N2369A
Q265	2N2369A	Q266	2N2369A	Q267	2N2369A
Q268	2N2369A	Q269	2N2369A	Q270	2N2369A
Q271	2N2369A	Q272	2N2369A	Q273	2N2369A
Q274	2N2369A	Q275	2N2369A	Q276	2N2369A
Q277	2N2369A	Q278	2N2369A	Q279	2N2369A
Q280	2N2369A	Q281	2N2369A	Q282	2N2369A
Q283	2N2369A	Q284	2N2369A	Q285	2N2369A
Q286	2N2369A	Q287	2N2369A	Q288	2N2369A
Q289	2N2369A	Q290	2N2369A	Q291	2N2369A
Q292	2N2369A	Q293	2N2369A	Q294	2N2369A
Q295	2N2369A	Q296	2N2369A	Q297	2N2369A
Q298	2N2369A	Q299	2N2369A	Q300	2N2369A
Q301	2N2369A	Q302	2N2369A	Q303	2N2369A
Q304	2N2369A	Q305	2N2369A	Q306	2N2369A
Q307	2N2369A	Q308	2N2369A	Q309	2N2369A
Q310	2N2369A	Q311	2N2369A	Q312	2N2369A
Q313	2N2369A	Q314	2N2369A	Q315	2N2369A
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Q322	2N2369A	Q323	2N2369A	Q324	2N2369A
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Q361	2N2369A	Q362	2N2369A	Q363	2N2369A
Q364	2N2369A	Q365	2N2369A	Q366	2N2369A
Q367	2N2369A	Q368	2N2369A	Q369	2N2369A
Q370	2N2369A	Q371	2N2369A	Q372	2N2369A
Q373	2N2369A	Q374	2N2369A	Q375	2N2369A
Q376	2N2369A	Q377	2N2369A	Q378	2N2369A
Q379	2N2369A	Q380	2N2369A	Q381	2N2369A
Q382	2N2369A	Q383	2N2369A	Q384	2N2369A
Q385	2N2369A	Q386	2N2369A	Q387	2N2369A
Q388	2N2369A	Q389	2N2369A	Q390	2N2369A
Q391	2N2369A	Q392	2N2369A	Q393	2N2369A
Q394	2N2369A	Q395	2N2369A	Q396	2N2369A
Q397	2N2369A	Q398	2N2369A	Q399	2N2369A
Q400	2N2369A	Q401	2N2369A	Q402	2N2369A
Q403	2N2369A	Q404	2N2369A	Q405	2N2369A
Q406	2N2369A	Q407	2N2369A	Q408	2N2369A
Q409	2N2369A	Q410	2N2369A	Q411	2N2369A
Q412	2N2369A	Q413	2N2369A	Q414	2N2369A
Q415	2N2369A	Q416	2N2369A	Q417	2N2369A
Q418	2N2369A	Q419	2N2369A	Q420	2N2369A
Q421	2N2369A	Q422	2N2369A	Q423	2N2369A
Q424	2N2369A	Q425	2N2369A	Q426	2N2369A
Q427	2N2369A	Q428	2N2369A	Q429	2N2369A

REVISIONS			
ZONE, LTR	DESCRIPTION	DATE	APPROVED



Pin	Signal	Notes
A6	U6	A9
A7	U7	A10
A8	U8	A11
A9	U9	A12
A10	U10	A13
A11	U11	A14
A12	U12	A15
A13	U13	A16
A14	U14	A17
A15	U15	A18
A16	U16	A19
A17	U17	A20
A18	U18	A21
A19	U19	A22
A20	U20	A23
A21	U21	A24
A22	U22	A25
A23	U23	A26
A24	U24	A27
A25	U25	A28
A26	U26	A29
A27	U27	A30
A28	U28	A31
A29	U29	A32
A30	U30	A33
A31	U31	A34
A32	U32	A35
A33	U33	A36
A34	U34	A37
A35	U35	A38
A36	U36	A39
A37	U37	A40
A38	U38	A41
A39	U39	A42
A40	U40	A43
A41	U41	A44
A42	U42	A45
A43	U43	A46
A44	U44	A47
A45	U45	A48
A46	U46	A49
A47	U47	A50
A48	U48	A51
A49	U49	A52
A50	U50	A53
A51	U51	A54
A52	U52	A55
A53	U53	A56
A54	U54	A57
A55	U55	A58
A56	U56	A59
A57	U57	A60
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A67	U67	A70
A68	U68	A71
A69	U69	A72
A70	U70	A73
A71	U71	A74
A72	U72	A75
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A86	U86	A89
A87	U87	A90
A88	U88	A91
A89	U89	A92
A90	U90	A93
A91	U91	A94
A92	U92	A95
A93	U93	A96
A94	U94	A97
A95	U95	A98
A96	U96	A99
A97	U97	A100

PI-78 ← NC
 PI-3 ← PI-4
 P2-71 ← P2-72
 P2-77 ← P2-78

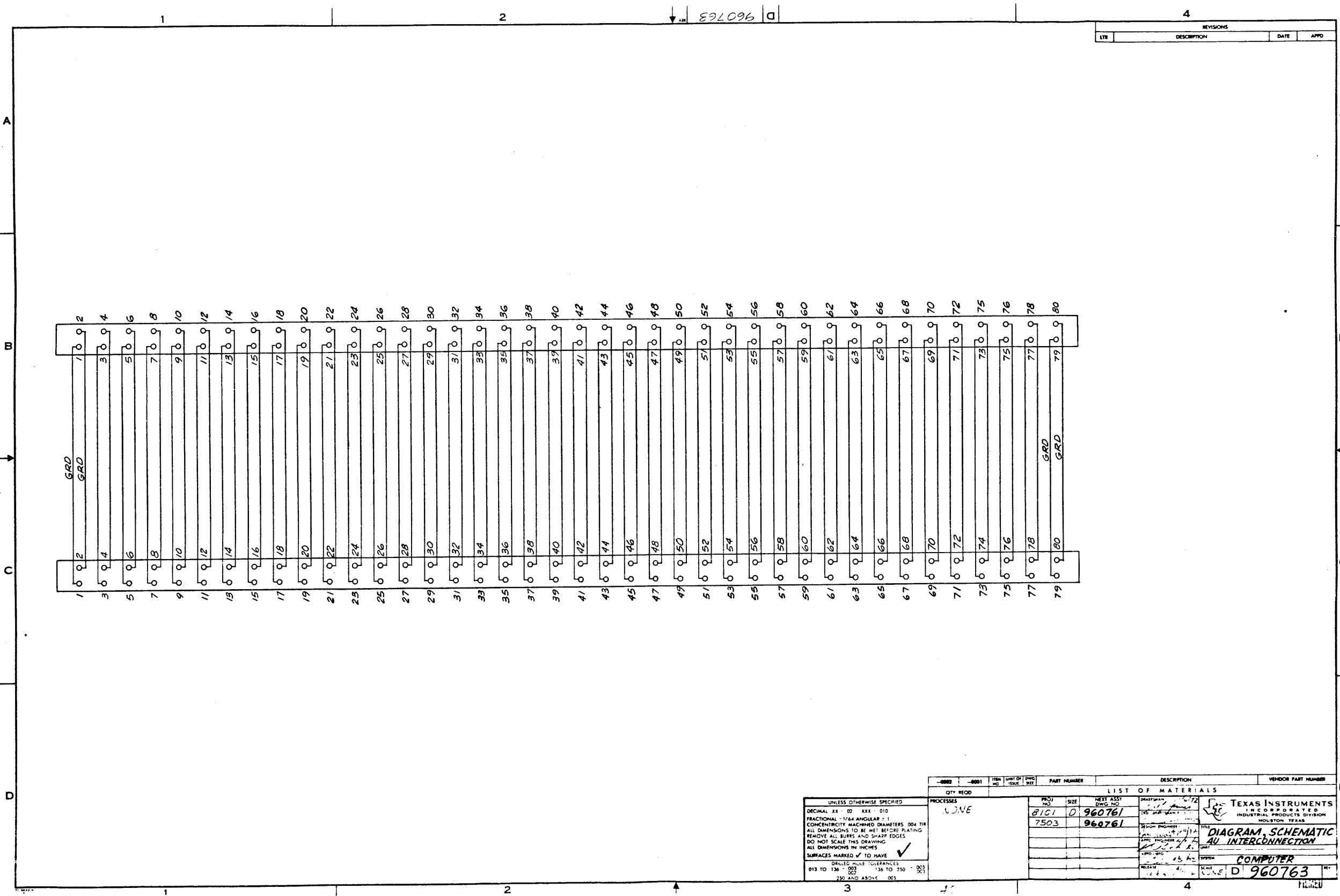


QTY	REQD	ITEM NO	CODE IDENT	PART OR IDENTIFYING NUMBER	NOMENCLATURE OR DESCRIPTION	PROCUREMENT SPECIFICATION

UNLESS OTHERWISE SPECIFIED		PARTS LIST	
REMOVE ALL BURRS AND SHARP EDGES	CONCENTRICITY MACHINED		
DIMENSIONAL LIMITS APPLY BEFORE FINISH PROCESSING	IDENTIFYING NUMBERS SHOWN IN PARENTHESES FOR REFERENCE ONLY		
INTERPRET DRAWING IN ACCORDANCE WITH MIL-STD-122			

DATE	BY	DESCRIPTION

TEXAS INSTRUMENTS INCORPORATED Dallas, Texas	DIAGRAM, LOGIC, DETAIL, 24 K MEMORY
SIZE CODE IDENT NO, DRAWING NO D 96214, 975157	SCALE: 1:1 SHEET 4



UNLESS OTHERWISE SPECIFIED
 DECIMAL - .001
 FRACTIONAL - 1/64 ANGULAR - 1
 CONCENTRICITY MACHINED DIAMETERS .004 TIR
 ALL DIMENSIONS TO BE MET BEFORE PLATING
 REMOVE ALL BURRS AND SHARP EDGES
 DO NOT SCALE THIS DRAWING
 ALL DIMENSIONS IN INCHES
 SURFACES MARKED ✓ TO HAVE ✓
 DRILLED HOLE TOLERANCES
 .013 TO .136 - .003
 .136 TO .250 - .002
 .250 AND ABOVE .001

QTY REQD	PROJ NO	SIZE	NEXT ASSY DWG NO	DESCRIPTION	VENDOR PART NUMBER
	8101	D	960761		
	7503		960761		

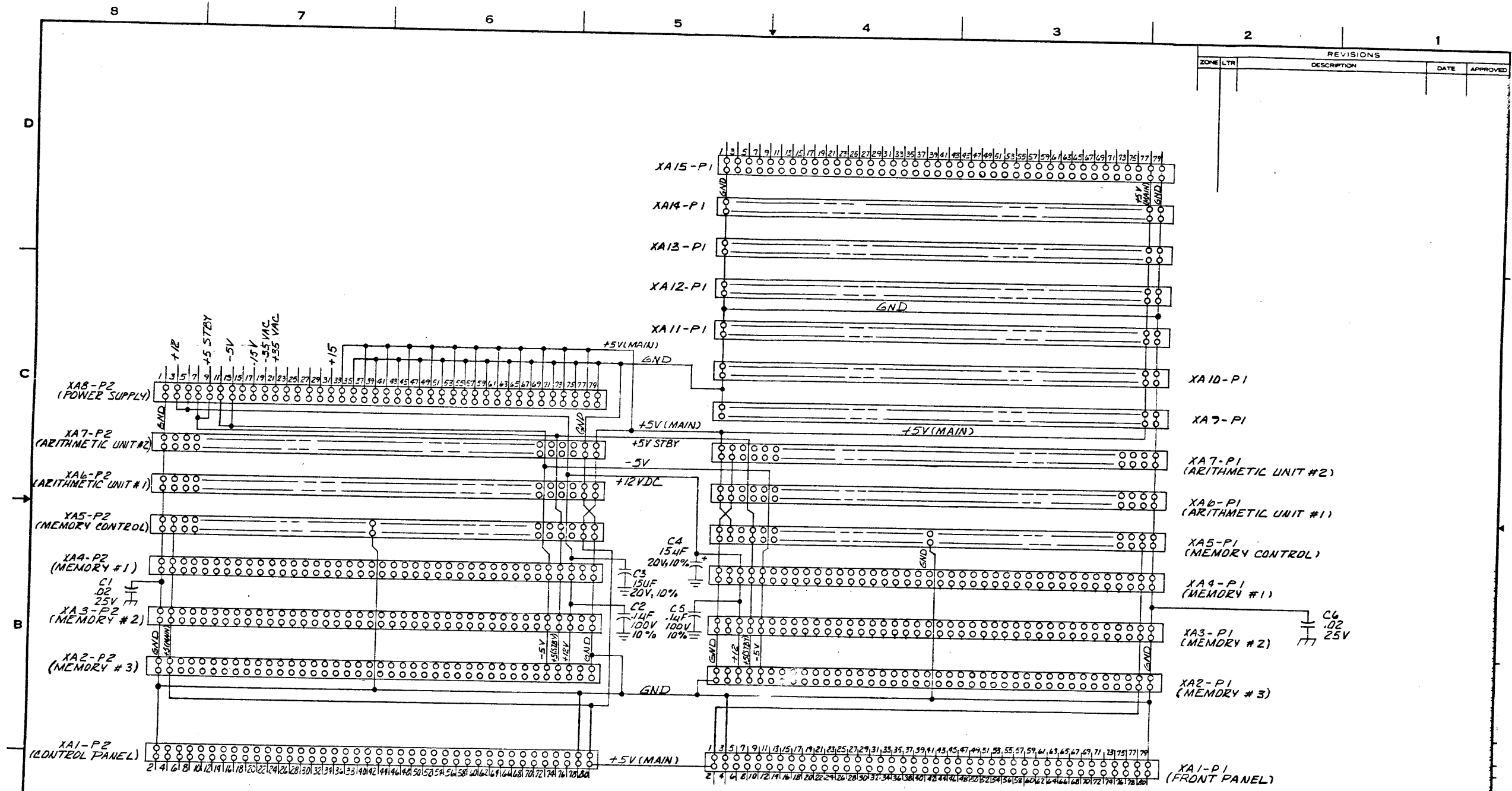
PROCESS: NONE

TEXAS INSTRUMENTS
 INCORPORATED
 INDUSTRIAL PRODUCTS DIVISION
 HOUSTON, TEXAS

DIAGRAM, SCHEMATIC
 AU INTERCONNECTION

COMPUTER

SCALE: NONE
 D 960763



REVISIONS			
ZONE	LTR	DESCRIPTION	DATE

HIGHEST REF DES USED	
XA15-P1	
XA8-P2	
C-6	

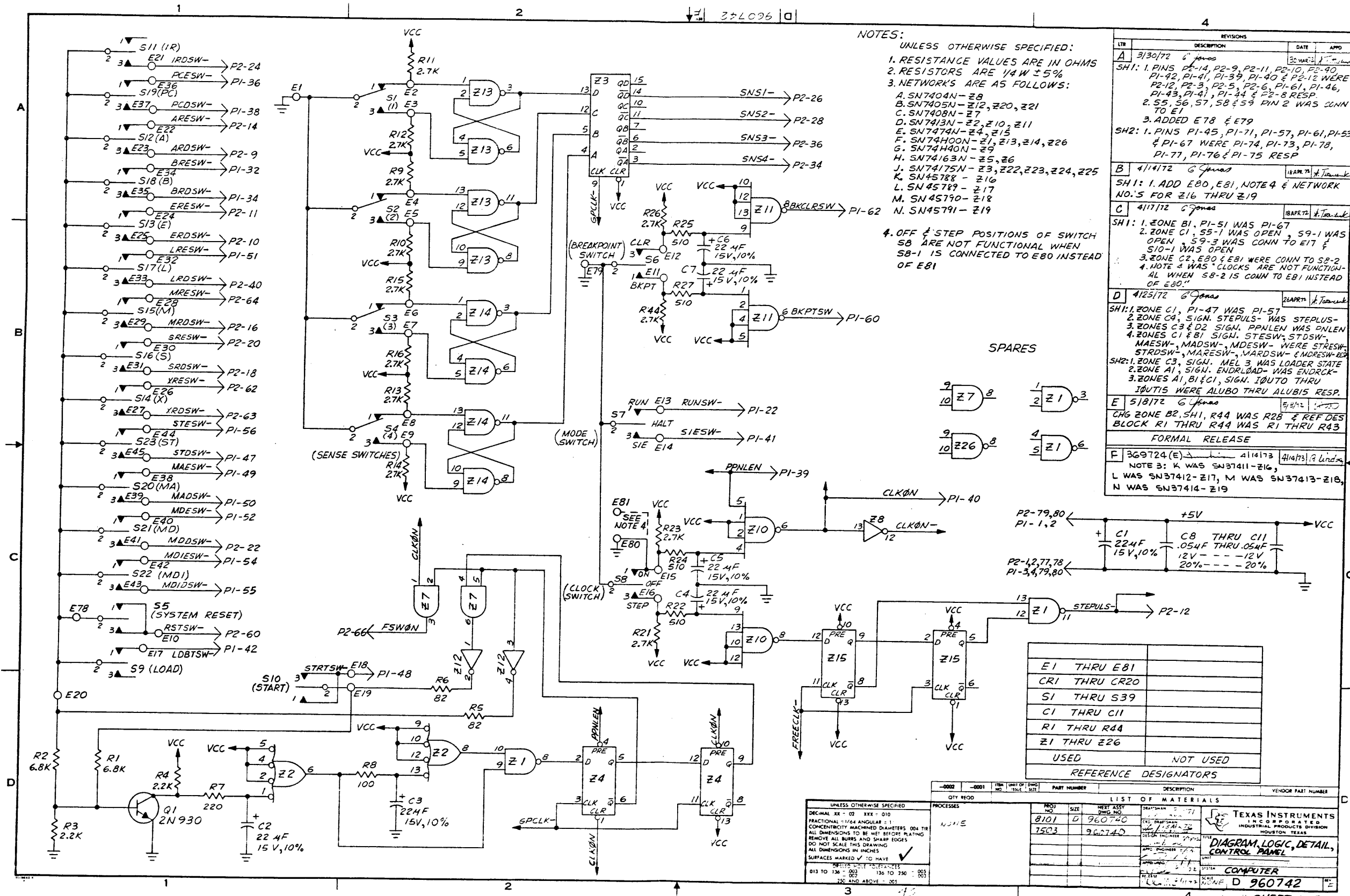
QTY	ITEM NO	CODE	PART OR IDENTIFYING NUMBER	NOMENCLATURE OR DESCRIPTION	PROCUREMENT SPECIFICATION

UNLESS OTHERWISE SPECIFIED		UNLESS OTHERWISE SPECIFIED	
REMOVE ALL BURRS AND SHARP EDGES	CONCENTRICITY MACHINED	DIMENSIONS ARE IN INCHES	TOLERANCES
DIMENSIONAL LIMITS APPLY BEFORE FINISH PROCESSING	IDENTIFYING NUMBERS SHOWN IN PARENTHESES FOR REFERENCE ONLY	ANGLES ±1°	3 PLACE DECIMALS ±.010
INTERPRET DRAWING IN ACCORDANCE WITH MIL-STD-100		2 PLACE DECIMALS ±.02	

HOLE TOLERANCE	
013 THRU +.001	126 THRU +.008
125 THRU -.001	250 THRU -.001
301 THRU +.008	751 THRU +.012
752 THRU -.001	1,000 THRU -.001

DATE	BY	CHK	ENGR	QA	APVD	CONTR NO
9/30/74						

DESIGN ACTIVITY RELEASE	SIZE	CODE	IDENT NO	DRAWING NO
	D	96214		943673



NOTES:
 UNLESS OTHERWISE SPECIFIED:
 1. RESISTANCE VALUES ARE IN OHMS
 2. RESISTORS ARE 1/4W ±5%
 3. NETWORKS ARE AS FOLLOWS:
 A. SN7404N - Z8
 B. SN7405N - Z12, Z20, Z21
 C. SN7408N - Z7
 D. SN7413N - Z2, Z10, Z11
 E. SN7474N - Z4, Z15
 F. SN74H00N - Z1, Z13, Z14, Z26
 G. SN74H40N - Z9
 H. SN74163N - Z5, Z6
 I. SN74175N - Z3, Z22, Z23, Z24, Z25
 K. SN45788 - Z16
 L. SN45789 - Z17
 M. SN45790 - Z18
 N. SN45791 - Z19
 4. OFF & STEP POSITIONS OF SWITCH S8 ARE NOT FUNCTIONAL WHEN S8-1 IS CONNECTED TO E80 INSTEAD OF E81

REV	DESCRIPTION	DATE	APPD
A	3/30/72 G Jones	30 MAR 72	J. Jones
B	4/11/72 G Jones	11 APR 72	J. Jones
C	4/17/72 G Jones	17 APR 72	J. Jones
D	4/25/72 G Jones	25 APR 72	J. Jones
E	5/18/72 G Jones	18 MAY 72	J. Jones
F	3/6/74 (E) 4/14/73 4/14/73 J. Jones	6 MAR 74	J. Jones

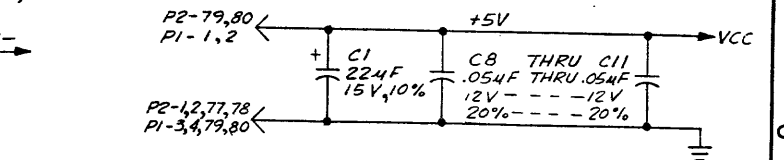
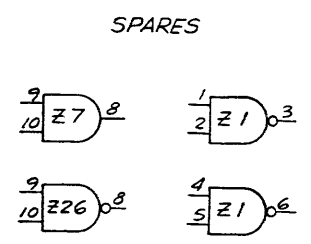
SH1: 1. PINS P2-14, P2-9, P2-11, P2-10, P2-90, P1-42, P1-41, P1-39, P1-40 & P2-12 WERE P2-12, P2-3, P2-5, P2-6, P1-61, P1-46, P1-43, P1-41, P1-44 & P2-8 RESP.
 2. S5, S6, S7, S8 & S9 PIN 2 WAS CONN TO E1
 3. ADDED E78 & E79
 SH2: 1. PINS P1-45, P1-71, P1-57, P1-61, P1-53 & P1-67 WERE P1-74, P1-73, P1-70, P1-77, P1-76 & P1-75 RESP

SH1: 1. ADD E80, E81, NOTE 4 & NETWORK NO.'S FOR Z16 THRU Z19
 SH1: 1. ZONE B1, P1-51 WAS P1-67
 2. ZONE C1, S5-1 WAS OPEN, S9-1 WAS OPEN, S9-3 WAS CONN TO E17 & S10-1 WAS OPEN
 3. ZONE C2, E80 & E81 WERE CONN TO S8-2
 4. NOTE 4 WAS CLOCKS ARE NOT FUNCTIONAL WHEN S8-2 IS CONN TO E81 INSTEAD OF E80

SH1: 1. ZONE C1, P1-47 WAS P1-57
 2. ZONE C4, SIGN. STEPULS- WAS STEPULS-
 3. ZONES C3 & D2 SIGN. PPNLEN WAS PPNLEN
 4. ZONES C1 & B1 SIGN. STESW, STDSW, MAESW, MADSW, MDESW, MRESW, STRDSW, MARESW, MARDSW, & MRESW-
 SH2: 1. ZONE C3, SIGN. MEL 3 WAS LOADER STATE
 2. ZONE A1, SIGN. ENDRLOAD- WAS ENDRCK-
 3. ZONES A1, B1 & C1, SIGN. I8UTO THRU I8UTIS WERE ALUBO THRU ALUBIS RESP.

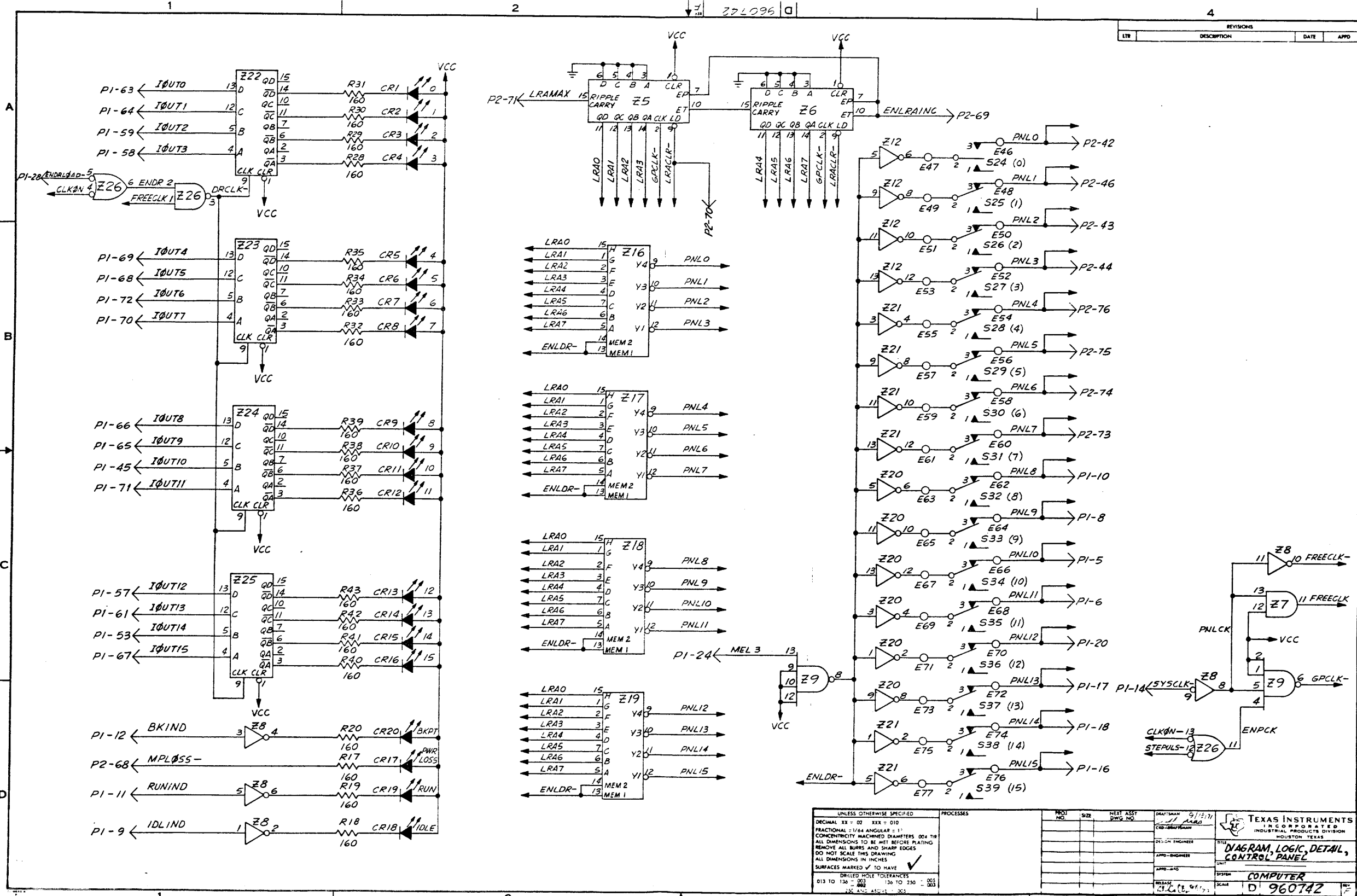
CHG ZONE B2, SH1, R44 WAS R28 & REF DES BLOCK R1 THRU R44 WAS R1 THRU R43

FORMAL RELEASE



REFERENCE DESIGNATORS	USED	NOT USED
E1 THRU E81		
C1 THRU C20		
S1 THRU S39		
Z1 THRU Z26		

QTY REQD	UNIT OF MEAS	PART NUMBER	DESCRIPTION	VENDOR PART NUMBER
			LIST OF MATERIALS	
			TEXAS INSTRUMENTS INCORPORATED INDUSTRIAL PRODUCTS DIVISION HOUSTON TEXAS	
			DIAGRAM LOGIC, DETAIL, CONTROL PANEL	
			COMPUTER	
			SCALE NONE	
			D 960742	



REVISIONS			
LTB	DESCRIPTION	DATE	APPO

UNLESS OTHERWISE SPECIFIED

DRAWING: XI - 02 XXX - 010

FRACTIONAL: 1/64 ANGULAR: 1:1

CONCENTRICITY MACHINED DIAMETERS: 0.04 TIR

ALL DIMENSIONS TO BE MET BEFORE PLATING

REMOVE ALL BURRS AND SHARP EDGES

DO NOT SCALE THIS DRAWING

ALL DIMENSIONS IN INCHES

SURFACES MARKED ✓ TO HAVE DRILLED HOLE TOLERANCES

013 TO 136 - 0.013 136 TO 250 - 0.015

250 AND ABOVE - 0.020

PROCESSES

POST NO.	SIZE	NEXT ASSY DWG. NO.

DATE: 9/15/71

DRAWN BY: JF

CHKD BY: JF

DESIGN ENGINEER: JF

APP. ENGINEER: JF

PROJ. NO.:

RELEASE: 12/18/71

SCALE: 1:1

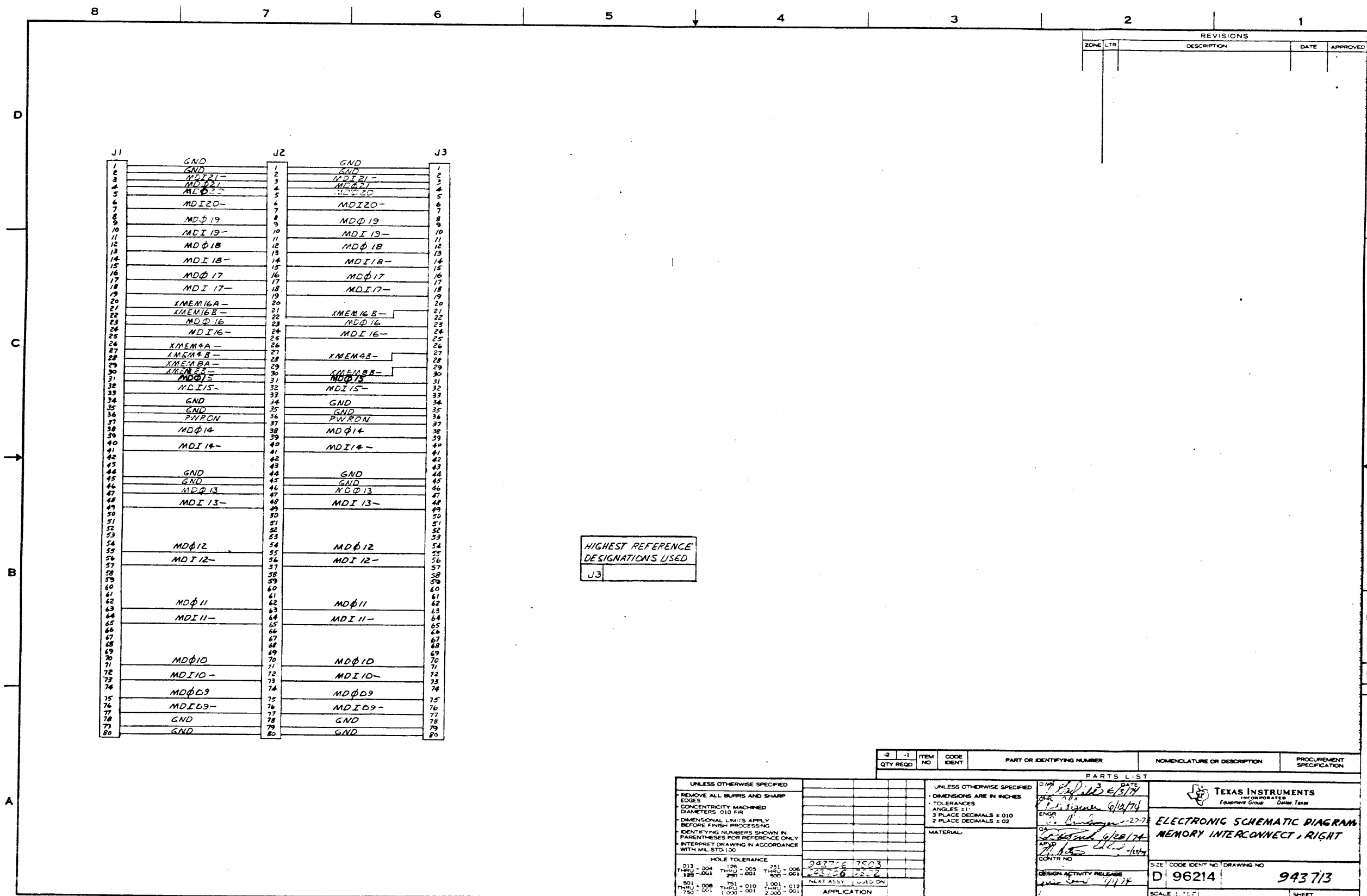
SYSTEM: COMPUTER

DWG. NO.: D 960742

TEXAS INSTRUMENTS INCORPORATED INDUSTRIAL PRODUCTS DIVISION HOUSTON, TEXAS

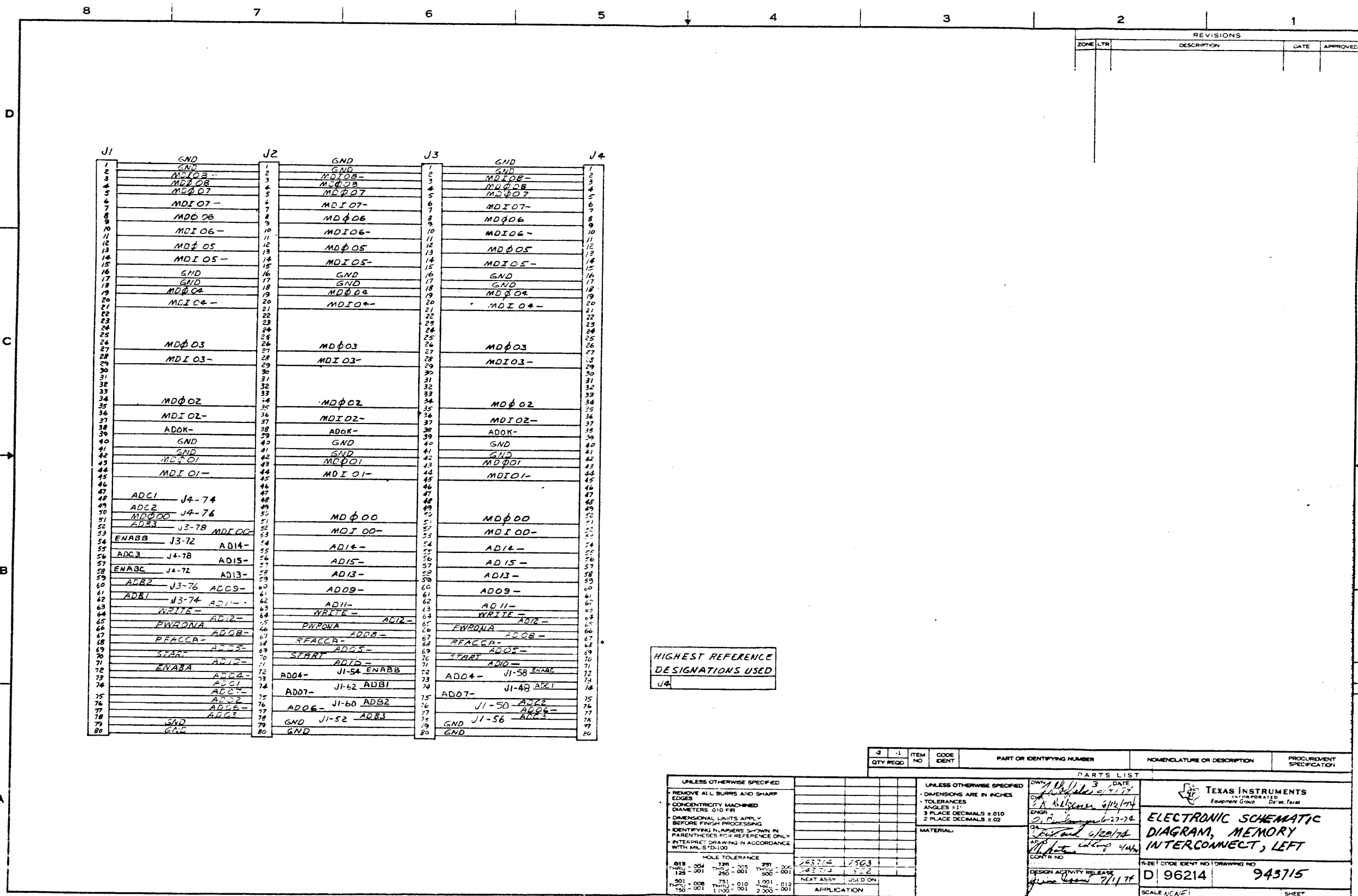
DIAGRAM, LOGIC, DETAIL, CONTROL PANEL

SHEET 2



HIGHEST REFERENCE DESIGNATIONS USED
J3

QTY	REQD	ITEM NO	CODE IDENT	PART OR IDENTIFYING NUMBER	NOMENCLATURE OR DESCRIPTION	PROCUREMENT SPECIFICATION
PARTS LIST						
UNLESS OTHERWISE SPECIFIED				UNLESS OTHERWISE SPECIFIED		
REMOVE ALL BURRS AND SHARP EDGES				DIMENSIONS ARE IN INCHES		
CONCENTRICITY MACHINED				TOLERANCES		
DIAMETERS .010 FIR				ANGLES 11°		
DIMENSIONAL LIMITS APPLY BEFORE FINISH PROCESSING				3 PLACE DECIMALS ± .010		
IDENTIFYING NUMBERS SHOWN IN PARENTHESES FOR REFERENCE ONLY				2 PLACE DECIMALS ± .02		
INTERPRET DRAWING IN ACCORDANCE WITH MIL-STD-130				MATERIAL:		
HOLE TOLERANCE				DATE: 6/5/74		
.013 ± .004 THRU .001				DRAWN BY: [Signature]		
.125 ± .005 THRU .001				DATE: 6/12/74		
.251 ± .006 THRU .001				ENGR: [Signature]		
.500 ± .008 THRU .001				DATE: 4/28/74		
1.001 ± .012 THRU .001				APPR: [Signature]		
2.000 ± .020 THRU .001				CONTR NO:		
APPLICATION				DESIGN ACTIVITY RELEASE: [Signature]		
				SIZE: D		
				CODE IDENT NO: 96214		
				DRAWING NO: 943713		
				SCALE: 1:1		
				SHEET		



REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED

D
C
B
A

J1	J2	J3	J4
1 GND	1 GND	1 GND	1 GND
2 MDI 21-	2 MDI 21-	2 MDI 21-	2 MDI 21-
3 MDI 21-	3 MDI 21-	3 MDI 21-	3 MDI 21-
4 MDI 20-	4 MDI 20-	4 MDI 20-	4 MDI 20-
5 MDI 20-	5 MDI 20-	5 MDI 20-	5 MDI 20-
6 MDI 19-	6 MDI 19-	6 MDI 19-	6 MDI 19-
7 MDI 19-	7 MDI 19-	7 MDI 19-	7 MDI 19-
8 MDI 18-	8 MDI 18-	8 MDI 18-	8 MDI 18-
9 MDI 18-	9 MDI 18-	9 MDI 18-	9 MDI 18-
10 MDI 17-	10 MDI 17-	10 MDI 17-	10 MDI 17-
11 MDI 17-	11 MDI 17-	11 MDI 17-	11 MDI 17-
12 MDI 16-	12 MDI 16-	12 MDI 16-	12 MDI 16-
13 MDI 16-	13 MDI 16-	13 MDI 16-	13 MDI 16-
14 MDI 15-	14 MDI 15-	14 MDI 15-	14 MDI 15-
15 MDI 15-	15 MDI 15-	15 MDI 15-	15 MDI 15-
16 MDI 14-	16 MDI 14-	16 MDI 14-	16 MDI 14-
17 MDI 14-	17 MDI 14-	17 MDI 14-	17 MDI 14-
18 MDI 13-	18 MDI 13-	18 MDI 13-	18 MDI 13-
19 MDI 13-	19 MDI 13-	19 MDI 13-	19 MDI 13-
20 XMEM 16A-	20 XMEM 16B-	20 XMEM 16B-	20 XMEM 16B-
21 XMEM 16B-	21 XMEM 16B-	21 XMEM 16B-	21 XMEM 16B-
22 XMEM 16B-	22 XMEM 16B-	22 XMEM 16B-	22 XMEM 16B-
23 XMEM 16B-	23 XMEM 16B-	23 XMEM 16B-	23 XMEM 16B-
24 MDI 16-	24 MDI 16-	24 MDI 16-	24 MDI 16-
25 MDI 16-	25 MDI 16-	25 MDI 16-	25 MDI 16-
26 XMEM 14A-	26 XMEM 14B-	26 XMEM 14B-	26 XMEM 14B-
27 XMEM 14B-	27 XMEM 14B-	27 XMEM 14B-	27 XMEM 14B-
28 XMEM 14B-	28 XMEM 14B-	28 XMEM 14B-	28 XMEM 14B-
29 XMEM 14B-	29 XMEM 14B-	29 XMEM 14B-	29 XMEM 14B-
30 XMEM 14B-	30 XMEM 14B-	30 XMEM 14B-	30 XMEM 14B-
31 MDI 15-	31 MDI 15-	31 MDI 15-	31 MDI 15-
32 MDI 15-	32 MDI 15-	32 MDI 15-	32 MDI 15-
33 MDI 15-	33 MDI 15-	33 MDI 15-	33 MDI 15-
34 GND	34 GND	34 GND	34 GND
35 GND	35 GND	35 GND	35 GND
36 PWRON	36 PWRON	36 PWRON	36 PWRON
37 PWRON	37 PWRON	37 PWRON	37 PWRON
38 MDI 14-	38 MDI 14-	38 MDI 14-	38 MDI 14-
39 MDI 14-	39 MDI 14-	39 MDI 14-	39 MDI 14-
40 MDI 14-	40 MDI 14-	40 MDI 14-	40 MDI 14-
41 MDI 14-	41 MDI 14-	41 MDI 14-	41 MDI 14-
42 MDI 14-	42 MDI 14-	42 MDI 14-	42 MDI 14-
43 MDI 14-	43 MDI 14-	43 MDI 14-	43 MDI 14-
44 GND	44 GND	44 GND	44 GND
45 GND	45 GND	45 GND	45 GND
46 MDI 13-	46 MDI 13-	46 MDI 13-	46 MDI 13-
47 MDI 13-	47 MDI 13-	47 MDI 13-	47 MDI 13-
48 MDI 13-	48 MDI 13-	48 MDI 13-	48 MDI 13-
49 MDI 13-	49 MDI 13-	49 MDI 13-	49 MDI 13-
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53 MDI 12-	53 MDI 12-	53 MDI 12-	53 MDI 12-
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57 MDI 12-	57 MDI 12-	57 MDI 12-	57 MDI 12-
58 MDI 11-	58 MDI 11-	58 MDI 11-	58 MDI 11-
59 MDI 11-	59 MDI 11-	59 MDI 11-	59 MDI 11-
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66 MDI 11-	66 MDI 11-	66 MDI 11-	66 MDI 11-
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73 MDI 10-	73 MDI 10-	73 MDI 10-	73 MDI 10-
74 MDI 10-	74 MDI 10-	74 MDI 10-	74 MDI 10-
75 MDI 09-	75 MDI 09-	75 MDI 09-	75 MDI 09-
76 MDI 09-	76 MDI 09-	76 MDI 09-	76 MDI 09-
77 MDI 09-	77 MDI 09-	77 MDI 09-	77 MDI 09-
78 GND	78 GND	78 GND	78 GND
79 GND	79 GND	79 GND	79 GND
80 GND	80 GND	80 GND	80 GND

HIGHEST REFERENCE DESIGNATIONS USED
J4

QTY REQD	ITEM NO	CODE IDENT	PART OR IDENTIFYING NUMBER	NOMENCLATURE OR DESCRIPTION	PROCUREMENT SPECIFICATION

UNLESS OTHERWISE SPECIFIED		UNLESS OTHERWISE SPECIFIED	
REMOVE ALL BURRS AND SHARP EDGES	CONCENTRICITY MACHINED	DIMENSIONS ARE IN INCHES	TOLERANCES
DIAMETERS .010 FIR	DIMENSIONAL LIMITS APPLY BEFORE FINISH PROCESSING	ANGLES ±1°	3 PLACE DECIMALS ±0.10
IDENTIFYING NUMBERS SHOWN IN PARENTHESES FOR REFERENCE ONLY	INTERPRET DRAWING IN ACCORDANCE WITH MIL-STD-100	2 PLACE DECIMALS ±.02	
HOLE TOLERANCE		MATERIAL	
.013 THRU .004	.751 THRU .005		
.125 THRU .001	.250 THRU .001		
.501 THRU .001	.751 THRU .001		
.750 THRU .001	1.000 THRU .001		

DATE	BY	CHKD	ENGR	QA	APVD	CONTR NO

		TEXAS INSTRUMENTS <small>INCORPORATED</small> <small>Equipment Group Dallas, Texas</small>	
ELECTRONIC SCHEMATIC DIAGRAM MEMORY INTERCONNECT, RIGHT			
SIZE	CODE IDENT NO	DRAWING NO	
D	96214	94377	
SCALE	1/12	SHEET	

FOLD

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PERMIT NO. 7284
DALLAS, TEXAS

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NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

POSTAGE WILL BE PAID BY

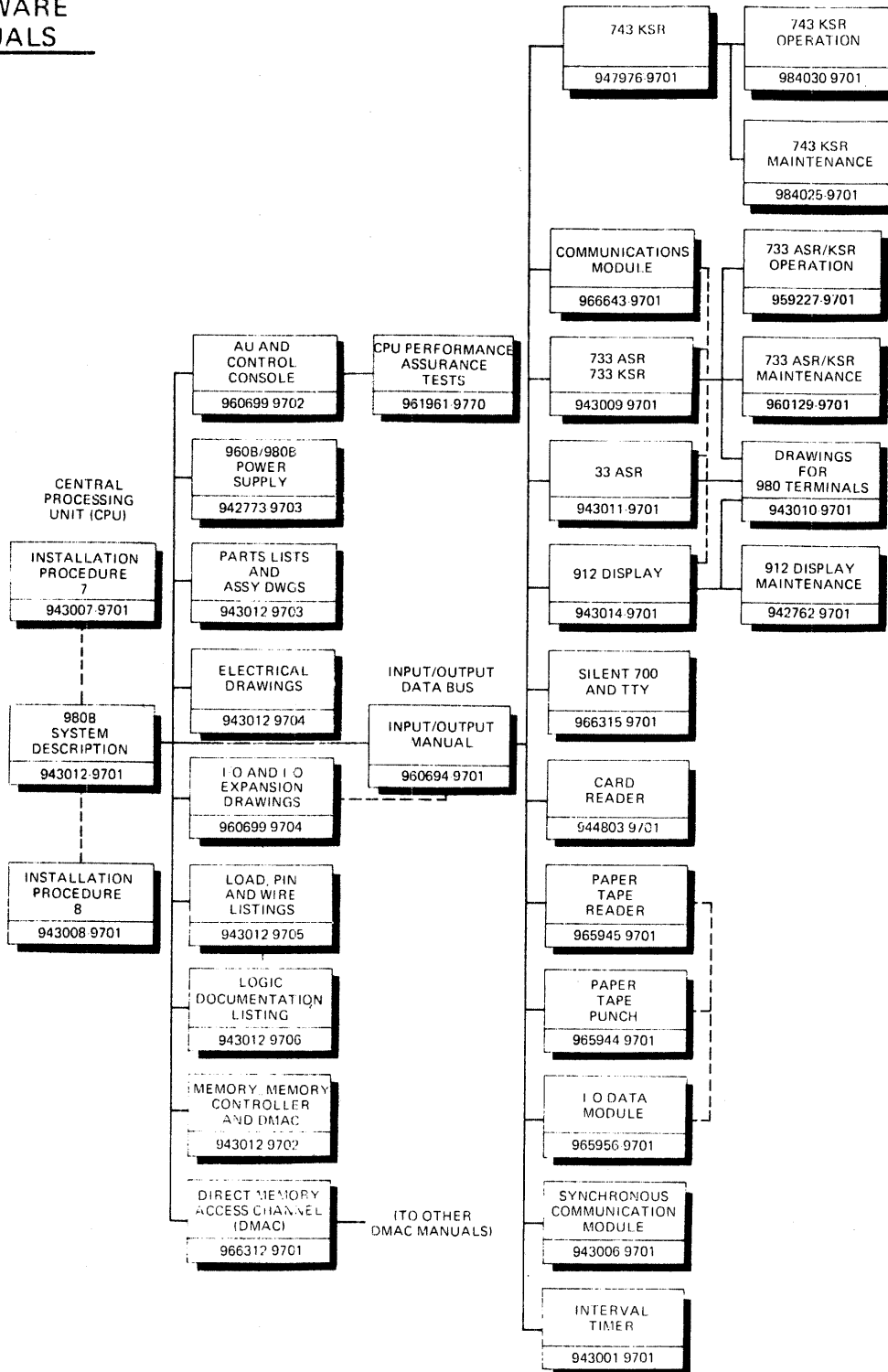
TEXAS INSTRUMENTS INCORPORATED
DIGITAL SYSTEMS DIVISION

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MS 2146

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