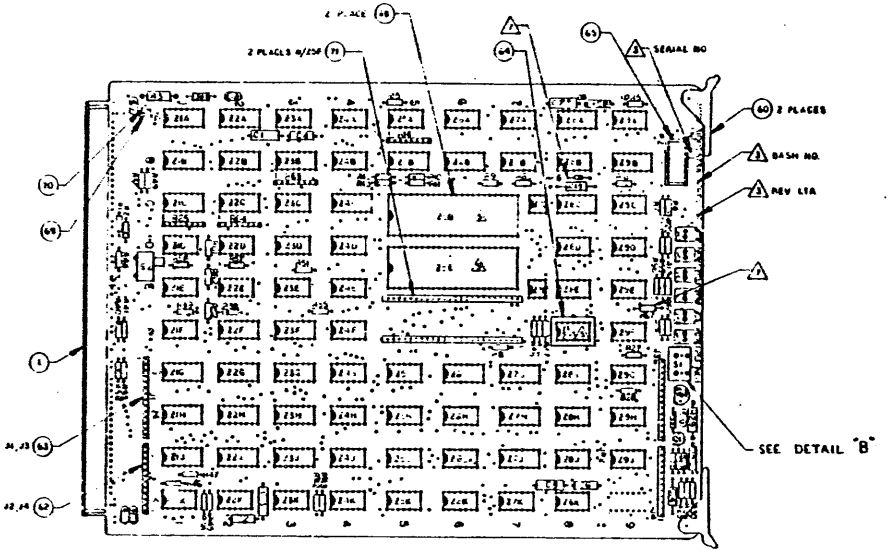
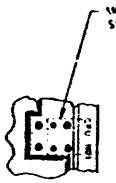
GA-16/220

DRAWING AND LOGIC PRINTS

SYM	DESCRIPTION	APPROVED	DATE
G	REVISED AND REDRAWN PER ECO-10844-1 SUPERCEDES 31D02422A 6-5-79		6/6/80
H	REVISED PER ECO-11193		7/1/80
J	REVISED PER ECO-12110		8-20-80
K	REVISED PER ECO-12597		8-20
L	REVISED PER ECO 12670		9/15/80
M	REVISED PER ECO 12876		9-6-80
N	REVISED PER ECO 12913		
P	REVISED PER ECO-12930	8-20 G	
R	REVISED PER ECO-14054 LAL RECORD CHANGE ONLY		





DETAIL "B"
COMPONENT SIDE
SCALE : NONE

SEE PARTS LIST 31P02573A

QTY REQD	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	SIZE VALUE MATL UNIT OF MEASURE	SPECIFICATIONS VENDORS NOTES	ITEM NO
		LIST OF MATERIALS OR PARTS LIST			

DR	J.L.L.	7-15-80	GENERAL AUTOMATION
CHK	A.BARNES	7/21/80	CENTRAL PROCESSOR UNIT (CPU NO. 1)
ENGR	D.RASER	7/21/80	
APPR			
APPD			
REL			

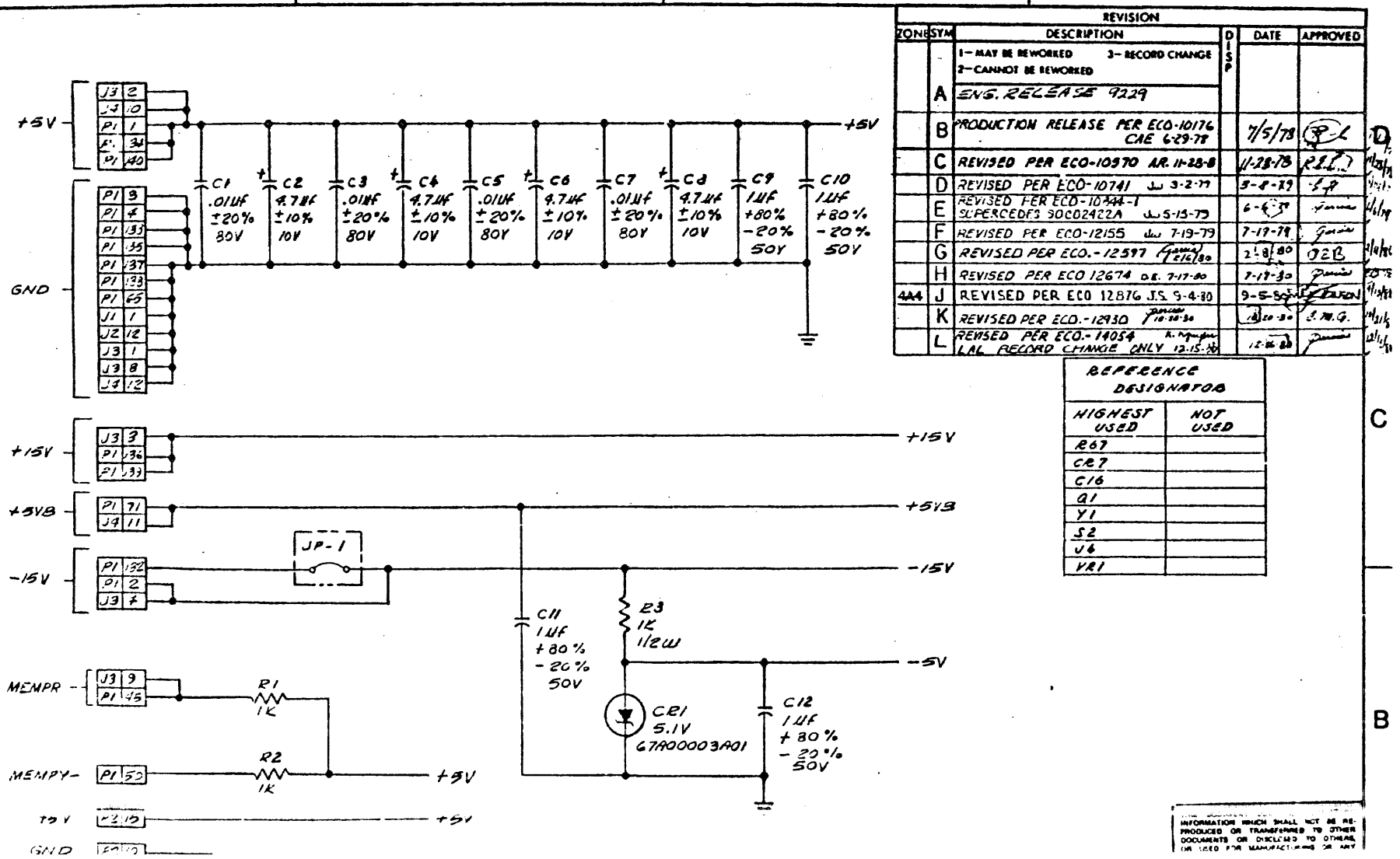
MFGR NO	CAGE NO	04P02C4A01	NEXT ASSEMBLY

SIZE	CAGE IDENT NO	NO	REV
D		31D02573A	R

SCALE 1:1 SHEET 1 OF 1

THIS DRAWING CONTAINS PROPRIETARY INFORMATION WHICH SHALL NOT BE REPRODUCED OR TRANSFERRED TO OTHERS OR USED FOR MANUFACTURING OR SALE WITHOUT THE PERMISSION OF GENERAL AUTOMATION, INC.

FIRST USED ON NEXT



REVISION					
ZONE	SYM	DESCRIPTION	DISP	DATE	APPROVED
		1- MAY BE REWORKED 3- RECORD CHANGE 2- CANNOT BE REWORKED			
	A	ENG. RELEASE 9229			
	B	PRODUCTION RELEASE PER ECO-10176 CAE 6-29-79		7/5/79	
	C	REVISED PER ECO-10970 AR. 11-28-79		11-28-79	
	D	REVISED PER ECO-10741 JW 3-2-79		3-8-79	
	E	REVISED PER ECO-10344-1 SUPERCEDES 30C02422A JW 5-15-79		6-6-79	
	F	REVISED PER ECO-12155 JW 7-19-79		7-19-79	
	G	REVISED PER ECO.-12597		2-8-80	
	H	REVISED PER ECO 12674 DE 7-17-80		7-17-80	
4A4	J	REVISED PER ECO 12876 JS 9-4-80		9-5-80	
	K	REVISED PER ECO.-12930		10-20-80	
	L	REVISED PER ECO.-14054 LAL RECORD CHANGE ONLY 12-15-80		12-22-80	

REFERENCE DESIGNATOR	
HIGHEST USED	NOT USED
R67	
CR7	
C16	
Q1	
Y1	
S2	
U6	
VR1	

REVISION			
STA	DESCRIPTION	DATE	APPROVED
	SEE SHT. 1		

P1	1	+5V	(1)
P1	2	-15V	(1)
P1	3	GND	(1)
P1	4	GND	(1)
P1	5	INB00-	(6)
P1	6	INB01-	(6)
P1	7	INB02-	(6)
P1	8	INB03-	(6)
P1	9	INB04-	(6)
P1	10	INB05-	(6)
P1	11	INB06-	(6)
P1	12	INB07-	(6)
P1	13	INB08-	(6)
P1	14	INB09-	(6)
P1	15	INB10-	(6)
P1	16	INB11-	(6)
P1	17	INB12-	(5)
P1	18	INB13-	(5)
P1	19	INB14-	(5)
P1	20	INB15-	(5)
P1	21	DTB00-	(14)
P1	22	DTB01-	(14)
P1	23	DTB02-	(14)
P1	24	DTB03-	(14)
P1	25	DTB04-	(14)
P1	26	DTB05-	(14)
P1	27	DTB06-	(14)
P1	28	DTB07-	(14)
P1	29	DTB08-	(14)
P1	30	DTB09-	(14)
P1	31	DTB10-	(14)
P1	32	DTB11-	(14)
P1	33	DTB12-	(14)
P1	34	DTB13-	
P1	35	DTB14-	(14)
P1	36	DTB15-	(14)
P1	37	EAD-	(13)
P1	38	DTD-	(13)
P1	39		
P1	40	P2CL-	(10)
P1	41	D3-	(10)
P1	42	SYNC-	(13)
P1	43	SFEC-	(4)
P1	44		
P1	45	MEMPR-	(1)
P1	46	SYST-	(8)
P1	47	IHLD-	(12)
P1	48	CNTL-	(13)
P1	49	WRIT-	(13)
P1	50	MEMRY-	(1)

P1	51	READ-	(13)
P1	52		
P1	53	TEST-	(14)
P1	54	IREQ-	(12)
P1	55	IACK-	(12)
P1	56		
P1	57	DMAER-	(9)
P1	58		
P1	59	IPRS-	(12)
P1	60	RMW-	(7)
P1	61		
P1	62	CLDS-	(11)
P1	63	IPSD-0	(11)
P1	64		
P1	65	GND	(1)
P1	66	ISET	(4)
P1	67	TBREQ+	(7)
P1	68	RTIY-	(4)
P1	69	ZOMHE+	(10)
P1	70	PRRT+	(8)
P1	71	+5VB	(1)
P1	72	LSADD+	(9)
P1	73	FTCH+	(12)
P1	74	RCSW-	(9)
P1	75	ALCL+	(7)
P1	76	RTCKE+	(11)
P1	77	NIIRI-	(8)
P1	78	NIIRQ-	(8)
P1	79	DMRQ1-	(9)
P1	80	DMAK1+	(9)
P1	81		
P1	82		
P1	83		
P1	84		
P1	85	TACK+	(10)
P1	86		
P1	87	RTCKI+	(11)
P1	88		
P1	89	PFD-	(8)
P1	90	GRX MODE SELECT	(3)
P1	91	RESET-	(8)
P1	92	RUN+	(4)
P1	93	CLDS-	(11)
P1	94	TDD0-	(6)
P1	95	TDD1-	(6)
P1	96	TDD2-	(6)
P1	97	TDD3-	(6)
P1	98	TDD4-	(6)
P1	99	TDD5-	(6)
P1	100	TDD6-	(6)

P1	101	TDD7-	(6)
P1	102	TDD8-	(5)
P1	103	TDD9-	(5)
P1	104	TD10-	(5)
P1	105	TD11-	(5)
P1	106	TD12-	(5)
P1	107	TD13-	(5)
P1	108	TD14-	(5)
P1	109	TD15-	(5)
P1	110	TA00-	(6)
P1	111	TA01-	(6)
P1	112	TA02-	(6)
P1	113	TA03-	(6)
P1	114	TA04-	(6)
P1	115	TA05-	(6)
P1	116	TA06-	(6)
P1	117	TA07-	(6)
P1	118	TA08-	(6)
P1	119	TA09-	(5)
P1	120	TA10-	(5)
P1	121	TA11-	(5)
P1	122	TA12-	(5)
P1	123	TA13-	(5)
P1	124	TA14-	(5)
P1	125	TA15-	(5)
P1	126	MREQ-	(9)
P1	127	MWRE-	(9)
P1	128	STRD-	(9)
P1	129	MDRY+	(9)
P1	130	DMRQ2-	(9)
P1	131	DMAK2-	(9)
P1	132	-15V	(1)
P1	133	GND	(1)
P1	134	+5V	(1)
P1	135	GND	(1)
P1	136	+15V	(1)
P1	137	GND	(1)
P1	138	GND	(1)
P1	139	+15V	(1)
P1	140	+5V	(1)

P2	1	SWC-	(4)
P2	2	SWB-	(4)
P2	3	SWD-	(4)
P2	4	SWA-	(4)
P2	5	STEP-	(4)
P2	6	RUN+	(4)
P2	7	ENTER-	(7)
P2	8	SVI-	(3)
P2	9	CKB+	(11)
P2	10	GND	(1)
P2	11		
P2	12		
P2	13		
P2	14		
P2	15	+5V	(1)
P2	16	LSADD+	(9)

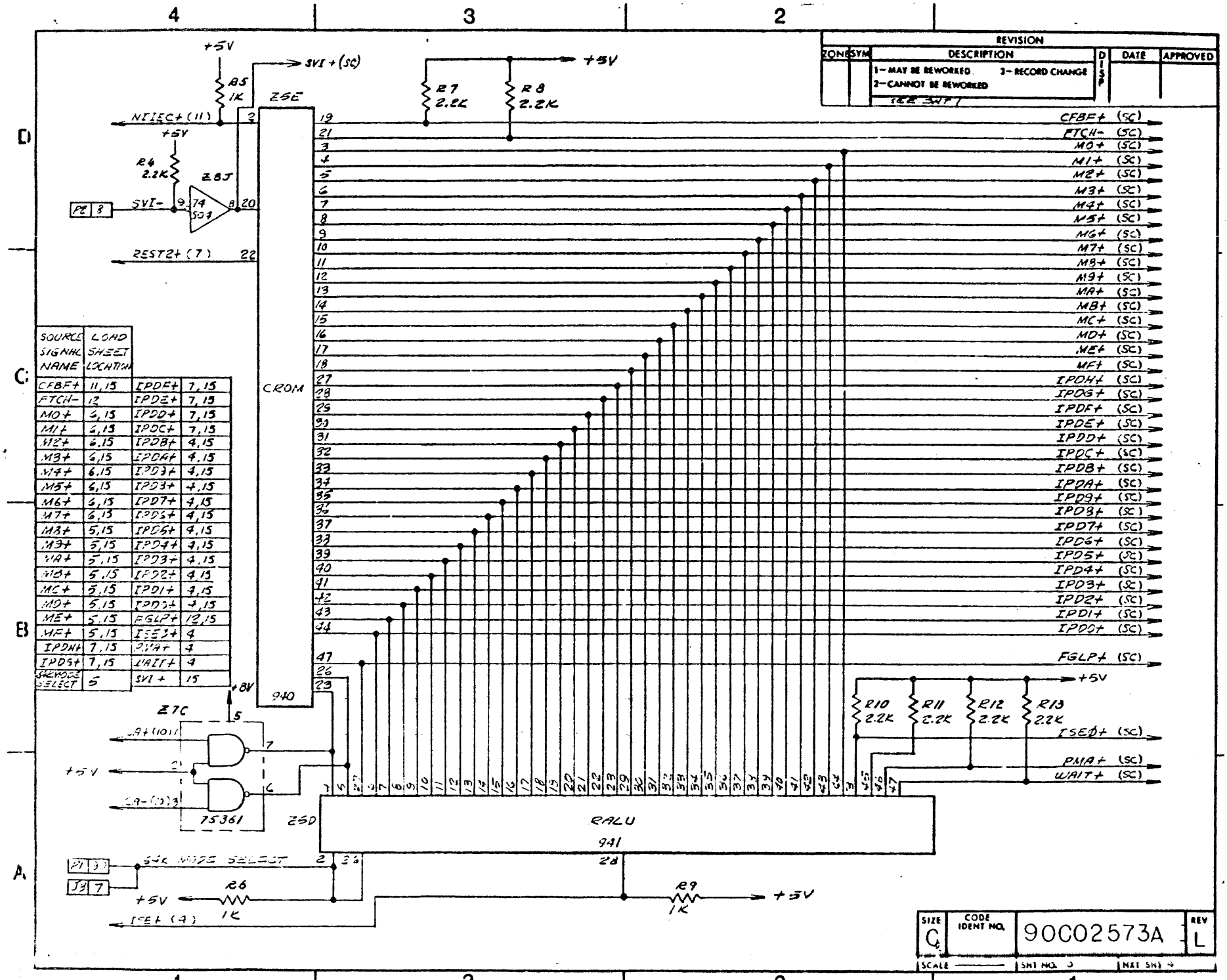
J1	1	GND	(1)
J1	2	TDD0-	(6)
J1	3	TDD1-	(6)
J1	4	TDD2-	(6)
J1	5	TDD3-	(6)
J1	6	TDD4-	(6)
J1	7	TDD5-	(6)
J1	8	TDD6-	(6)
J1	9	TDD7-	(6)
J1	10	TDD8-	(5)
J1	11	TDD9-	(5)
J1	12	TD10-	(5)
J1	13	TD11-	(5)
J1	14	TD12-	(5)

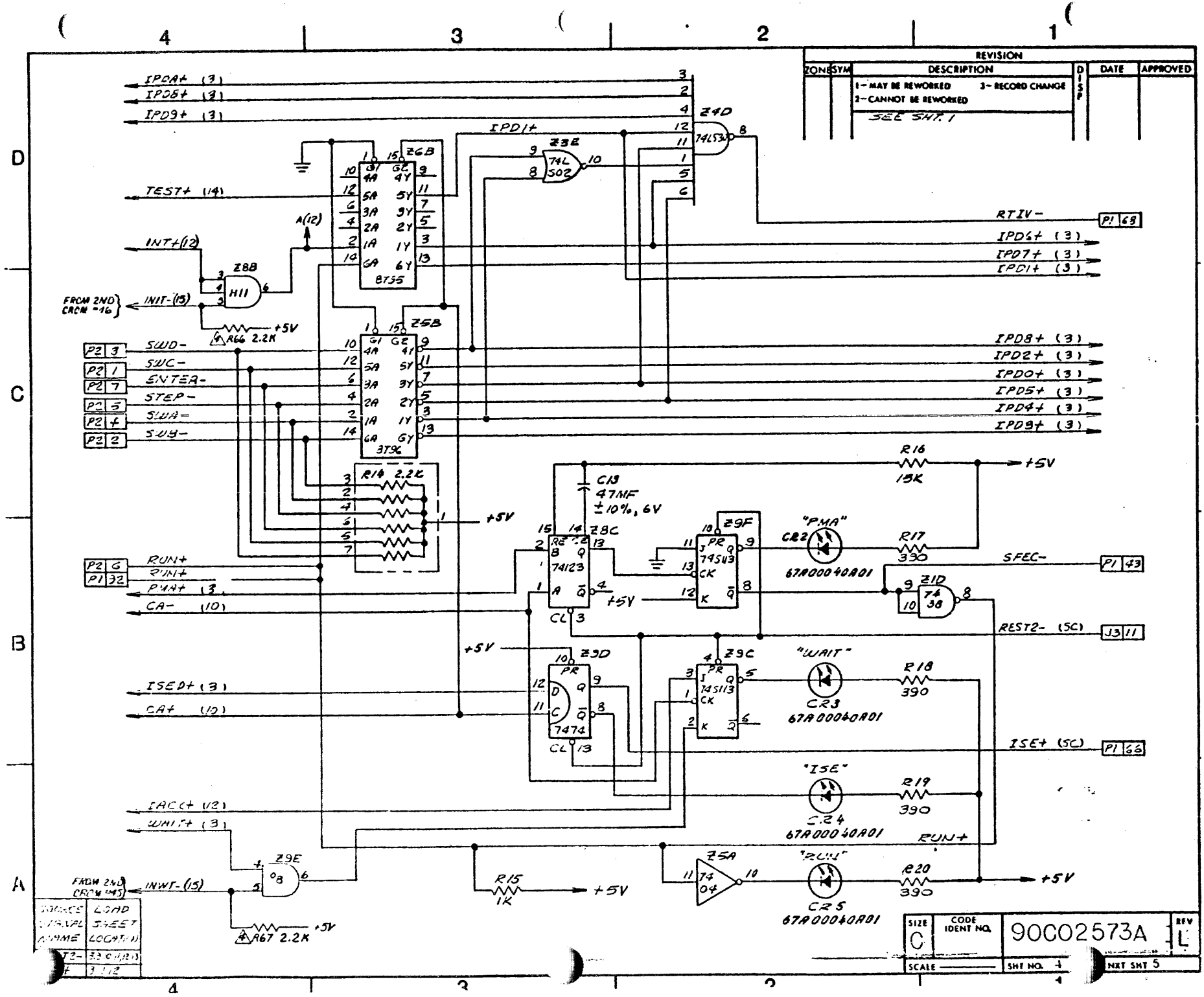
J2	1	TD13-	(5)
J2	2	TD14-	(5)
J2	3	TD15-	(5)
J2	4	TA00-	(6)
J2	5	TA01-	(6)
J2	6	TA02-	(6)
J2	7	TA03-	(6)
J2	8	TA04-	(6)
J2	9	TA05-	(6)
J2	10	TA06-	(6)
J2	11	TA07-	(6)
J2	12	GND	(1)

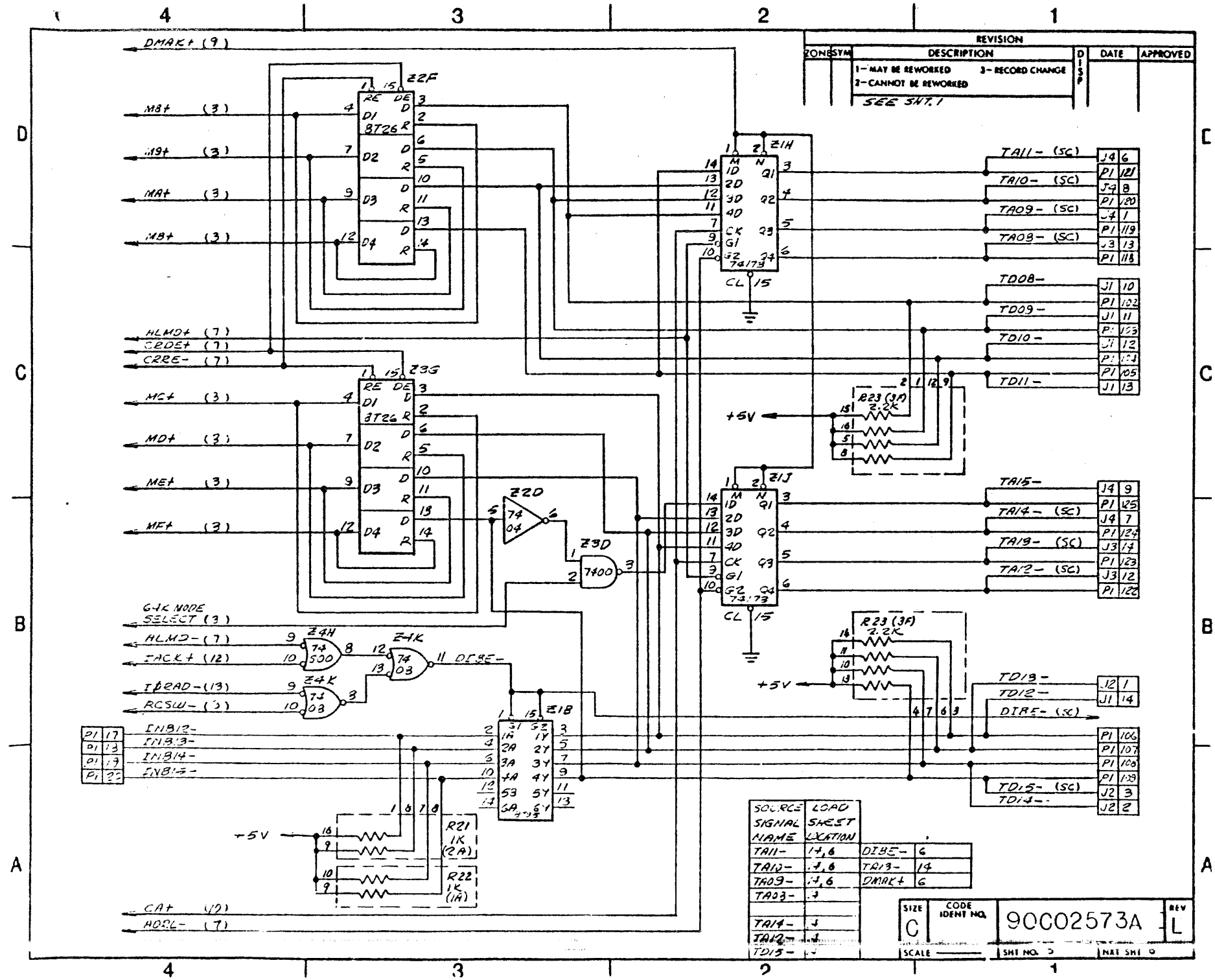
J3	1	GND	(1)
J3	2	+5V	(1)
J3	3	+15V	(1)
J3	4	-15V	(1)
J3	5	MDRY+	(9)
J3	6	LSADD+	(9)
J3	7	GRX MODE SELECT	(3)
J3	8	GND	(1)
J3	9	NEVER-(1)-21 ONLY	
J3	10		
J3	11	RESTR-	(4)
J3	12	TA12-	(5)
J3	13	TA08-	(5)
J3	14	TA13-	(5)

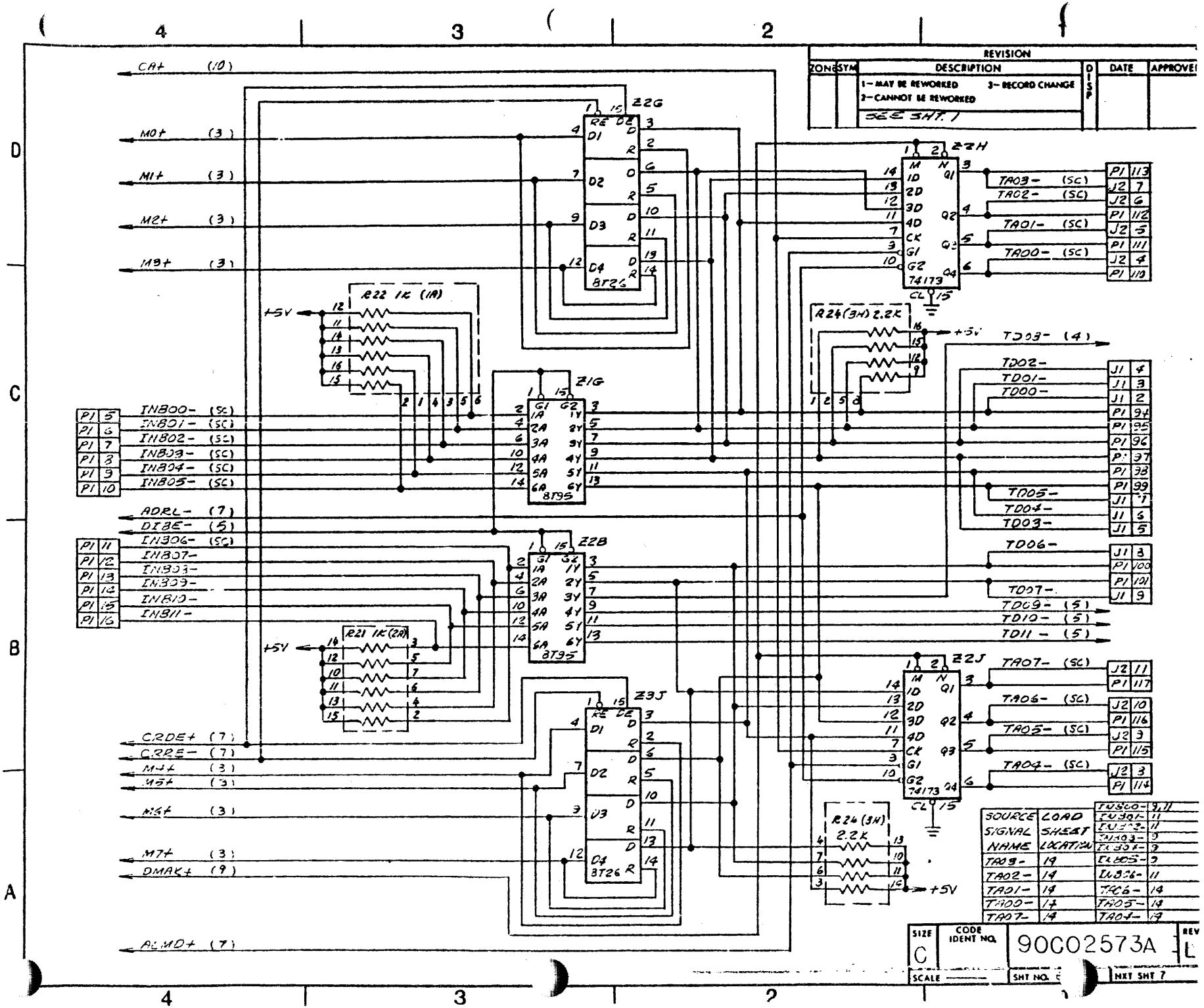
J4	1	TA09-	(5)
J4	2	MWRE-	(9)
J4	3	ZOMHE-	(10)
J4	4	MREQ-	(9)
J4	5	STRD-	(9)
J4	6	TA11-	(5)
J4	7	TA14-	(5)
J4	8	TA10-	(5)
J4	9	TA15-	(5)
J4	10	+5V	(1)
J4	11	+5VB	(1)
J4	12	GND	(1)

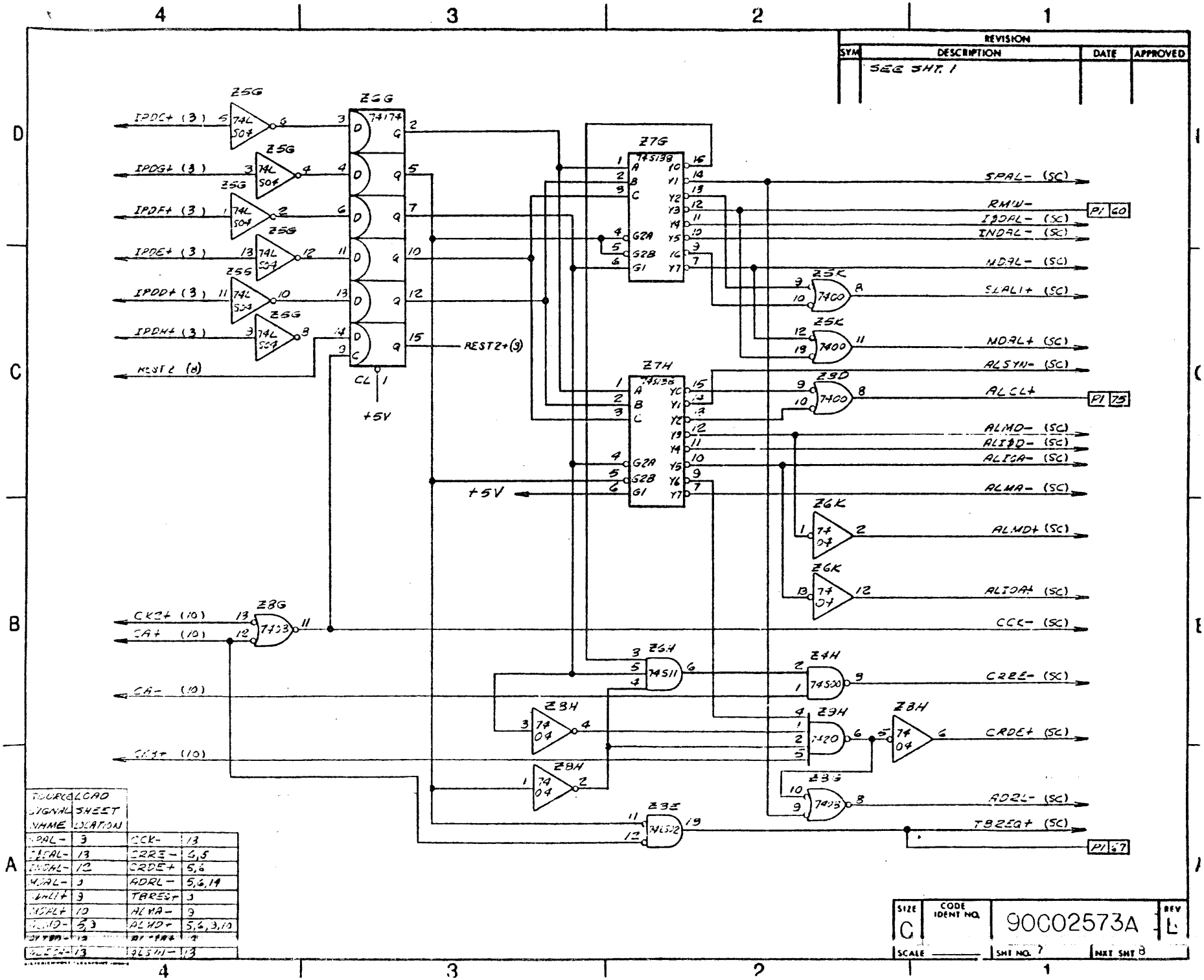
SIZE	CODE IDENT NO.	90002573A	REV
C			L
SCALE ——		SHT NO. 2	NXT SHT 3

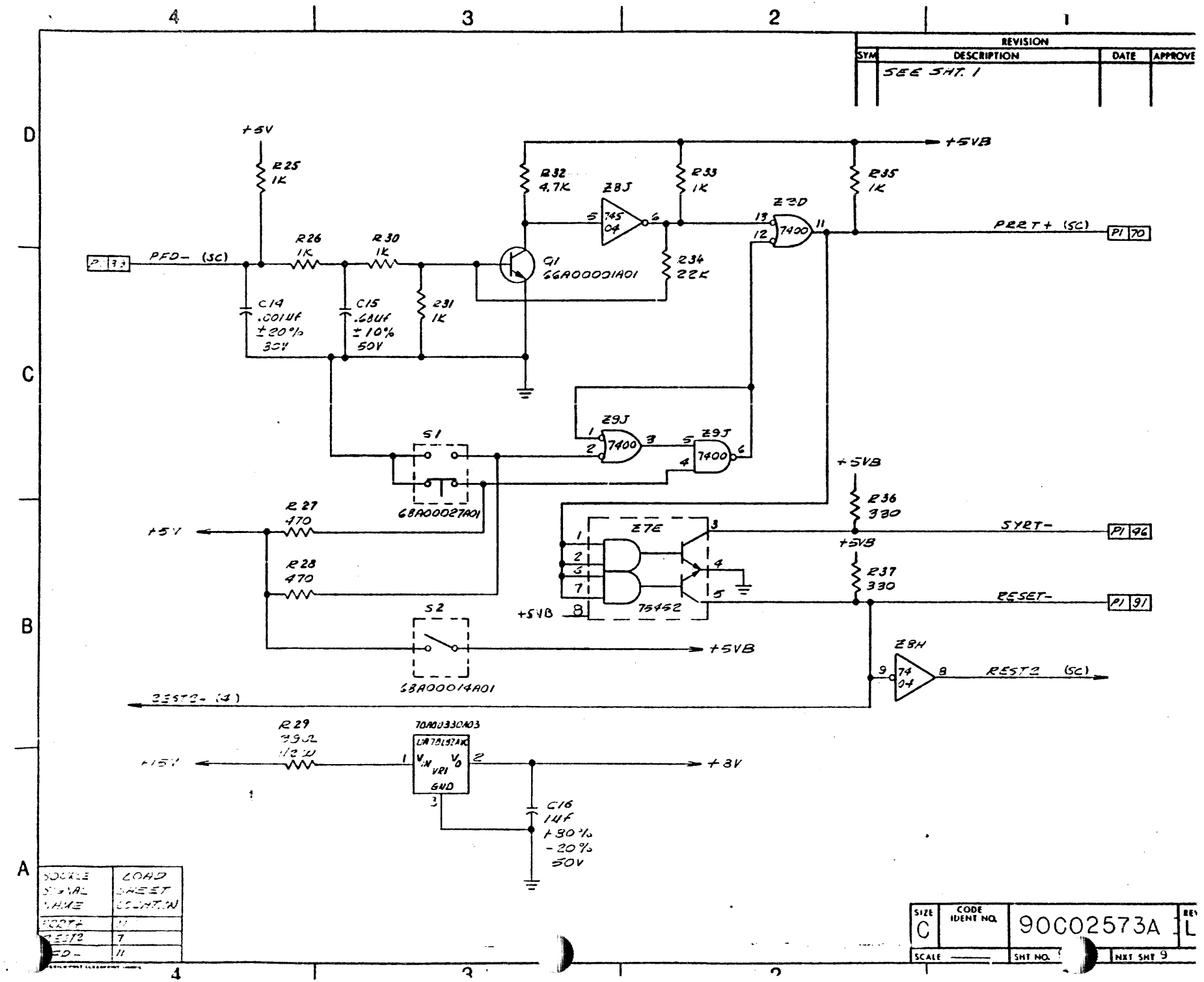

REVISION
ZONE SYM DESCRIPTION DISP DATE APPROVED
1- MAY BE REWORKED 3- RECORD CHANGE
2- CANNOT BE REWORKED
SEE SHT 1
+5V
R5 1K
SVI+ (SC)
NIIEC+ (11)
R7 2.2K
R8 2.2K
+5V
R4 2.2K
Z8J
74 S04
SVI-
REST2+ (7)
Z5E
CROM
940
SOURCE SIGNAL NAME
LOAD SHEET LOCATION
CFBF+ 11,15
FTCH- 12
M0+ 6,15
M1+ 6,15
M2+ 6,15
M3+ 6,15
M4+ 6,15
M5+ 6,15
M6+ 6,15
M7+ 6,15
M8+ 5,15
M9+ 5,15
MA+ 5,15
MB+ 5,15
MC+ 5,15
MD+ 5,15
ME+ 5,15
MF+ 5,15
IPDH+ 7,15
IPDG+ 7,15
SKEWDOG SELECT 5
IPDE+ 7,15
IPDE+ 7,15
IPDD+ 7,15
IPDC+ 7,15
IPDB+ 4,15
IPDA+ 4,15
IPD9+ 4,15
IPD8+ 4,15
IPD7+ 4,15
IPD6+ 4,15
IPD5+ 4,15
IPD4+ 4,15
IPD3+ 4,15
IPD2+ 4,15
IPD1+ 4,15
IPD0+ 4,15
FGLP+ 12,15
ISED+ 4
PMA+ 4
WAIT+ 4
SVI + 15
+8V
Z7C
75361
Z5D
ALU
941
SVK MODE SELECT
R6 1K
R9 1K
ISED+ (4)
CFBF+ (SC)
FTCH- (SC)
M0+ (SC)
M1+ (SC)
M2+ (SC)
M3+ (SC)
M4+ (SC)
M5+ (SC)
M6+ (SC)
M7+ (SC)
M8+ (SC)
M9+ (SC)
MA+ (SC)
MB+ (SC)
MC+ (SC)
MD+ (SC)
ME+ (SC)
MF+ (SC)
IPDH+ (SC)
IPDG+ (SC)
IPDF+ (SC)
IPDE+ (SC)
IPDD+ (SC)
IPDC+ (SC)
IPDB+ (SC)
IPDA+ (SC)
IPD9+ (SC)
IPD8+ (SC)
IPD7+ (SC)
IPD6+ (SC)
IPD5+ (SC)
IPD4+ (SC)
IPD3+ (SC)
IPD2+ (SC)
IPD1+ (SC)
IPD0+ (SC)
FGLP+ (SC)
+5V
R10 2.2K
R11 2.2K
R12 2.2K
R13 2.2K
ISED+ (SC)
PMA+ (SC)
WAIT+ (SC)
SIZE C
CODE IDENT NO.
90002573A
REV L
SCALE
SHT NO. 3
NXT SHT
4 3 2 1
A B C D

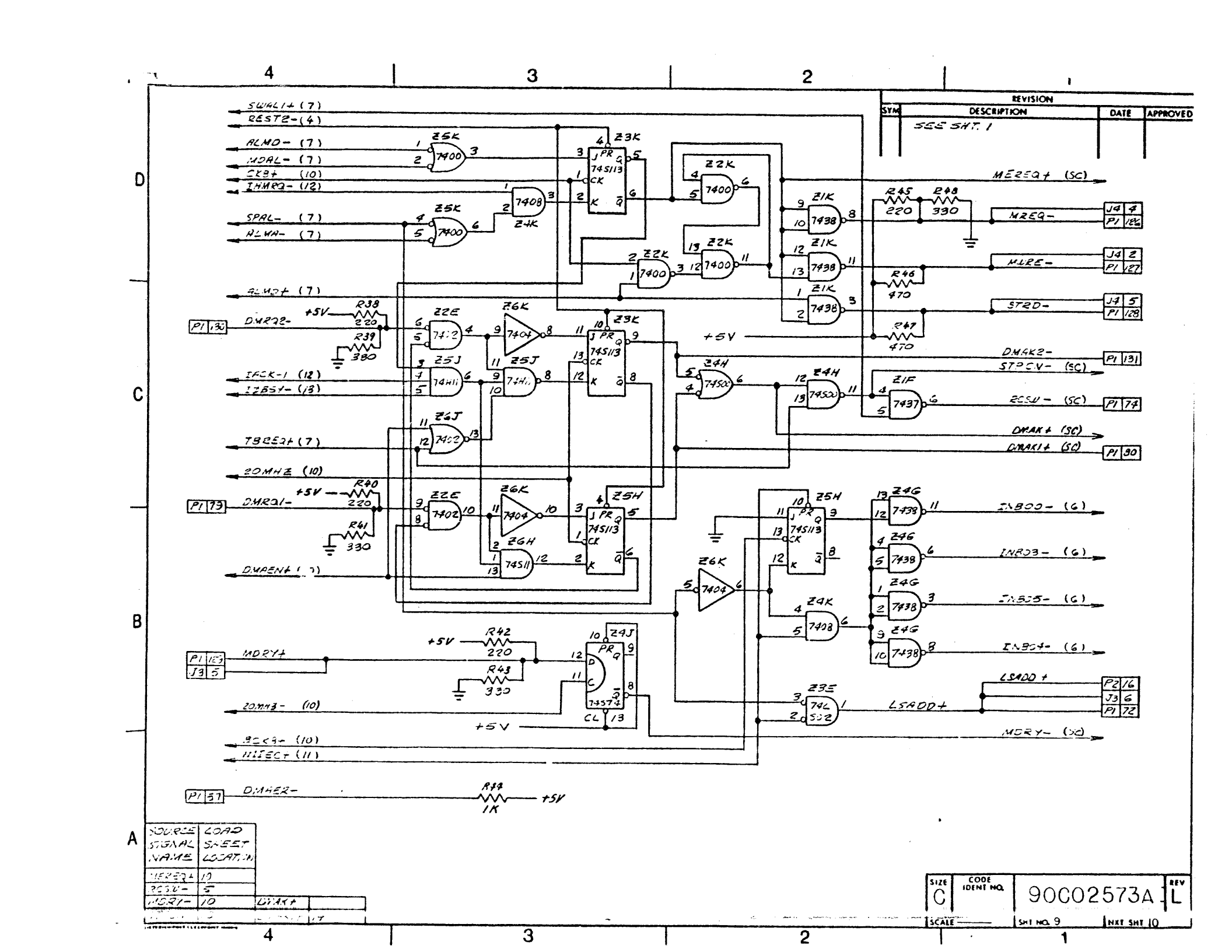

REVISION
ZONE SYM DESCRIPTION DISP DATE APPROVED
1 - MAY BE REWORKED 3 - RECORD CHANGE
2 - CANNOT BE REWORKED
SEE SHT. 1
IPDA+ (3)
IPD8+ (3)
IPD9+ (3)
TEST+ (14)
INT+(12)
FROM 2ND CROM -16
INIT-(15)
SW0-
SWC-
ENTER-
STEP-
SWA-
SWB-
RUN+
RUN+
PMA+ (3)
CA- (10)
ISED+ (3)
CA+ (12)
IACC+ (12)
WAIT+ (3)
FROM 2ND CROM -45
INWT-(15)
IPD1+
RTIV-
IPD6+ (3)
IPD7+ (3)
IPD1+ (3)
IPD8+ (3)
IPD2+ (3)
IPD0+ (3)
IPD5+ (3)
IPD4+ (3)
IPD3+ (3)
SFEC-
REST2- (5C)
ISE+ (5C)
RUN+
+5V
R66 2.2K
R67 2.2K
R14 2.2K
R15 1K
R16 1.5K
R17 390
R18 390
R19 390
R20 390
C13 47MF ±10%, 6V
"PMA"
"WAIT"
"ISE"
"RUN"
CR2 67A00040A01
CR3 67A00040A01
C.24 67A00040A01
CR5 67A00040A01
Z8B H11
Z6B Z7B Z8B BT95
Z8C 74123
Z9F 74S113
Z9C 74S113
Z9D 7474
Z9E 08
Z7A 74 04
Z8D 74 38
Z4D 74LS32
Z3E 74L 502
SIZE C
CODE IDENT NO.
90C02573A
REV L
SCALE
SHT NO. 4
NXT SHT 5

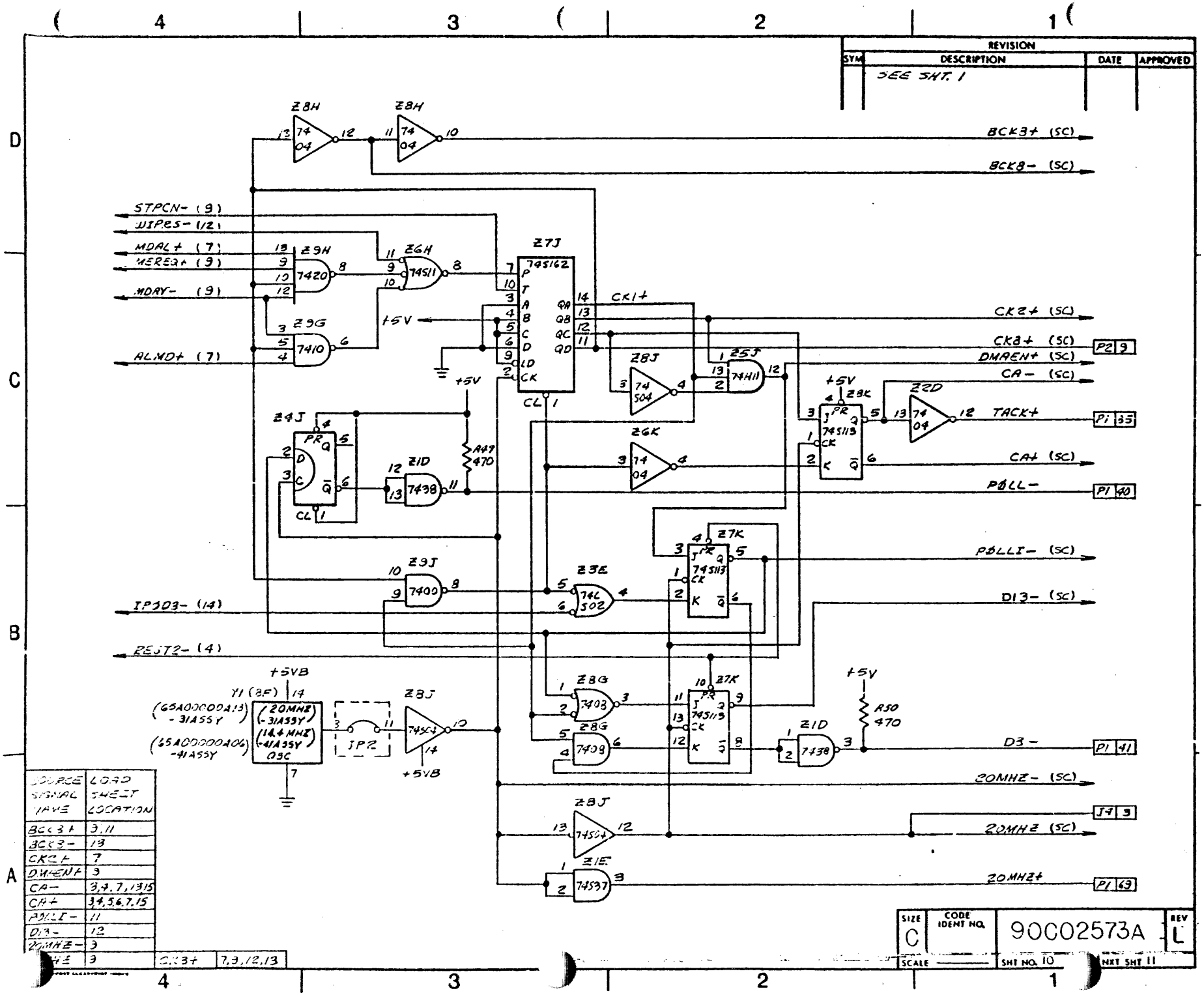

REVISION
ZONE SYM
DESCRIPTION
1 - MAY BE REWORKED 3 - RECORD CHANGE
2 - CANNOT BE REWORKED
SEE SHT. 1
DISP
DATE
APPROVED
DMAK+ (9)
MB+ (3)
MA+ (3)
HLMD+ (7)
CRDE+ (7)
CRRE- (7)
MC+ (3)
MD+ (3)
ME+ (3)
MF+ (3)
64K MODE SELECT (3)
HLMD- (7)
IACK+ (12)
IORD- (13)
RCSW- (3)
INB12-
INB13-
INB14-
INB15-
CA+ (12)
ADRL- (7)
Z2F
Z3G
Z1H
Z1J
Z2D
Z3D
Z4H
Z4K
Z4K
Z1B
8T26
74173
7400
7404
7408
7403
R21 1K (2A)
R22 1K (1A)
R23 (3A) 2.2K
R23 (3F) 2.2K
+5V
TA11- (SC)
TA10- (SC)
TA09- (SC)
TA08- (SC)
TD08-
TD09-
TD10-
TD11-
TA15-
TA14- (SC)
TA13- (SC)
TA12- (SC)
TD13-
TD12-
DIRE- (SC)
TD15- (SC)
TD14-
DIRE-
SOURCE SIGNAL NAME
LOAD SHEET LOCATION
TA11- 4,6
TA10- 4,6
TA09- 4,6
TA08- 4
TA14- 4
TA13- 4
TD15- 4
DIRE- 6
TA13- 4
DMAK+ 6
SIZE C
CODE IDENT NO.
90C02573A
REV L
SCALE
SHT NO. 5
NXT SHT 0

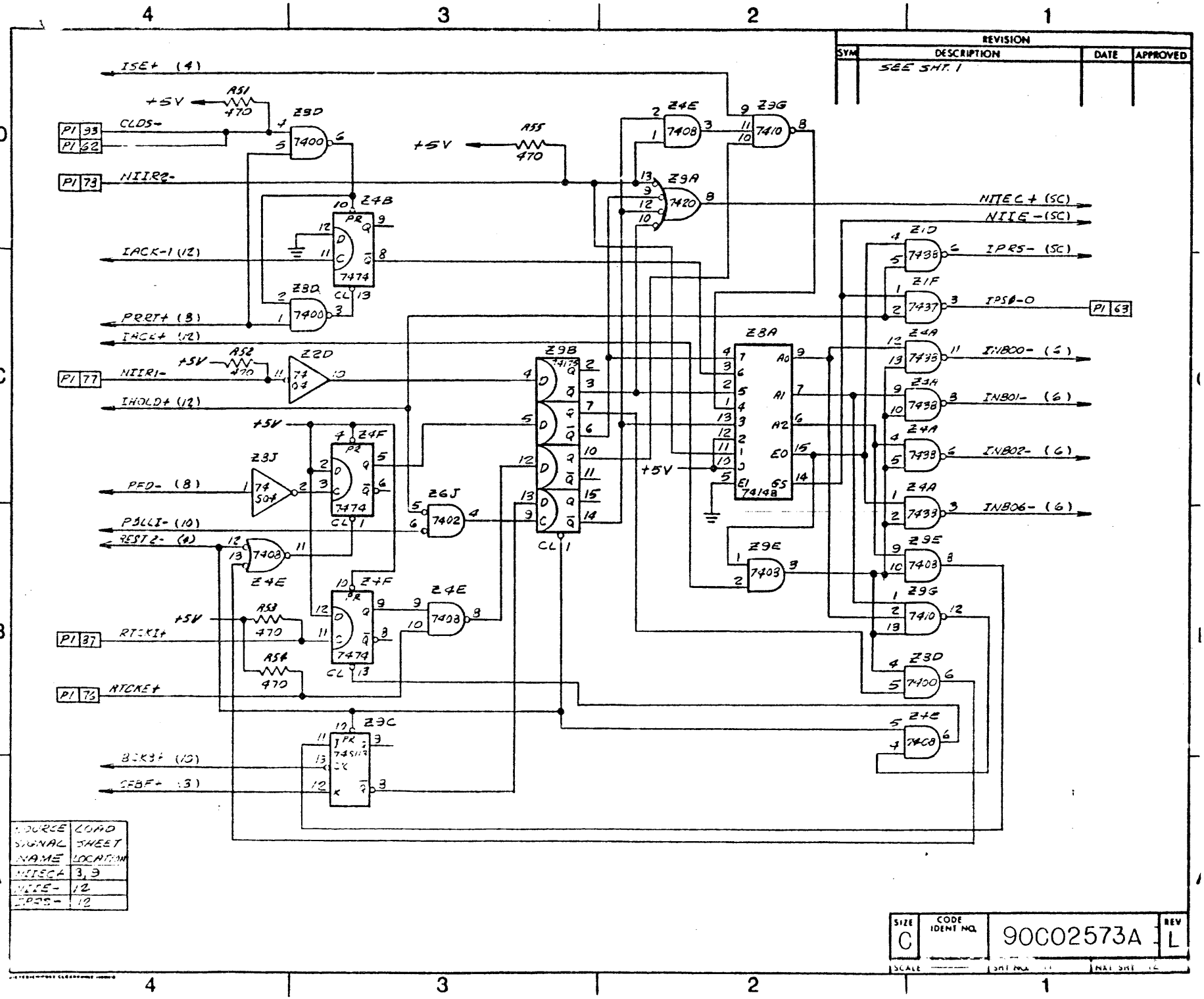

REVISION
ZONE SYM
DESCRIPTION
1- MAY BE REWORKED
2- CANNOT BE REWORKED
3- RECORD CHANGE
SEE SHT. 1
DISP
DATE
APPROVED
CA+ (10)
MO+ (3)
MI+ (3)
M2+ (3)
IN9+ (3)
Z2G
Z2H
Z1G
Z2B
Z2J
Z3J
R22 1K (1A)
R21 1K (2A)
R24(3H) 2.2K
R24 (3H) 2.2K
+5V
INB00- (SC)
INB01- (SC)
INB02- (SC)
INB03- (SC)
INB04- (SC)
INB05- (SC)
INB06- (SC)
INB07-
INB08-
INB09-
INB10-
INB11-
ADRL- (7)
DIBE- (5)
C2DE+ (7)
C2RE- (7)
MI+ (3)
MO+ (3)
M4+ (3)
M7+ (3)
DMAK+ (9)
ALMD+ (7)
TA03- (SC)
TA02- (SC)
TA01- (SC)
TA00- (SC)
TA07- (SC)
TA06- (SC)
TA05- (SC)
TA04- (SC)
TD03- (4)
TD02-
TD01-
TD00-
TD05-
TD04-
TD03-
TD06-
TD07-
TD09- (5)
TD10- (5)
TD11- (5)
SOURCE SIGNAL NAME
LOAD SHEET LOCATION
TA03- 19
TA02- 19
TA01- 19
TA00- 17
TA07- 19
SIZE C
CODE IDENT NO.
90C02573A
SCALE
SHT NO.
NXT SHT 7

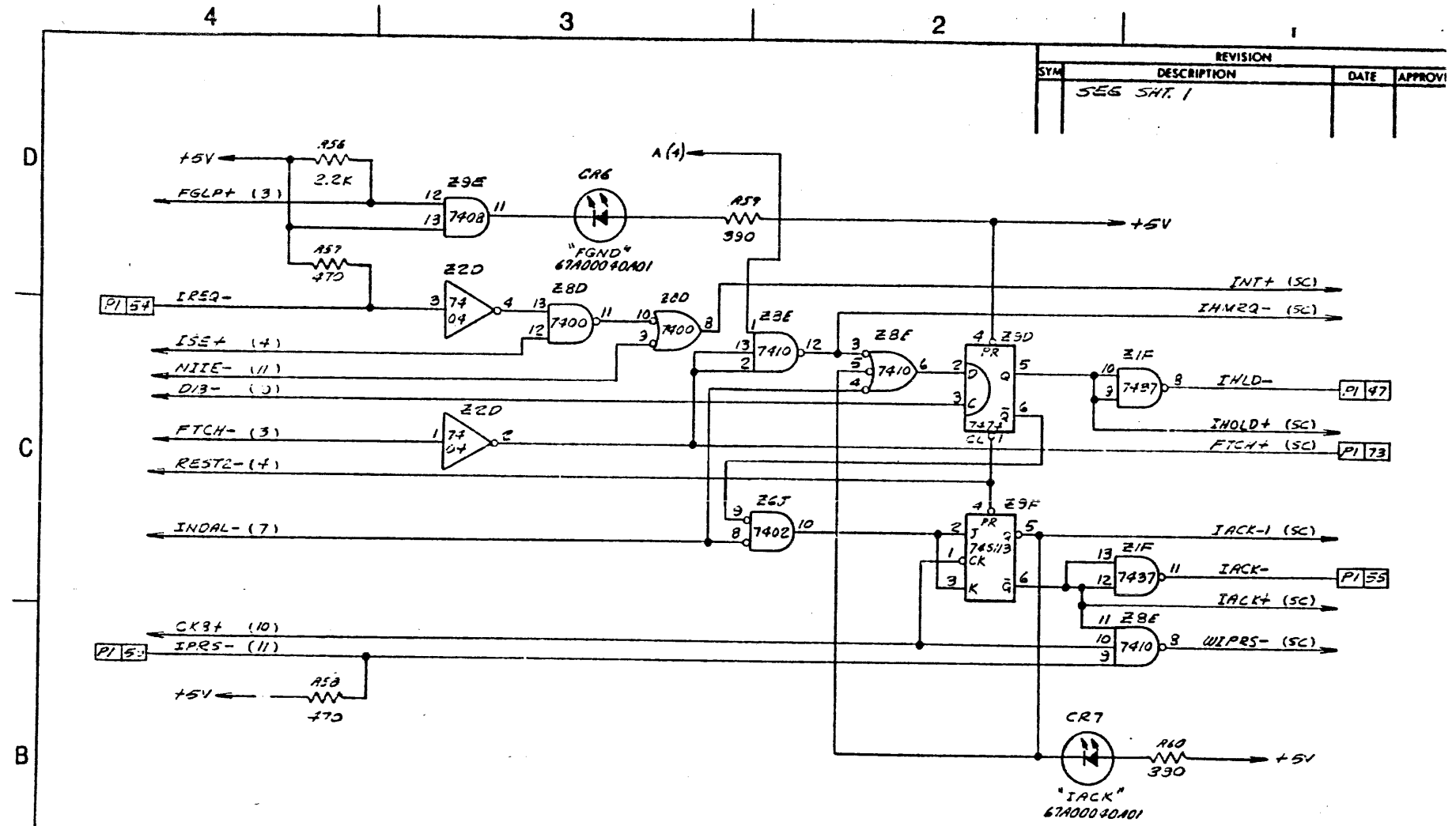

REVISION
SYM | DESCRIPTION | DATE | APPROVED
SEE SHT. 1
Z5G
Z6G
74174
IPDC+ (3)
IPDS+ (3)
IPDF+ (3)
IPDE+ (3)
IPDD+ (3)
IPDH+ (3)
RESTL (8)
CL 1
+5V
RESTZ+(9)
Z7G
74S138
Z7H
SPAL- (SC)
RMW-
IPDAL- (SC)
INDAL- (SC)
MDAL- (SC)
SLALI+ (SC)
MDAL+ (SC)
ALSYN- (SC)
ALCL+
ALMD- (SC)
ALIPD- (SC)
ALIDA- (SC)
ALMA- (SC)
ALMD+ (SC)
ALIDA+ (SC)
CCK- (SC)
CREE- (SC)
CRDE+ (SC)
ADZL- (SC)
TBZEQ+ (SC)
P1 60
P1 75
P1 67
Z8G
7433
CK2+ (10)
CA+ (10)
CA- (10)
CK1+ (10)
Z6H
74S11
Z8H
74 04
Z4H
74S00
Z9H
7420
Z3H
7435
Z3E
74LS32
SOURCE/LOAD SIGNAL NAME | SHEET LOCATION
SPAL- | 3
IPDAL- | 13
INDAL- | 12
MDAL- | 3
SLALI+ | 3
MDAL+ | 10
ALMD- | 3,3
ALSYN- | 13
CCK- | 13
CRRE- | 6,5
CRDE+ | 5,6
ADRL- | 5,6,14
TBRESP | 3
ALMA- | 3
ALMD+ | 5,6,3,10
ALSYN- | 13
SIZE C
CODE IDENT NO.
90002573A
REV L
SCALE
SHT NO. 7
NXT SHT 8

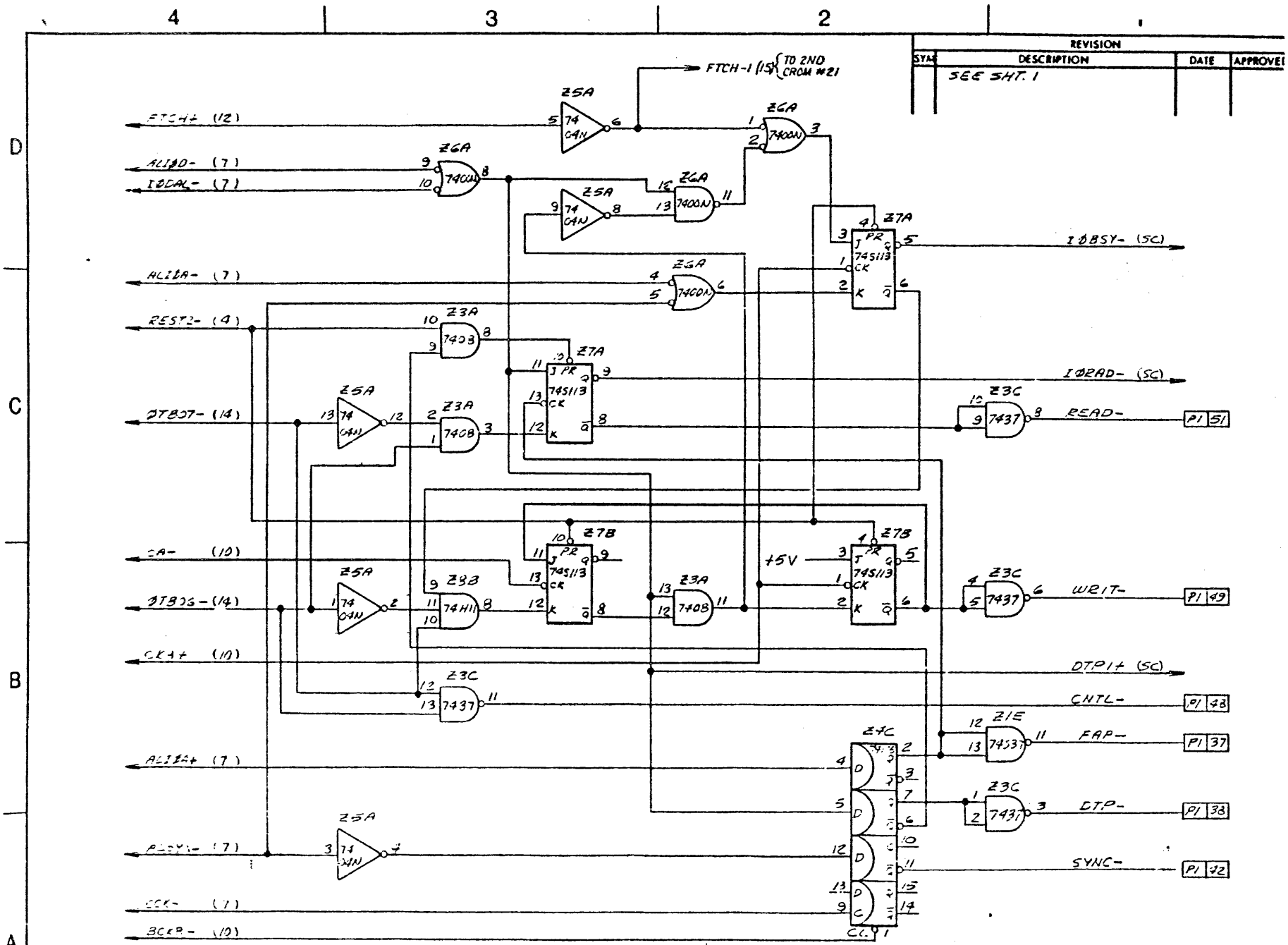

REVISION
SYM | DESCRIPTION | DATE | APPROVE
SEE SHT. 1
+5V
R25 1K
R26 1K
R30 1K
R32 4.7K
R33 1K
R35 1K
R34 22K
R31 1K
C14 .001uf ±20% 30V
C15 .68uf ±10% 50V
Z8J 7404
Z8D 7400
Z9J 7400
Z9J 7400
Q1 66A00001A01
+5VB
PFD- (SC)
P1 73
PRRT+ (SC)
P1 70
S1
68A00027A01
R27 470
R28 470
+5V
Z7E 75452
+5VB
R36 330
SYRT-
P1 96
R37 330
RESET-
P1 91
S2
68A00014A01
+5VB
Z8H 7404
RESTZ (SC)
ZESTZ- (4)
R29 39Ω 1/2W
70A00330A03
LM78L92AC
VIN VR1 VO GND
+8V
C16 1uF +80% -20% 50V
SOURCE SIGNAL NAME | LOAD SHEET (COUNT)
PORTZ | 11
RESTZ | 7
PFD- | 11
SIZE C
CODE IDENT NO.
90002573A
REV L
SCALE
SHT NO. 1
NXT SHT 9

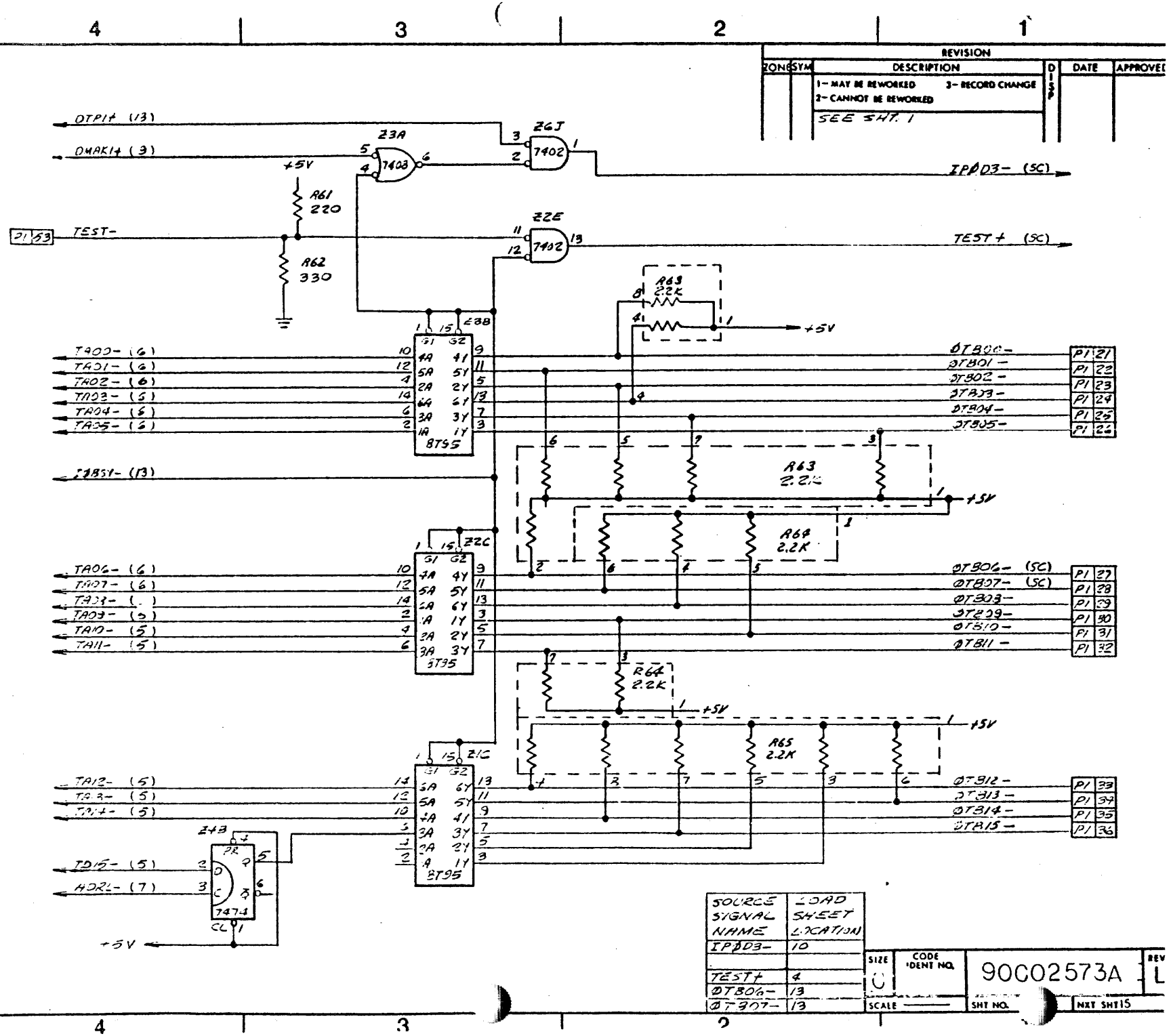

REVISION
SYM
DESCRIPTION
DATE
APPROVED
SEE SHT. 1
SWAL1+ (7)
REST2-(4)
ALMO- (7)
MDAL- (7)
CKB+ (10)
IHMRQ- (12)
SPAL- (7)
ALWA- (7)
ALMO+ (7)
DMRQ2-
+5V
R38 220
R39 380
IACK-I (12)
IBSY-I (13)
TBREQ+ (7)
20MHE (10)
DMRQ1-
R40 220
R41 330
DMAEN+ (7)
MDRY+
R42 220
R43 330
20MHB- (10)
BCKB+ (10)
IHREQ+ (11)
DMAER-
R44 1K
MEREQ+ (SC)
R45 220
R48 330
MREQ-
MLRE-
R46 470
STRD-
R47 470
DMAK2-
STPCV- (SC)
ZCSW- (SC)
DMAK+ (SC)
DMAK1+ (SC)
INBOO- (6)
INBO3- (6)
INBO5- (6)
INBO4- (6)
LSADD+
MDRY- (10)
Z5K 7400
Z3K 74S113
Z4K 7408
Z2K 7400
Z1K 7438
Z2E 7402
Z6K 7404
Z5J 74H11
Z6J 7402
Z4H 7450
Z1F 7437
Z5H 74S113
Z6H 74S11
Z4G 7438
Z4K 7408
Z4J 74S74
Z3E 74LS02
SOURCE SIGNAL NAME
LOAD SHEET LOCATION
MEREQ+ 10
RCSW- 5
MDRY- 10 DMAK+
SIZE C
CODE IDENT NO.
90002573A
REV L
SCALE
SHT NO. 9
NXT SHT 10


REVISION
SYM
DESCRIPTION
DATE
APPROVED
SEE SHT. 1
Z8H
74 04
BCK3+ (SC)
BCK8- (SC)
STPCN- (9)
WIPES- (12)
MDAL+ (7)
MERER+ (9)
MDRY- (9)
ALMD+ (7)
Z9H
7420
Z9G
7410
Z6H
74S11
Z7J
74S162
P
T
A
B
C
D
LD
CK
QA
QB
QC
QD
CL
+5V
CK1+
CK2+ (SC)
CK8+ (SC)
DMAEN+ (SC)
CA- (SC)
TACK+
CA+ (SC)
PØLL-
Z8J
74 S04
Z5J
74H11
Z8K
74S113
Z2D
74 04
Z4J
74
PR
D
C
Q
CL
A47
470
Z1D
7438
Z6K
74 04
Z7K
74S113
PØLLI- (SC)
D13- (SC)
Z9J
7400
Z3E
74L 302
IP3D3- (14)
RESTZ- (4)
+5VB
Y1 (8F)
(65A00:000A13)
-31ASSY
(65A00:000A06)
-41ASSY
(20MHZ)
-31ASSY
(18.4 MHZ)
-41ASSY
OSC
JP2
Z8J
74S04
Z8G
7403
7409
Z1D
7438
R50
470
D3-
20MHZ- (SC)
20MHZ (SC)
20MHZ+
Z1E
74S37
SOURCE SIGNAL WIRE
LOAD SHEET LOCATION
BCK3+ 3,11
BCK3- 13
CK2+ 7
DMAENA 9
CA- 3,4,7,13,15
CA+ 34,56,7,15
PØLLI- 11
D13- 12
20MHZ- 3
CK3+ 7,3,12,13
P1 41
P1 40
P1 33
P2 9
J4 3
P1 69
SIZE C
CODE IDENT NO.
90C02573A
REV L
SCALE
SHT NO. 10
NXT SHT 11

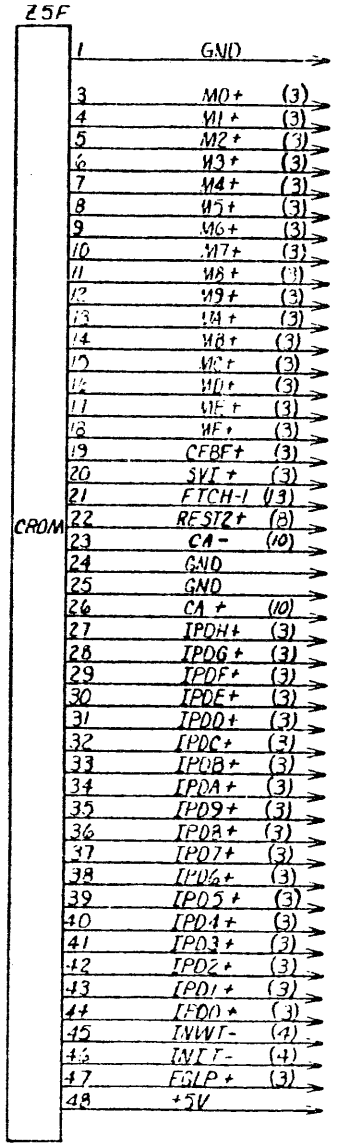

REVISION
SYM
DESCRIPTION
DATE
APPROVED
SEE SHT. 1
ISE+ (4)
+5V
A51
470
Z3D
7400
P1 33
P1 62
CLDS-
P1 73
NIIRQ-
Z4B
7474
IACK-1 (12)
Z3D
7400
PRRT+ (8)
IACK+ (12)
+5V
A52
470
Z2D
7404
P1 77
NIIRI-
IHOLD+ (12)
+5V
Z4F
7474
Z3J
7404
PED- (8)
PSLLI- (10)
RESI2- (4)
Z4E
7408
Z6J
7402
+5V
A53
470
P1 37
RTCKI+
Z4F
7474
Z4E
7408
A54
470
P1 76
RTCKE+
Z3C
74S112
BCKB+ (10)
CEBF+ (3)
Z9B
74175
Z8A
74148
+5V
Z4E
7408
Z3G
7410
A55
470
+5V
Z9A
7420
Z9E
7403
NITEC+ (SC)
NIIE-(SC)
Z1D
7438
IPRS- (SC)
Z1F
7437
IPSB-0
P1 63
Z4A
7438
INB00- (6)
Z3A
7438
INB01- (6)
Z4A
7438
INB02- (6)
Z4A
7433
INB06- (6)
Z9E
7408
Z9G
7410
Z3D
7400
Z4E
7408
SOURCE SIGNAL NAME
LOAD SHEET LOCATION
NITECA 3, 9
NIIE- 12
IPRS- 12
SIZE C
CODE IDENT NO.
90C02573A
REV L
SCALE
SHT NO.
NEXT SHT


REVISION
SYM
DESCRIPTION
DATE
APPROV
SEE SHT. 1
+5V
R56
2.2K
FGLP+ (3)
Z9E
7408
CR6
"FGND"
67A000401A01
A (4)
R59
390
+5V
R57
470
Z2D
IRSQ-
P1 54
Z8D
7400
Z8D
7400
INT+ (SC)
IHMSQ- (SC)
ISE+ (4)
NIIE- (11)
DIB- (3)
Z2E
7410
Z8E
7410
Z3D
PR
7474
CL
IHLD-
P1 47
IHOLD+ (SC)
FTCH+ (SC)
P1 73
Z2D
FTCH- (3)
RESTC- (4)
Z6J
7402
INDAL- (7)
Z9F
PR
74S113
CK
K
IACK-1 (SC)
IACK-
P1 55
IACK+ (SC)
Z8E
7410
WIPRS- (SC)
CK8+ (10)
P1 53
IPRS- (11)
+5V
R58
470
CR7
"IACK"
67A000401A01
R60
330
+5V
SOURCE SIGNAL NAME
LOAD SHEET LOCATION
INT+ 4
IHMSQ- 9
IHOLD+ 11
IACK-1 3,11
IACK+ 4,5,11
WIPRS- 10
FTCH+ 13
SIZE C
CODE IDENT NO.
90002573A
REV L
SCALE
SHT NO. 12
NXT SHT 13


REVISION
SYM
DESCRIPTION
DATE
APPROVED
SEE SHT. 1
FTCH-I (15) TO 2ND CROM #21
FTCH+ (12)
ALIØD- (7)
IØCAL- (7)
ALIØA- (7)
REST2- (4)
DTBØT- (14)
CA- (10)
DTBØG- (14)
CKA+ (10)
ALIØA+ (7)
ALIØY- (7)
SCK- (7)
BCKØ- (10)
+5V
IØBSY- (SC)
IØRAD- (SC)
READ-
WRIT-
DTPIT (SC)
CNTL-
FAP-
DTP-
SYNC-
P1 51
P1 49
P1 48
P1 37
P1 38
P1 42
SOURCE SIGNAL NAME
LOAD SHEET (MAXIMUM)
IØBSY-
IØRAD-
SIZE C
CODE IDENT NO.
90C02573A
REV L
SCALE
SHT NO. 13
NXT SHT 14


REVISION
ZONE SYM
DESCRIPTION
1- MAY BE REWORKED 3- RECORD CHANGE
2- CANNOT BE REWORKED
SEE SHT. 1
DISP
DATE
APPROVED
OTPIT (13)
DMAKIT (3)
+5V
R61 220
R62 330
TEST-
P1 53
Z3A 7408
Z6J 7402
IPØD3- (SC)
Z2E 7402
TEST + (SC)
R63 2.2K
Z3B 8T95
TA00- (6)
TA01- (6)
TA02- (6)
TA03- (5)
TA04- (5)
TA05- (5)
ØTB00-
ØTB01-
ØTB02-
ØTB03-
ØTB04-
ØTB05-
P1 21
P1 22
P1 23
P1 24
P1 25
P1 26
TABSY- (13)
R63 2.2K
R64 2.2K
R65 2.2K
Z2C 8T95
TA06- (6)
TA07- (6)
TA08- (5)
TA09- (5)
TA10- (5)
TA11- (5)
ØTB06- (SC)
ØTB07- (SC)
ØTB08-
ØTB09-
ØTB10-
ØTB11-
P1 27
P1 28
P1 29
P1 30
P1 31
P1 32
Z1C 8T95
TA12- (5)
TA13- (5)
TA14- (5)
ØTB12-
ØTB13-
ØTB14-
ØTB15-
P1 33
P1 34
P1 35
P1 36
Z4B 7474
TD15- (5)
HDR1- (7)
+5V
SOURCE SIGNAL NAME
LOAD SHEET LOCATION
IPØD3- 10
TEST+ 4
ØTB06- 13
ØTB07- 13
SIZE C
CODE IDENT NO.
90002573A
REV L
SCALE
SHT NO.
NXT SHT 15

REVISION			
SYM	DESCRIPTION	APPROVED	DATE
	SEE SHEET 1		



FOR GENERAL NOTES SEE SHEET 1

SIZE	CODE IDENT NO.		REV
C		9.0.C.0.2.5.7.3.A	L
SCALE ——		SHT 15 OF 15	

NOTES: UNLESS OTHERWISE SPECIFIED

1. I.C. 70A00941A01 MAY BE SUBSTITUTED FOR I.C. 70A00941A02.
2. I.C. 70A00940A01 MAY BE SUBSTITUTED FOR I.C. 70A00940A02.

REVISIONS			
SYM	DESCRIPTION	APPD	DATE
G	PRODUCTION RELEASE REVISED & REDRAWN PER ECO-10844 SUPERSEDES 31P02422A Jw 5-15-B		2-6-79
H	REVISED PER ECO-12155 Jw 7-18-B		7/19/79
J	REVISED PER ECO-12190 7/14/79		8.21.79
K	REVISED PER ECO-12597		2-8-80
L	REVISED PER ECO 12674 DC 7-17-80		7/17/80
M	REVISED PER ECO 12876 J.S. 9-5-80		9/5/80
N	REVISED PER ECO 12913 JS 9-16-80		9-16-80
P	REVISED PER ECO.-12930 10-20-80		10-20-80
R	REVISED PER E.C.O-14054 12-15-80 LAL RECORD CHANGE ONLY		12-15-80

DASH NO.	NEXT ASSEMBLY	SIGNATURES		DATE
	31D02573A	DR	J. Wamsley	5-14-79
		CHK	BARRERA	11-2-77
		APPD	D. BLASER	2-15-78
		APPD		9-17-79
		REL		6-6-80

GENERAL AUTOMATION

TITLE CENTRAL PROCESSOR UNIT (CPU NO.1)

PARTS LIST NO. 31P02573A SHEET NO. 1 OF 5 REV R

Form No. 37A00838A Rev "A"

QUANTITY REQ'D PER DASH NO.					PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SIZE, VALUE, MATERIAL	REMARKS/REF DES.	ITEM NO.
41	31	21	11	01					
					31D02573A	C.P.U. ASSY. O.F.			
						B.O. DETAIL-			1
1	1	1	1	1	30D02807A03	C.P.U.			
1			1		65A0000A06	CRYSTAL NETWORK	16.000 MHZ	Y1 (8F)	2
1	1	1	1	1	70A0009A01	I.C. DUAL FLIP/FLOP SCHTTL		Z4J	3
4	4	4	4	4	70A0005A01	I.C. HEX INVER TER. TTL		Z5A,2D,8H,6K	4
6	6	6	6	6	70A0007A01	I.C. QUAD 2 NA NO. TTL		Z3D,5K,9J,2K,8D,6A	5
2	2	2	2	2	70A0004A01	I.C. TRIPLE 3 NAND TTL		Z9G, 8E	6
2	2	2	2	2	70A0011A01	I.C. DUAL 4 NA NO. TTL		Z9H, 9A	7
2	2	2	2	2	70A0012A01	I.C. QUAD 2 NOR. TTL		Z6J, 2E	8
3	3	3	3	3	70A0014A01	I.C. DUAL FLIP/FLOP		Z4B, 4F, 9D	9
1	1	1	1	1	70A0067A01	I.C. HEX INVER TER. SCH. TTL		Z8J	10
1	1	1	1	1	70A0051A01	I.C. QUAD 2 NA NO. SCH. TTL		Z4H	11
2	2	2	2	2	70A0071A01	I.C. QUAD 2 NA NO. BUFF. TTL		Z1F, 3C	12
4	4	4	4	4	70A0072A01	I.C. QUAD 2 NA NO. BUFF. TTL		Z1D,1K,4G,4A	13
1	1	1	1	1	70A0091A01	I.C. MONOSTABL E MV. MTC.		Z8C	14
2	2	2	2	2	70A0018A01	I.C. TPL. 3 I/NA POS AND H.S.		Z5J, 8B	15
5	5	5	5	5	70A0113A01	I.C. QUAD 2 POS. AND		Z4K,8G,4E,9E,3A	16
1	1	1	1	1	70A0117A01	I.C. HEX D FLIP/FLOP W/CL		Z6G	17
2	2	2	2	2	70A0118A01	I.C. QUAD D FLIP/FLOP W/CL		Z9B, 4C	18
4	4	4	4	4	70A0178A01	I.C. 4-BIT POS REGISTER		Z1H, 1J, 2H, 2J	19
1	1	1	1	1	70A0193A01	I.C. DUAL DRVR T.T.L. TO MOS		Z7C	20
4	4	4	4	4	70A0203A01	I.C. QUAD DRVR /RCVR		Z2F,3G,3J,2G	21
7	7	7	7	7	70A0242A01	I.C. HEX BUS W/3STATE O.P.		Z6B,1B,1G,2B,3B, 2C,1C	22

GENERAL AUTOMATION

PARTS LIST

NO. 31.P.02.5.7.3.A.

SHEET NO. 2 OF 5

REV R

Form No. 87A0083BA Rev "A"

QUANTITY REQ'D PER DASH NO.					PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SIZE, VALUE, MATERIAL	REMARKS/REF DES.	ITEM NO.
41	31	21	11	01					
					31D025731A1	C.P.U. ASS'Y. QF.			—
2	2	2	2	2	70A0025504A01	I.C. 3-8 LINE DECODER		Z7G, 7H	23
1	1	1	1	1	70A0026934A01	I.C. 2-INP. QUAD NOR, LOWPOW		Z3E	24
1	1	1	1	1	70A0027004A01	I.C. HEX. INV. LOW POW SCH		Z5G	25
8	8	8	8	8	70A0031904A01	I.C. DUAL J-K -VE E/R		Z9C, 9F, 3K, 5H, 7A, 7B, 9K, 7K	26
1	1	1	1	1	70A0095804A01	I.C. ENCODER 8 INP.		Z8A	27
1	1	1	1	1	70A0103204A01	I.C. 3-INPUT POS. NAND		Z4D	28
1	1	1	1	1	70A0034304A01	I.C. FULL SYNC DECADE		Z7J	29
1	1	1	1	1	70A0094104A02	I.C. RALU 4B P.M.		Z5D ⚠1	30
1	1	1	1	1	70A0012204A01	I.C. DUAL 2-INP PUT DRVR.		Z7E	31
1	1	1	1	1	70A0021104A01	I.C. TRIPLE 3 INP. SCH. TTL		Z6H	32
1	1	1	1	1	70A0094104A02	I.C. CROM 4B P.M.		Z5E ⚠2	33
1	1	1	1	1	70A0033004A03	I.C. SERIES 3 TERM. +VE REG.	UA78L82AWC	VR1	34
6	6	6	6	6	67A0004004A01	DIODE, LED RED.		CR2-CR7	35
1	1	1	1	1	67A0019034A01	DIODE ZENER	5.1V	CR1	36
1	1	1	1	1	66A0100014A01	TRANSISTOR N.P.N.		Q1	37
1	1	1	1	1	70A0102434A01	I.C. HEX BUS. INV. 3 STATE QA		Z5B	38
4	4	4	4	4	58A0100004A07	CAPACITOR	.01UF, ±20%, 80V	C1, 3, 5, 7	39
4	4	4	4	4	58A0100018A01	CAPACITOR POL	4.7UF, ±10%, 10V	C2, 4, 6, 8	40
1	1	1	1	1	58A0100121A14	CAPACITOR POL	.68UF, ±10%, 50V	C15	41
5	5	5	5	5	58A0100316A02	CAPACITOR	1UF, +80% -20%, 50V	C9, 10, 11, 12, 16	42
1	1	1	1	1	58A0100074A02	CAPACITOR POL	47UF, ±10%, 6V	C13	43
1	1	1	1	1	58A0100004A03	CAPACITOR	.001UF, ±20%, 80V	C14	44

GENERAL AUTOMATION

PARTS LIST

NO. 31P025731A

SHEET NO. 3 OF 5

REV R

Form No. 97A0053BA Rev "A"

QUANTITY REQ'D PER DASH NO.					PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SIZE, VALUE, MATERIAL	REMARKS/REF DES.	ITEM NO.
41	31	21	11	01	31P025731	CPU ASSY. OE			—
	1	1		1	65A0000A13	CRYSTAL NETWORK	20.000 MHZ	Y1 (8F)	45
5	5	5	5	5	55A00000A47	RESISTOR	220, ±5%, 1/4W	R38,40,42,45,61	46
7	7	7	7	7	55A00000A51	RESISTOR	330Ω, ±5%, 1/4W	R36,37,39,41,43,48,62	47
6	6	6	6	6	55A00000A53	RESISTOR	390Ω, ±5%, 1/4W	R17, 18, 19, 20, 59, 60	48
13	13	13	13	13	55A00000A55	RESISTOR	470Ω, ±5%, 1/4W	R21, 28, 46, 47, 49, 50, 51-55, 57, 58	49
14	14	14	14	14	55A00000A63	RESISTOR	1K, ±5%, 1/4 W	R1, 2, 5, 6, 9, 15, 25, 26, 30, 31, 33, 35, 44	50
10	10	8	8	8	55A00001A71	RESISTOR	2.2K, ±5%, 1/4W	R4, 7, 8, 10, 11, 12, 13, 36, 66 & 67 -31-41-51 ONLY	51
1	1	1	1	1	55A00000A79	RESISTOR	4.7K, ±5%, 1/4W	R32	52
1	1	1	1	1	55A00001A08	RESISTOR	22K, ±5%, 1/4 W	R34	53
1	1	1	1	1	55A00001A05	RESISTOR	15K, ±5%, 1/4W	R16	54
1	1	1	1	1	55A00002A63	RESISTOR	1K, ±5%, 1/2W	R3	55
1	1	1	1	1	55A00002A29	RESISTOR	39Ω, ±5%, 1/2W	R29	56
2	2	2	2	2	54A00002A1A	RESISTOR NETWORK	1K, ±2%, 1/8W	R22 (1A), R21 (2A)	57
2	2	2	2	2	54A00002A15	RESISTOR NETWORK	2.2K, ±2%, 1/8W	R23 (3F), R24 (3H)	58
4	4	4	4	4	54A00007A07	RESISTOR MODULE	2.2K, ±2%, 1.1W	R65, 64, 63, 14	59
2	2	2	2	2	05A00016A01	ELECTOR NYLO N, REQ			60
1	1	1	1	1	70A00233A01	I.C. QUAL. POS. NAND GATE		Z1E	61
2	2	2	2	2	41A00058A13	I.C. STRIP 12 CONTACT		J2, J4	62
2	2	2	2	2	41A00058A15	I.C. STRIP 14 CONTACT		J1, J3	63
1	1	1	1	1	41A00050A01	I.C. SOCKET 14 PIN			64
1	1	1	1	1	41A00050A02	I.C. SOCKET 16 PIN			65
1	1	1	1	1	68A00011A01	SWITCH SLIDE 3 POT		S2	66

GENERAL AUTOMATION	PARTS LIST	NO. 31P025731A	SHEET NO. 4 OF 5	REV R

Form No. 97A00538A Rev "A"

QUANTITY REQ'D PER DASH NO.					PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SIZE, VALUE, MATERIAL	REMARKS/REF DES.	ITEM NO.
41	31	21	11	01					
1	1	1	1	1	31,DD2573A1	C.P.U. A.S.S.Y. OE.			—
1	1	1	1	1	68A00027A02	S.W.I.T.C.H. P.U.S.H. S.P.D.T.		S1	67
2	2	2	2	2	41A00442A01	S.O.C.K.E.T.	48 CONTACT		68
1	1	1	1	1	41A00213A04	T.E.R.M. S.T.R.I.P. 2 P.I.N.		J1	69
1	1	1	1	1	41A00149A01	C.O.N.T.A.C.T. J.U.M.P.E.R.		J1	70
2	2				41A00433A24	S.I.P. S.O.C.K.E.T.	24 PIN	Z5F	71

GENERAL AUTOMATION

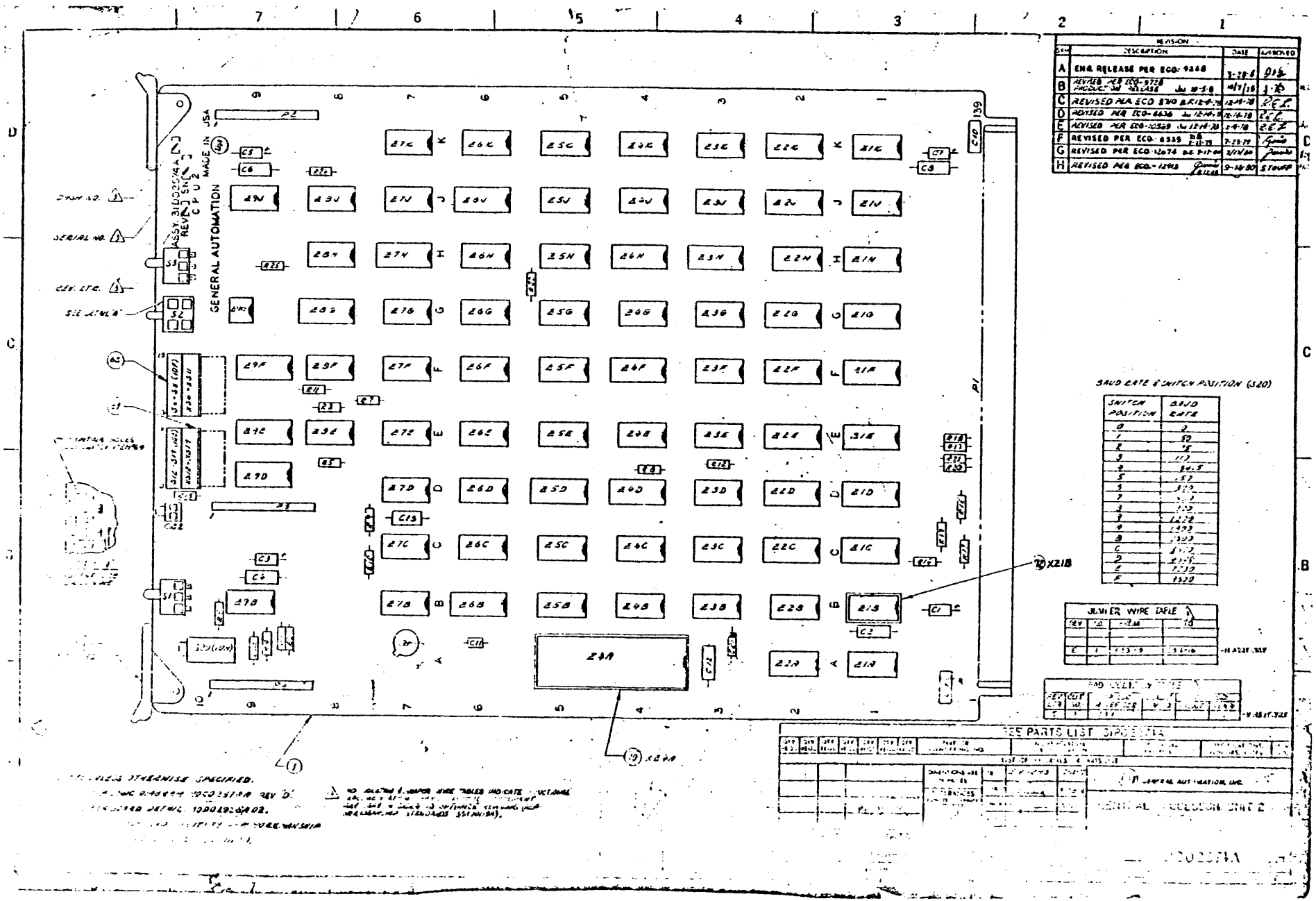
PARTS LIST

NO. 31P02573A

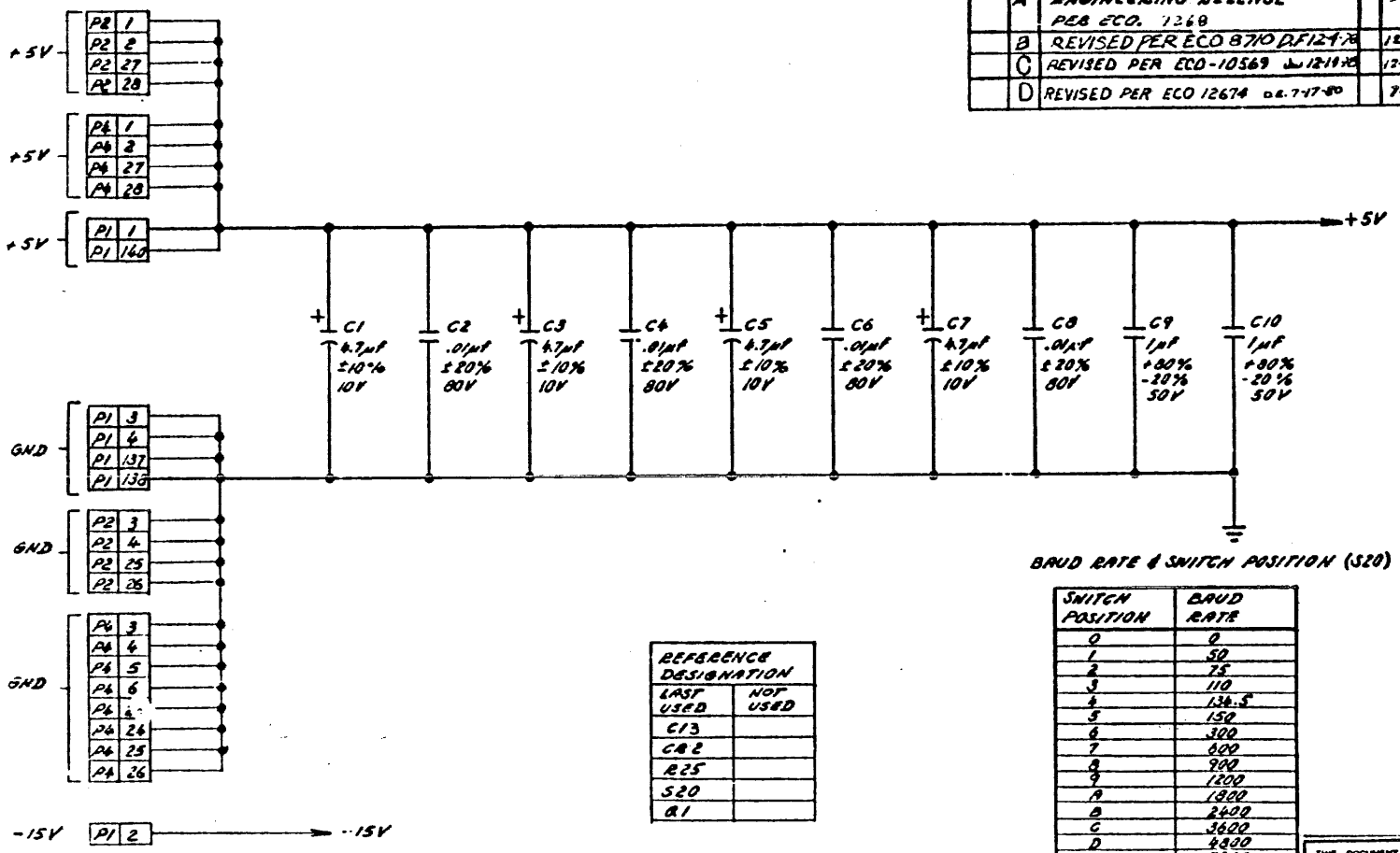
SHEET NO. 5 OF 5

REV R

Form No. 97A0003B-Rev "A"


REVISION
DESCRIPTION
DATE
APPROVED
A ENG RELEASE PER ECO-9248
B REVISED PER ECO-9778
C REVISED PER ECO 8740
D REVISED PER ECO-8636
E REVISED PER ECO-10569
F REVISED PER ECO-8339
G REVISED PER ECO-12074
H REVISED PER ECO-12983
GENERAL AUTOMATION
MADE IN USA
ASSY 31002214A
REV
SN
CPU 2
DASH NO.
SERIAL NO.
SEE DETAIL B
P2
P1
S1
S2
S3
J1
J2
J3
J4
J5
J6
J7
J8
J9
J10
J11
J12
J13
J14
J15
J16
J17
J18
J19
J20
J21
J22
J23
J24
J25
J26
J27
J28
J29
J30
J31
J32
J33
J34
J35
J36
J37
J38
J39
J40

REVISION				
ZONE	SYM	DESCRIPTION 1 – MAY BE REWORKED 3 – RECORD CHANGE 2 – CANNOT BE REWORKED	DATE	APPROVED
	A	ENGINEERING RELEASE PER ECO. 7268	3-28-78	
	B	REVISED PER ECO 8710 D.F 12-7-78	12-14-78	R.S.L
	C	REVISED PER ECO-10569 dt 12-19-79	12-19-79	RSL
	D	REVISED PER ECO 12674 dt. 7-17-80	7-28-80	



REFERENCE DESIGNATION	
LAST USED	NOT USED
C13	
CR2	
R25	
S20	
A1	

BAUD RATE & SWITCH POSITION (S20)

SWITCH POSITION	BAUD RATE
0	0
1	50
2	75
3	110
4	134.5
5	150
6	300
7	600
8	900
9	1200
A	1800
B	2400
C	3600
D	4800
E	7200
F	9600

2. ALL I.C. PART NO'S ARE COMMERCIAL PART NO'S

1. ALL RESISTOR VALUES ARE IN OHMS, ±5%, 1/8 W

NOTE: UNLESS OTHERWISE SPECIFIED

QTY REQD	QTY REQD	QTY REQD	QTY REQD	QTY REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SIZE, VALUE, MATERIAL	SPECIFICATIONS, VENDORS, NOTES	ITEM NO.
LIST OF MATERIALS OR PARTS LIST									
REF					31D02574A	NEXT ASSEMBLY			
DASH NO.									

DIMENSIONS ARE IN INCHES AND AFTER PLATING

TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ±.1
.XX ±.03
.XXX ±.010
ANGLES ± 0.5°
DRILLED HOLES PER ANDI038°
ALL MACHINED SURFACES ✓

DR	E. HARMS	9-15-77
CHK	Brumfield	9/26/77
ENGR	J. Jones	9/27/77
APPD		
APPD		
REL	R.C. Williams	3/28/78

DO NOT SCALE DRAWING
WORK TO DIMENSIONS SHOWN

GENERAL AUTOMATION, INC.

CPU 2 – LOGIC DIAGRAM

SIZE	CODE IDENT NO.		REV
C		90C02574A	D
SCALE ——	SHT NO. 1	NXT SHT 2	

REVISION				
ZONE	SYM	DESCRIPTION	DATE	APPROVED
		1 – MAY BE REWORKED 3 – RECORD CHANGE 2 – CANNOT BE REWORKED		
		SEE SHEET 1		

P1	1	+5V (1)
P1	2	-15V (1)
P1	3	GND (1)
P1	4	GND (1)
P1	5	IN800- (12)
P1	6	IN801- (12)
P1	7	IN802- (12)
P1	8	IN803- (12)
P1	9	IN804- (12)
P1	10	IN805- (12)
P1	11	IN806- (12)
P1	12	IN807- (12)
P1	13	IN808- (12)
P1	14	IN809- (12)
P1	15	IN810- (12)
P1	16	IN811- (12)
P1	17	IN812- (12)
P1	18	IN813- (12)
P1	19	IN814- (12)
P1	20	IN815- (12)
P1	21	BT800- (13)
P1	22	BT801- (13)
P1	23	BT802- (13)
P1	24	BT803- (13)
P1	25	BT804- (13)
P1	26	BT805- (13)
P1	27	BT806- (13)
P1	28	BT807- (13)
P1	29	BT808- (13)
P1	30	BT809- (13)
P1	31	BT810- (13)
P1	32	BT811- (13)
P1	33	BT812- (13)
P1	34	BT813- (13)
P1	35	BT814- (13)
P1	36	BT815- (13)
P1	37	FAD- (7)
P1	38	DTD- (5)
P1	39	DDTD- (9)
P1	40	PBL- (4)
P1	41	D3- (7)
P1	42	
P1	43	
P1	44	
P1	45	NSENDR- (15)
P1	46	SYET- (15)
P1	47	ENLD- (4)
P1	48	CNTL- (4)
P1	49	WRET- (5)
P1	50	PACC- (7)
P1	51	ZAAD- (3)
P1	52	DREQ- (8)
P1	53	TEST- (4)

P1	54	IREQ- (4)
P1	55	IACK- (4)
P1	56	
P1	57	DMAREQ- (8)
P1	58	EQIN- (10)
P1	59	IPRS- (4)
P1	60	
P1	61	DCNN- (10)
P1	62	
P1		
P1	63	EPSB- (4)
P1	64	IPSE- (4)
P1	65	DPSB- (9)
P1	66	
P1	67	
P1	68	BTEV- (7)
P1	69	ZONN+ (5)
P1	70	PRET+ (14)
P1	71	
P1	72	LSADD+ (10)
P1	73	ETCN+ (10)
P1	74	ECSW- (11)
P1	75	
P1	76	BTCKE+ (5)
P1	77	
P1	78	NTIR2- (11)
P1	79	DMEQ1- (8)
P1	80	DMAK1- (8)
P1	81	-10NSEC (5)
P1	82	+10NSEC (5)
P1	83	XD+ (3)
P1	84	XD+ (4)
P1	85	TRCE+ (7)
P1	86	
P1	87	BTCKE+ (5)
P1	88	IPLSW- (15)
P1	89	
P1	90	64KN+ (6)
P1	91	ESET- (15)
P1	92	
P1	93	CLDS- (15)
P1	94	TD00- (13)
P1	95	TD01- (13)
P1	96	TD02- (13)
P1	97	TD03- (13)
P1	98	TD04- (13)
P1	99	TD05- (13)
P1	100	TD06- (13)
P1	101	TD07- (13)
P1	102	TD08- (13)
P1	103	TD09- (13)
P1	104	TD10- (13)
P1	105	TD11- (13)

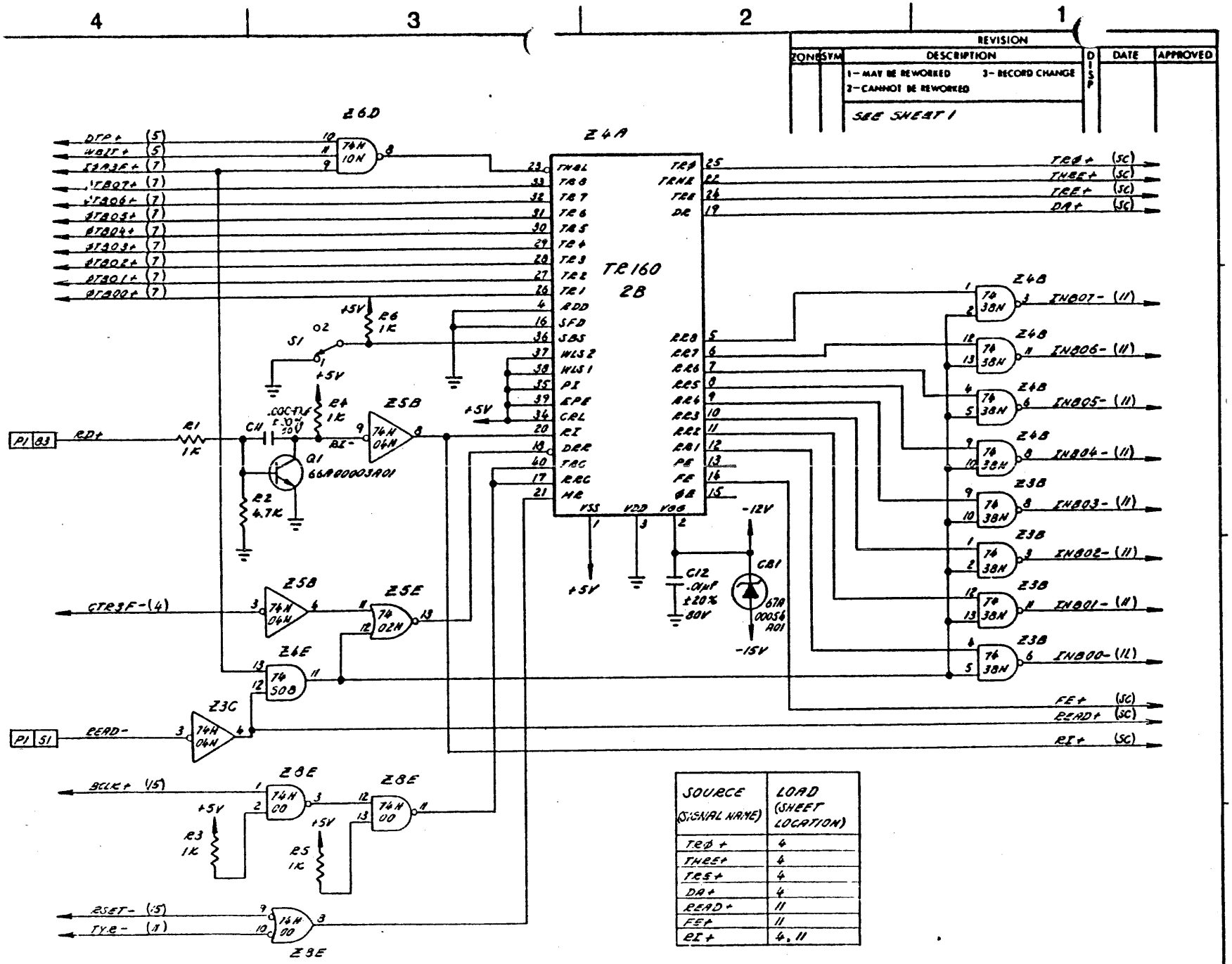
P1	106	TD12- (13)
P1	107	TD13- (13)
P1	108	TD14- (13)
P1	109	TD15- (13)
P1	110	TA00- (12)
P1	111	TA01- (12)
P1	112	TA02- (12)
P1	113	TA03- (12)
P1	114	TA04- (12)
P1	115	TA05- (12)
P1	116	TA06- (12)
P1	117	TA07- (12)
P1	118	TA08- (12)
P1	119	TA09- (12)
P1	120	TA10- (12)
P1	121	TA11- (12)
P1	122	TA12- (12)
P1	123	TA13- (12)
P1	124	TA14- (12)
P1	125	TA15- (9)
P1	126	NEEQ- (9)
P1	127	SIRD- (10)
P1	128	NDRY+ (10)
P1	129	
P1	130	
P1	131	
P1	132	
P1	133	
P1	134	
P1	135	
P1	136	
P1	137	GND (1)
P1	138	GND (1)
P1	139	
P1	140	+5V (1)

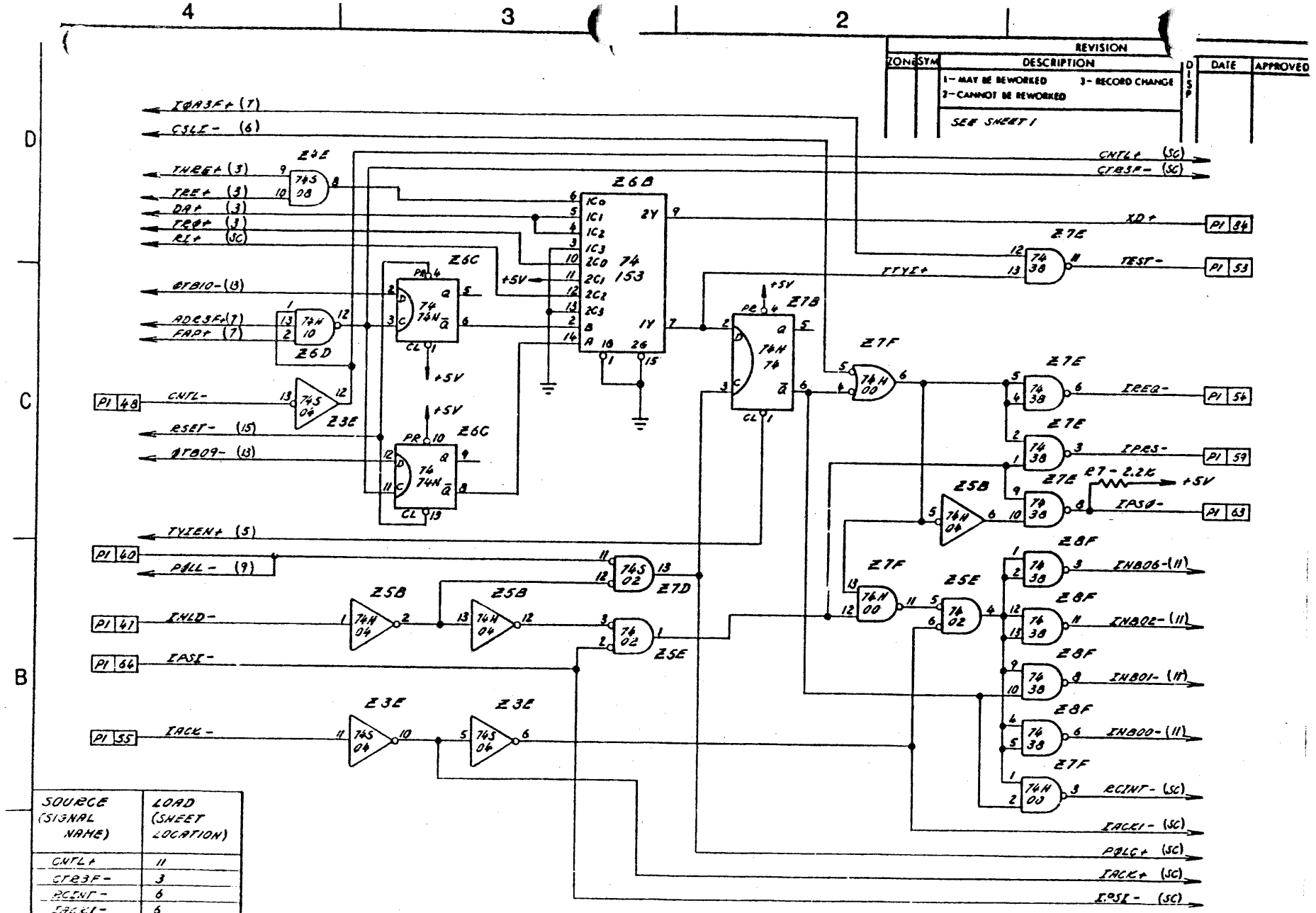
P2	1	+5
P2	2	+5
P2	3	GND
P2	4	GND
P2	5	TYE- (11)
P2	6	
P2	7	SLMD+ (14)
P2	8	STMI- (14)
P2	9	MSIG+ (14)
P2	10	
P2	11	BKGS- (15)
P2	12	MSTR- (14)
P2	13	LEQ0+ (14)
P2	14	BKINT- (11)
P2	15	LEQ2+ (14)
P2	16	LEQ1+ (14)
P2	17	LEQ4- (14)
P2	18	LEQ3+ (14)
P2	19	LEQ6+ (14)
P2	20	LEQ5+ (14)
P2	21	LEQ7+ (14)
P2	22	IPLSN- (15)
P2	23	LEQ8+ (14)
P2	24	LEQ9+ (14)
P2	25	GND
P2	26	GND
P2	27	+5V
P2	28	+5V

P3	1	TD02- (15)
P3	2	ND0E- (15)
P3	3	TD10- (15)
P3	4	ND10- (15)
P3	5	TD12- (15)
P3	6	ND12- (15)
P3	7	TD14- (15)
P3	8	ND14- (15)
P3	9	TD15- (15)
P3	10	ND15- (15)
P3	11	TD13- (15)
P3	12	ND13- (15)
P3	13	TD03- (15)
P3	14	ND03- (15)
P3	15	TD00- (15)
P3	16	ND00- (15)
P3	17	TD08- (15)
P3	18	ND08- (15)
P3	19	TD01- (15)
P3	20	ND01- (15)
P3	21	TD09- (15)
P3	22	ND09- (15)
P3	23	TD11- (15)
P3	24	ND11- (15)
P3	25	ND06- (15)
P3	26	ND04- (15)
P3	27	ND05- (15)
P3	28	ND07- (15)

P4	1	+5V
P4	2	+5V
P4	3	GND
P4	4	GND
P4	5	GND
P4	6	
P4	7	
P4	8	
P4	9	WRTS* (14)
P4	10	WRTS+ (14)
P4	11	WRTS- (14)
P4	12	
P4	13	SNASY- (15)
P4	14	SNDRY+ (15)
P4	15	LSADD+ (14)
P4	16	64KN+ (14)
P4	17	SEME- (15)
P4	18	RART- (15)
P4	19	
P4	20	CLDS- (15)
P4	21	
P4	22	PRET+ (14)
P4	23	GND
P4	24	GND
P4	25	GND
P4	26	+5V
P4	27	+5V
P4	28	

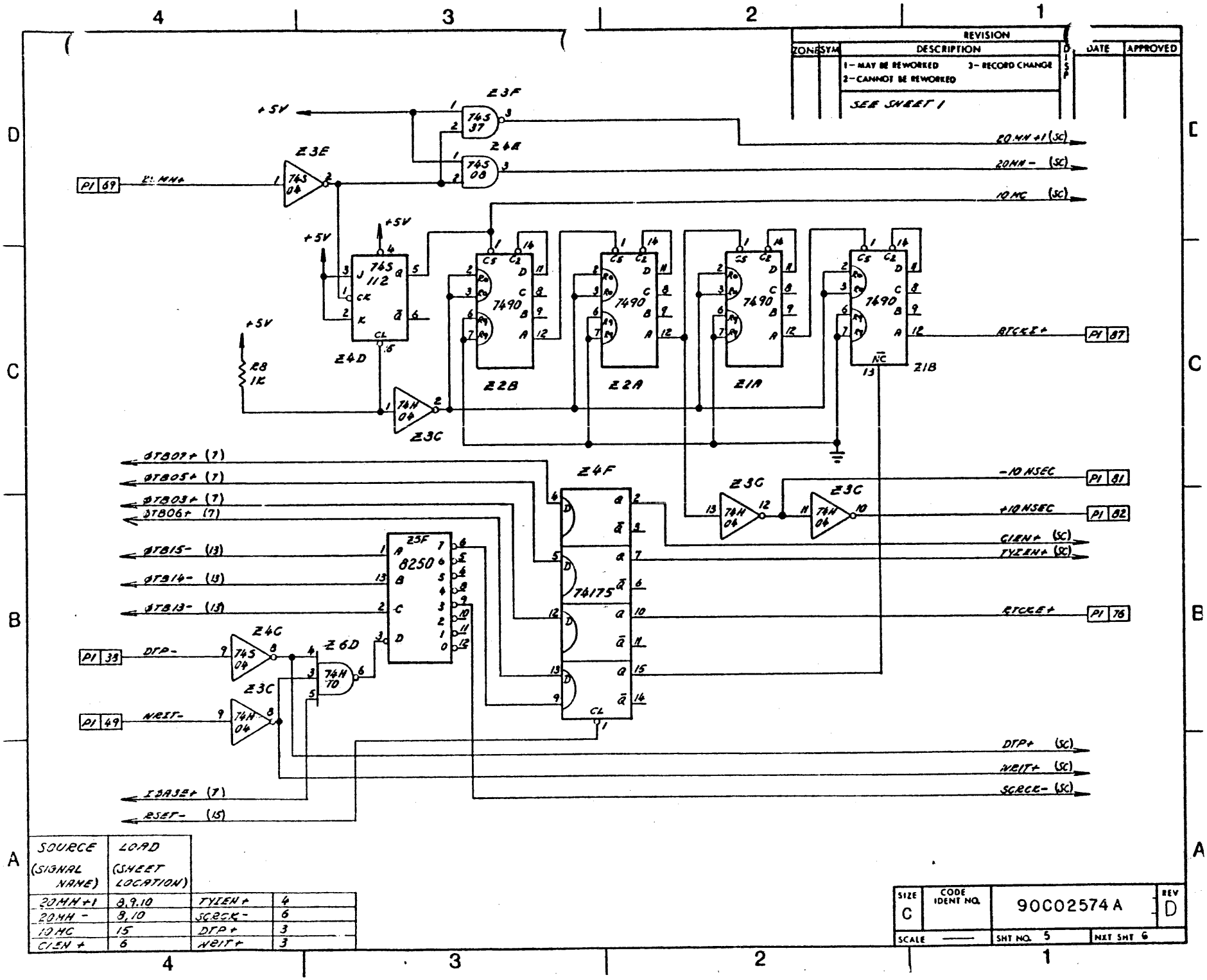
SIZE	CODE IDENT NO.		REV
C	—	90C02574A	D
SCALE —		SHT NO. 2	NXT SHT 3


REVISION
ZONE SYM
DESCRIPTION
1 - MAY BE REWORKED 3 - RECORD CHANGE
2 - CANNOT BE REWORKED
SEE SHEET 1
DIST
DATE
APPROVED
Z6D
Z4A
TR160
2B
Z4B
Z5B
Z5A
Z5E
Z6E
Z3C
Z8E
Z3E
Q1
CR1
C12
.01µF ±20% 80V
R1 1K
R2 4.7K
R3 1K
R4 1K
R5 1K
R6 1K
S1
+5V
-12V
-15V
RDY+
READ-
BCLK+ (15)
RESET- (15)
TYE- (11)
CTR3F-(4)
INB07- (11)
INB06- (11)
INB05- (11)
INB04- (11)
INB03- (11)
INB02- (11)
INB01- (11)
INB00- (11)
TRØ+ (5C)
THRE+ (5C)
TRE+ (5C)
DA+ (5C)
FE+ (5C)
READ+ (5C)
RI+ (5C)
SOURCE (SIGNAL NAME) | LOAD (SHEET LOCATION)
TRØ+ | 4
THRE+ | 4
TRE+ | 4
DA+ | 4
READ+ | 11
FE+ | 11
RI+ | 4, 11
SIZE C
CODE IDENT NO.
90C02574A
REV D
SCALE —
SHT NO. 3
NXT SHT 4



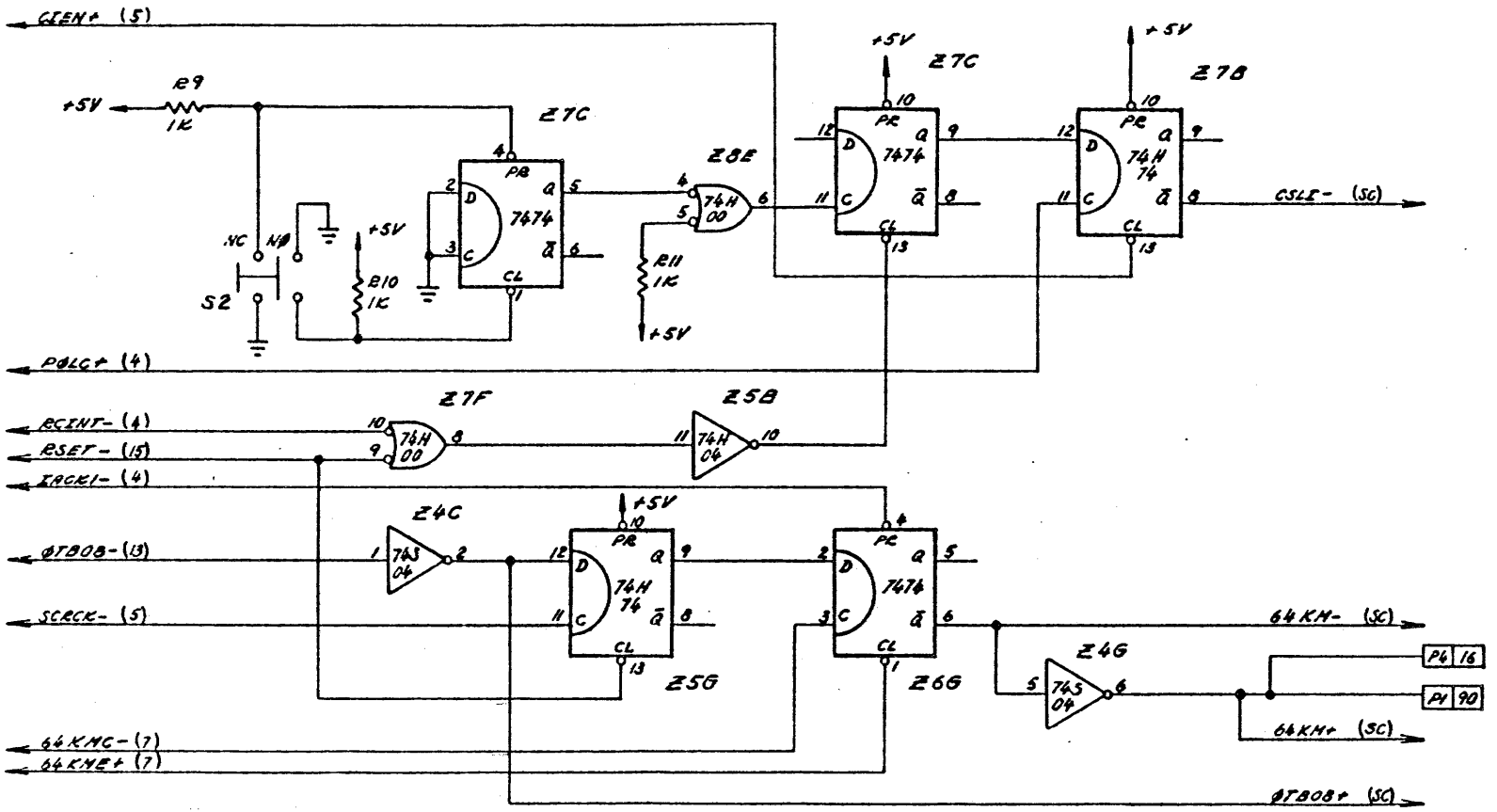
SOURCE (SIGNAL NAME)	LOAD (SHEET LOCATION)
CNTL+	11
CIA3F-	3
RCINT-	6
IACK1-	6
IACK+	11
PØLC+	6,11
ØI+	3,11
IPRI-	11

SIZE	CODE IDENT NO.	90C02574A	REV
C			D
SCALE		SHT NO. 4	NXT SHT 5



SOURCE (SIGNAL NAME)	LOAD (SHEET LOCATION)		
20MH+1	8,9,10	TYIEN+	4
20MH-	9,10	SCRCK-	6
10MC	15	DTP+	3
CIEN+	6	NEIT+	3

SIZE	CODE IDENT NO.		REV
C		90C02574A	D
SCALE ——		SHT NO. 5	NXT SHT 6

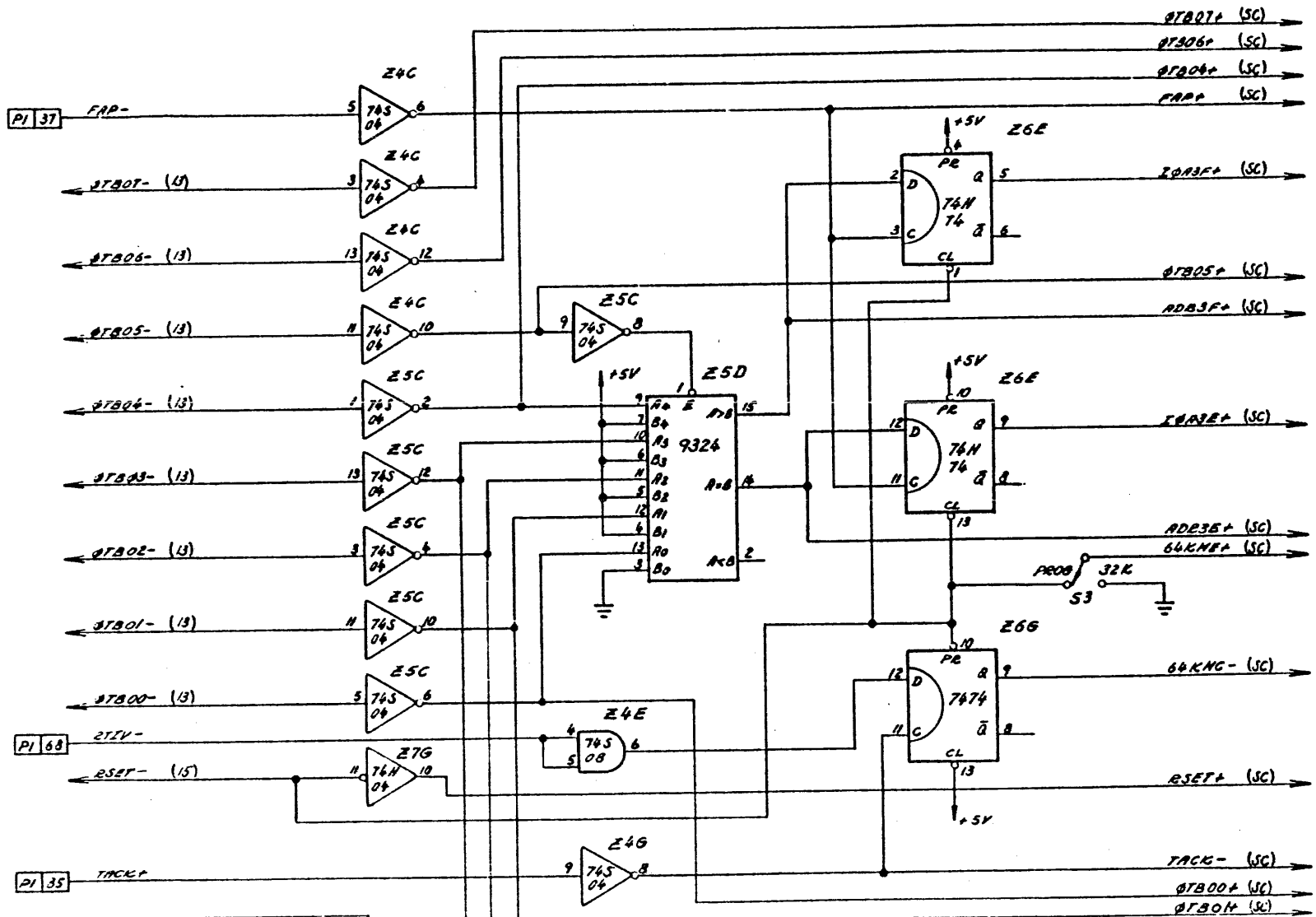


SOURCE (SIGNAL NAME)	LOAD (SHEET LOCATION)
CSLE-	4
ØTBOB+	11
SCRCN-	14
64KM+	12

REVISION					
ZONE	SYM	DESCRIPTION		DATE	APPROVED
		1- MAY BE REWORKED 3- RECORD CHANGE 2-CANNOT BE REWORKED			
		SEE SHEET 1			

SIZE	CODE IDENT NO.		REV
C	———	90C02574 A	D
SCALE ———		SHT NO. 6	NXT SHT 7

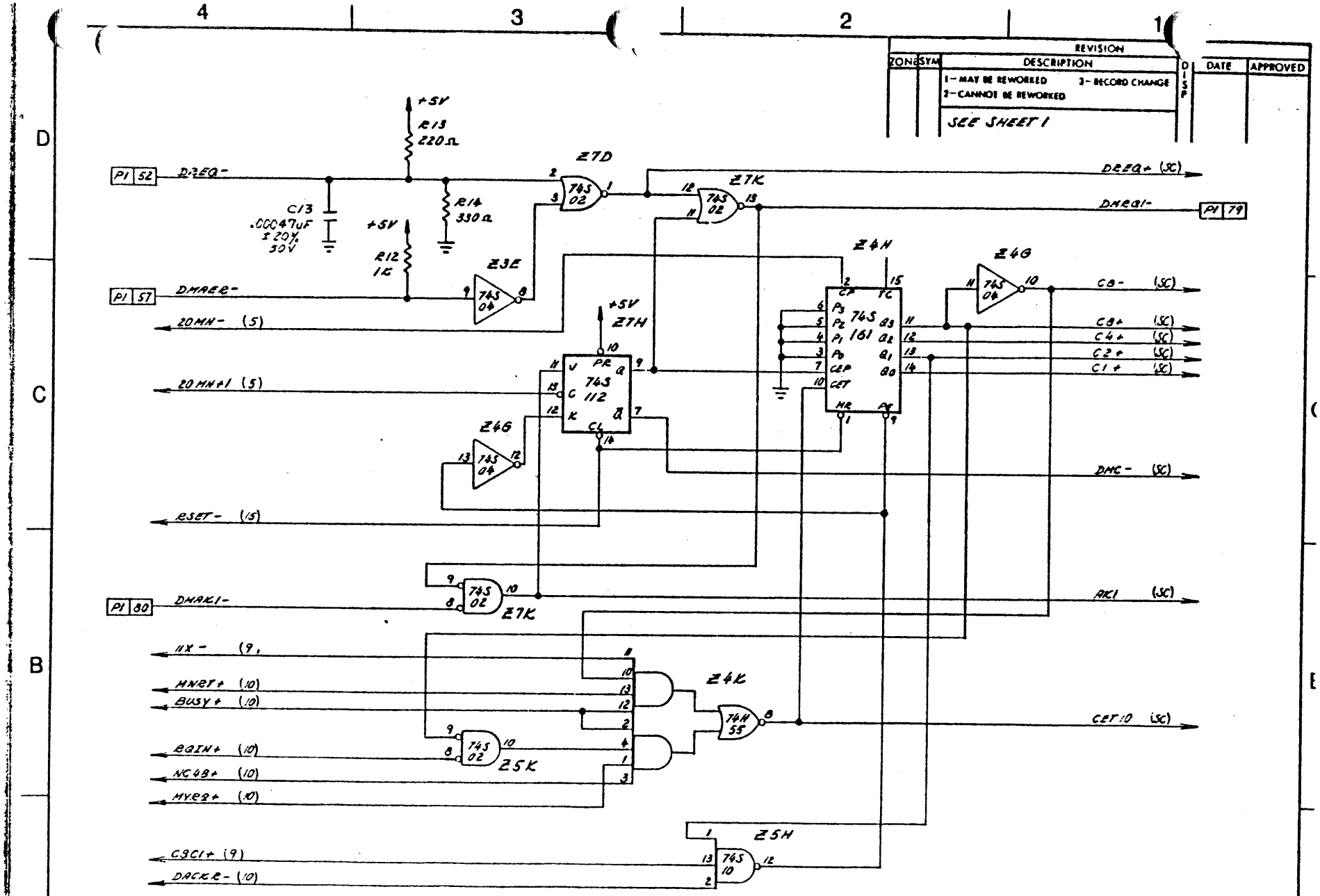
REVISION			
SYM	DESCRIPTION	DATE	APPROVED
	SEE SHEET 1		



SOURCE (SIGNAL NAME)	LOAD (SHEET LOCATION)		
ØTB07+	3,5	ØTB05+	3,5
ØTB06+	3,5	ADB3F+	4
FAP+	4,11	IØA3E+	5,11
IØA3F+	3,4	ADB3E+	11
		64KMF+	6
		64KMC-	6
		ESET+	10
		TACK-	15

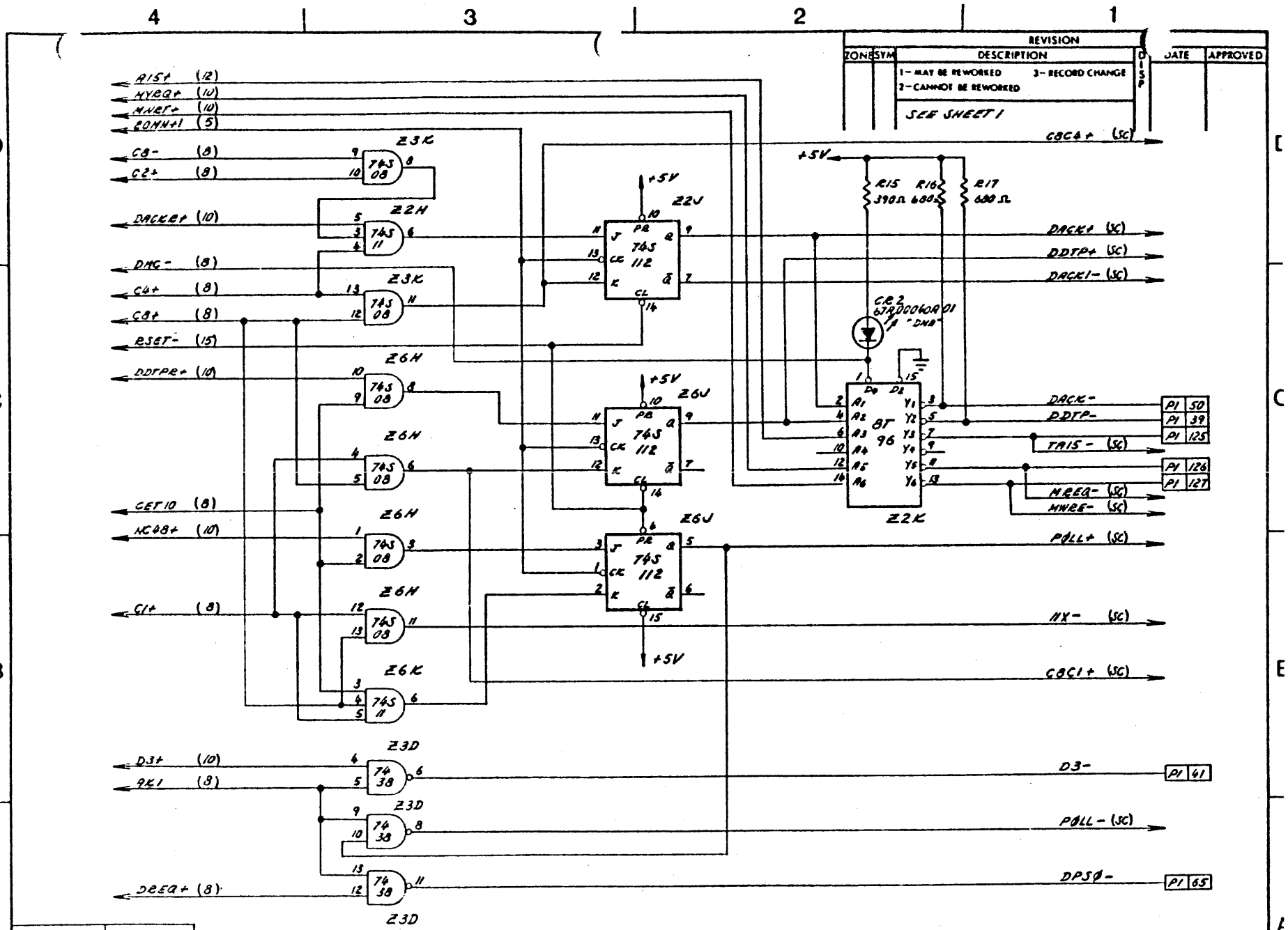
ØTB00+	3	ØTB04+	3
ØTB01+	3		
ØTB02+	3		
ØTB03+	3,5		

SIZE	CODE IDENT NO.		REV
C		90C02574A	D
SCALE		SHT NO. 7	NXT SHT 8



SOURCE (SIGNAL NAME)	LOAD (SHEET LOCATION)				
DREQ+	9,10	C2+	9,10	AK1	9
CB-	9,10	C1+	9,10	CET10	9
C8+	9,10	DMC-	9,10,12,13		
C4+	9,10				

SIZE	CODE IDENT NO.		REV
C	——	90002574 A	D
SCALE ——	SHT NO. 8	NXT SHT 9	

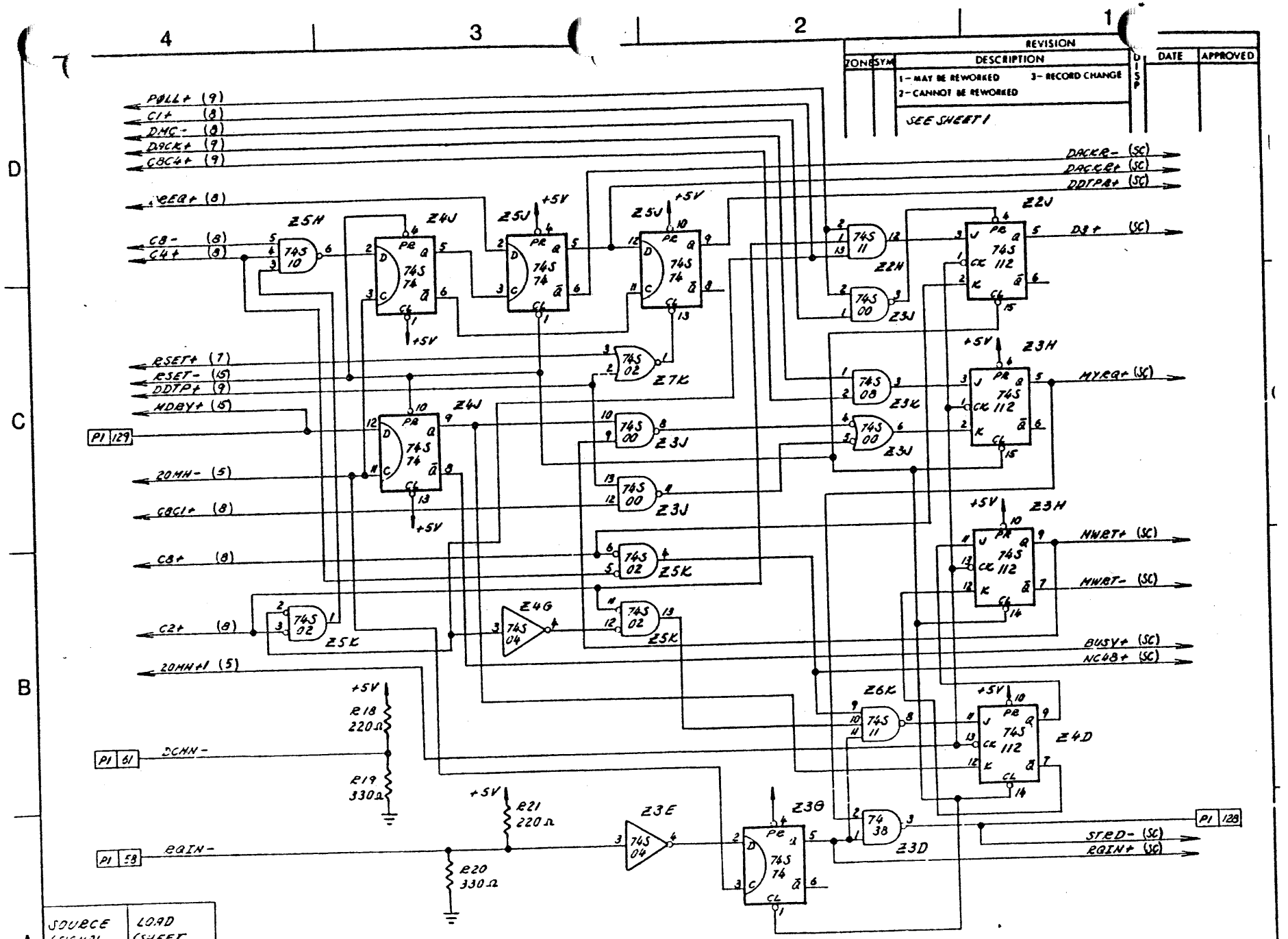


SOURCE (SIGNAL NAME)	LOAD (SHEET LOCATION)
DACK+	10
DACK1-	12
TAIS-	14
MREQ-	14

C8C4+	10
MNRE-	14
P9LL+	10
11X-	8
P9LL-	4

DDTP+	10
C8C1+	8,10

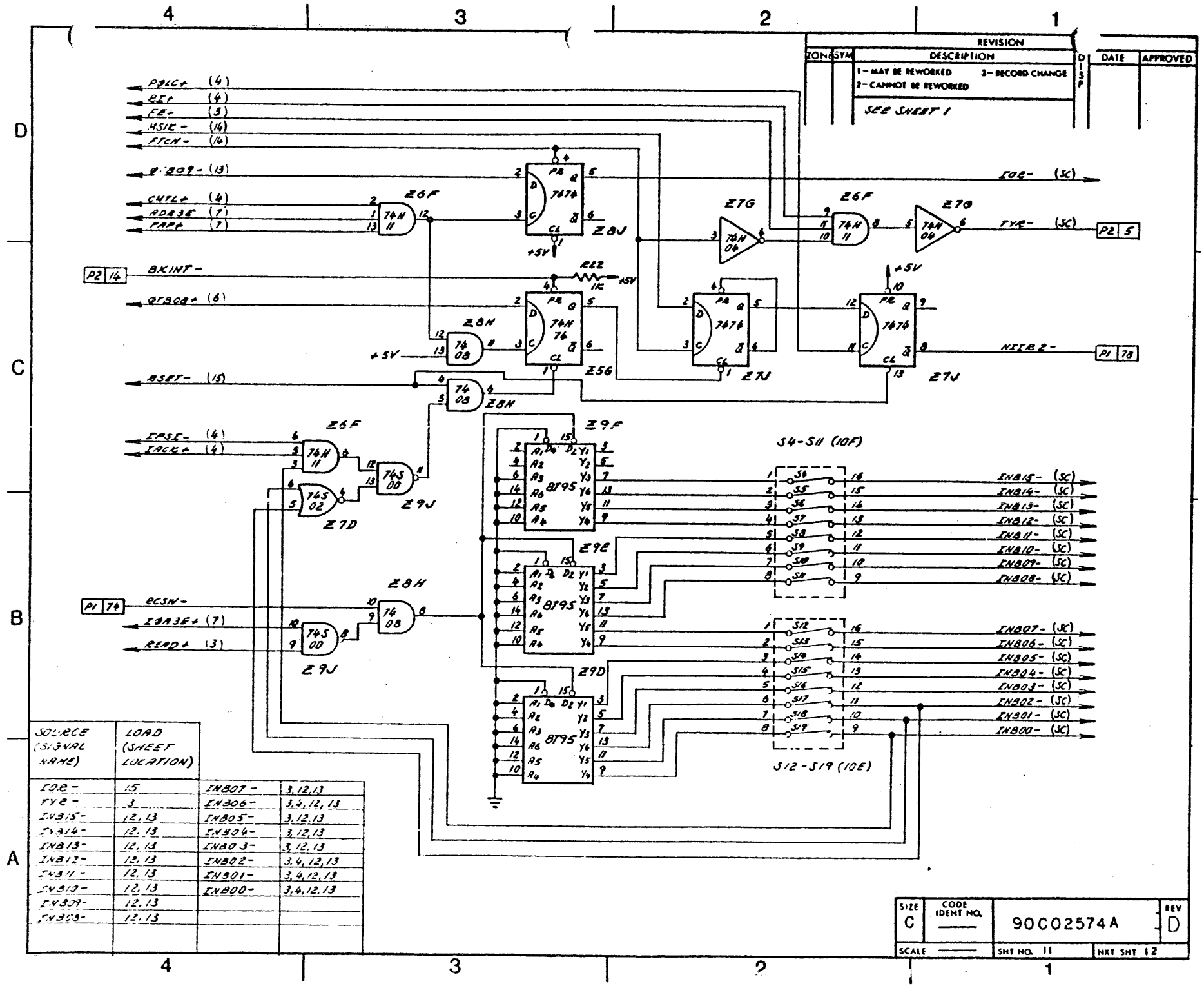
SIZE	CODE IDENT NO.		REV
C	—	90C02574A	D
SCALE ——	SHT NO. 9	NXT SHT 10	



SOURCE (SIGNAL NAME)	LOAD (SHEET LOCATION)		
DACR-	9	NWRT+	2, 9, 13
DACRR+	9	NWRT-	13
DDTPR+	9	BUSY+	8
D3+	9	NC48+	8, 9
MYEQ+	3, 9	STRD-	14

EQIN+	8

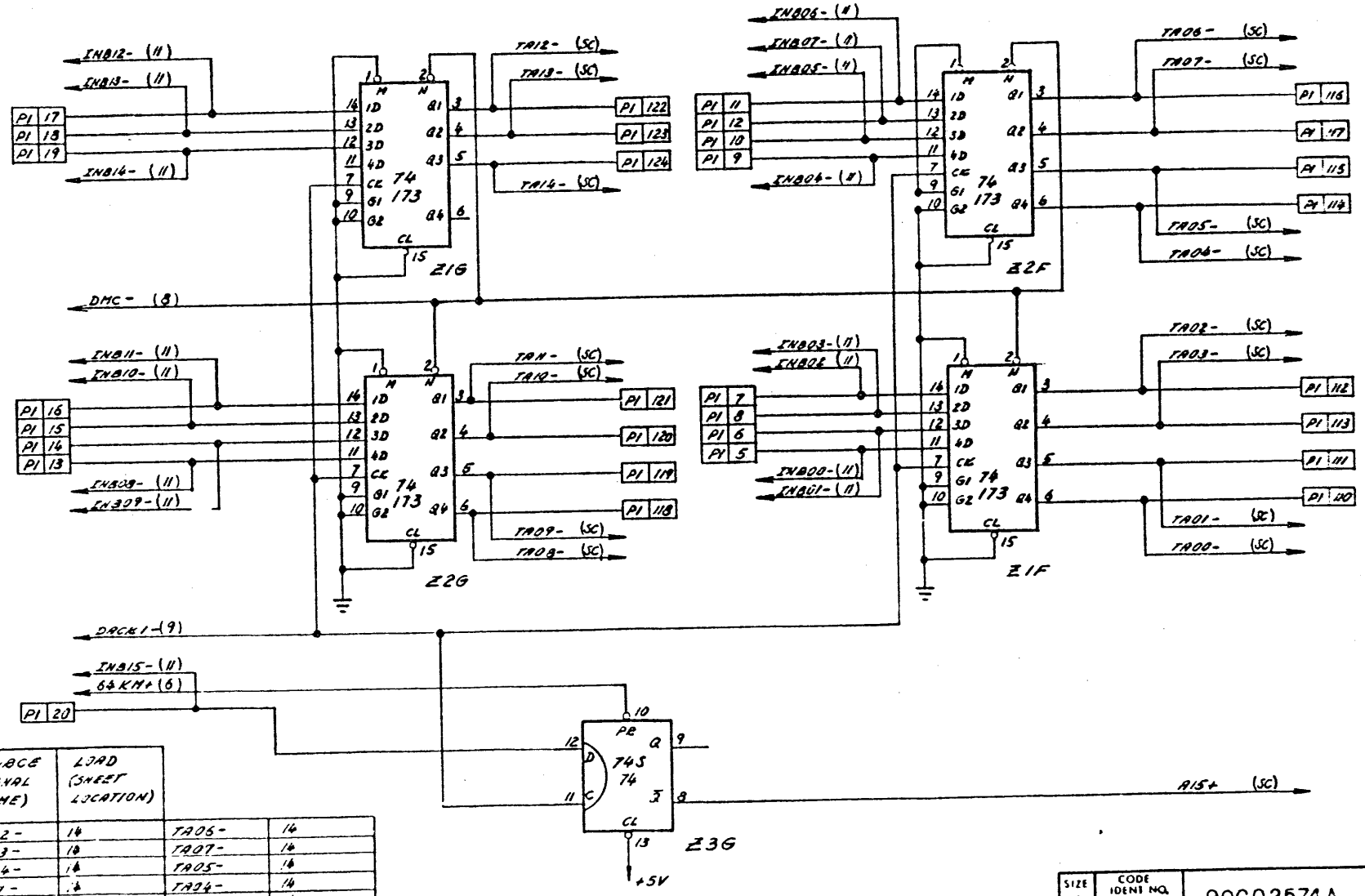
SIZE	CODE IDENT NO.		REV
C	—	90C02574A	D
SCALE —	SHT NO. 10	NXT SHT 11	



SOURCE (SIGNAL NAME)	LOAD (SHEET LOCATION)		
EOE-	15	INB07-	3,12,13
FYE-	3	INB06-	3,4,12,13
INB15-	12,13	INB05-	3,12,13
INB14-	12,13	INB04-	3,12,13
INB13-	12,13	INB03-	3,12,13
INB12-	12,13	INB02-	3,4,12,13
INB11-	12,13	INB01-	3,4,12,13
INB10-	12,13	INB00-	3,4,12,13
INB09-	12,13		
INB08-	12,13		

SIZE	CODE IDENT NO.		REV
C	———	90C02574A	D
SCALE ———		SHT NO. 11	NXT SHT 12

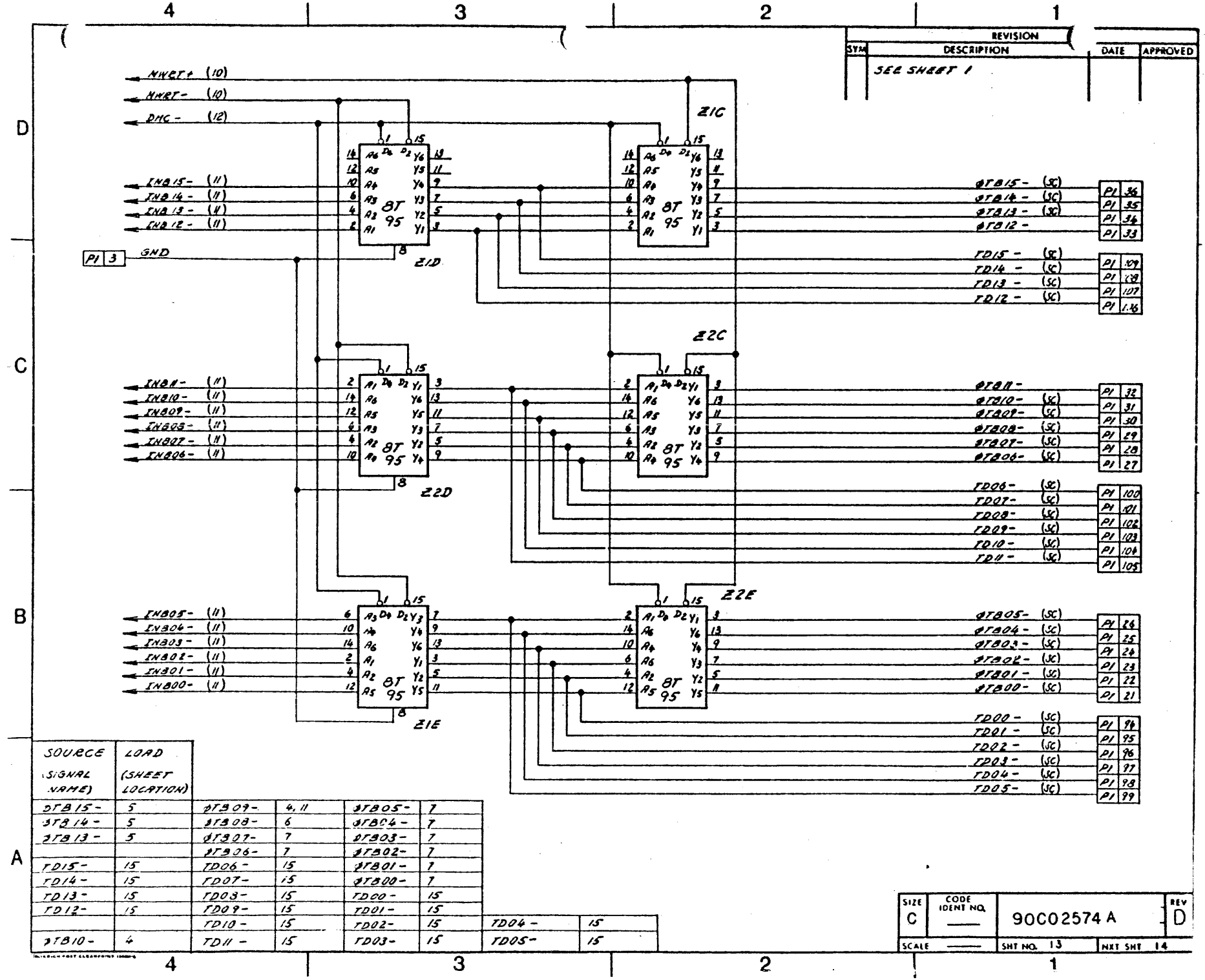
REVISION			
SYM	DESCRIPTION	DATE	APPROVED
	SEE SHEET 1		



SOURCE (SIGNAL NAME)	LOAD (SHEET LOCATION)		
TAI2-	14	TAO6-	14
TAI3-	14	TAO7-	14
TAI4-	14	TAO5-	14
TAII-	14	TAO4-	14
TAIO-	14	TAO2-	14
TAO9-	14	TAO3-	14
TAO8-	14	TAO1-	14
		TAOO-	14

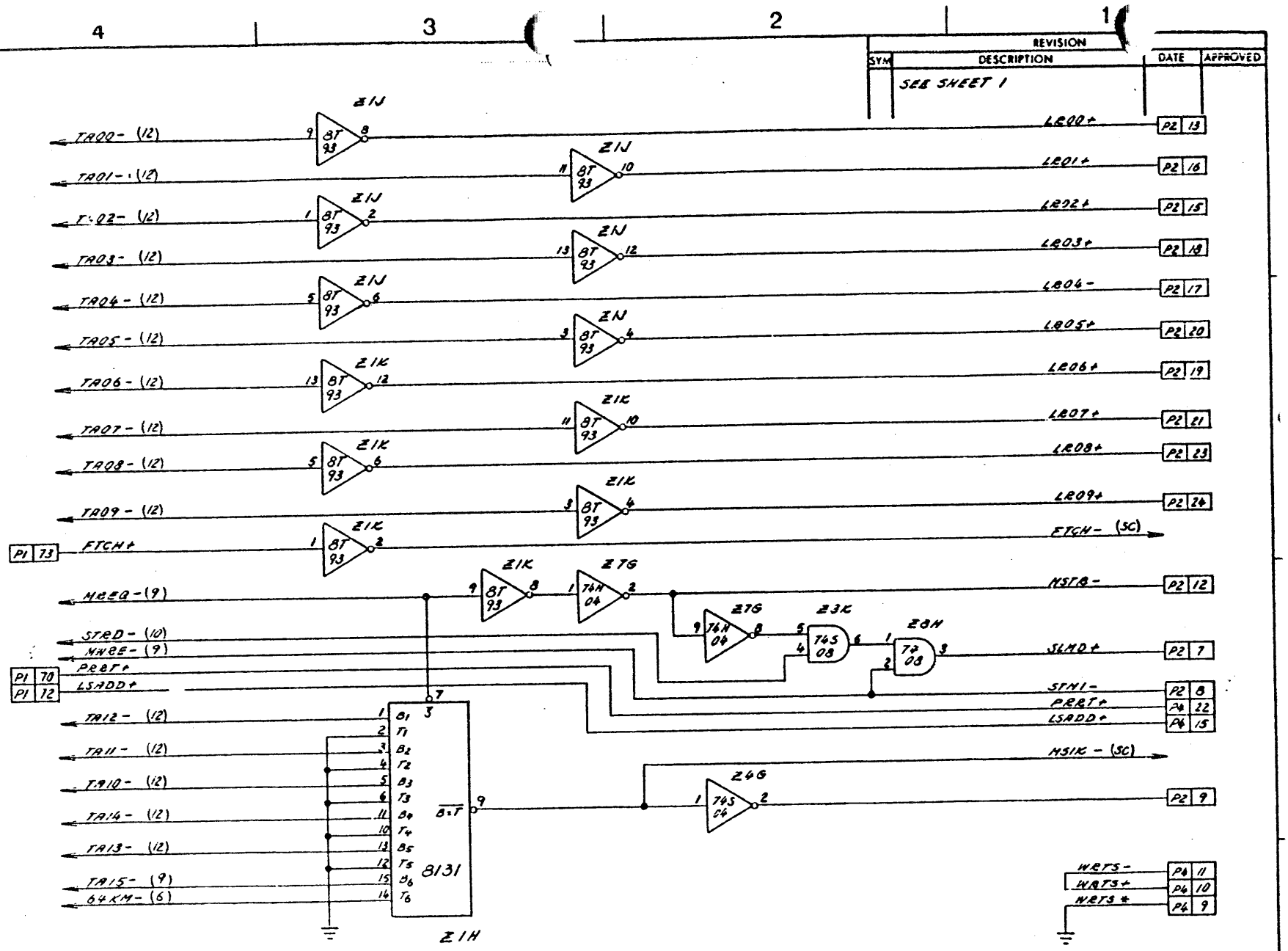
DMC-	13
A15+	9

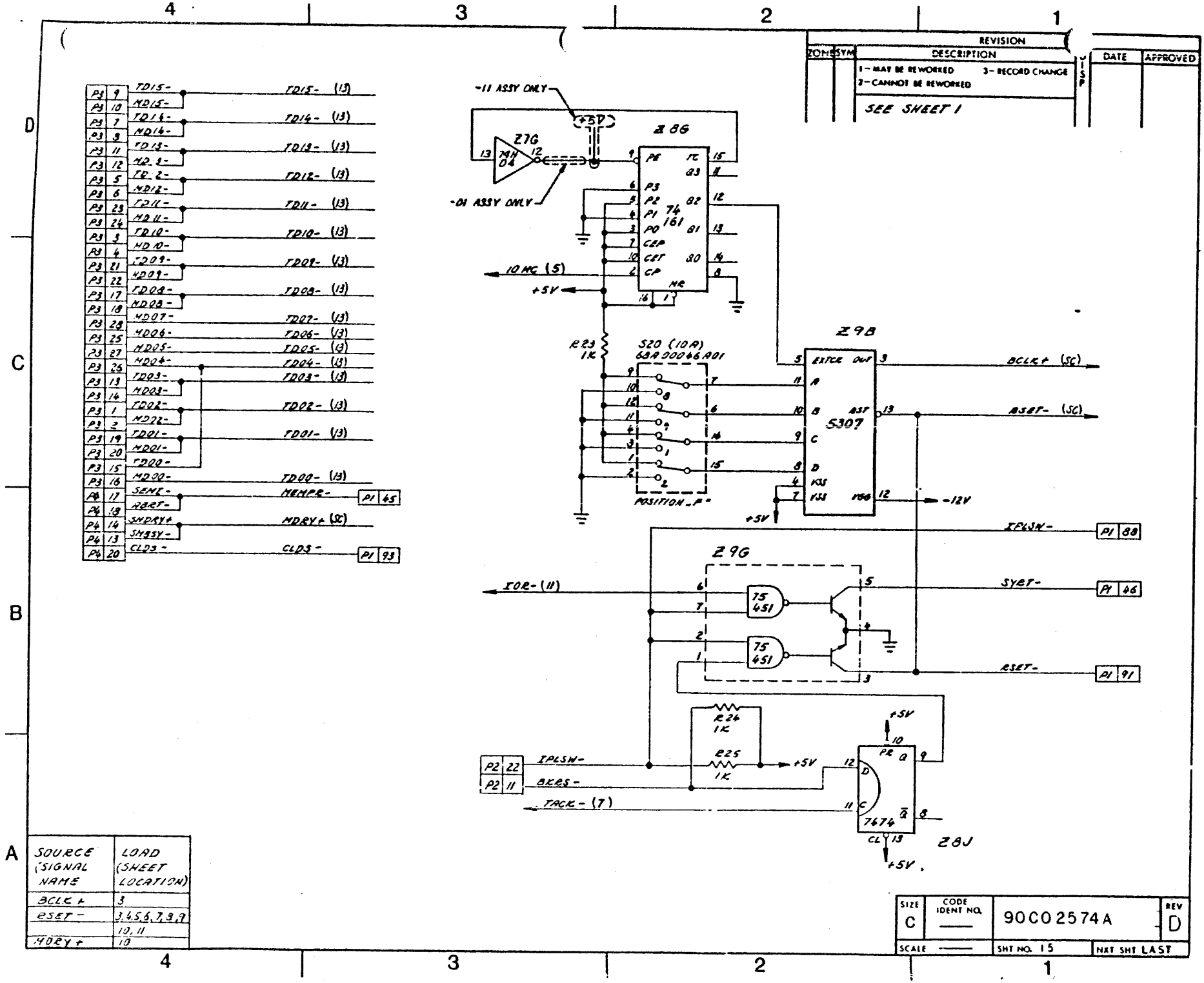
SIZE	CODE IDENT NO.		REV
C		90C02574A	D
SCALE		SHT NO. 12	NEXT SHT 13



SOURCE (SIGNAL NAME)	LOAD (SHEET LOCATION)						
DTB15-	5	DTB09-	4, 11	DTB05-	7		
DTB14-	5	DTB08-	6	DTB04-	7		
DTB13-	5	DTB07-	7	DTB03-	7		
		DTB06-	7	DTB02-	7		
RD15-	15	RD06-	15	DTB01-	7		
RD14-	15	RD07-	15	DTB00-	7		
RD13-	15	RD08-	15	RD00-	15		
RD12-	15	RD09-	15	RD01-	15		
		RD10-	15	RD02-	15	RD04-	15
DTB10-	4	RD11-	15	RD03-	15	RD05-	15

SIZE	CODE IDENT NO.		REV
C	———	90C02574 A	D
SCALE	———	SHT NO. 13	NXT SHT 14


REVISION
SYM
DESCRIPTION
DATE
APPROVED
SEE SHEET 1
TA00- (12)
TA01- (12)
TA02- (12)
TA03- (12)
TA04- (12)
TA05- (12)
TA06- (12)
TA07- (12)
TA08- (12)
TA09- (12)
P1 73 FTCH+
MREQ- (9)
STRD- (10)
MWRE- (9)
P1 70 PRRT+
P1 72 LSADD+
TA12- (12)
TA11- (12)
TA10- (12)
TA14- (12)
TA13- (12)
TA15- (9)
64KM- (6)
8131
B=T
LR00+ P2 13
LR01+ P2 16
LR02+ P2 15
LR03+ P2 18
LR04- P2 17
LR05+ P2 20
LR06+ P2 19
LR07+ P2 21
LR08+ P2 23
LR09+ P2 24
FTCH- (SC)
MSTR- P2 12
SLMD+ P2 7
STNI- P2 8
PRRT+ P4 22
LSADD+ P4 15
MSIK- (SC) P2 9
WRTS- P4 11
WRTS+ P4 10
WRTS* P4 9
Z1H
SOURCE (SIGNAL NAME)
LOAD (SHEET LOCATION)
FTCH- 11
MSIK- 11
SIZE C
CODE IDENT NO.
90C02574 A
REV D
SCALE
SHT NO. 14
NXT SHT 15


REVISION
ZONE SYM
DESCRIPTION
1 - MAY BE REWORKED
2 - CANNOT BE REWORKED
3 - RECORD CHANGE
DATE
APPROVED
SEE SHEET 1
-11 ASSY ONLY
+5V
Z7G
Z8G
74 161
-01 ASSY ONLY
10 MC (5)
R23 1K
S20 (10A) 68A00046A01
POSITION_A
Z9B
S307
BCLK+ (SC)
BSET- (SC)
-12V
IPLSN-
P1 88
Z9G
75 451
IOR- (11)
SYET-
P1 46
RSET-
P1 91
R24 1K
R25 1K
P2 22
P2 11
IPLSN-
AKES-
TACK- (7)
7474
Z8J
TDI5- (13)
TDI4- (13)
TDI3- (13)
TDI2- (13)
TDI1- (13)
TDI0- (13)
TDO9- (13)
TDO8- (13)
TDO7- (13)
TDO6- (13)
TDO5- (13)
TDO4- (13)
TDO3- (13)
TDO2- (13)
TDO1- (13)
TDO0- (13)
MEMPR- P1 65
MDRY+ (SC)
CLDS- P1 93
SOURCE (SIGNAL NAME)
LOAD (SHEET LOCATION)
BCLK+ 3
RSET- 3,4,5,6,7,8,9
10, 11
MDRY+ 10
SIZE C
CODE IDENT NO.
90C02574A
REV D
SCALE
SHT NO. 15
NXT SHT LAST

NOTES

REVISION		
SYM	DESCRIPTION	APPROVED
A	ENGINEERING RELEASE PER ECO 9268	
B	REVISED PER ECO-8728 PRODUCTION RELEASE dw 10-5-8	dw 10/7/78
C	REVISED PER ECO 8710 DF 11-1-78	R.L. 12-4-78
D	REVISED PER ECO-8636 dw 12-14-78	R.L. 12-14-78
E	REVISED PER ECO-10569 dw 12-4-79	R.L. 12-4-79
F	REVISED PER ECO 8939 DD 7-21-79	7/23/79
G	REVISED PER ECO 12674 D.E. 7-17-80	7/17/80
H	REVISED PER ECO.-12913 8-22-80	8-16-80

DASH NO.	NEXT ASSEMBLY			
		DR	E. HARMS	10-11-77
-01	31P02042-01	CHK	Brownfield	12/26/77
		ENGR	D Blum	3-28-8
		APPD		
		APPD		
		REL	R. Williamson	3/28/78

GENERAL AUTOMATION, INC.

PARTS LIST

CENTRAL PROCESSOR UNIT 2 (CPU 2)

SHT NO.	NO.	REV
1 OF 6	31P02574A	H

QTY REQD	QTY REQD	QTY REQD	QTY REQD	QTY REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SIZE, VALUE, MATERIAL	ITEM NO.
			11	01	31D02574A	C.P.U. 2		
			1	1	30D02926A02	BOARD DETAIL		1
			1	1	70A00012A01	I.C. QUAD, 2NOR. TTL	Z5E,	3
			5	5	70A00014A01	I.C. DUAL, FLIP/FLOP	Z6C, 6G, 7C, 7N 3J	4
			1	1	70A00015A01	I.C. BINARY DECODER	Z5F	5
			4	4	70A00018A01	I.C. DECADE COUNTER	Z1A, 1B, 2A, 2B	6
			3	3	70A00021A01	I.C. HEX INVERTER	Z3C, 5B, 7G	7
			2	2	70A00024A01	I.C. QURD, 2 NAND	Z7F, 8E	8
			1	1	70A00026A01	I.C. TRIPPLE 3-NAND	Z6D	9
			3	3	70A00041A01	I.C. DUAL FLIP/FLOP	Z5G, 6E, 7B	10
			2	2	70A00051A01	I.C. QUAD, 2NAND	Z3J, 9N	11
			4	4	70A00067A01	I.C. HEX INVERTER	Z3E, 4C, 4G, 5C	12
			1	1	70A00068A01	I.C. TRIPPLE 3-NAND	Z5H	13
			3	3	70A00073A01	I.C. DUAL FLIP/FLOP	Z3G, 4J, 5J	14
			5	5	70A00074A01	I.C. QUAD 2-NAND	Z3B, 3D, 4B 7E, 8F	15
			1	1	70A00032A01	I.C. COUNTER	Z8G	16

QTY REQD	QTY REQD	QTY REQD	QTY REQD	QTY REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SIZE, VALUE, MATERIAL	ITEM NO.
			11	01	31D02574A	C.P.U. 2		
			1	1	70A00108A01	I.C. TRIPPLE 3 POS. AND.	Z6F	18
			1	1	70A00113A01	I.C. 2-INP. AND	Z8H	19
			1	1	70A00118A01	I.C. QUAD FLIP/FLOP	Z4F	20
			1	1	70A00141A01	I.C. 5-BIT COMPARATOR	Z5D	21
			1	1	70A00157A01	I.C. DUAL, AND, DRIVER	Z9G	22
			1	1	70A00160A01	I.C. DUAL, DATA SEL/MUX	Z6B	23
			1	1	70A00161A01	I.C. RECVR-TRANS-ASYN	Z4A	24
			1	1	70A00162A01	I.C. EXP. 4-INP. AND	Z4K	25
			4	4	70A00178A01	I.C. REGISTER	Z1G, 1F, 2F, 2G	26
			3	3	70A00204A01	I.C. QUAD 2-INP. NOR	Z5K, 7K, 7D	27
			5	5	70A00206A01	I.C. DUAL FLIP/FLOP	Z2J, 3H, 4D 6J, 7H	28
			2	2	70A00211A01	I.C. TRIPPLE 3-INP. AND	Z2H, 6K	29
			1	1	70A00225A01	I.C. BAUD RATE GEN.	Z9B	30
			1	1	70A00233A01	I.C. POS. NAND GATES	Z3F	31
			9	9	70A00242A01	I.C. HEX BUS INVERTER	Z1C, 1D, 1E 2C, 2D, 2E 9D, 7E, 7F	32

QTY REQD	QTY REQD	QTY REQD	QTY REQD	QTY REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SIZE, VALUE, MATERIAL	ITEM NO.
			11	01	31D02574A	C.P.U. 2		
			1	1	70A00243A01	I.C. HEX BUS INVERTER	Z 2K	35
			3	3	70A00318A01	I.C. QUAD 2-INP. AND	Z 3K, 4E, 6H	36
			2	2	70A00323A01	I.C. HEX INVERTER	Z 1J, 1K	37
			1	1	70A00325A01	I.C. BUS COMPARATOR	Z 1H	38
			1	1	70A00331A01	I.C. 4-BIT COUNTER	Z 4H	39
			1	1	66A00003A01	TRANSISTOR, NPN	Q1	42
			4	4	53A00008A01	CAPACITOR, 4.7μf, ±10%, 10V	C1, 3, 5, 7	44
			5	5	53A00000A07	CAPACITOR, .01μf, ±20%, 30V	C2, 4, 6, 8, 12	45
			2	2	53A00035A02	CAPACITOR, 1μf, $^{+80}_{-20}$%, 50V	C9, C10	46
			2	2	53A00000A01	CAPACITOR, .00047μF ±20% 50V	C11, 13	47
			1	1	57A00054A01	DIODE, ZENER 3.3V	CR1	49
			1	1	57A00040A01	DIODE, LED RED	CR2	50

GENERAL AUTOMATION, INC.
PARTS LIST

SHT NO. 4 OF 6

NO. 31P02574A

REV H

QTY REQD	QTY REQD	QTY REQD	QTY REQD	QTY REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SIZE, VALUE, MATERIAL	ITEM NO.
			11	01	31D02574 A	C.P.U. 2		
			14	14	55A00000A63	RESISTOR, 1K ±5%, 1/4W	R1,3,4,5,6,8,9, R10,11,12,22,23,24,25	52
			1	1	55A00000A71	RESISTOR, 2.2K, ±5%, 1/4W	R7	53
			1	1	55A00000A79	RESISTOR, 4.7K, ±5%, 1/4W	R2	54
			3	3	55A00000A47	RESISTOR, 220Ω, ±5%, 1/4W	R13, 18, 21	55
			3	3	55A00000A51	RESISTOR, 330Ω, ±5%, 1/4W	R14, 19, 20	56
			1	1	55A00000A53	RESISTOR, 390Ω, ±5%, 1/4W	R15	57
			2	2	55A00000A57	RESISTOR, 680Ω, ±5%, 1/4W	R16, 17	58
			1	1	63A00045A01	SWITCH, ROTARY	S20 (10A)	61
			2	2	63A00016A01	SWITCH, NETWORK	S4-11 (10F) S12-19 (10E)	62
			2	2	63A00047A01	SWITCH, SLIDE	S1, 3	63
			1	1	63A00027A02	SWITCH, MOM. PUSH 3T.	S2	64

GENERAL AUTOMATION, INC.
PARTS LIST

SHT NO. 5 OF 6

NO. 31P02574 A

REV H

QTY REQD	QTY REQD	QTY REQD	QTY REQD	QTY REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SIZE, VALUE, MATERIAL	ITEM NO.
			11	01	31D02574A	C.P.U. 2		
			3	3	41A00220A02	HEADER ASSY, 28 PIN	P2, 3, 4	68
			2	2	41A00221A01	SOCKET, RIGHT ANGLE	X S12-S19 (10E) X S4-S11 (10F)	69
			1	1	41A00280A01	I.C. SOCKET, 40 PIN	XZ4A	70
			2	2	05A00016A01	EJECTOR (RED)		71
			1	1	41A00250A02	IC SOCKET 14 PIN	XZ1B	72

GENERAL AUTOMATION, INC.
PARTS LIST

SHT NO. 6 OF 6

NO. 31P02574A

REV H

NOTE UNLESS OTHERWISE SPECIFIED

1 REF LOGIC DIAGRAM 31C226503A REV H.

2 REF BOARD DETAIL 31D226502

3 ASSEMBLE AND IDENTIFY PER WORKMANSHIP STD S 83400194.

4 NOTED COMPONENTS FOR -11, -21, -41, -51 & -61 ASSY

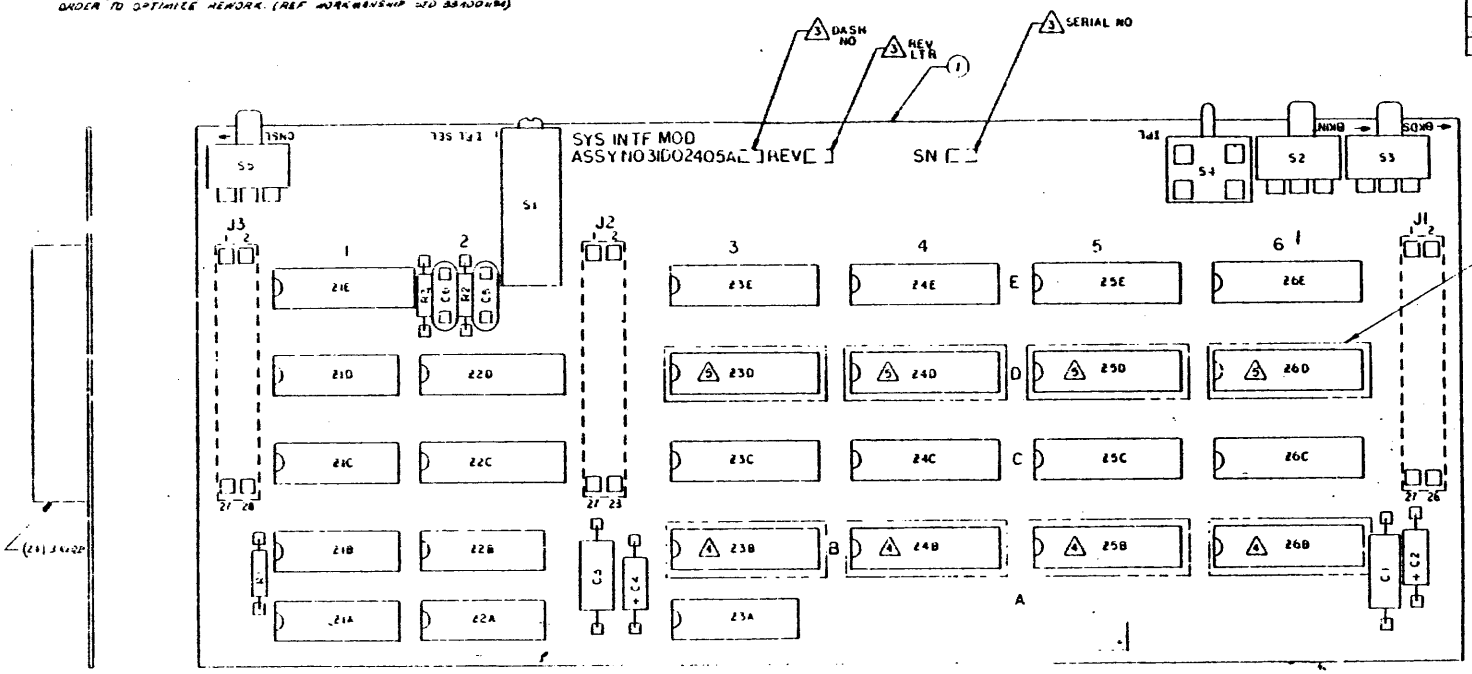
5 NOTED COMPONENTS FOR -21, -31, -41, -51 & -61 ASSY

6 DELETED

7 REVISED

8 PAD ISOLATION AND JUMPER WIRE TABLES INDICATE FUNCTIONAL IMPLEMENTATION ONLY PHYSICAL PLACEMENT MAY VARY IN ORDER TO OPTIMIZE REWORK. (REF WORKMANSHIP STD 83400194)

REVISION			
SYM	DESCRIPTION	DATE	APPROVED
A	ENGINEERING RELEASE	5/15/78	JA
B	RESERVED FOR SUPERSEDING ECO 5833		
C	RESERVED FOR SUPERSEDING ECO 5832		
D	RESERVED FOR OBSOLETING ECO 5828		
E	REVISED PER ECO 5833 TO INCLUDE WIRING PER ECOS 5833, 5832, 5828	11-5-79	KM
F	REVISED PER ECO 6320	11-25-79	KM
G	REVISED PER ECO-6466 CAE 6-8-7	4-28-80	[illegible]
H	REVISED PER ECO 12653 VLS 4-17-80	4-29-80	RAB
J	REVISED PER ECO-12412 FOR PRODUCTION RELEASE	5/9/80	JA
K	REVISED PER ECO-10568	5-16-80	BSC
L	REVISED PER ECO-10382	5-31-80	BLG
M	REVISED PER ECO-12606	7-3-80	BSB
N	REVISED PER ECO 12655	7-3-80	BSB
P	REVISED PER ECO 12712	9-19-80	BSB



JUL 11 1980

-21, -41, -51 & -61 SHOWN

PAD ISOLATION TABLE 5						
REV LTR	CUT NO	COMP LOC SIDE 1	COMP LOC SIDE 2	CUT TRACE	CUT PAD	WIRE
N	1	23A	11			X
N	2	23A	12	X		
N	3	22B	9			X

JUMPER TABLE 6				
REV	NO	FROM	TO	
N	1	22B-3	22B-2	-51 & -61 ASSY ONLY
N	2	22B-3	24-10	
N	3	21B-9	21B-11	
N	4	23A-12	21B-9	
N	5	21A-11	23D-13	
N	6	23C-4	23D-14	

SEE PARTS LIST 31P02405A

QTY REQD	QTY REQD	QTY REQD	QTY REQD	QTY REQD	QTY REQD	QTY REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SIZE, VALUE, MATERIAL	SPECIFICATIONS, VENDORS, NOTES	ITEM NO.
LIST OF MATERIALS OR PARTS LIST											
16/220			-01				01P01204A				
NUMBER NO			DASH NO.				MEMB ASSEMBLY				
PARENT USED ON (REF)											

DIMENSIONS ARE IN INCHES
TOLERANCES (UNLESS OTHERWISE SPECIFIED) .X ±.1, .XX ±.01, .XXX ±.005, ANGLES ± 0.5°
DRILLED HOLES PER ANSI B18.1
ALL MACHINED SURFACES

DR	NEWBY, RAY	5/17/78
CHK		
ENGR		
APPD		
APPD		
MFG		

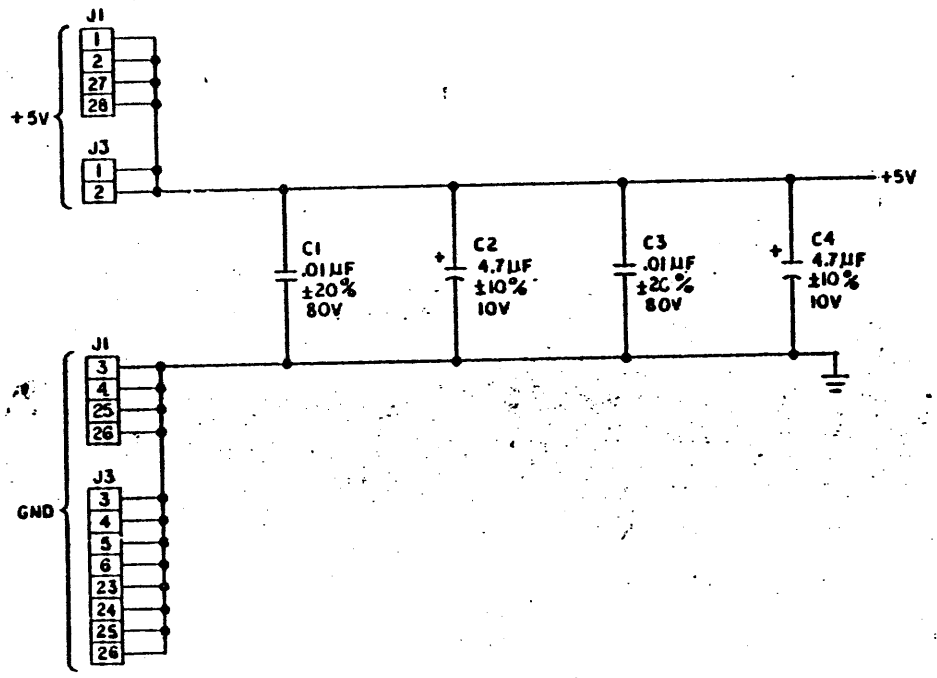
GENERAL AUTOMATION INC.

SYSTEM CONSOLE INTERFACE MODULE ASSY OF

SIZE	CODE IDENT NO.	31D02405A	REV
D			P

SCALE 5:1 SHT NO. 1 NEXT SHT LAST

REVISION				
ZONE	SYM	DESCRIPTION	DISP	DATE	APPROVED
		1 - MAY BE REWORKED 3 - RECORD CHANGE 2 - CANNOT BE REWORKED			
	A	ENGINEERING RELEASE		5/22/76	
	B	RESERVED FOR OUTSTANDING ECO 5932			
	C	REVISED PER ECO 6128 & INCORPORATED OUTSTANDING ECO 5832		1-5-77	
	D	REVISED PER ECO 6320		1-28-77	
	E	REVISED PER ECO-10453 RELEASE PER ECO-10453		10/19/78	
	F	REVISED PER ECO-10568		11-28-78	
	G	REVISED PER ECO-10912		3-31-79	
	H	REVISED PER ECO 12635		3-4-80	



RELEASED

12905

JUL 11 1980

QTY REQD	QTY REQD	QTY REQD	QTY REQD	QTY REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SIZE, VALUE, MATERIAL	SPECIFICATIONS, VENDORS, NOTES	ITEM NO.
					LIST OF MATERIALS OR PARTS LIST				

(3) NOTED COMPONENTS FOR -21, -31 AND -41 ASSY.

(2) NOTED COMPONENTS FOR -11, -21 AND -41 ASSY.

1 ALL I.C. P/N'S ARE GAI P/N'S AND ARE NOT COMPLETE FOR COMPLETE P/N PREFIX WITH "70A00" AND SUFFIX WITH "A" EXAMPLE: "051" IS "70A00051A"

NOTES: UNLESS OTHERWISE SPECIFIED.

DIMENSIONS ARE IN INCHES AND AFTER PLATING

TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ±.1
.XX ±.03
.XXX ±.010
ANGLES ± 0.5°
DRILLED HOLES PER AND10387
ALL MACHINED SURFACES —√

DR NEWBY, RAY 5-19-76
CHK
ENGR 5-27-76
APPD 5/27/76
APPD
REL 5/27/76

DO NOT SCALE DRAWING WORK TO DIMENSIONS SHOWN

REF 31D02405A
DASH NO. NEXT ASSEMBLY

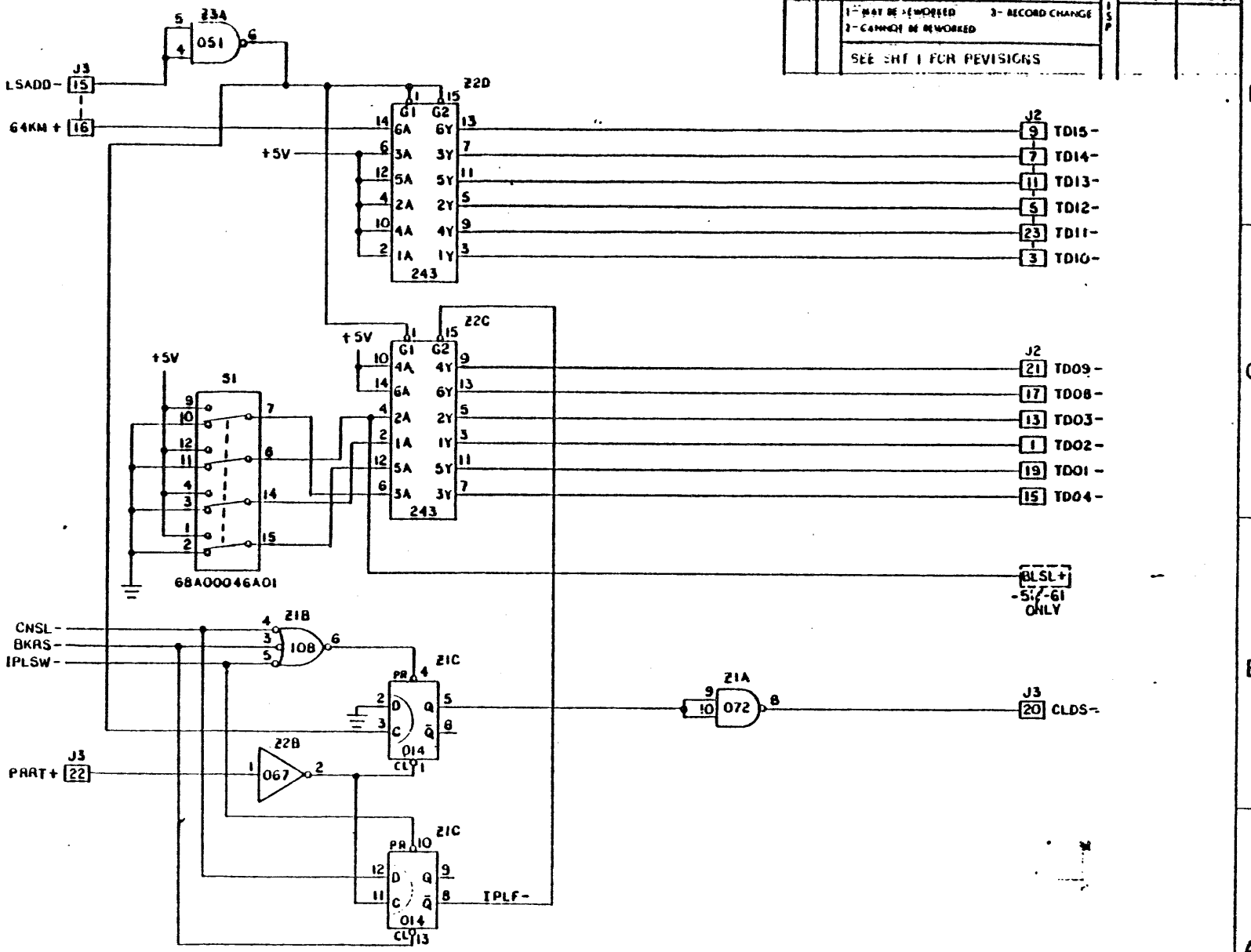
GENERAL AUTOMATION, INC.

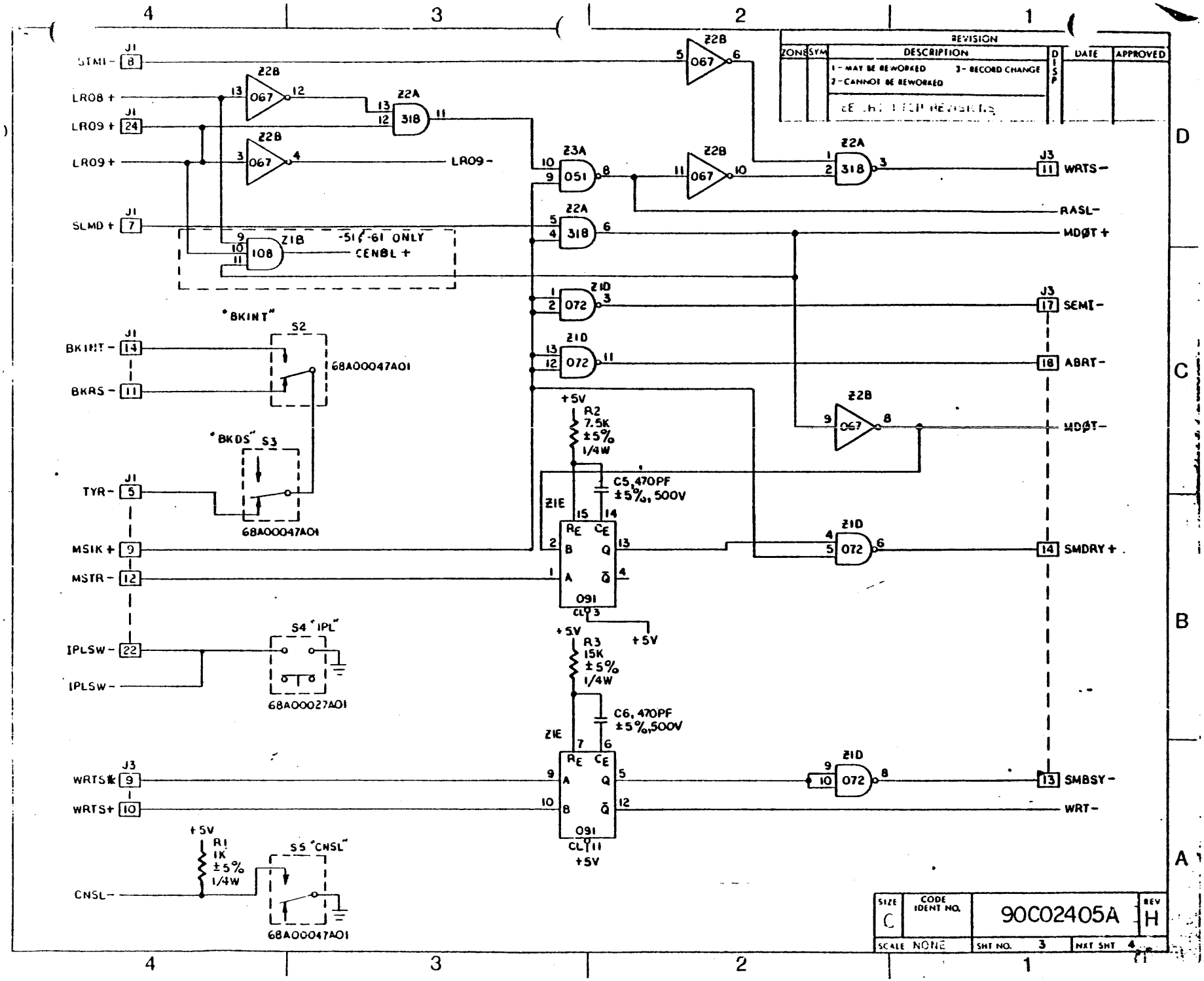
LOGIC DIAGRAM — SYSTEM CONSOLE INTERFACE MODULE

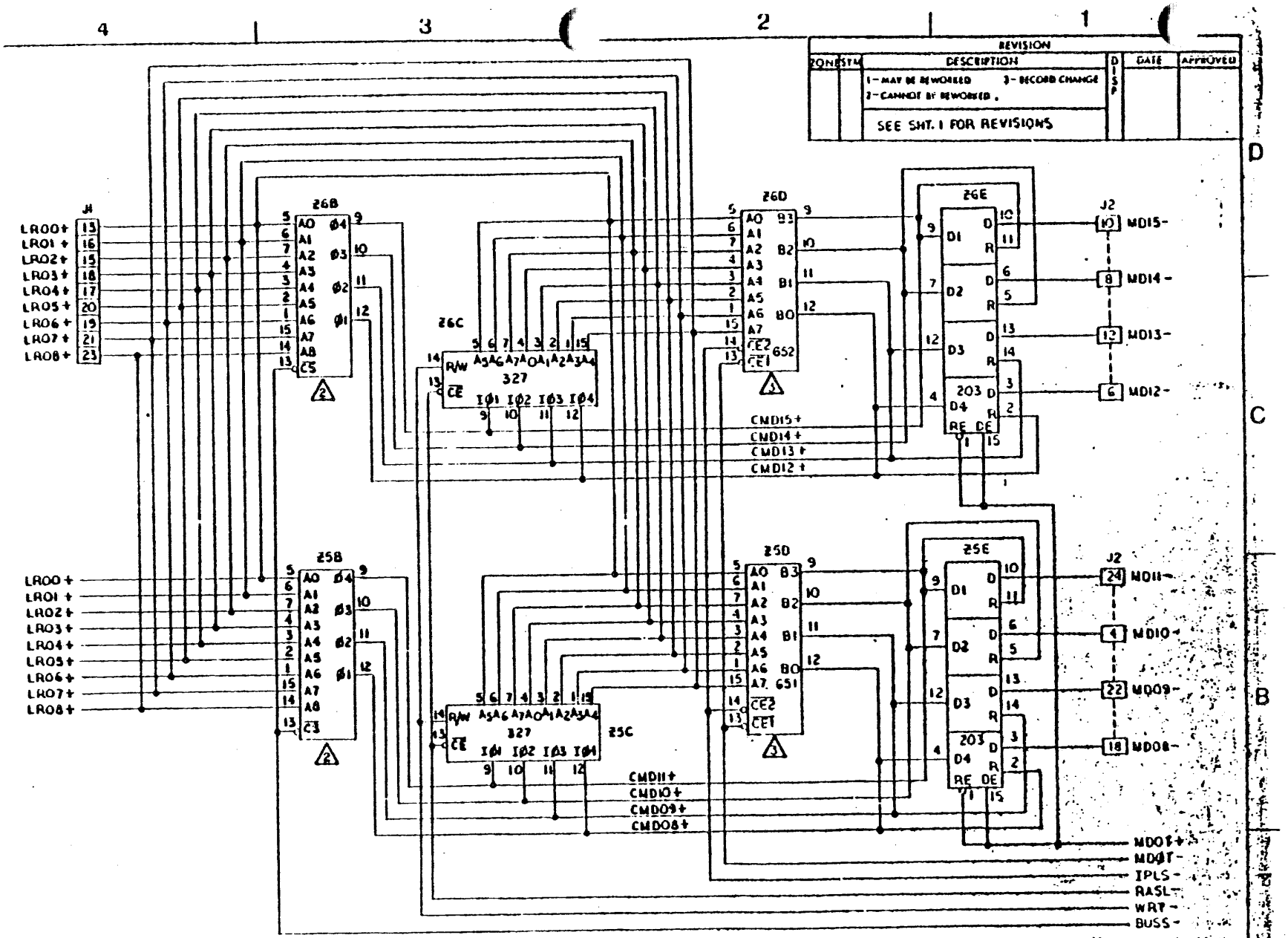
SIZE C | CODE IDENT NO. | 90C02405A | REV H

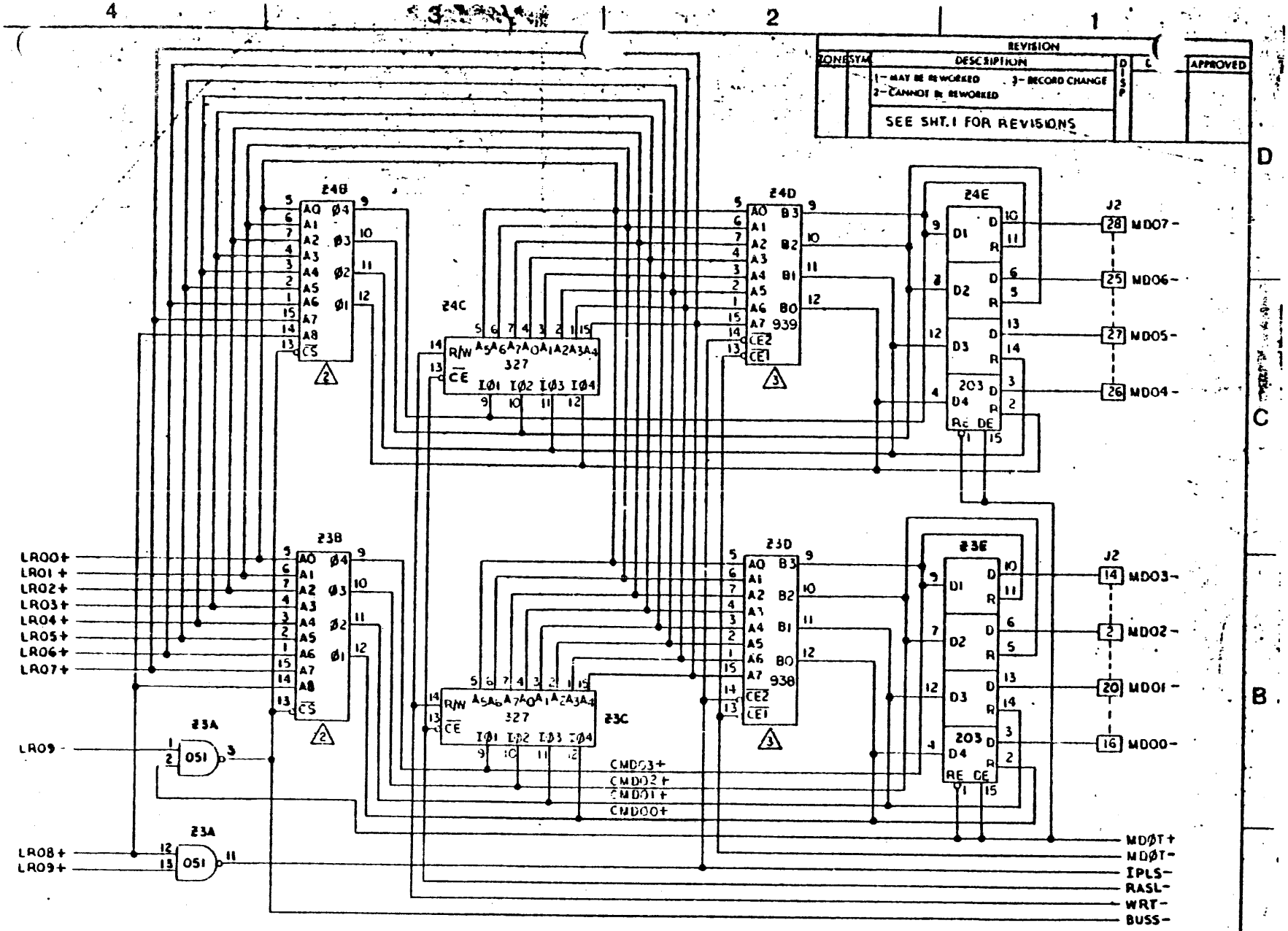
SCALE NONE | SHT NO. 1 | NXT SHT

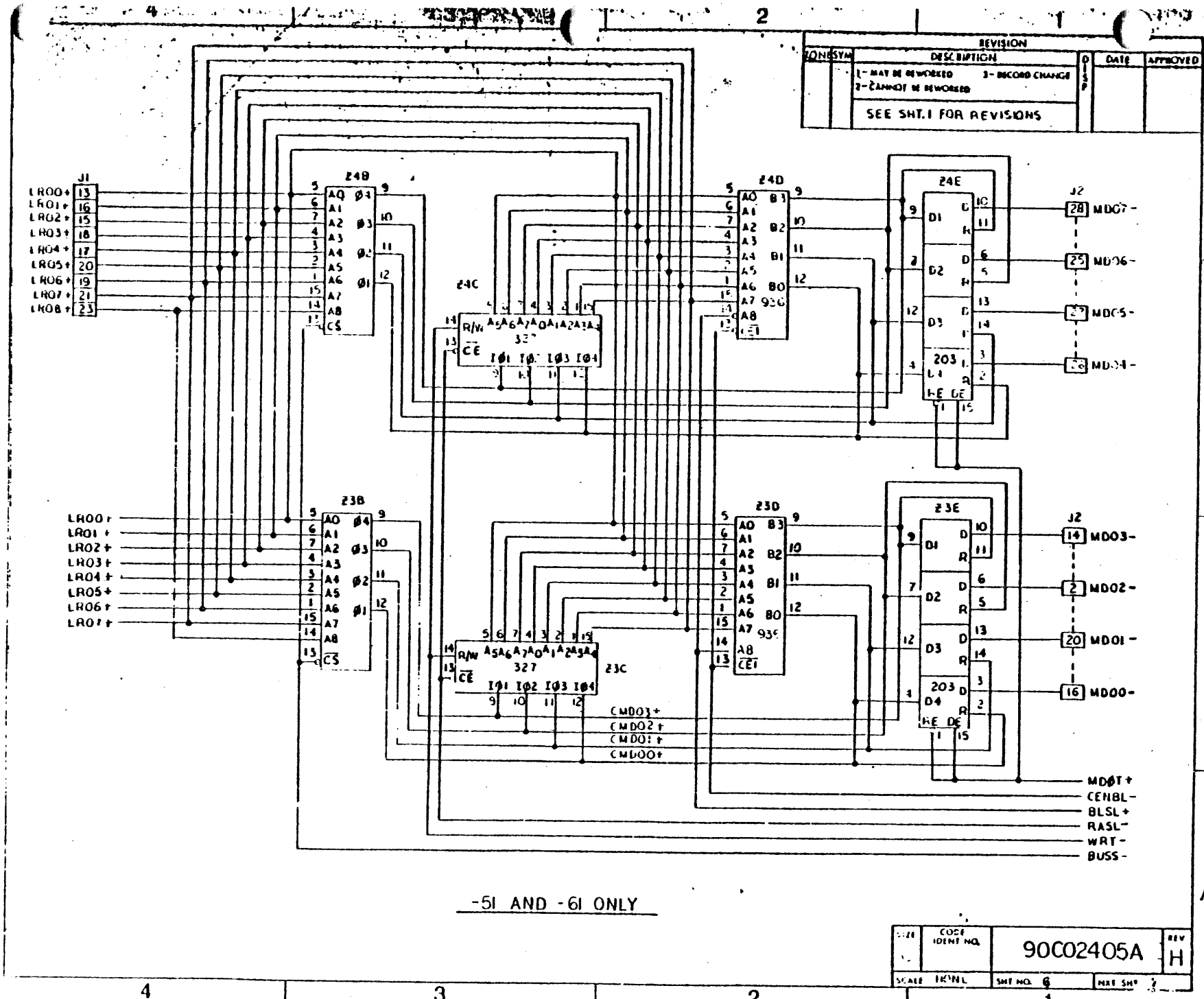
D C B A

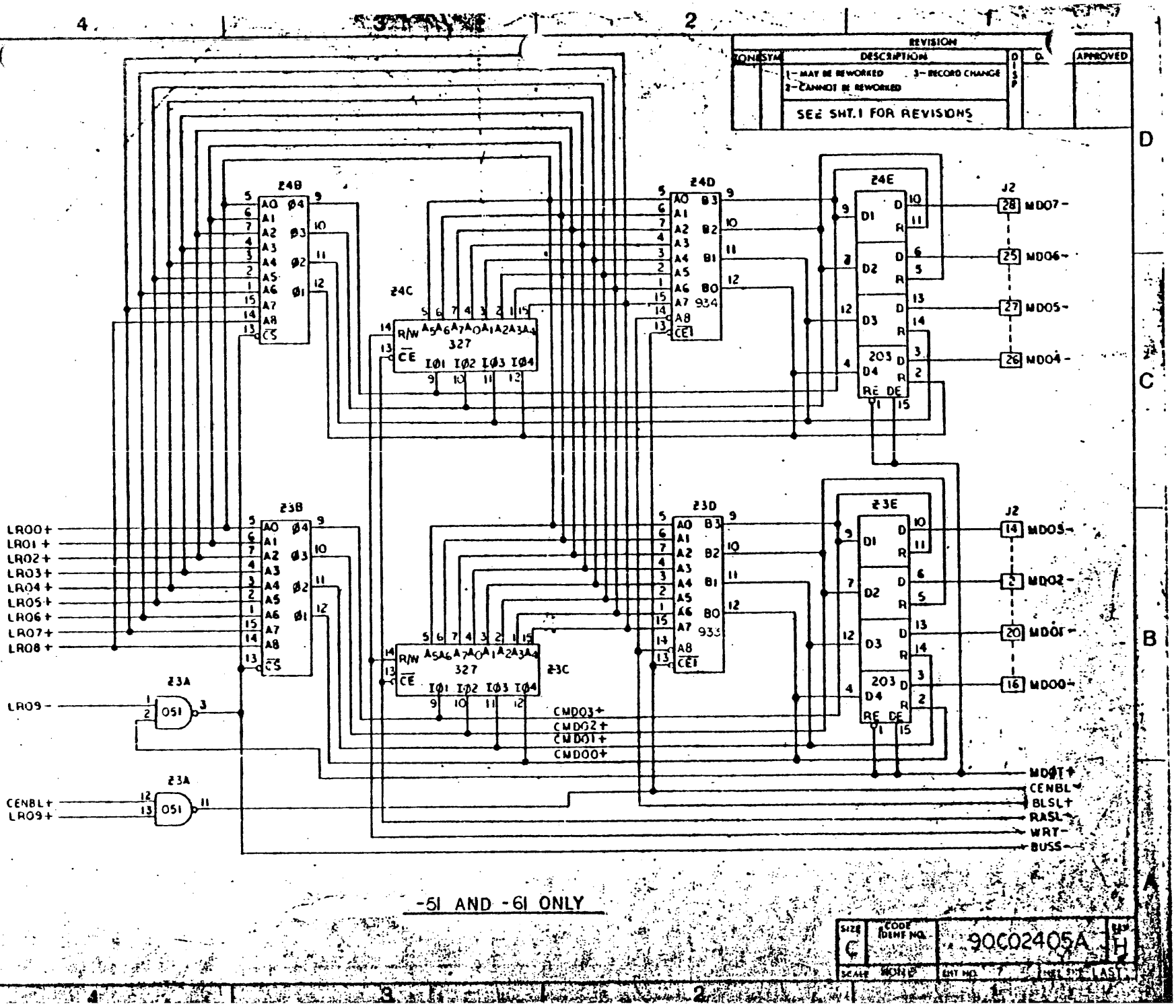

REVISION
ZONE SYM
DESCRIPTION
1- MAY BE REWORKED 3- RECORD CHANGE
2- CANNOT BE REWORKED
SEE SHT 1 FOR REVISIONS
DISP
DATE
APPROVED
Z3A
051
LSADD-
J3
15
G4KM+
16
+5V
Z2D
243
G1
G2
1A
2A
3A
4A
5A
6A
1Y
2Y
3Y
4Y
5Y
6Y
J2
9
TD15-
7
TD14-
11
TD13-
5
TD12-
23
TD11-
3
TD10-
Z2C
243
21
TD09-
17
TD08-
13
TD03-
1
TD02-
19
TD01-
15
TD04-
S1
68A00046A01
BLSL+
-51-61 ONLY
CNSL-
BKRS-
IPLSW-
Z1B
108
Z1C
014
PR
CL
Z1A
072
J3
20
CLDS-
Z2B
067
PART+
22
IPLF-
SIZE
C
CODE IDENT NO.
90C02405A
REV
H
SCALE
SHT NO. 2
NEXT SHT 3

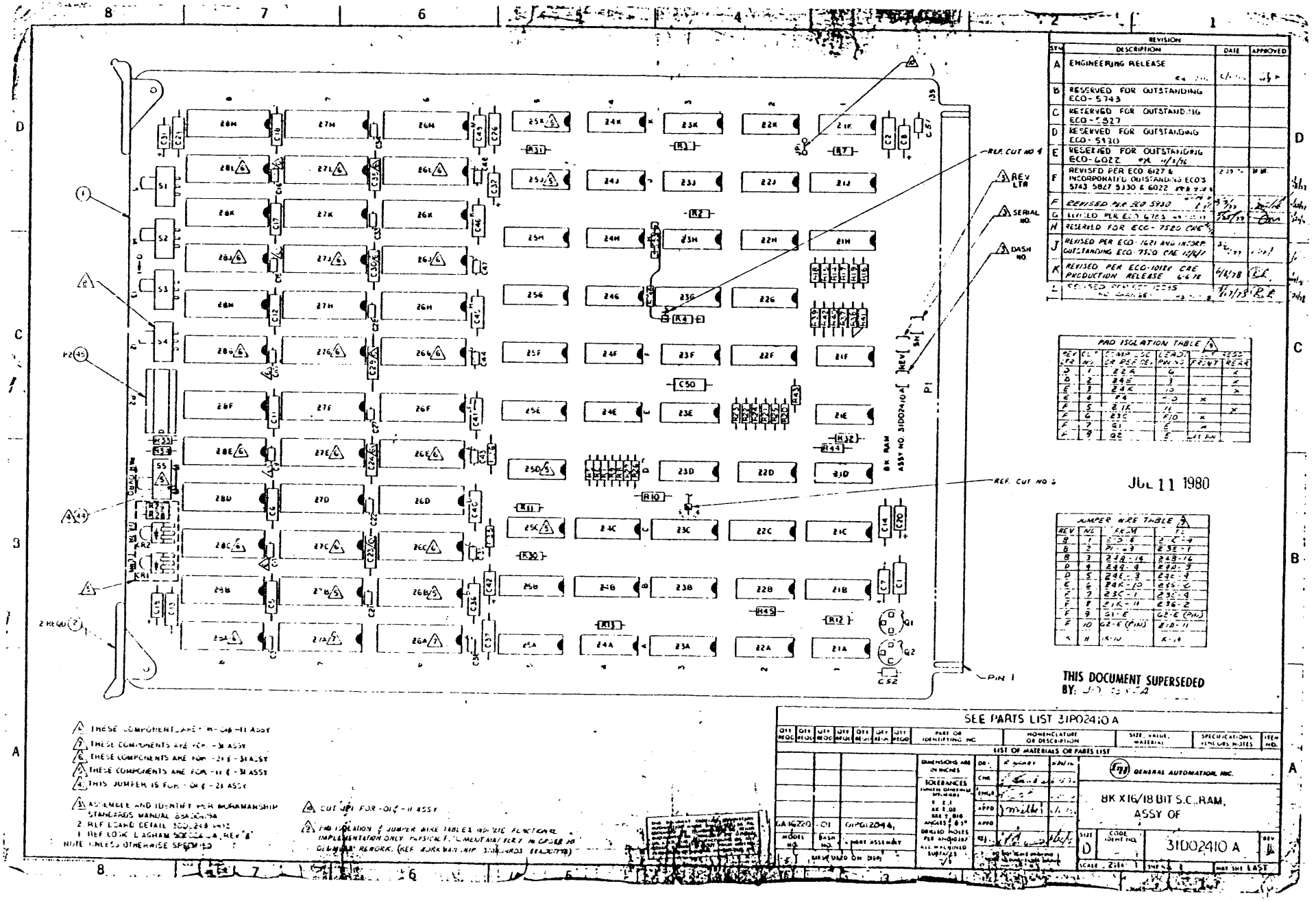

REVISION
ZONE SYM
DESCRIPTION
1 - MAY BE REWORKED 3 - RECORD CHANGE
2 - CANNOT BE REWORKED
DISP
DATE
APPROVED
STMI -
LRO8 +
LRO9 +
LRO9 +
LRO9 -
SLMD +
-51 / -61 ONLY
CENBL +
WRTS -
RASL -
MDØT +
MDØT -
SEMI -
ABRT -
SMDRY +
SMBSY -
WRT -
BKINT -
BKRS -
"BKINT"
68A00047A01
TYR -
"BKDS"
MSIK +
MSTR -
IPLSW -
IPLSW -
"IPL"
68A00027A01
WRTS*
WRTS+
CNSL -
"CNSL"
68A00047A01
+5V
R1 1K ±5% 1/4W
R2 7.5K ±5% 1/4W
R3 15K ±5% 1/4W
C5, 470PF ±5%, 500V
C6, 470PF ±5%, 500V
Z1E
091
CL13
CL11
Z1B 108
Z2A 318
Z2B 067
Z3A 051
Z1D 072
SIZE C
CODE IDENT NO.
90C02405A
REV H
SCALE NONE
SHT NO. 3
NXT SHT 4


REVISION
ZONE
SYM
DESCRIPTION
1 - MAY BE REWORKED
2 - CANNOT BE REWORKED.
3 - RECORD CHANGE
SEE SHT. 1 FOR REVISIONS
DISP
DATE
APPROVED
J1
LR00+
LR01+
LR02+
LR03+
LR04+
LR05+
LR06+
LR07+
LR08+
Z6B
Z6C
Z6D
Z6E
Z5B
Z5C
Z5D
Z5E
J2
MD15-
MD14-
MD13-
MD12-
MD11-
MD10-
MD09-
MD08-
CMDI5+
CMDI4+
CMDI3+
CMDI2+
CMDII+
CMDI0+
CMDO9+
CMDO8+
MDO1+
MDØT-
IPLS-
RASL-
WRT-
BUSS-
-01,-11,-21,-31 AND -41 ONLY
SIZE
C
CODE IDENT NO.
90C02405A
REV
H
SCALE
NONE
SHT NO.
4
NEXT SHT


REVISION
ZONE SYM
DESCRIPTION
1 - MAY BE REWORKED
2 - CANNOT BE REWORKED
3 - RECORD CHANGE
SEE SHT. 1 FOR REVISIONS
DISP
APPROVED
Z4B
Z4C
Z4D
Z4E
Z3B
Z3C
Z3D
Z3E
Z3A
Z3A
LR00+
LR01+
LR02+
LR03+
LR04+
LR05+
LR06+
LR07+
LR09-
LR08+
LR09+
CMD03+
CMD02+
CMD01+
CMD00+
J2
MD07-
MD06-
MD05-
MD04-
MD03-
MD02-
MD01-
MD00-
MD0T+
MD0T-
IPLS-
RASL-
WRT-
BUSS-
-01,-11,-21,-31 AND -41 ONLY
SIZE C
CODE IDENT NO.
90C02405A
REV H
SCALE NONE
SHT NO. 5
NXT SHT 6


REVISION
ZONE SYM
DESCRIPTION
1- MAY BE REWORKED
2- CANNOT BE REWORKED
3- RECORD CHANGE
SEE SHT.1 FOR REVISIONS
DSP
DATE
APPROVED
J1
LR00+
LR01+
LR02+
LR03+
LR04+
LR05+
LR06+
LR07+
LR08+
Z4B
Z4C
Z4D
Z4E
Z3B
Z3C
Z3D
Z3E
J2
MD07-
MD06-
MD05-
MD04-
MD03-
MD02-
MD01-
MD00-
CMD03+
CMD02+
CMD01+
CMD00+
MD0T+
CENBL-
BLSL+
RASL-
WRT-
BUSS-
-5I AND -6I ONLY
CODE IDENT NO.
90C02405A
REV
H
SCALE
SHT NO. 6
NXT SHT


REVISION
ZONE SYM
DESCRIPTION
1- MAY BE REWORKED 3- RECORD CHANGE
2- CANNOT BE REWORKED
SEE SHT.1 FOR REVISIONS
DISP
BY
APPROVED
Z4B
Z4C
Z4D
Z4E
Z3B
Z3C
Z3D
Z3E
Z3A
Z3A
J2
J2
LR00+
LR01+
LR02+
LR03+
LR04+
LR05+
LR06+
LR07+
LR08+
LR09-
CENBL+
LR09+
CMD03+
CMD02+
CMD01+
CMD00+
MD07-
MD06-
MD05-
MD04-
MD03-
MD02-
MD01-
MD00-
MD01+
CENBL-
BLSL+
RASL-
WRT-
BUSS-
-5I AND -6I ONLY
SIZE C
CODE IDENT NO.
90C02405A
REV H
SCALE NONE
SHT NO. 7
SHEET LAST



REVISION			
SYM	DESCRIPTION	DATE	APPROVED
A	ENGINEERING RELEASE		
B	RESERVED FOR OUTSTANDING ECO-5743		
C	RESERVED FOR OUTSTANDING ECO-5827		
D	RESERVED FOR OUTSTANDING ECO-5930		
E	RESERVED FOR OUTSTANDING ECO-6022		
F	REVISED PER ECO 6127 & INCORPORATED OUTSTANDING ECO'S 5743 5827 5930 & 6022		
F	REVISED PER ECO 5930		
G	REVISED PER ECO 6186		
H	RESERVED FOR ECO-7520 CAE		
J	REVISED PER ECO-7421 AND INCORP. OUTSTANDING ECO 7520 CAE		
K	REVISED PER ECO-10187 CAE PRODUCTION RELEASE	4/4/78	
L	REVISED PER ECO 10255	11/1/78	

PAD ISOLATION TABLE

REV LTR	CKT NO	COMP OR PAD DES	CARD PIN NO	CUT FOIL	CUT TRACE
D	1	22A	6		X
D	2	24E	3		X
E	3	24K	13		X
E	4	P4	1-10	X	
F	5	21K	11		X
F	6	R3C	P10	X	
F	7	S1	E	X	
F	9	Q2	E	CUT PIN	

JUMPER WIRE TABLE

REV	NO	FROM	TO
B	1	20-E	2C-9
B	2	P1-9	E2E-1
B	3	24J-14	24B-14
D	4	24J-9	24D-9
D	5	24E-3	24C-9
E	6	24K-10	25C-C
F	7	23C-1	23C-9
F	8	21K-11	E26-2
F	9	S1-E	Q2-E (PIN)
F	10	Q2-E (PIN)	E20-11
K	11	K-10	K-14

REF. CUT NO 4

REF. CUT NO 5

REV LTR

SERIAL NO.

DASH NO.

8K RAM ASSY NO. 31D02410A

P1

PIN 1

Jul 11 1980

THIS DOCUMENT SUPERSEDED BY:

SEE PARTS LIST 31P02410 A

QTY REQ	QTY REQ	QTY REQ	QTY REQ	QTY REQ	QTY REQ	QTY REQ	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SIZE, VALUE, MATERIAL	SPECIFICATIONS, TOLERANCES, NOTES	ITEM NO.
								LIST OF MATERIALS OR PARTS LIST			

DIMENSIONS ARE IN INCHES
TOLERANCES
FRACTIONAL ± 1/64
X ± 0.1
XX ± 0.05
XXX ± .010
ANGLES ± 0.5°
BREAK EDGES
ALL MACHINED SURFACES

DR. R. Murphy 8/11/80
CHK.
ENG.
APPD.
MFG.
QA

GENERAL AUTOMATION, INC.

8K X16/18 BIT S.C. RAM, ASSY OF

SIZE D | CODE IDENT NO. | 31D02410 A | REV

SCALE 2/1 | WT. | SHEET 1 OF 1

NEXT ASSY | USED ON

MODEL NO. | DASH NO. | PART ASSEMBLY

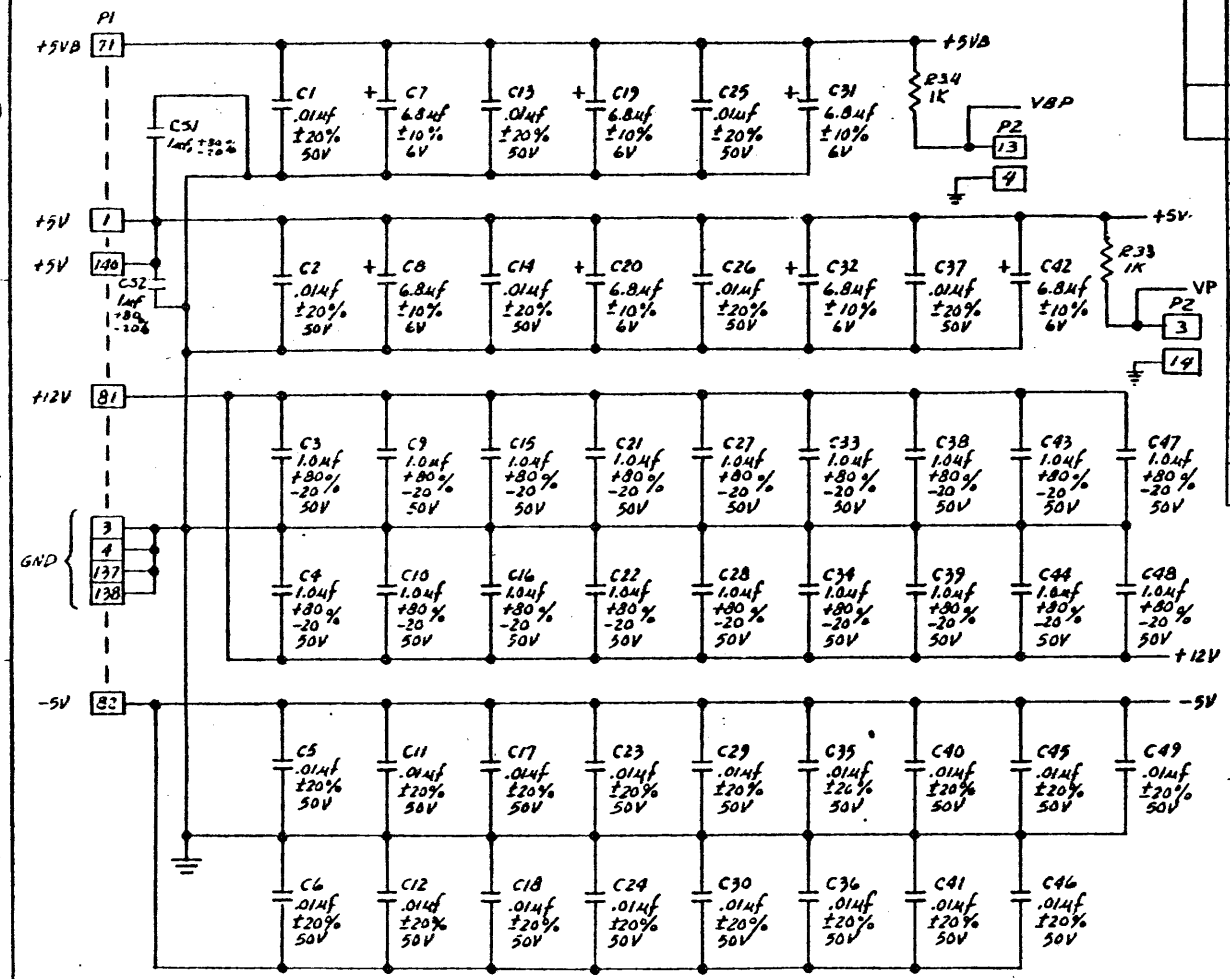
GA16220-01 GP01204A

NOTES:
1. ASSEMBLE AND IDENTIFY PER WORKMANSHIP STANDARDS MANUAL 85A00-9A
2. REF BOARD DETAIL 30D-248-3412
3. REF LOGIC DIAGRAM SCHEMATIC A, REV "B"
NOTE UNLESS OTHERWISE SPECIFIED

1. THESE COMPONENTS ARE FOR -11 E - 11 ASSY
2. THESE COMPONENTS ARE FOR -21 E - 31 ASSY
3. THESE COMPONENTS ARE FOR -21 E - 31 ASSY
4. THESE COMPONENTS ARE FOR -11 E - 31 ASSY
5. THIS JUMPER IS FOR -01 E - 21 ASSY

6. CUT 1pt FOR -01 E - 11 ASSY

7. PAD ISOLATION & JUMPER WIRE TABLES INDICATE FUNCTIONAL IMPLEMENTATION ONLY. PHYSICAL PLACEMENT MAY VARY IN ORDER TO DESIGNATE REWORK. (REF WORKMANSHIP STANDARDS SELECTED)



REVISION				
ZONE	SYM	DESCRIPTION	DISP	DATE / APPROVED
		1- MAY BE REWORKED 3- RECORD CHANGE 2- CANNOT BE REWORKED		
	A	ENGINEERING RELEASE		6/21/76 DD
	B	RESERVED FOR OUTSTANDING REQ- 5743		
	C	RESERVED FOR OUTSTANDING REQ- 5827		
	D	RESERVED FOR OUTSTANDING REQ- 5930		
	E	RESERVED FOR OUTSTANDING ECO-6022 PAR 11/2/76		
	F	REVISED PER ECO 6127 AND INCORPORATED OUTSTANDING ECO'S 5743, 5827 5930 & 6022		12-29-76 B.B.
	F	REVISED PER ECO 5940		4-19-77
	G	REVISED PER ECO 6783		5-25-77
	H	RESERED FOR ECO-7520 CAE 10/4/77		
	J	REVISED PER ECO-7621 AND INCORP. OUTSTANDING ECO-7520 CAE 12/6/77		12/6/77
	K	PROD. REL. ONLY PER ECO-10188 CAE 6-6-78		6/8/78

JUL 11 1980

THIS DOCUMENT SUPERSEDED BY: 90C02585A

(8) THESE COMPONENTS ARE FOR -01 & -11 ASSY.

(7) THIS JUMPER IS FOR -21 & -31 ASSY

(6) THIS JUMPER IS FOR -01 & -21 ASSY

(5) THESE COMPONENTS ARE FOR -31 ASSY

(4) THESE COMPONENTS ARE FOR -21 & -31 ASSY

(3) THESE COMPONENTS ARE FOR -11 & -31 ASSY

2. ALL RESISTOR VALUES ARE IN OHMS, ±5%, 1/4W

1. ALL I.C. P/N'S ARE G.A.I. P/N'S AND ARE NOT COMPLETE. FOR COMPLETE P/N PREFIX WITH "70A03" AND SUFFIX WITH "A"; EXAMPLE: "322" IS "70A00322A"

NOTE: UNLESS OTHERWISE SPECIFIED

QTY REQD	QTY REQD	QTY REQD	QTY REQD	QTY REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SIZE, VALUE, MATERIAL	SPECIFICATIONS, VENDORS, NOTES	ITEM NO.
LIST OF MATERIALS OR PARTS LIST									

DIMENSIONS ARE IN INCHES AND AFTER PLATING

TOLERANCES (UNLESS OTHERWISE SPECIFIED) .X ±.1 .XX ±.03 .XXX ±.010 ANGLES ± 0.5° DRILLED HOLES PER ANSI B32.1 ALL MACHINED SURFACES √

DR	R NEWBY	5/6/76
CHK		6-15-76
ENGR		
APPD		6/21/76
APPD		
REL		6/21/76

DO NOT SCALE DRAWING WORK TO DIMENSIONS SHOWN

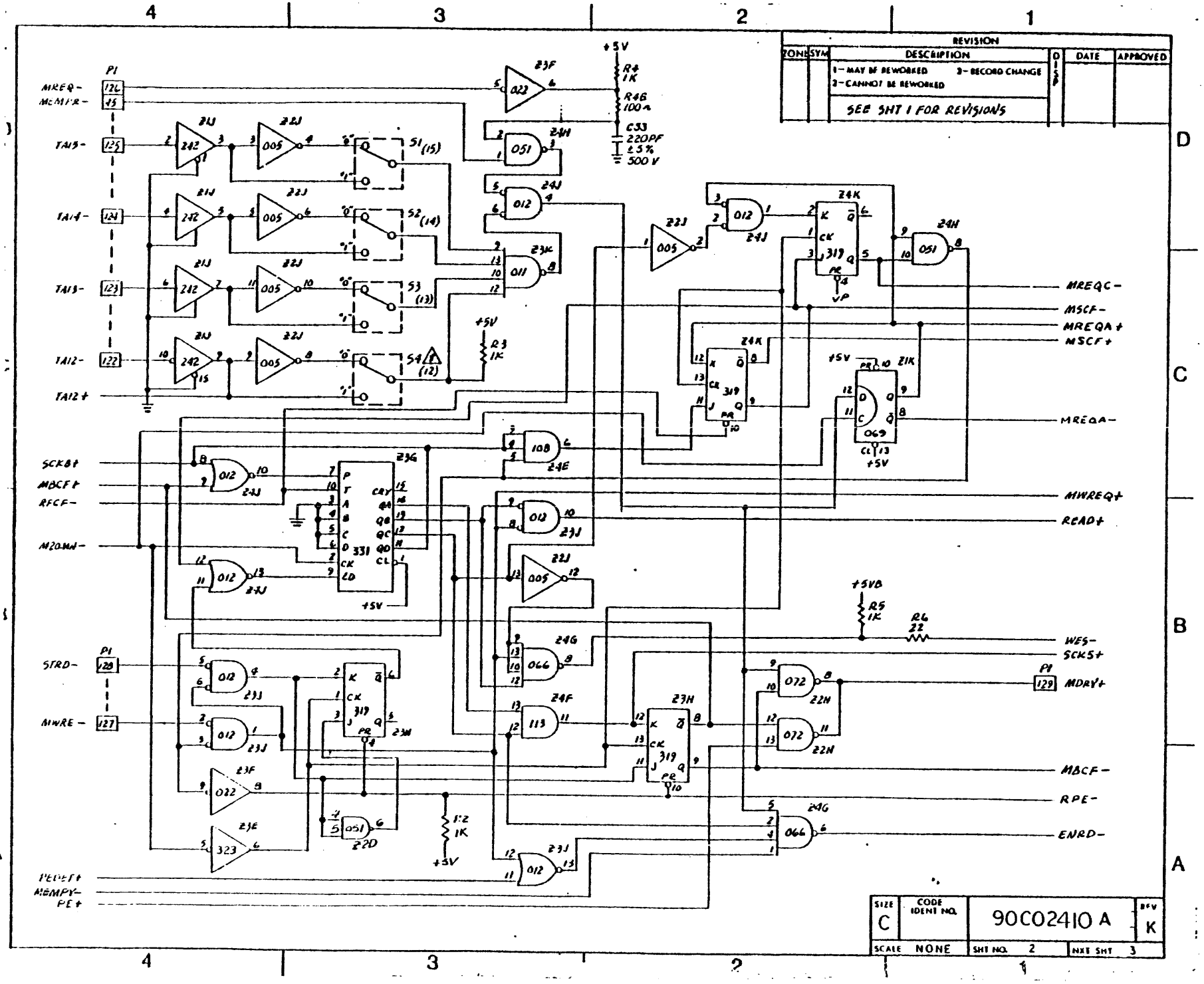
REF 31D02410A

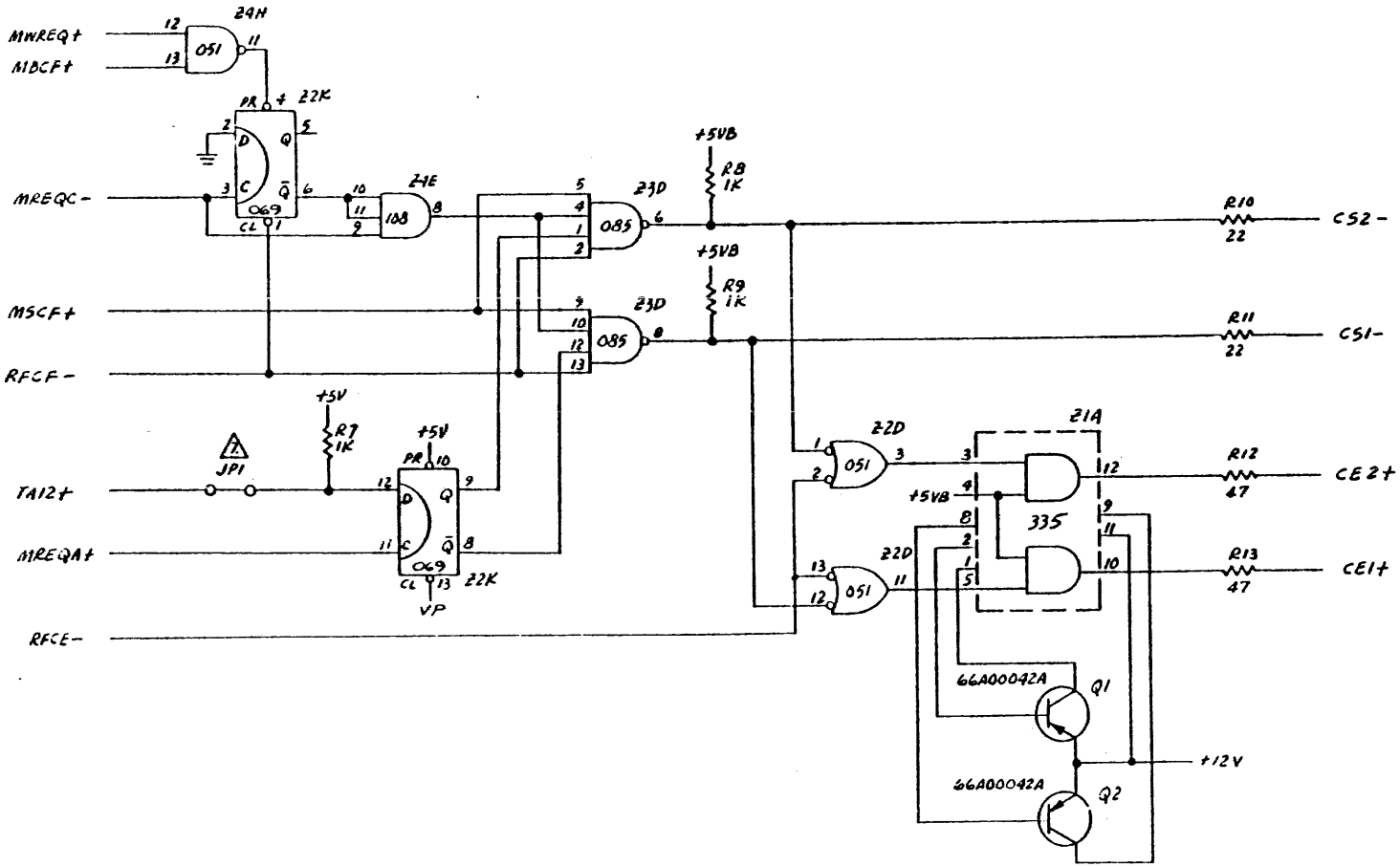
DASH NO. NEXT ASSEMBLY

GENERAL AUTOMATION, INC.

LOGIC DIAGRAM — 8K X 16/18 BIT S. C. RAM

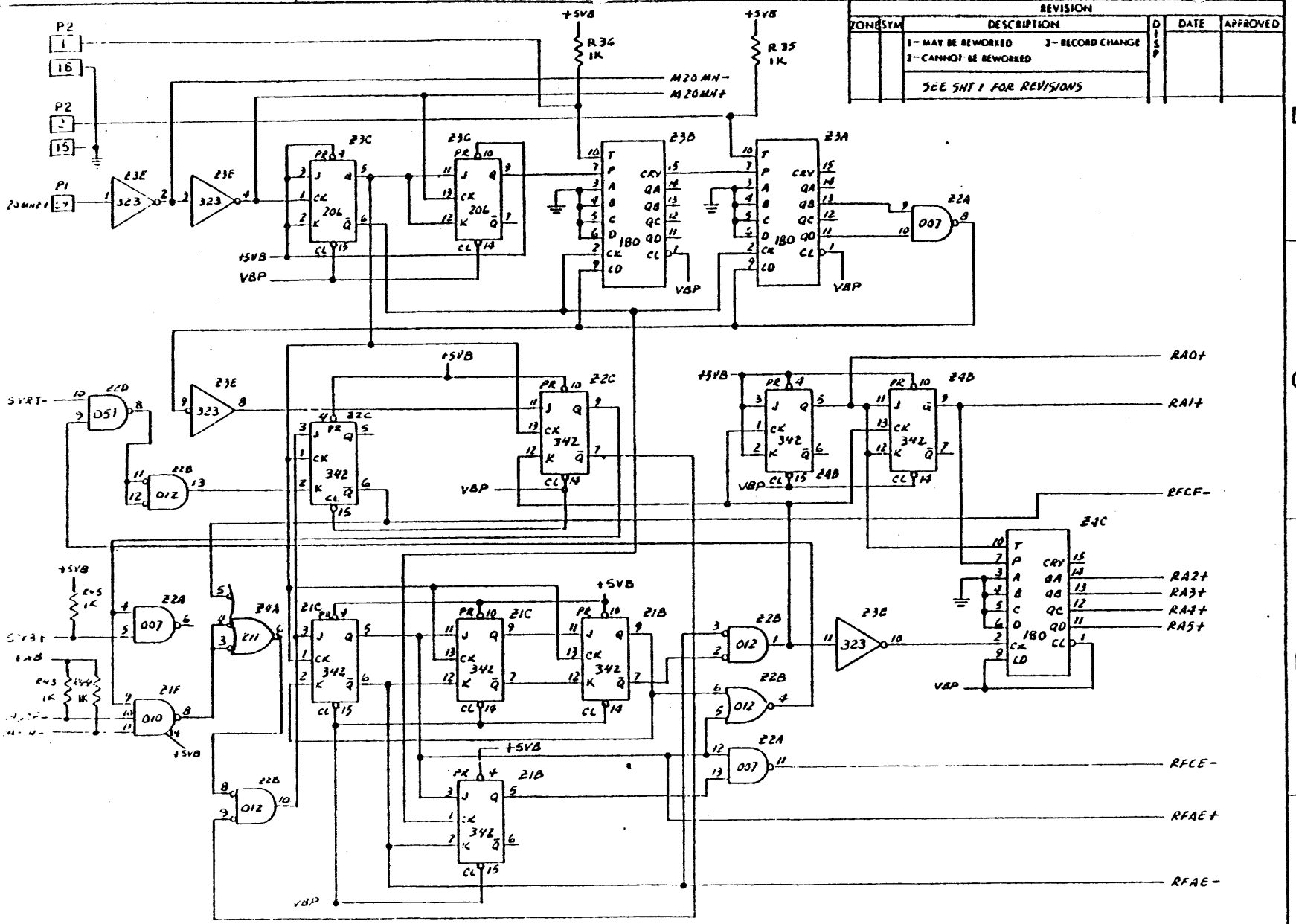
SIZE	CODE IDENT NO.		REV
C		90C02410 A	K
SCALE NONE	SHT NO. 1	NXT SHT 2	

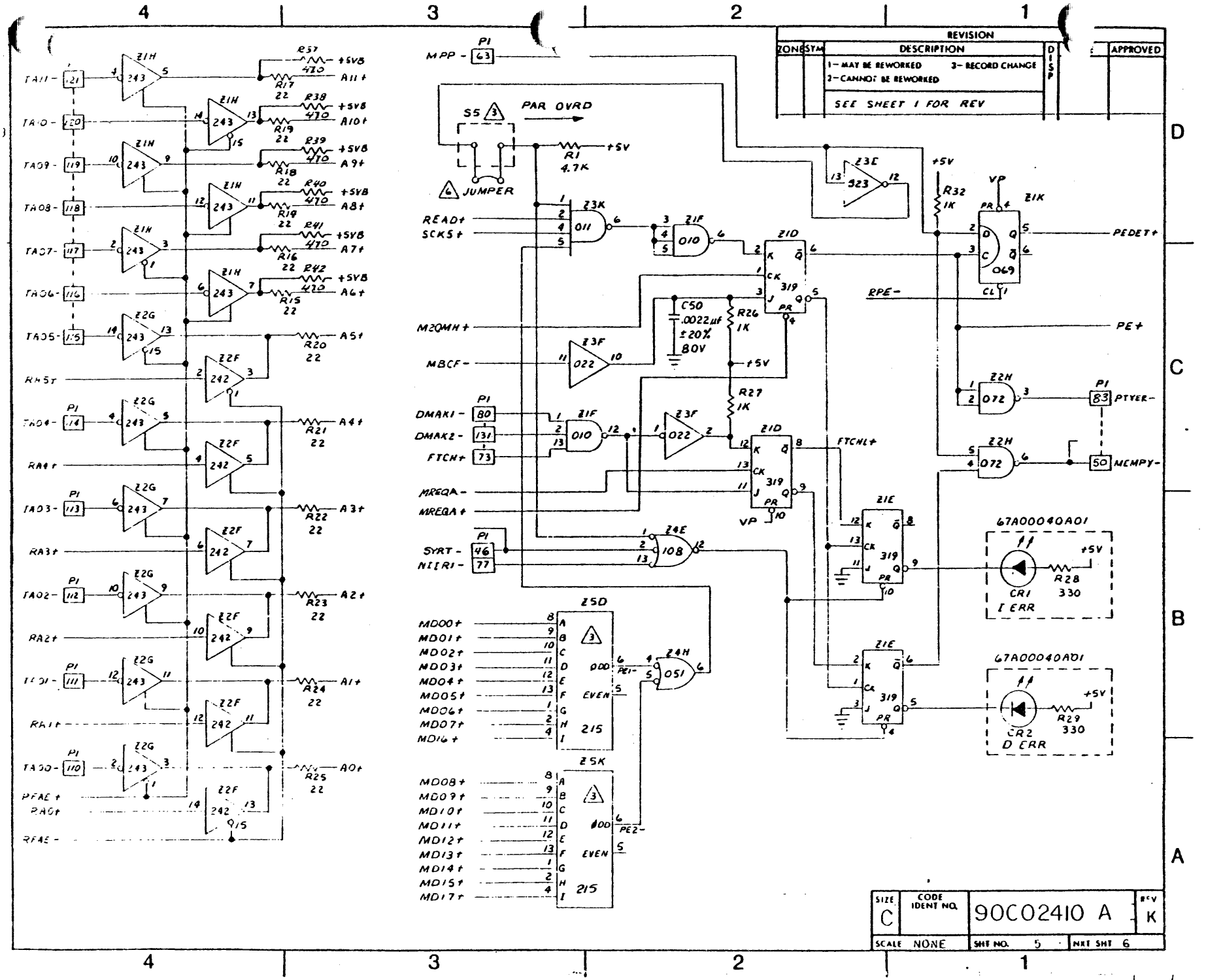

REVISION
ZONE SYM
DESCRIPTION
1 - MAY BE REWORKED 3 - RECORD CHANGE
2 - CANNOT BE REWORKED
SEE SHT 1 FOR REVISIONS
DISP
DATE
APPROVED
MREQ-
MEMR-
TAI3-
TAI4-
TAI3-
TAI2-
TAI2+
SCKB+
MBCF+
RFCF-
M20MA-
STRD-
MWRE-
MEMPY-
PE+
MREQC-
MSCF-
MREQA+
MSCF+
MREQA-
MWREQ+
READ+
WES-
SCKS+
MDRY+
MBCF-
RPE-
ENRD-
+5V
+5VB
SIZE C
CODE IDENT NO.
90C02410 A
REV K
SCALE NONE
SHT NO. 2
NXT SHT 3



REVISION				
ZONE	SYM	DESCRIPTION	DISP	APPROVED
		1 – MAY BE REWORKED 3 – RECORD CHANGE 2 – CANNOT BE REWORKED		
		SEE SHT 1 FOR REVISIONS		

SIZE	CODE IDENT NO.		REV
C		90C02410 A	K
SCALE NONE	SHT NO. 3	NXT SHT 4	


REVISION
ZONE SYM DESCRIPTION DISP DATE APPROVED
1- MAY BE REWORKED 3- RECORD CHANGE
2- CANNOT BE REWORKED
SEE SHT 1 FOR REVISIONS
+5VB
R36 1K
R35 1K
M20MN-
M20MN+
P2
P1
23E
23C
23D
23A
22A
22C
24B
24C
21C
21B
21F
22B
21A
LCD
RA0+
RA1+
RFCF-
RA2+
RA3+
RA4+
RA5+
RFCE-
RFAE+
RFAE-
START-
START+
VBP
SIZE C
CODE IDENT NO.
90C02410 A
REV K
SCALE NONE
SHT NO. 4
NEXT SHT 5


REVISION
ZONE SYM
DESCRIPTION
1- MAY BE REWORKED 3- RECORD CHANGE
2- CANNOT BE REWORKED
SEE SHEET 1 FOR REV
DISP
APPROVED
PAR OVRD
JUMPER
+5V
MPP -
SYRT -
NIERI -
READ+
SCKS+
M20MH+
MBCF-
DMAK1 -
DMAK2 -
FTCH+
MREQA -
MREQA+
RMST
RA4+
RA3+
RA2+
RA1+
RA0+
RFAE+
RFAE-
PEDET+
RPE-
PE+
PTYER-
MEMPY-
FTCHL+
VP
C50 .0022uf ±20% 80V
R1 4.7K
R17 22
R18 22
R19 22
R20 22
R21 22
R22 22
R23 22
R24 22
R25 22
R26 1K
R27 1K
R28 330
R29 330
CR1 I ERR
CR2 D ERR
67A00040A01
67A00040A02
MD00+
MD01+
MD02+
MD03+
MD04+
MD05+
MD06+
MD07+
MD08+
MD09+
MD10+
MD11+
MD12+
MD13+
MD14+
MD15+
MD16+
MD17+
PE1-
PE2-
ODD
EVEN
SIZE C
CODE IDENT NO.
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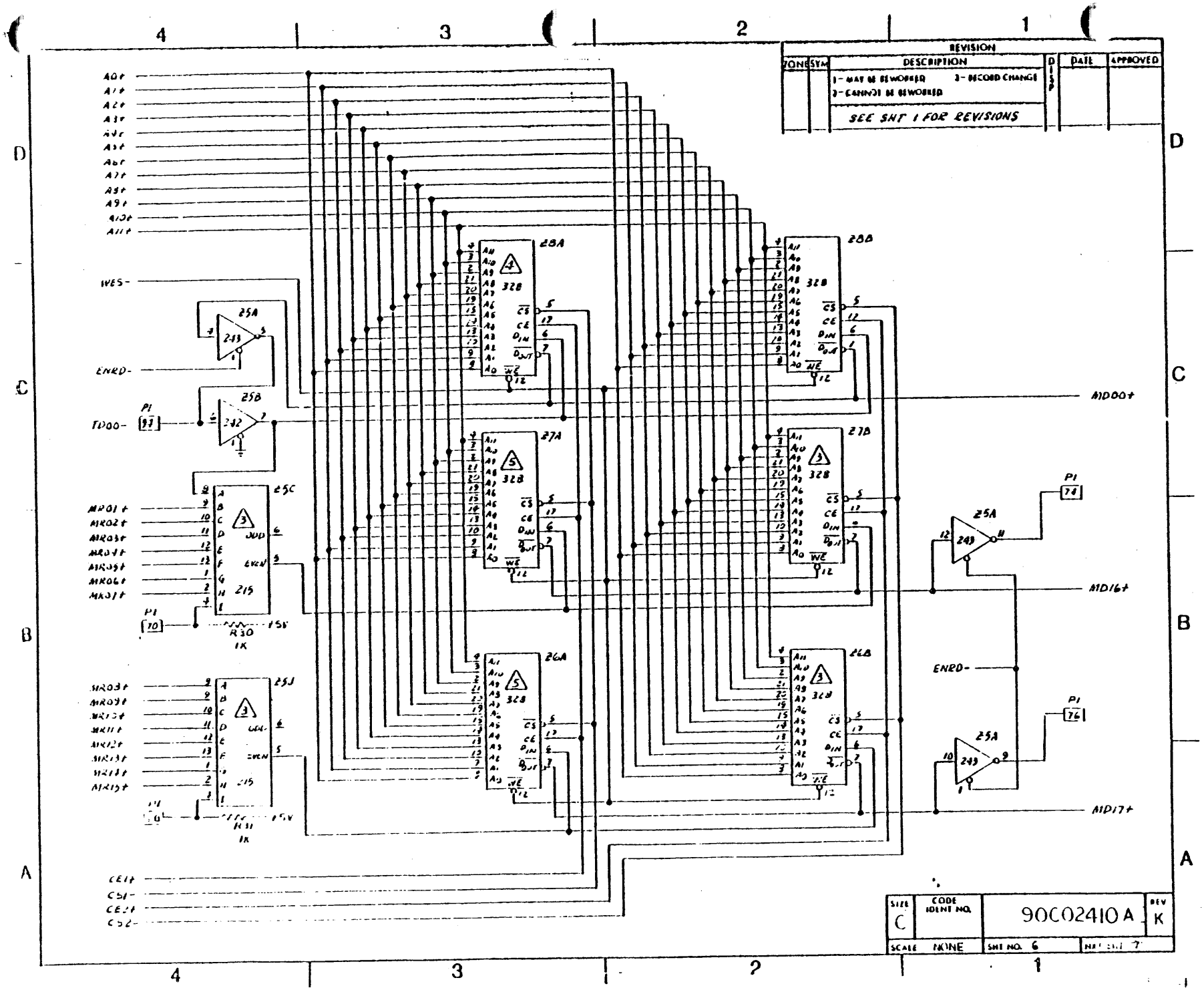
REV K
SCALE NONE
SHT NO. 5
NXT SHT 6


REVISION
ZONE SYM
DESCRIPTION
1 - MAY BE REWORKED 3 - RECORD CHANGE
2 - CANNOT BE REWORKED
SEE SHT 1 FOR REVISIONS
DISP
DATE
APPROVED
A00+
A01+
A02+
A03+
A04+
A05+
A06+
A07+
A08+
A09+
A10+
A11+
WES-
ENRD-
TD00-
MR01+
MR02+
MR03+
MR04+
MR05+
MR06+
MR07+
MR03+
MR09+
MR10+
MR11+
MR12+
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MR15+
CE1+
CS1-
CE2+
CS2-
MD00+
MD16+
MD17+
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R31
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REV
K
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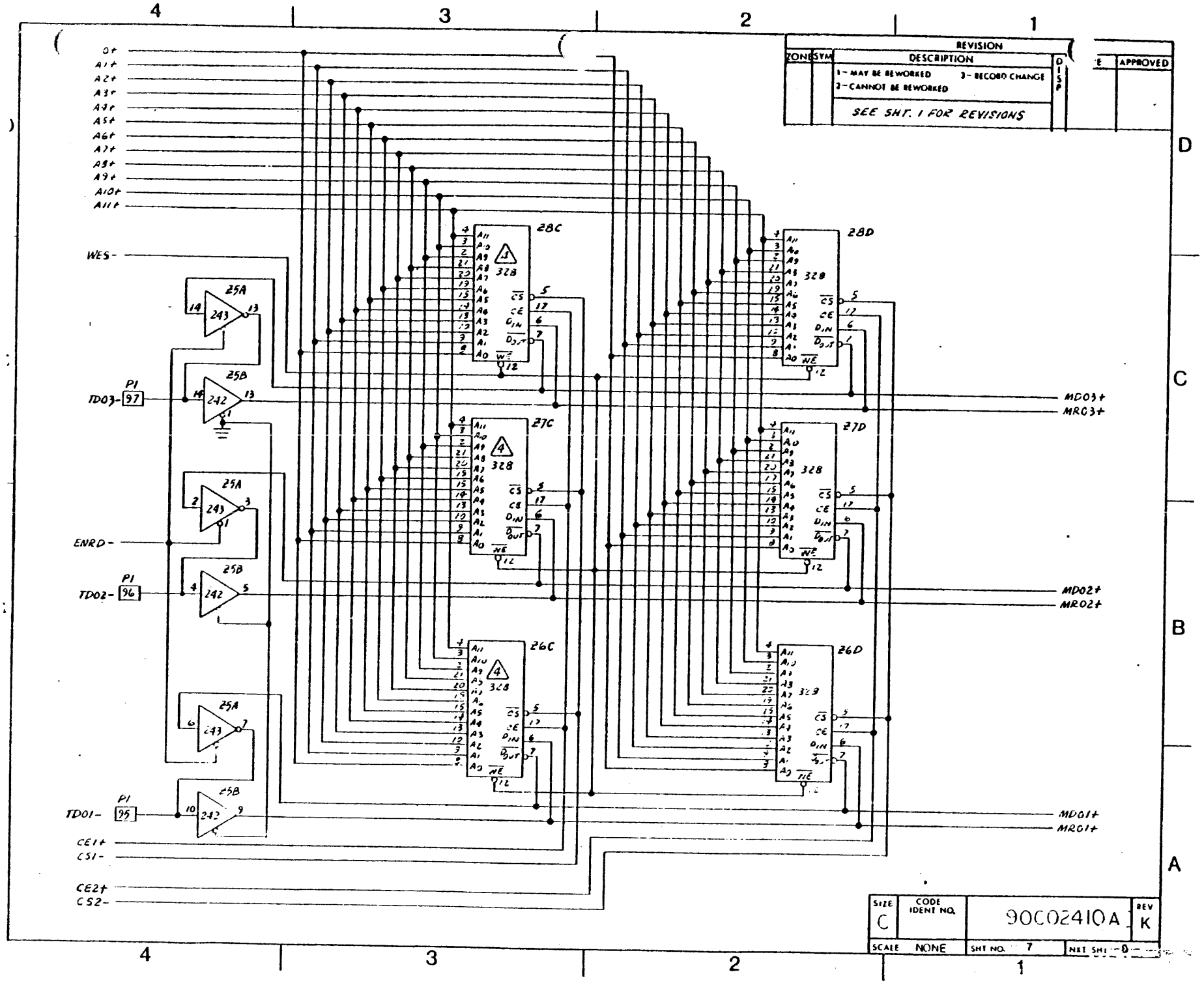
SHT NO. 6


REVISION
ZONE SYM
DESCRIPTION
1 - MAY BE REWORKED 3 - RECORD CHANGE
2 - CANNOT BE REWORKED
SEE SHT. 1 FOR REVISIONS
DISP
APPROVED
A0+
A1+
A2+
A3+
A4+
A5+
A6+
A7+
A8+
A9+
A10+
A11+
WES-
P1
TD03- 97
TD02- 96
TD01- 95
ENRD-
CE1+
CS1-
CE2+
CS2-
25A
25B
243
242
28C
28D
27C
27D
26C
26D
328
MD03+
MR03+
MD02+
MR02+
MD01+
MR01+
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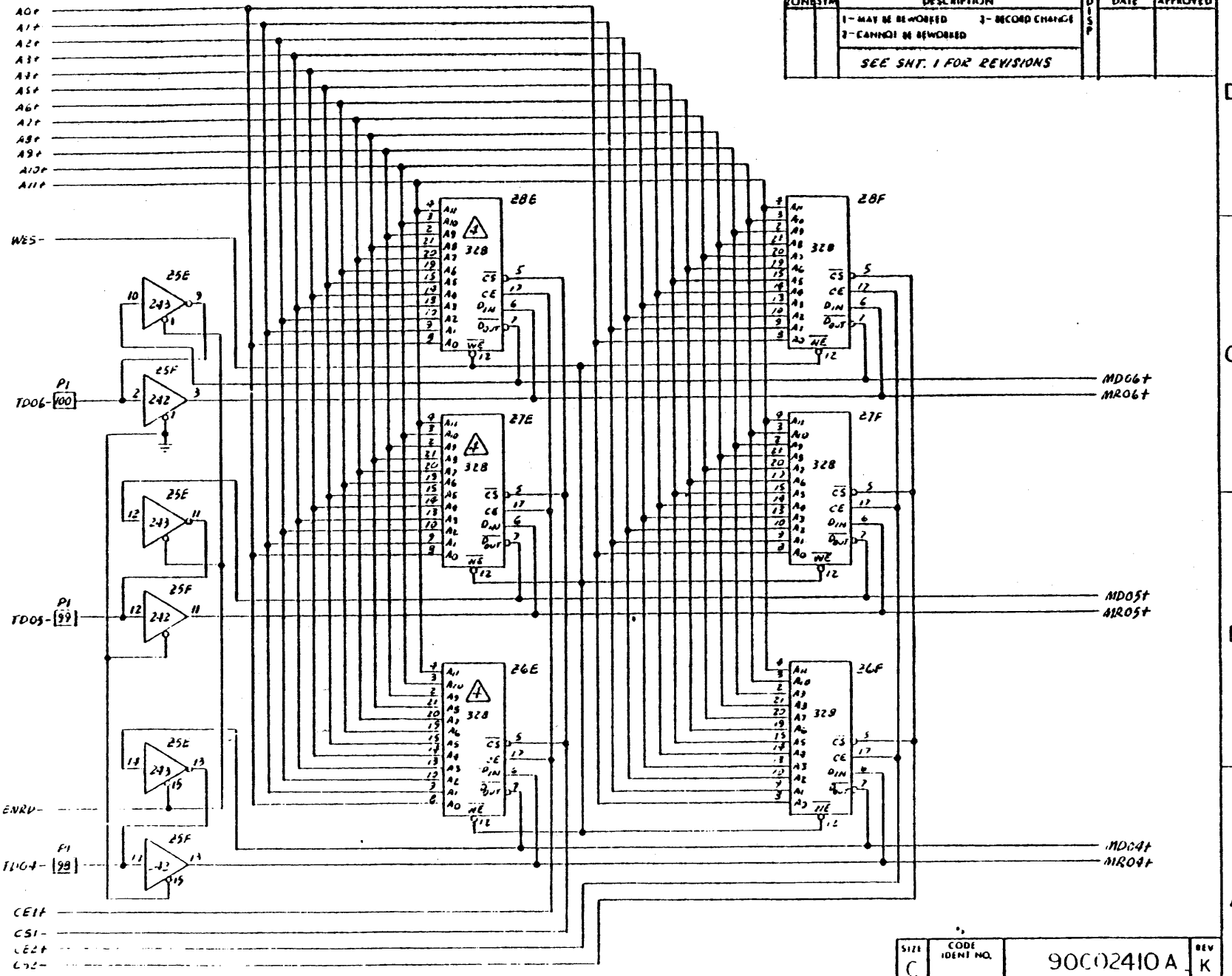
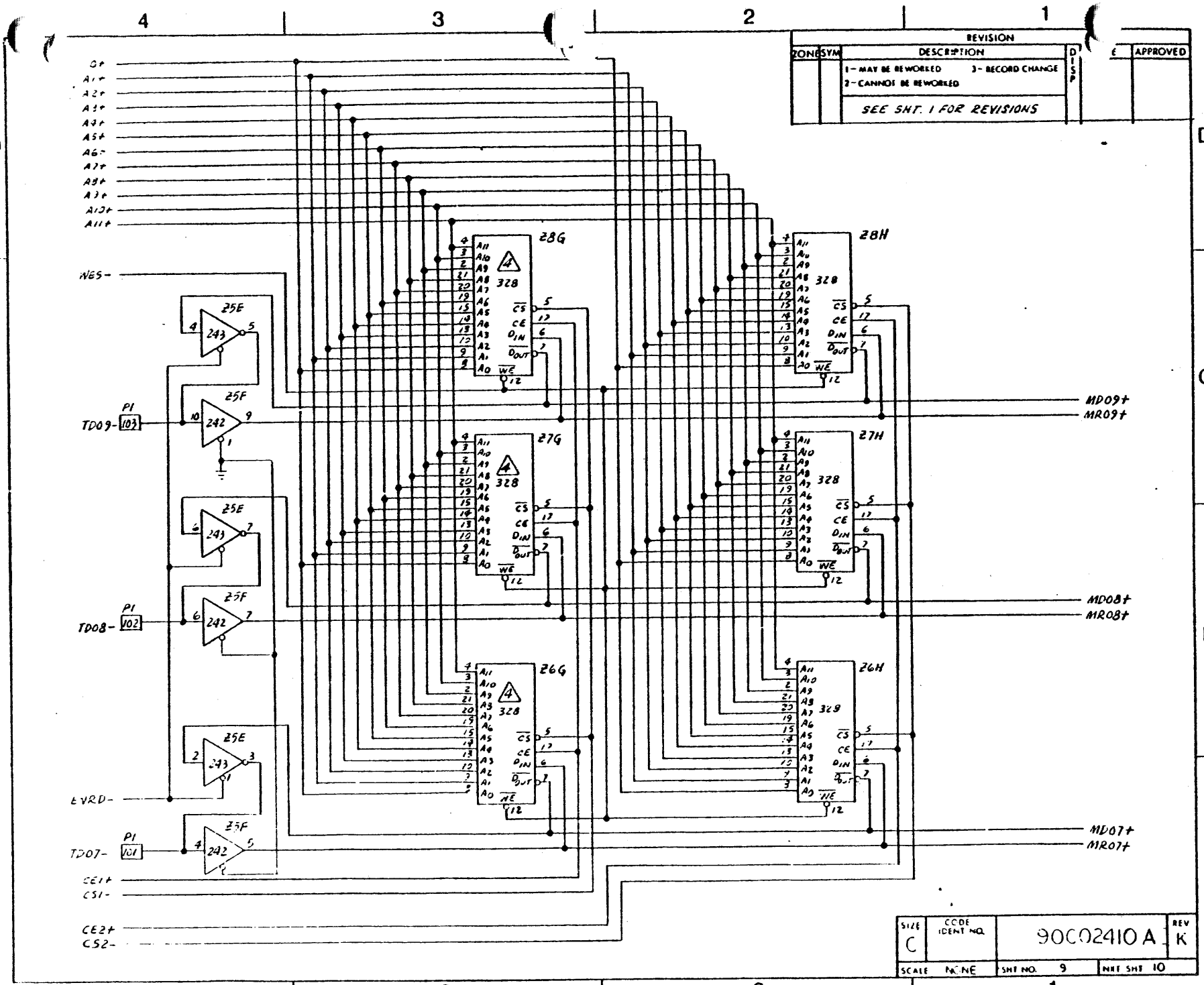
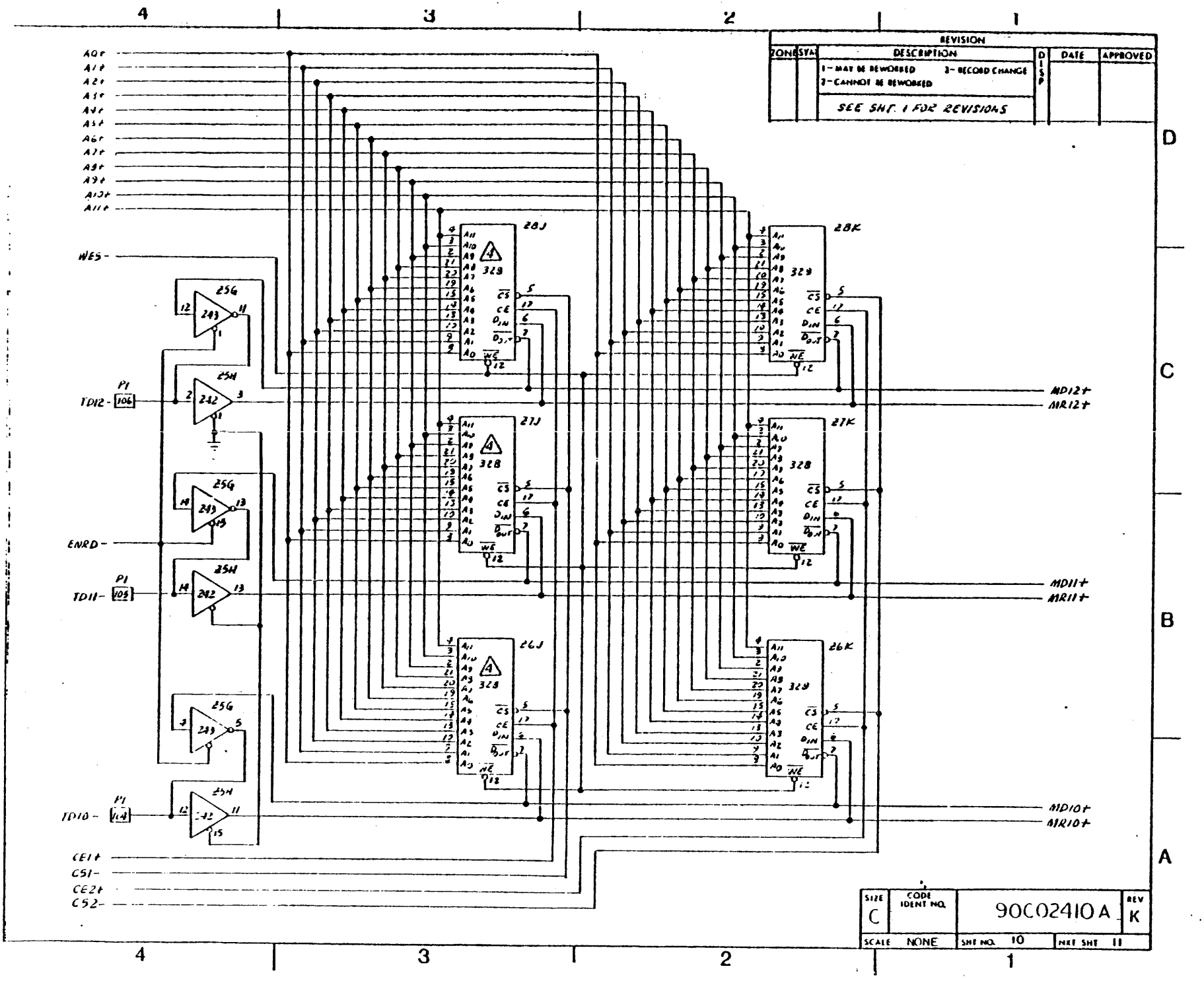
CODE IDENT NO.
90002410A
REV K
SCALE NONE
SHT NO. 7
NXT SHT 0


REVISION
ZONE SYM
DESCRIPTION
1 - MAY BE REWORKED
2 - CANNOT BE REWORKED
3 - RECORD CHANGE
SEE SHT. 1 FOR REVISIONS
DISP
DATE
APPROVED
A0t
A1t
A2t
A3t
A4t
A5t
A6t
A7t
A8t
A9t
A10t
A11t
WES-
TD06-
TD05-
TD04-
ENRV-
CE1t
CS1-
CE2t
CS2-
25E
25F
28E
28F
27E
27F
26E
26F
MD06t
MR06t
MD05t
MR05t
MD04t
MR04t
SIZE
C
CODE IDENT NO.
90002410 A
REV
K
SCALE NONE
SHT NO. 8
NXT SHT 9


REVISION
ZONE SYM
DESCRIPTION
1 - MAY BE REWORKED 3 - RECORD CHANGE
2 - CANNOT BE REWORKED
SEE SHT. 1 FOR REVISIONS
DISP
APPROVED
A0+
A1+
A2+
A3+
A4+
A5+
A6+
A7+
A8+
A9+
A10+
A11+
WES-
25E
25F
243
242
P1
TD09-
103
TD08-
102
EVRD-
TD07-
101
CE1+
CS1-
CE2+
CS2-
28G
28H
27G
27H
26G
26H
328
MD09+
MR09+
MD08+
MR08+
MD07+
MR07+
SIZE C
CODE IDENT NO.
90C02410 A
REV K
SCALE NONE
SHT NO. 9
NEXT SHT 10


REVISION
ZONE SYM
DESCRIPTION
1 - MAY BE REWORKED 3 - RECORD CHANGE
2 - CANNOT BE REWORKED
SEE SHT. 1 FOR REVISIONS
DISP
DATE
APPROVED
A0+
A1+
A2+
A3+
A4+
A5+
A6+
A7+
A8+
A9+
A10+
A11+
WES-
ENRD-
TDI2-
TDI1-
TDI0-
P1
CE1+
CS1-
CE2+
CS2-
MD12+
MR12+
MD11+
MR11+
MD10+
MR10+
20J
27J
26J
28K
27K
26K
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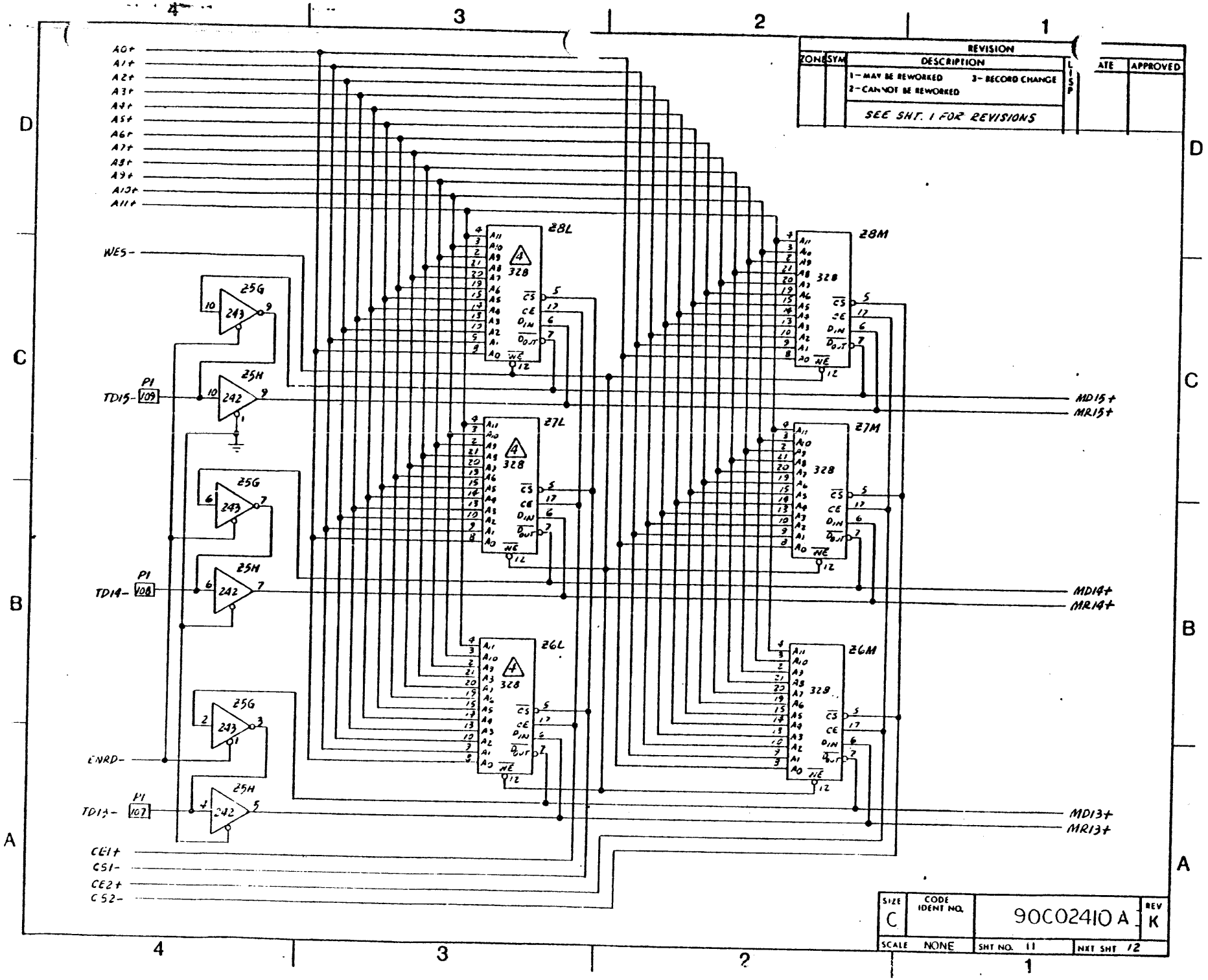
REV
K
SCALE NONE
SHT NO. 10
NXT SHT 11


REVISION
ZONE SYM
DESCRIPTION
1 - MAY BE REWORKED
2 - CANNOT BE REWORKED
3 - RECORD CHANGE
SEE SHT. 1 FOR REVISIONS
ATE
APPROVED
A0+
A1+
A2+
A3+
A4+
A5+
A6+
A7+
A8+
A9+
A10+
A11+
WES-
TDI5-
TDI4-
TDI3-
ENRD-
CE1+
CS1-
CE2+
CS2-
P1
V09
V08
V07
25G
25H
243
242
28L
28M
27L
27M
26L
26M
328
MD15+
MR15+
MD14+
MR14+
MD13+
MR13+
SIZE
C
CODE IDENT NO.
90C02410 A
REV
K
SCALE NONE
SHT NO. 11
NXT SHT 12

REVISION			
SYM	DESCRIPTION	DATE	APPROVED
	SEE SHT 1 FOR REVISIONS		

LOGIC SIGNAL INDEX LIST

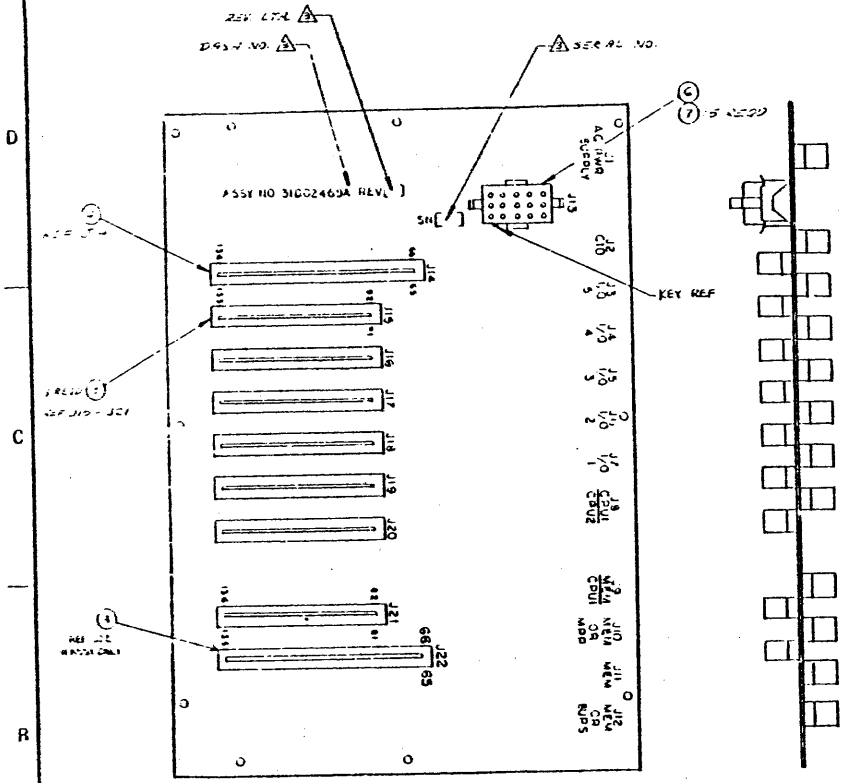
SIGNAL NAME	INTERFACE PIN NO	DWG SHEET/ ZONE
A0+		5A3,6D4,7D4,8D4,9D4, 10D4,11D4
A1+		5B3,6D4,7D4,8D4,9D4, 10D4,11D4
A2+		5B3,6D4,7D4,8D4,9D4, 10D4,11D4
A3+		5B3,6D4,7D4,8D4,9D4, 10D4,11D4
A4+		5C3,6D4,7D4,8D4,9D4, 10D4,11D4
A5+		5C3,6D4,7D4,8D4,9D4, 10D4,11D4,
A6+		5C3,6D4,7D4,8D4,9D4, 10D4,11D4
A7+		5C3,6D4,7D4,8D4,9D4, 10D4,11D4
A8+		5D3,6D4,7D4,8C4,9D4, 10D4,11D4
A9+		5D3,6D4,7D4,8D4,9D4, 10D4,11D4
A10+		5D3,6D4,7D4,8D4,9D4, 10D4,11D4
A11+		5D3,6D4,7D4,8D4,9D4, 10D4,11D4
CE1+		3B1,6A4,7A4,8A4,9A4, 10A4,11A4
CE2+		3B1,6A4,7A4,8A4,9A4, 10A4,11A4
CS1-		3C1,6A4,7A4,8A4,9A4, 10A4,11A4
CS2-		3C1,6A4,7A4,8A4,9A4, 10A4,11A4
DMAK1-	PI-80	5C3
DMAK2-	PI-131	5C3
ENRD-		2A1,6B1,6C4,7B4,8A4, 9A4,10B4,11A4
FICH+	PI-73	5C3
MBCF+		2C4,3C4
MBCF-		2A1,5C3
MD00+		5B3,6C1
MD01+		5B3,7A1
MD02+		5B3,7B1
MD03+		5B3,7C1
MD04+		5B3,8A1
MD05+		5B3,8B1
MD06+		5B3,8C1
MD07+		5B3,9A1

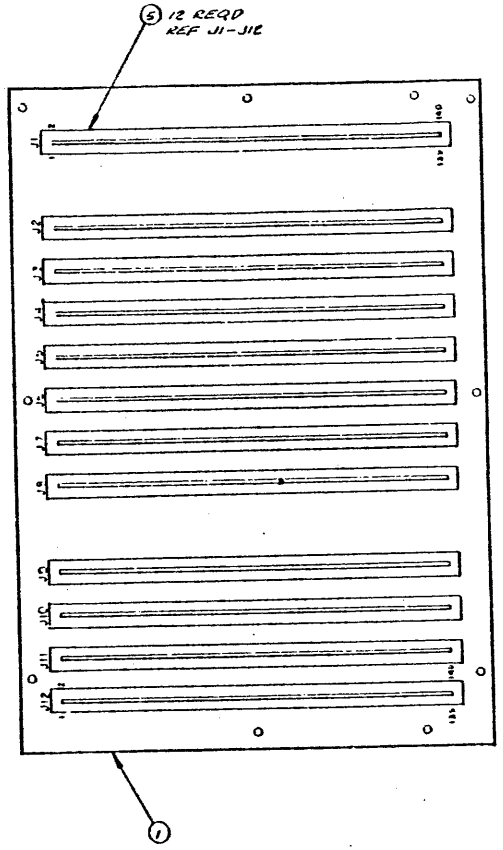
SIGNAL NAME	INTERFACE PIN NO.	DWG SHEET/ ZONE
MD08+		5A3,9B1
MD09+		5A3,9C1
MD10+		5A3,10A1
MD11+		5A3,10B1
MD12+		5A3,10C1
MD13+		5A3,11A1
MD14+		5A3,11B1
MD15+		5A3,11C1
MD16+		5A3,6B1
MD17+		5A3,6A1
MDRY+	PI-129	2B1
MEMPR-	PI-45	2D4
MEMPY-	PI-50	2A4,5C1
M20MH+		4D2,5C3
M20MH-		2B4,4D2
20MHZ+	PI-69	4D4
MPP-	PI-63	5D3
MR01+		6B4,7A1
MR02+		6B4,7B1
MR03+		6B4,7C1
MR04+		6B4,8A1
MR05+		6B4,8B1
MR06+		6B4,8C1
MR07+		6B4,9A1
MR08+		6B4,9B1
MR09+		6B4,9C1
MR10+		6B4,10A1
MR11+		6B4,10B1
MR12+		6B4,10C1
MR13+		6A4,11A1
MR14+		6A4,11B1
MR15+		6A4,11C1
MREQ- MREQA+	PI-126	2D4 2C1,3B4
MREQA- MREQC-		2C1,4B4 5B3 2C1,3C4
MSCF+		2C1,3C4
MSCF-		2C1,4B4
MWRE-	PI-127	2B4
MWREQ+		2C1,3C4
NEXINT-	PI-77	5B3
PEF		5C1,2A4
PEDET+		2A4,5D1
PTYER-	PI-83	5C1
RA0+		4C1,5A4
RA1+		4C1,5B4
RA2+		4B1,5B4
RA3+		4B1,5B4

SIGNAL NAME	INTERFACE PIN NO.	DWG SHEET/ ZONE
RA4+		4B1,5C4
RA5+		4B1,5C4
READ+		2B1,5D3
RFAE+		4A1,5A4
RFAE-		4A1,5A4
RFCE-		3B4,4B1
RFCF-		3C4,4C1,2B4
RFSE-		4A1
RPE-		2A1,5C2
SYRT-	PI-44	5B3,4C4
SCK5+		2B1,5D3
SCK8+		2C4,4B4
STRD-	PI-128	2B4
TA00-	PI-110	5A4
TA01-	PI-111	5B4
TA02-	PI-112	5B4
TA03-	PI-113	5B4
TA04-	PI-114	5C4
TA05-	PI-115	5C4
TA06-	PI-116	5C4
TA07-	PI-117	5C4
TA08-	PI-118	5D4
TA09-	PI-119	5D4
TA10-	PI-120	5D4
TA11-	PI-121	5D4
TA12-	PI-122	2C4
TA12+		2C4,3B4
TA13-	PI-123	2C4
TA14-	PI-124	2D4
TA15-	PI-125	2D4
TD00-	PI-94	6C4
TD01-	PI-95	7A4
TD02-	PI-96	7B4
TD03-	PI-97	7C4
TD04-	PI-98	8A4
TD05-	PI-99	8B4
TD06-	PI-100	8C4
TD07-	PI-101	9A4
TD08-	PI-102	9B4
TD09-	PI-103	9C4
TD10-	PI-104	10A4
TD11-	PI-105	10B4
TD12-	PI-106	10C4
TD13-	PI-107	11A4
TD14-	PI-108	11B4
TD15-	PI-109	11C4
WES-		2B1 6C4,7C4,8C4,9C4, 10C4,11C4

SIGNAL NAME	INTERFACE PIN NO	DWG SHEET/ ZONE

SIZE	CODE IDENT NO.	90C02410A	REV
C			K
SCALE NONE		SHT NO. 12	NXT SHT LAST





REVISION			
SYM	DESCRIPTION	DATE	APPROVED
B	RELEASED FOR OUTSTANDING [illegible]	[illegible]	[illegible]
C	INCORPORATES ECO TRACKING ECO [illegible]	[illegible]	[illegible]
D	REVISED PER ECO [illegible]	[illegible]	[illegible]
E	REVISED PER ECO 12168 PRODUCTION RELEASE	12-10-79	JEB

JUMPER WIRE TABLE 3			
REV	NO	FROM	TO
C	1	J3-19	J4B-19

3. BUS CONTINUITY CHECK SHALL BE AT I.D. AGL LEVEL REF MIL-STD-105D, LEVEL II, TABLE IIA.
7. [illegible] TO MIL-B-5087B. ASSY TO MEET THE REQUIREMENTS OF GA SPEC 23500027A.

4. ASSEMBLY SECURITY PER REQUIREMENTS OF STD'S 80.9930.24
2. REF P.C. MATERIAL 31D02499A
[illegible] ENVIRONMENT OF DRAWING, 30M02469A REV 'B'
UNLESS OTHERWISE SPECIFIED.

SEE PARTS LIST 31P02469A

QTY REQD	QTY REQD	QTY REQD	QTY REQD	QTY REQD	QTY REQD	QTY REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SIZE, VALUE, MATERIAL	SPECIFICATIONS, VENDORS, NOTES	ITEM NO.
								LIST OF MATERIALS OR PARTS LIST			
1622	-11	31D01564A									
1611	-01	01D01564A									
MODEL NO.	DASH NO.	NEXT ASSEMBLY									
FIRST USED ON (SER)											

DIMENSIONS ARE IN INCHES
TOLERANCES
DECIMAL DIMENSIONS
.X ±1
.XX ±.02
.XXX ±.005
ANGLES ±1°
DRILLED HOLES PER ANSI B47.1
ALL REMAINING SURFACES √

DR	J. SLEASE	7-23-79
CHK	[illegible]	[illegible]
ENGR	[illegible]	[illegible]
APPD	[illegible]	[illegible]
APPD		
REL	[illegible]	[illegible]

DO NOT SCALE DRAWING
REFER TO DIMENSIONS SHOWN

GENERAL AUTOMATION, INC.

M.I.B. COMPACT ASSY OF

SIZE	CODE IDENT NO.	31D02469A	REV
D			E

SCALE FULL | SHT NO. 1 | NEXT SHT [illegible]

NOTES:

JUL 11 1980

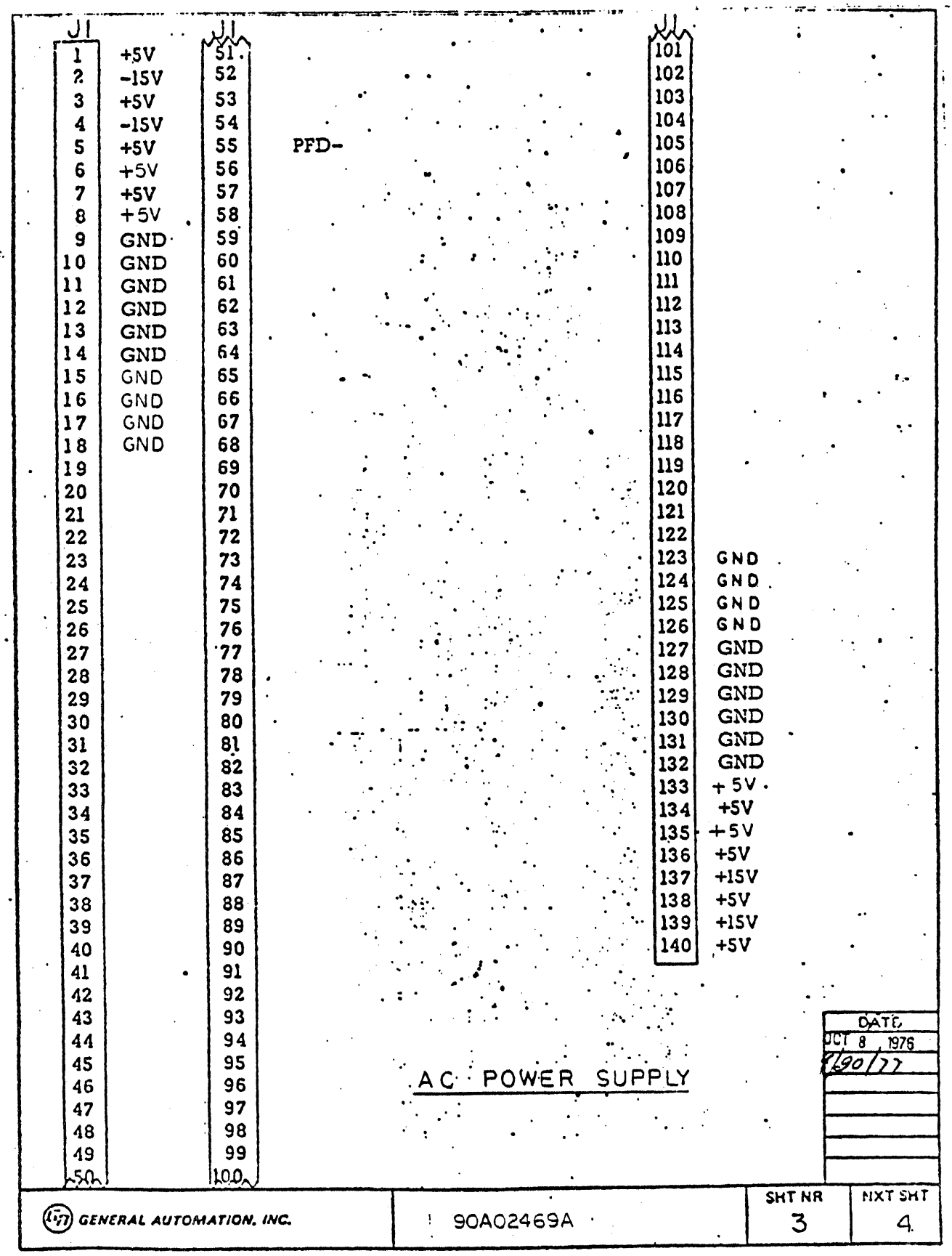
DRN J. REY	Date 8-11-76		GENERAL AUTOMATION, INC.	
CHK L. Tunkis	Date 8-27-76			
ENG D.H Blair	Date 10-4-76		LOGIC INTERCONNECT DIAGRAM COMPACT M.I.B.	
APPR Mellis	Date 10/4/76			
APPR	Date			
APPR	Date			
REL BY R.E. Bauer	SHT NR	NXT SHT	90A02469A	REV B
REL Date 10/08/76	1	2		

Form No. 97A00019A

REVISIONS			
SYM	DESCRIPTION	APPR	Date
A	ENGINEERING RELEASE		
B	REVISED PER ECO 6543 JW4-14-77	H.H.N	4-13-77 4/13/77

GENERAL AUTOMATION, INC.	SHT NR	NEXT SHT	90A02469A	REV
	2.0	3.0		B

Form No. 97A00020A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1 +5V
2 -15V
3 +5V
4 -15V
5 +5V
6 +5V
7 +5V
8 +5V
9 GND
10 GND
11 GND
12 GND
13 GND
14 GND
15 GND
16 GND
17 GND
18 GND
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J1
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PFD-
J1
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121
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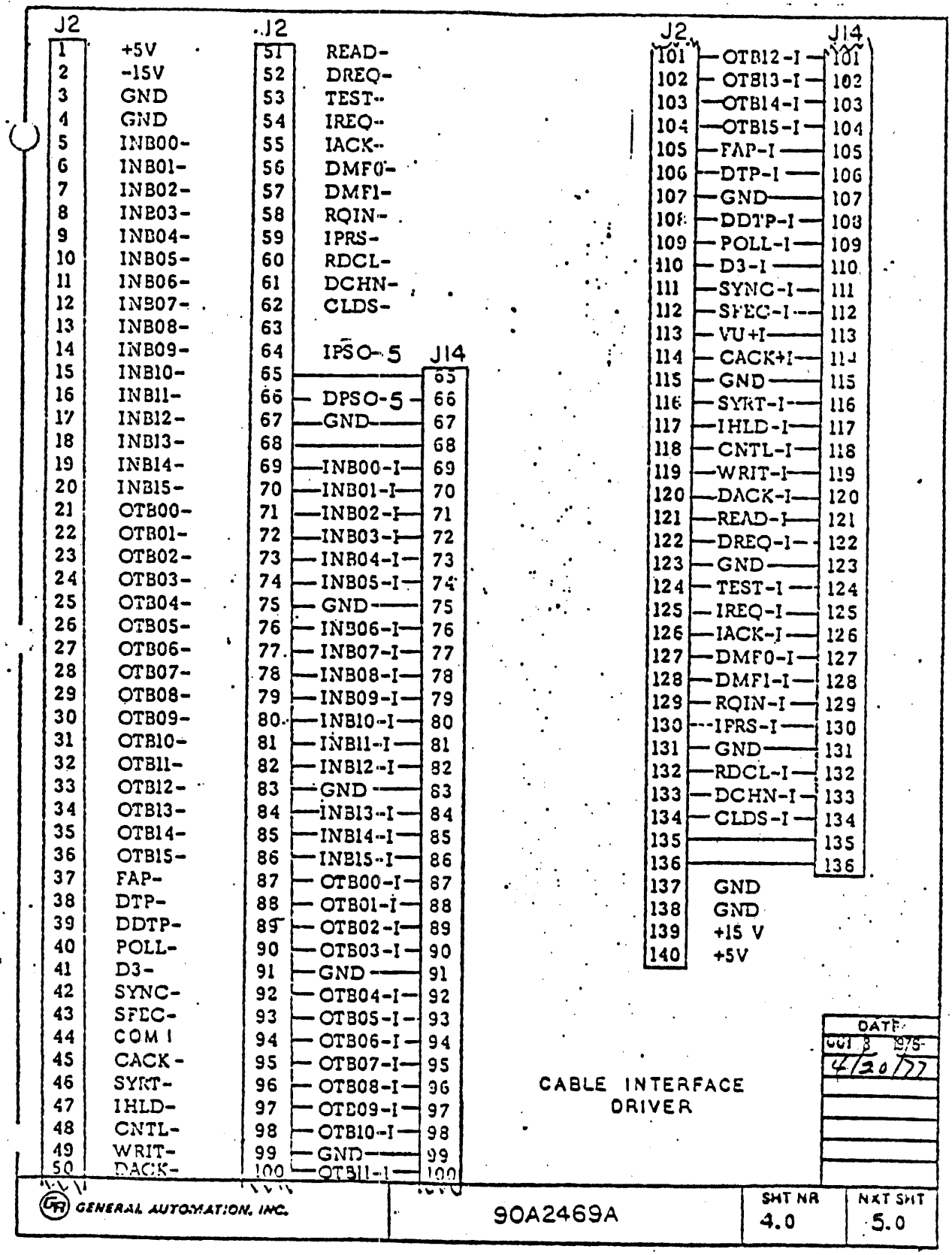
123 GND
124 GND
125 GND
126 GND
127 GND
128 GND
129 GND
130 GND
131 GND
132 GND
133 +5V
134 +5V
135 +5V
136 +5V
137 +15V
138 +5V
139 +15V
140 +5V
AC POWER SUPPLY
DATE
OCT 8 1976
9/30/77
GENERAL AUTOMATION, INC.
90A02469A
SHT NR
3
NXT SHT
4


J2
1 +5V
2 -15V
3 GND
4 GND
5 INB00-
6 INB01-
7 INB02-
8 INB03-
9 INB04-
10 INB05-
11 INB06-
12 INB07-
13 INB08-
14 INB09-
15 INB10-
16 INB11-
17 INB12-
18 INB13-
19 INB14-
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21 OTB00-
22 OTB01-
23 OTB02-
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25 OTB04-
26 OTB05-
27 OTB06-
28 OTB07-
29 OTB08-
30 OTB09-
31 OTB10-
32 OTB11-
33 OTB12-
34 OTB13-
35 OTB14-
36 OTB15-
37 FAP-
38 DTP-
39 DDTP-
40 POLL-
41 D3-
42 SYNC-
43 SFEC-
44 COM I
45 CACK-
46 SYNT-
47 IHLD-
48 CNTL-
49 WRIT-
50 DACK-
J2
51 READ-
52 DREQ-
53 TEST-
54 IREQ-
55 IACK-
56 DMF0-
57 DMF1-
58 RQIN-
59 IPRS-
60 RDCL-
61 DCHN-
62 CLDS-
63
64 IPSO-5
65
66 DPSO-5
67 GND
68
69 INB00-I
70 INB01-I
71 INB02-I
72 INB03-I
73 INB04-I
74 INB05-I
75 GND
76 INB06-I
77 INB07-I
78 INB08-I
79 INB09-I
80 INB10-I
81 INB11-I
82 INB12-I
83 GND
84 INB13-I
85 INB14-I
86 INB15-I
87 OTB00-I
88 OTB01-I
89 OTB02-I
90 OTB03-I
91 GND
92 OTB04-I
93 OTB05-I
94 OTB06-I
95 OTB07-I
96 OTB08-I
97 OTB09-I
98 OTB10-I
99 GND
100 OTB11-I
J14
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99
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J2
101 OTB12-I
102 OTB13-I
103 OTB14-I
104 OTB15-I
105 FAP-I
106 DTP-I
107 GND
108 DDTP-I
109 POLL-I
110 D3-I
111 SYNC-I
112 SFEC-I
113 VU+I
114 CACK+I
115 GND
116 SYNT-I
117 IHLD-I
118 CNTL-I
119 WRIT-I
120 DACK-I
121 READ-I
122 DREQ-I
123 GND
124 TEST-I
125 IREQ-I
126 IACK-I
127 DMF0-I
128 DMF1-I
129 RQIN-I
130 IPRS-I
131 GND
132 RDCL-I
133 DCHN-I
134 CLDS-I
135
136
137 GND
138 GND
139 +15 V
140 +5V
J14
101
102
103
104
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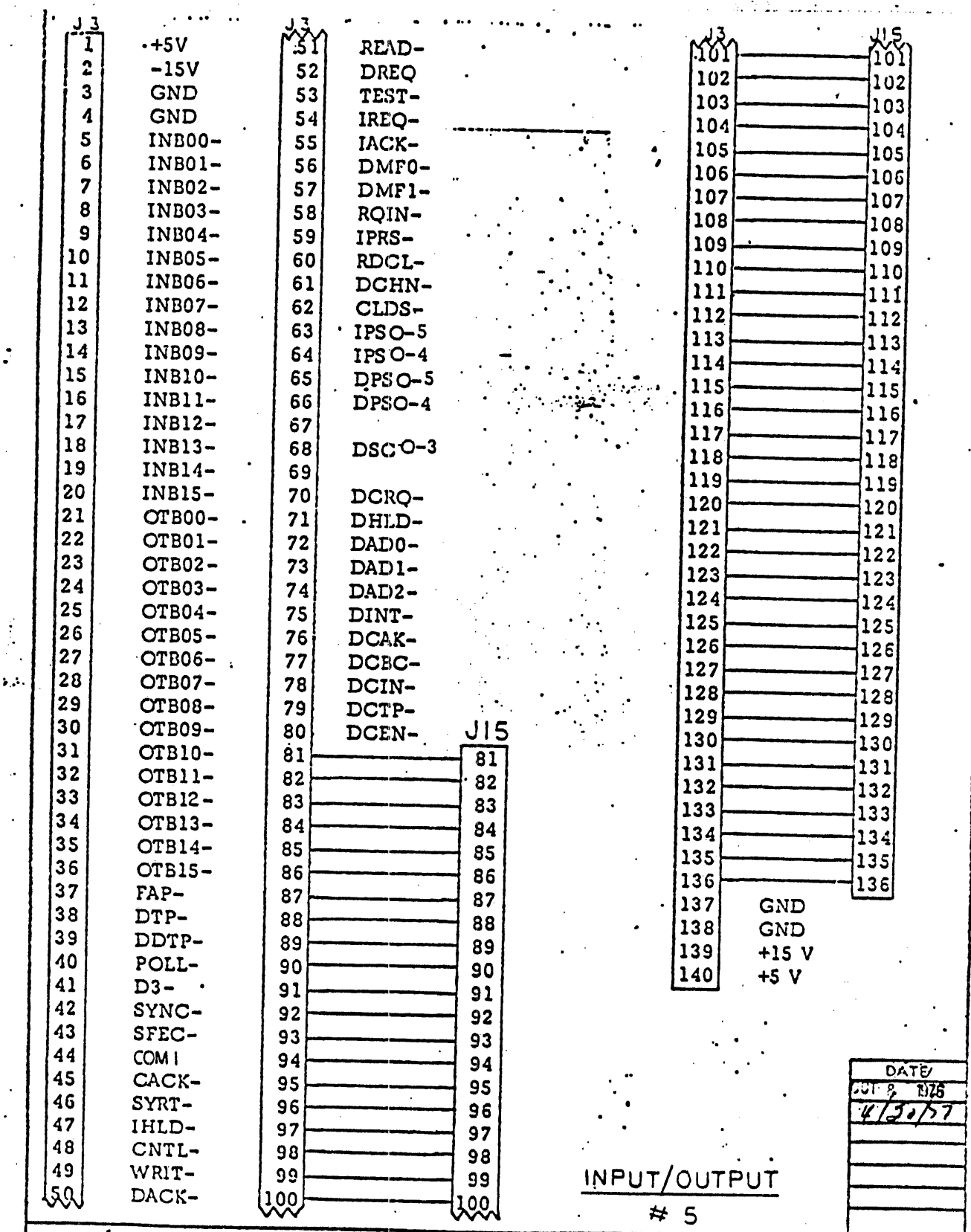
136
CABLE INTERFACE
DRIVER
DATE
OCT 8 '75
4/20/77
GENERAL AUTOMATION, INC.
90A2469A
SHT NR
4.0
NXT SHT
5.0


J3
1 +5V
2 -15V
3 GND
4 GND
5 INB00-
6 INB01-
7 INB02-
8 INB03-
9 INB04-
10 INB05-
11 INB06-
12 INB07-
13 INB08-
14 INB09-
15 INB10-
16 INB11-
17 INB12-
18 INB13-
19 INB14-
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39 DDTP-
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41 D3-
42 SYNC-
43 SFEC-
44 COMI
45 CACK-
46 SYRT-
47 IHLD-
48 CNTL-
49 WRIT-
50 DACK-
J3
51 READ-
52 DREQ
53 TEST-
54 IREQ-
55 IACK-
56 DMF0-
57 DMF1-
58 RQIN-
59 IPRS-
60 RDCL-
61 DCHN-
62 CLDS-
63 IPSO-5
64 IPSO-4
65 DPSO-5
66 DPSO-4
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68 DSCO-3
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70 DCRQ-
71 DHLD-
72 DAD0-
73 DAD1-
74 DAD2-
75 DINT-
76 DCAK-
77 DCBC-
78 DCIN-
79 DCTP-
80 DCEN-
J15
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J3
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127
128
129
130
131
132
133
134
135
136
137 GND
138 GND
139 +15 V
140 +5 V
J15
101
102
103
104
105
106
107
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109
110
111
112
113
114
115
116
117
118
119
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121
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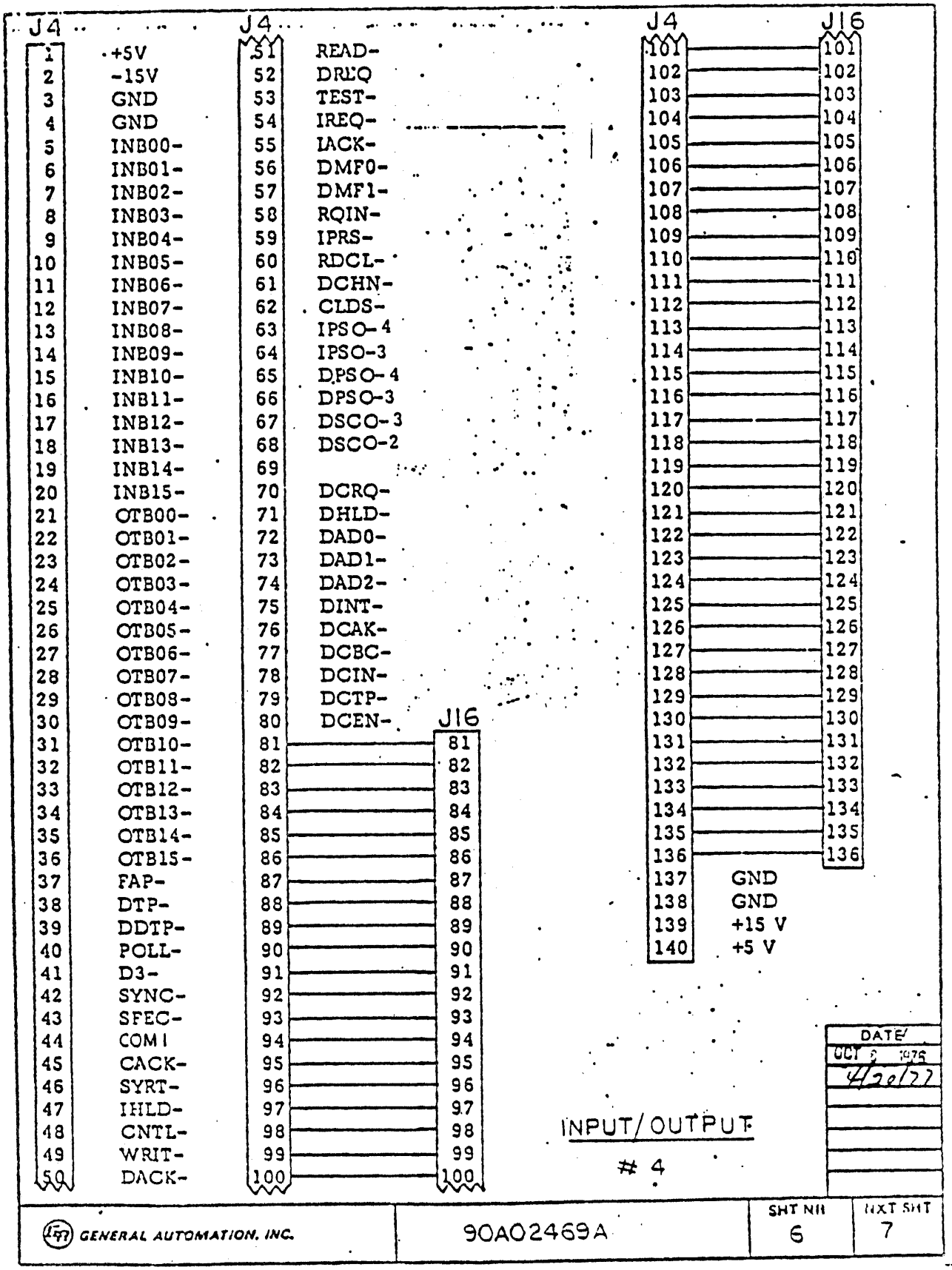
INPUT/OUTPUT
5
DATE
4/30/77
GENERAL AUTOMATION, INC.
90A02469A
SHT NR
5
NXT SHT
6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4 GND
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7 INB02-
8 INB03-
9 INB04-
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36 OTB15-
37 FAP-
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39 DDTP-
40 POLL-
41 D3-
42 SYNC-
43 SFEC-
44 COMI
45 CACK-
46 SYRT-
47 IHLD-
48 CNTL-
49 WRIT-
50 DACK-
J4
51 READ-
52 DRQ
53 TEST-
54 IREQ-
55 IACK-
56 DMF0-
57 DMF1-
58 RQIN-
59 IPRS-
60 RDCL-
61 DCHN-
62 CLDS-
63 IPSO-4
64 IPSO-3
65 DPSO-4
66 DPSO-3
67 DSCO-3
68 DSCO-2
69
70 DCRQ-
71 DHLD-
72 DAD0-
73 DAD1-
74 DAD2-
75 DINT-
76 DCAK-
77 DCBC-
78 DCIN-
79 DCTP-
80 DCEN-
J16
81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
J4
101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136
137 GND
138 GND
139 +15 V
140 +5 V
J16
101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136
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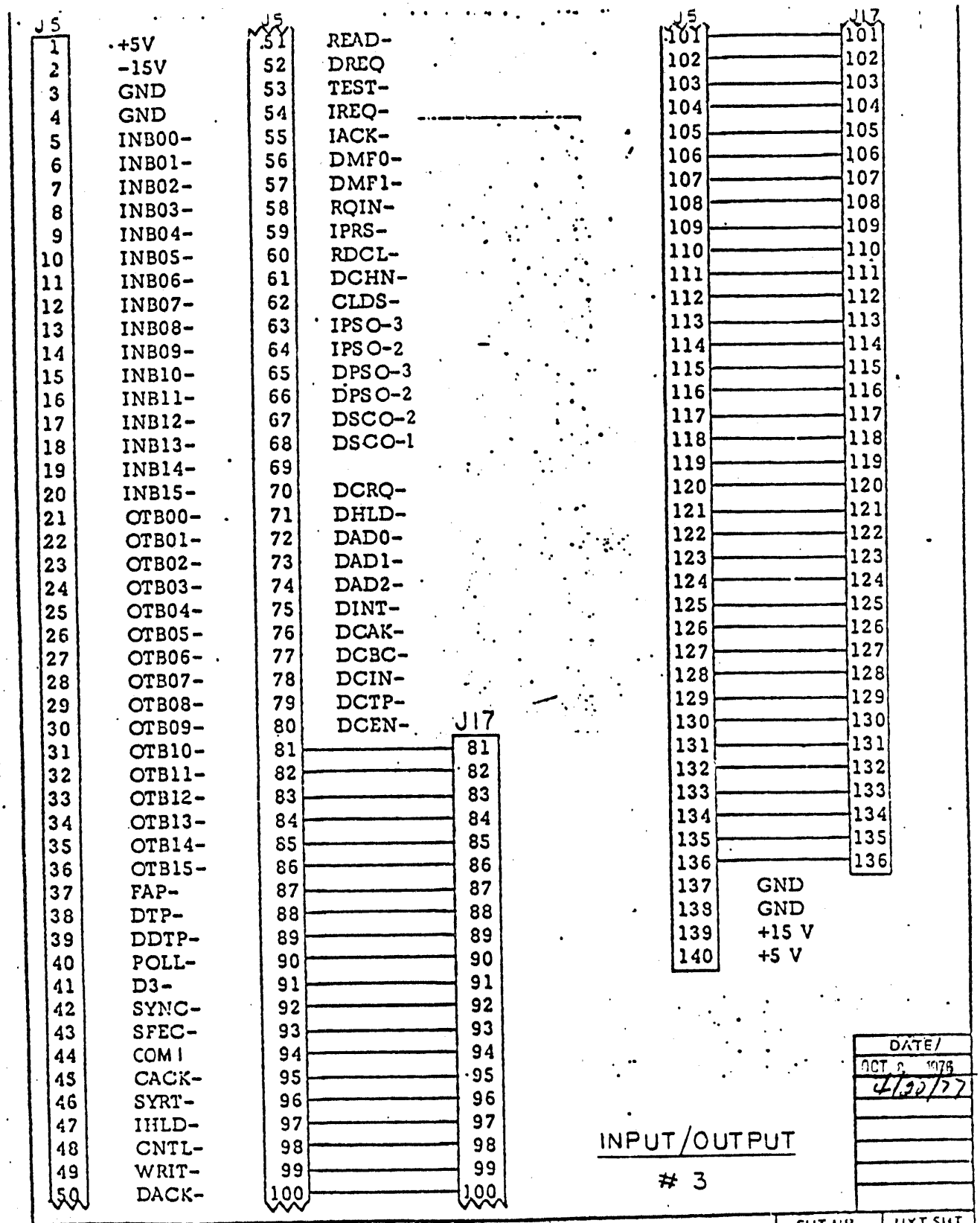
OCT 3 1975
4/20/77
INPUT/OUTPUT
4
GENERAL AUTOMATION, INC.
90A02469A
SHT NO 6
NXT SHT 7


J5
1 +5V
2 -15V
3 GND
4 GND
5 INB00-
6 INB01-
7 INB02-
8 INB03-
9 INB04-
10 INB05-
11 INB06-
12 INB07-
13 INB08-
14 INB09-
15 INB10-
16 INB11-
17 INB12-
18 INB13-
19 INB14-
20 INB15-
21 OTB00-
22 OTB01-
23 OTB02-
24 OTB03-
25 OTB04-
26 OTB05-
27 OTB06-
28 OTB07-
29 OTB08-
30 OTB09-
31 OTB10-
32 OTB11-
33 OTB12-
34 OTB13-
35 OTB14-
36 OTB15-
37 FAP-
38 DTP-
39 DDTP-
40 POLL-
41 D3-
42 SYNC-
43 SFEC-
44 COM I
45 CACK-
46 SYRT-
47 IHLD-
48 CNTL-
49 WRIT-
50 DACK-
J5
51 READ-
52 DREQ
53 TEST-
54 IREQ-
55 IACK-
56 DMF0-
57 DMF1-
58 RQIN-
59 IPRS-
60 RDCL-
61 DCHN-
62 CLDS-
63 IPSO-3
64 IPSO-2
65 DPSO-3
66 DPSO-2
67 DSCO-2
68 DSCO-1
69
70 DCRQ-
71 DHLD-
72 DAD0-
73 DAD1-
74 DAD2-
75 DINT-
76 DCAK-
77 DCBC-
78 DCIN-
79 DCTP-
80 DCEN-
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J17
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J5
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128
129
130
131
132
133
134
135
136
137 GND
138 GND
139 +15 V
140 +5 V
J17
101
102
103
104
105
106
107
108
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111
112
113
114
115
116
117
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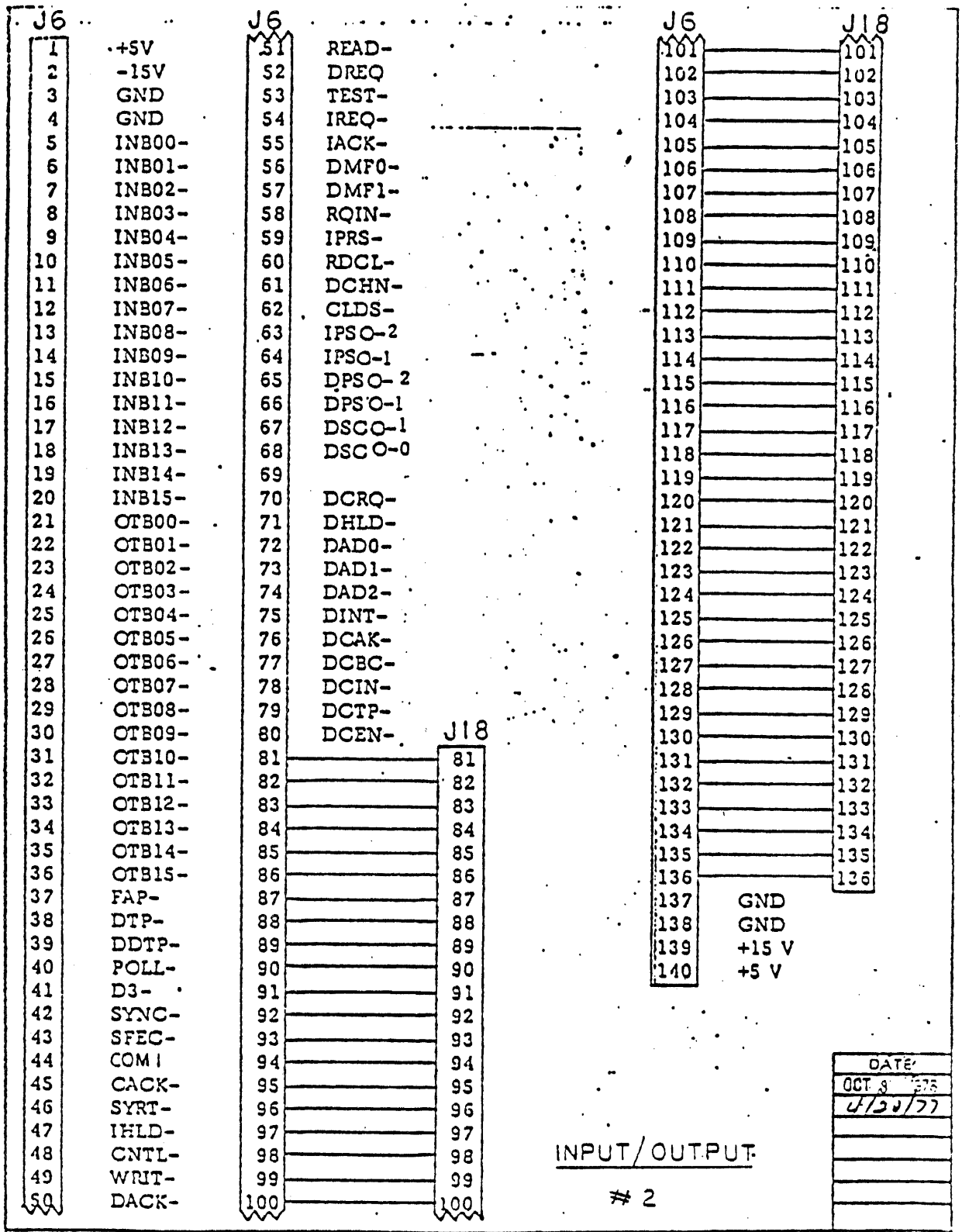
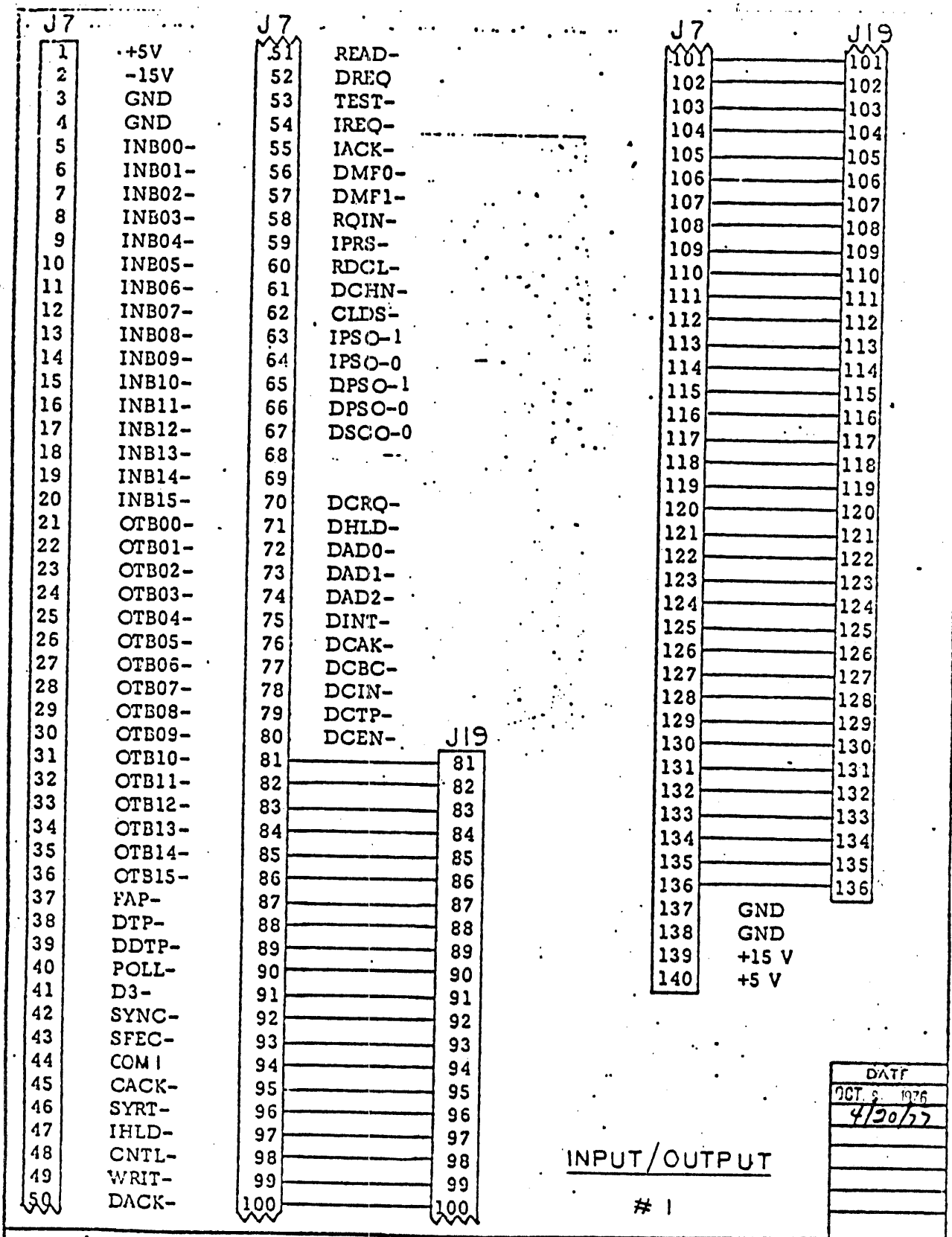
136
DATE/
OCT 6 1978
4/20/77
INPUT/OUTPUT
3
GENERAL AUTOMATION, INC.
90A02469A
SHT NR 7
NXT SHT 8


J6
1 +5V
2 -15V
3 GND
4 GND
5 INB00-
6 INB01-
7 INB02-
8 INB03-
9 INB04-
10 INB05-
11 INB06-
12 INB07-
13 INB08-
14 INB09-
15 INB10-
16 INB11-
17 INB12-
18 INB13-
19 INB14-
20 INB15-
21 OTB00-
22 OTB01-
23 OTB02-
24 OTB03-
25 OTB04-
26 OTB05-
27 OTB06-
28 OTB07-
29 OTB08-
30 OTB09-
31 OTB10-
32 OTB11-
33 OTB12-
34 OTB13-
35 OTB14-
36 OTB15-
37 FAP-
38 DTP-
39 DDTP-
40 POLL-
41 D3-
42 SYNC-
43 SFEC-
44 COM I
45 CACK-
46 SYRT-
47 IHLD-
48 CNTL-
49 WRIT-
50 DACK-
J6
51 READ-
52 DREQ
53 TEST-
54 IREQ-
55 IACK-
56 DMF0-
57 DMF1-
58 RQIN-
59 IPRS-
60 RDCL-
61 DCHN-
62 CLDS-
63 IPSO-2
64 IPSO-1
65 DPSO-2
66 DPSO-1
67 DSCO-1
68 DSCO-0
69
70 DCRQ-
71 DHLD-
72 DAD0-
73 DAD1-
74 DAD2-
75 DINT-
76 DCAK-
77 DCBC-
78 DCIN-
79 DCTP-
80 DCEN-
J18
81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
J6
101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136
137 GND
138 GND
139 +15 V
140 +5 V
J18
101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136
INPUT/OUTPUT
2
DATE
OCT 8 [illegible]
4/20/77
GENERAL AUTOMATION, INC.
90A02469A
SHT NR 8
NXT SHT 9


J7
1 +5V
2 -15V
3 GND
4 GND
5 INB00-
6 INB01-
7 INB02-
8 INB03-
9 INB04-
10 INB05-
11 INB06-
12 INB07-
13 INB08-
14 INB09-
15 INB10-
16 INB11-
17 INB12-
18 INB13-
19 INB14-
20 INB15-
21 OTB00-
22 OTB01-
23 OTB02-
24 OTB03-
25 OTB04-
26 OTB05-
27 OTB06-
28 OTB07-
29 OTB08-
30 OTB09-
31 OTB10-
32 OTB11-
33 OTB12-
34 OTB13-
35 OTB14-
36 OTB15-
37 FAP-
38 DTP-
39 DDTP-
40 POLL-
41 D3-
42 SYNC-
43 SFEC-
44 COM I
45 CACK-
46 SYRT-
47 IHLD-
48 CNTL-
49 WRIT-
50 DACK-
J7
51 READ-
52 DREQ
53 TEST-
54 IREQ-
55 IACK-
56 DMF0-
57 DMF1-
58 RQIN-
59 IPRS-
60 RDCL-
61 DCHN-
62 CLDS-
63 IPSO-1
64 IPSO-0
65 DPSO-1
66 DPSO-0
67 DSCO-0
68
69
70 DCRQ-
71 DHLD-
72 DAD0-
73 DAD1-
74 DAD2-
75 DINT-
76 DCAK-
77 DCBC-
78 DCIN-
79 DCTP-
80 DCEN-
J19
81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
J7
101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136
137 GND
138 GND
139 +15 V
140 +5 V
J19
101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136
INPUT/OUTPUT
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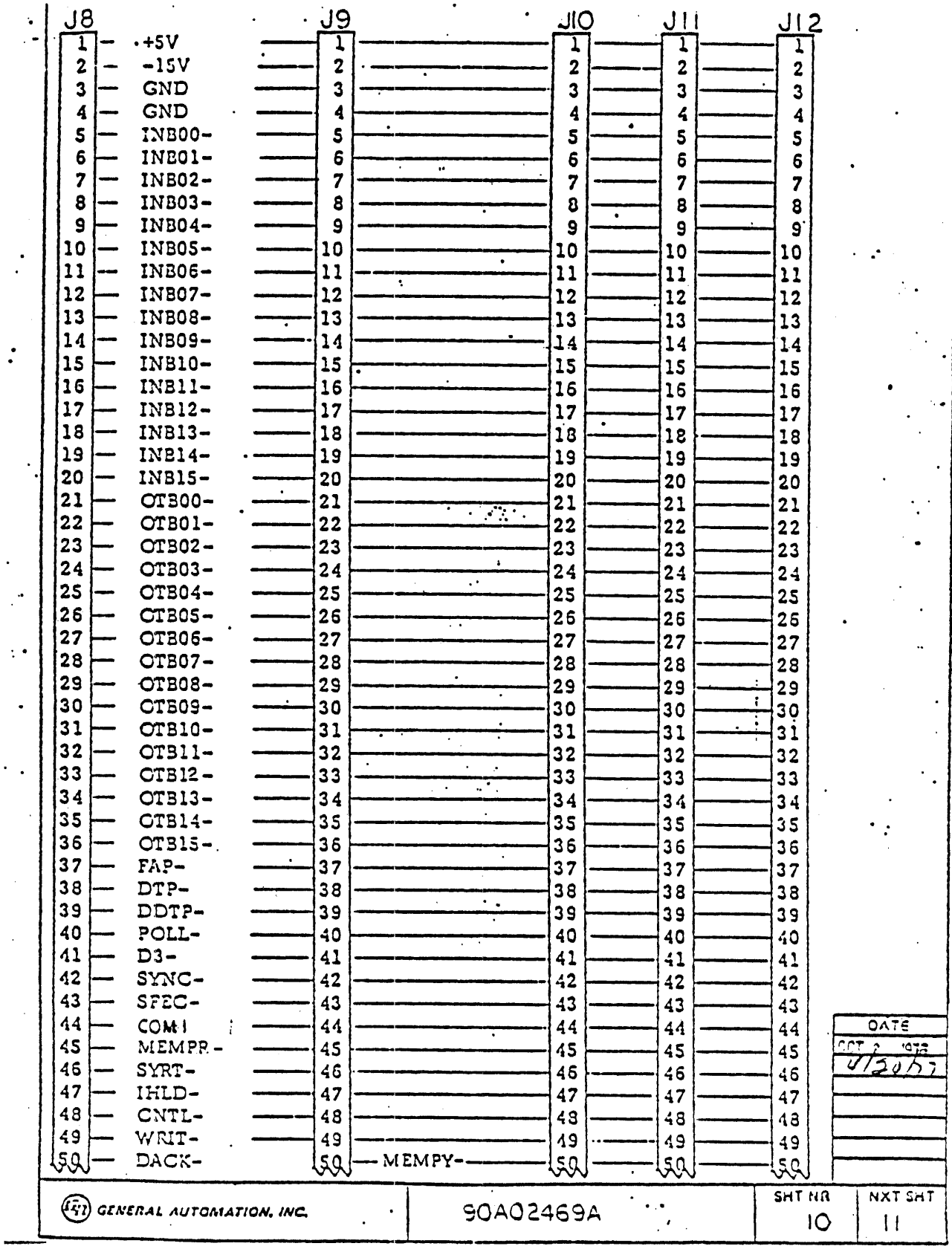
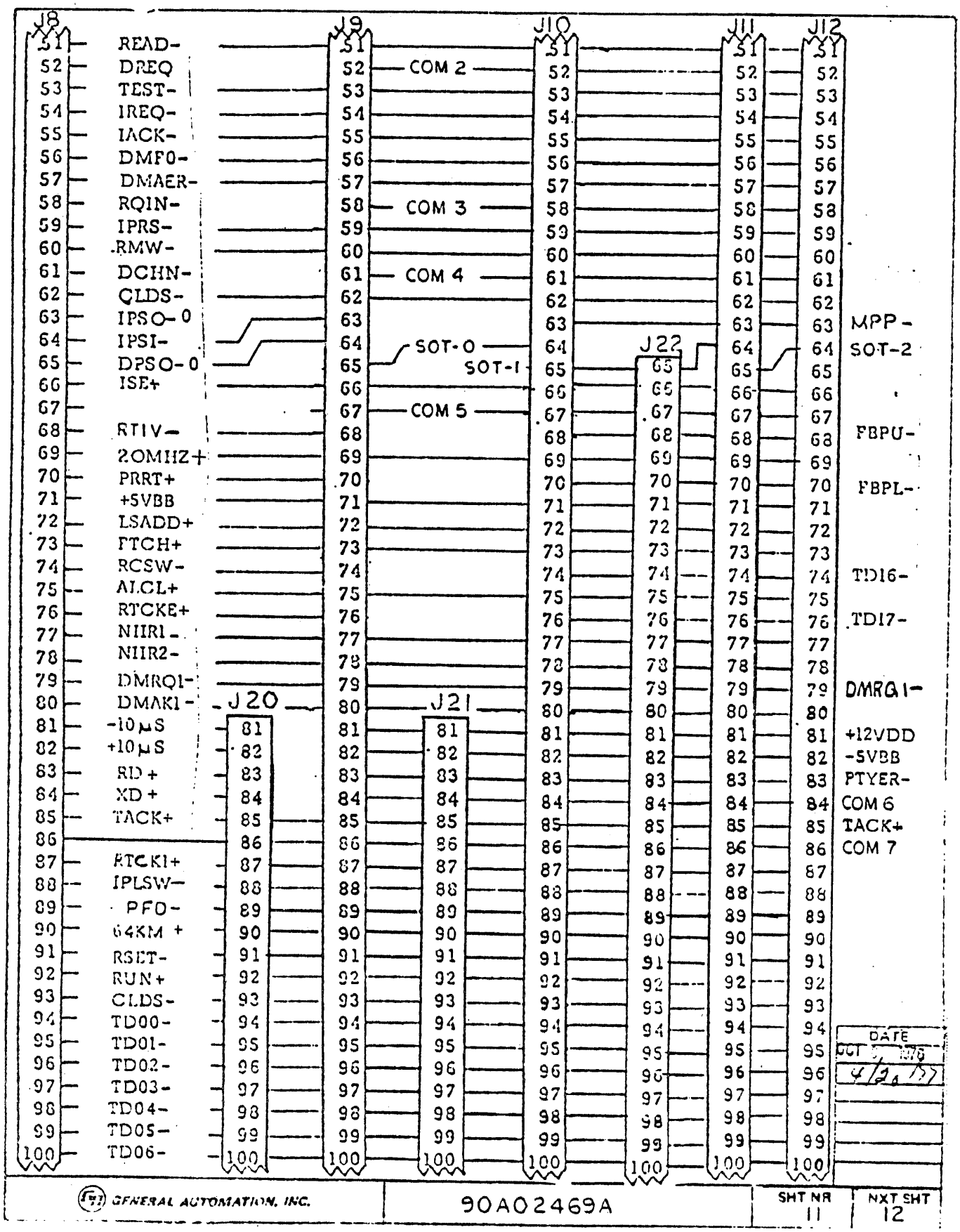
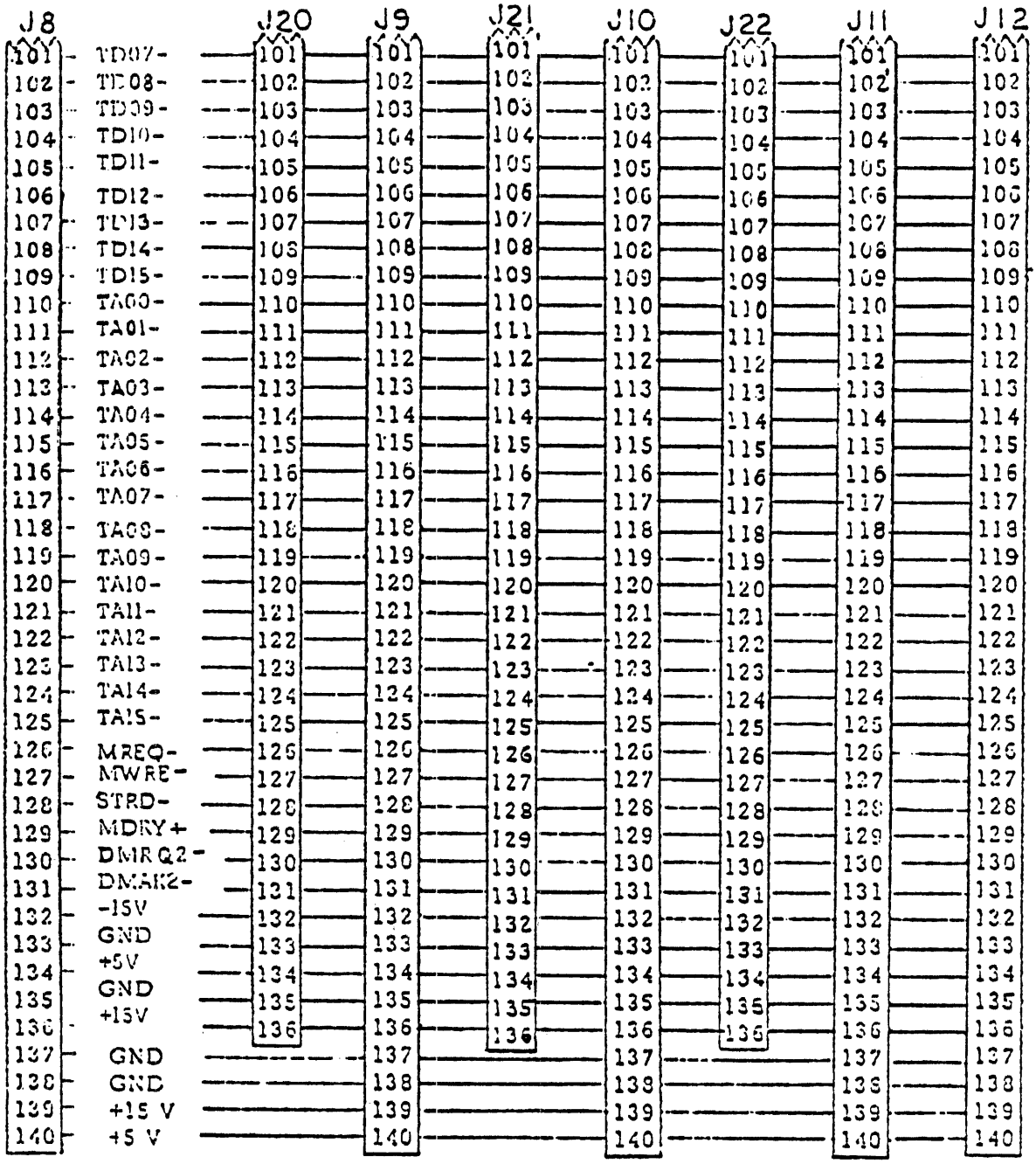
DATE
OCT. 5 1976
4/20/77
GENERAL AUTOMATION, INC.
90A02469A
SHT NR 9
NXT SHT 10


J8
J9
J10
J11
J12
1 — +5V
2 — -15V
3 — GND
4 — GND
5 — INB00-
6 — INB01-
7 — INB02-
8 — INB03-
9 — INB04-
10 — INB05-
11 — INB06-
12 — INB07-
13 — INB08-
14 — INB09-
15 — INB10-
16 — INB11-
17 — INB12-
18 — INB13-
19 — INB14-
20 — INB15-
21 — OTB00-
22 — OTB01-
23 — OTB02-
24 — OTB03-
25 — OTB04-
26 — OTB05-
27 — OTB06-
28 — OTB07-
29 — OTB08-
30 — OTB09-
31 — OTB10-
32 — OTB11-
33 — OTB12-
34 — OTB13-
35 — OTB14-
36 — OTB15-
37 — FAP-
38 — DTP-
39 — DDTP-
40 — POLL-
41 — D3-
42 — SYNC-
43 — SPEC-
44 — COMI
45 — MEMPR-
46 — SYRT-
47 — IHLD-
48 — CNTL-
49 — WRIT-
50 — DACK-
MEMPY-
DATE
OCT 2 1978
1/20/17
GENERAL AUTOMATION, INC.
90A02469A
SHT NR
10
NXT SHT
11


J8
J9
J10
J11
J12
J20
J21
J22
READ-
DREQ
TEST-
IREQ-
IACK-
DMF0-
DMAER-
RQIN-
IPRS-
RMW-
DCHN-
CLDS-
IPSO-0
IPSI-
DPSO-0
ISE+
RTIV-
20MHZ+
PRRT+
+5VBB
LSADD+
FTCH+
RCSW-
ALCL+
RTCKE+
NIIR1-
NIIR2-
DMRQ1-
DMAK1-
-10μS
+10μS
RD+
XD+
TACK+
RTCK1+
IPLSW-
PFO-
64KM+
RSET-
RUN+
CLDS-
TD00-
TD01-
TD02-
TD03-
TD04-
TD05-
TD06-
COM 2
COM 3
COM 4
SOT-0
SOT-1
COM 5
MPP-
SOT-2
FBPU-
FBPL-
TD16-
TD17-
DMRQ1-
+12VDD
-5VBB
PTYER-
COM 6
TACK+
COM 7
DATE
OCT
4/26/77
GENERAL AUTOMATION, INC.
90A02469A
SHT NR
11
NXT SHT
12



J8 - CNTL PROCESSOR UNIT

J9, J10, J11 - MEMORY

J12 - AUX POWER MEMORY

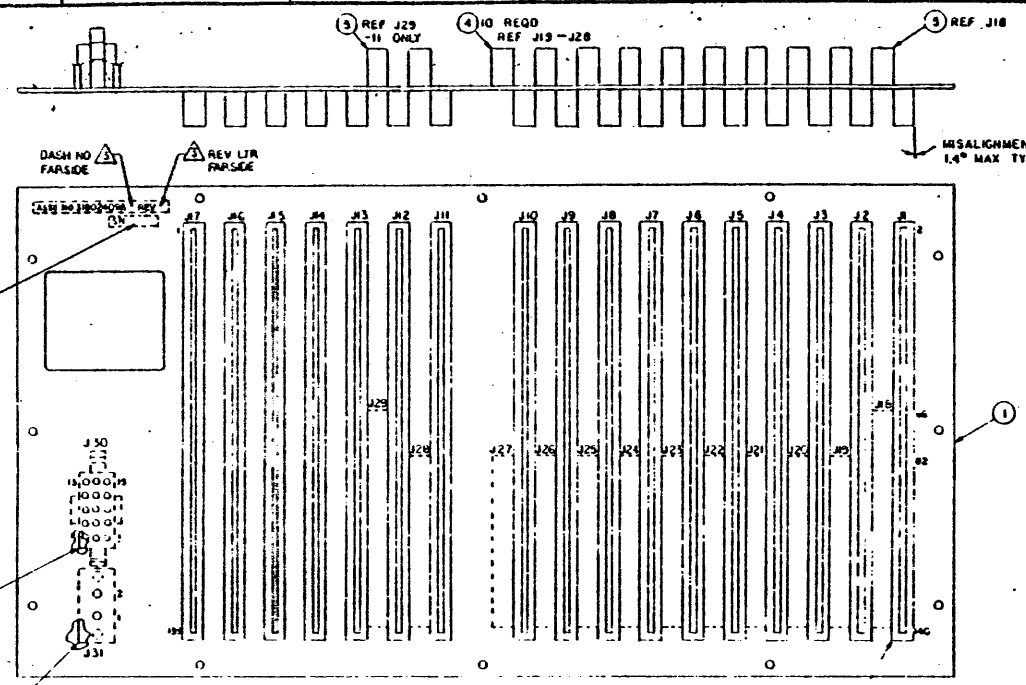
DATE
OCT [illegible]
4/20/77

GENERAL AUTOMATION, INC.	90A02469A	SHT NR 12	NXT SHT 13

J13

1	
2	GND
3	GND SENSE
4	
5	GND
6	GND
7	GND
8	GND
9	
10	+15V
11	+5V
12	PFD-
13	-15V
14	+5V
15	+5V

DATE
OCT. 8 1976
4/30/77



REVISION			
SYM	DESCRIPTION	DATE	APPROVED
A	ENG. RELEASE	6A-12-	
B	RESERVED FOR OUTSTANDING ECO-5145		
C	REVISED PER ECO 6542 INCORPORATED ECO 5956	4-[illegible]-77	
D	REVISED PER ECO 8879 PRODUCTION RELEASE	[illegible]	
E	REVISED PER ECO-12170	[illegible]	SEB
F	REVISED PER ECO-12507	[illegible]	SEB

JUMPER WIRE TABLE
REV	NO	FROM	TO
C	1	J1-19	J2-19

NOTES:

1. FOR PLATING AND JUMPER WIRE TABLES INDICATE FUNCTIONAL IMPLEMENTATION ONLY. PHYSICAL PLACEMENT MAY VARY IN ORDER TO OPTIMIZE ROUTING. (REF WORKMANSHIP STANDARDS 8A00017A)
11.
10. ASSY SHALL BE INSPECTED TO AQL OF 1.0 PER MIL-STD-105
9.
8. MAX CONNECTOR LEAD PROTRUSION .050
7. HAND SOLDER IN PLACE
6. ASSY CONTINUITY CHECK SHALL BE AT 1.0 AQL LEVEL, REFERENCE MIL-STD-105D LEVEL II, TABLE IIA
5. CONNECTOR TO P.C.B. ASSY TO MEET THE REQUIREMENTS OF G.A. SPEC 83S00027A.
4.
3. ASSEMBLE AND IDENTIFY PER WORKMANSHIP STANDARD 8A00017A
2. REF BOARD DETAIL 31D02479A
1. REF LOGIC INTERCONNECT DIAGRAM 30A02403A, REV B

NOTES: UNLESS OTHERWISE SPECIFIED

SEE PARTS LIST 31P02409A

QTY REQD	QTY REQD	QTY REQD	QTY REQD	QTY REQD	QTY REQD	QTY REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPEC., MFG., MATERIAL	SPECIFICATIONS, VENDORS, NOTES	ITEM NO.
								LIST OF MATERIALS OR PARTS LIST			
			1								
16/220	-11	12DC0405A									
16/11 0	- 01	12DC0405A									
MODEL NO.	DASH NO.	NEXT ASSEMBLY									
FIRST USED ON (ECO)											

DIMENSIONS ARE IN INCHES	DR	D. Bell 5-17-76
TOLERANCES (UNLESS OTHERWISE SPECIFIED) .X ±.1 .XX ±.03 .XXX ±.010 ANGLES ±1°	ENG	[illegible]
DRILLED HOLES PER ANSI B32.1	ENGR	[illegible]
ALL MACHINED SURFACES	APPD	[illegible] 6A-12-
	APPD	
	MFG	[illegible]

GENERAL AUTOMATION, INC.

MASTER INTERCONNECTION BOARD, JUMBO SYSTEM, ASSY OF

SIZE	DWG NO	REV
D	31D02409A	F

SCALE 1/2 | WT. NO. 1 | SHT 1 OF 1

NOTES:

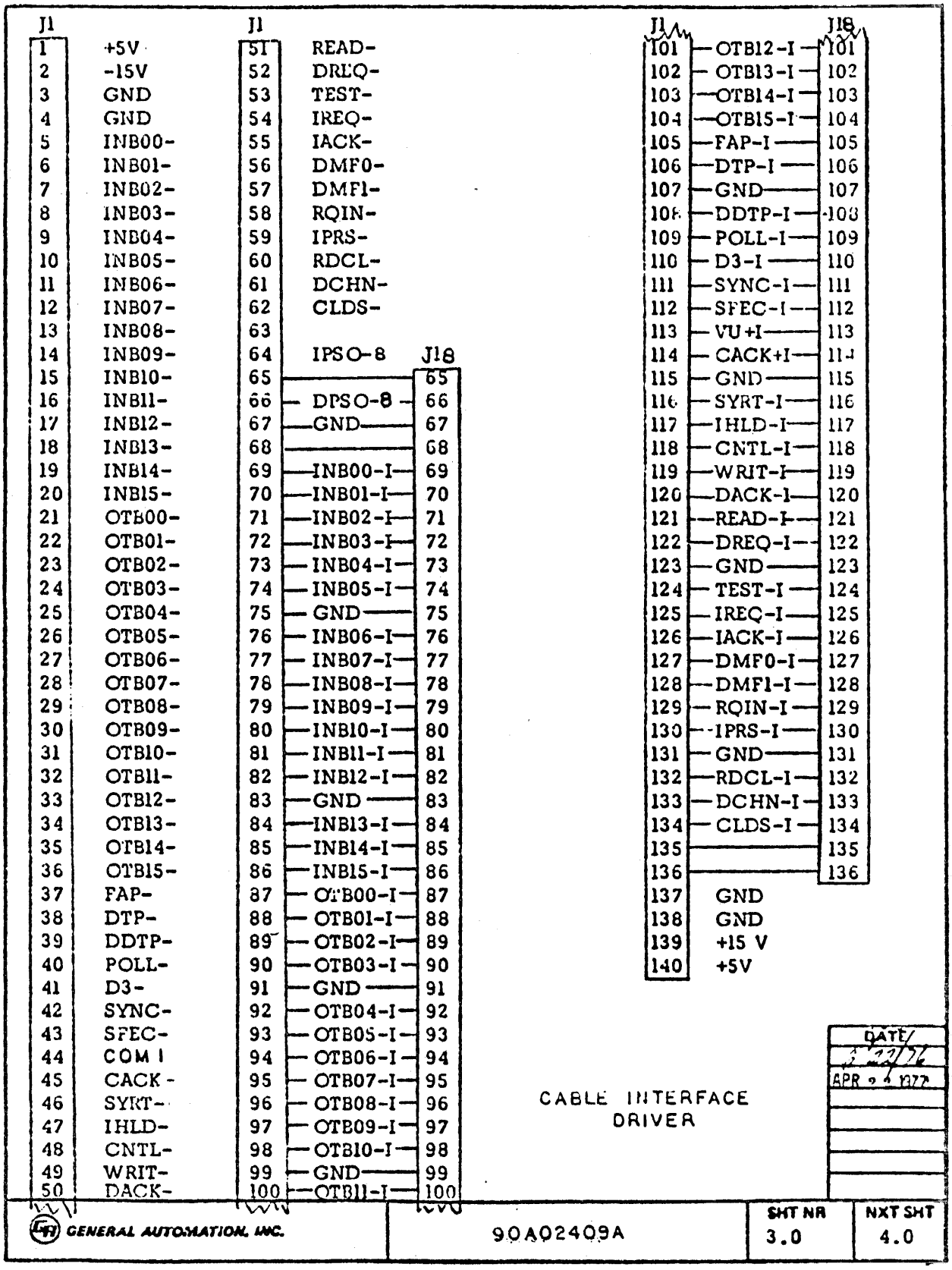
DRN D. Dowling		Date 5-18-76		GENERAL AUTOMATION INC.
CHK		Date 16 JUL 76		
ENG		Date 6-21-76		LOGIC INTERCONNECT DIAGRAM - JUMBO M.I.B.
APPR		Date 6/21/76		
APPR		Date		
APPR		Date		
REL BY		SHT NR 1	NXT SHT 2	90A02409A REV B
REL Date	6/22/76			

Form No. 97A00019A

REVISIONS			
SYM	DESCRIPTION	APPR	Date
A	ENGINEERING RELEASE		
B	REVISED PER ECO 6592 JW 4-14-77		4/18/77
B	REVISED PER ECO-5871 RD 9-22-77		4/22/

GENERAL AUTOMATION INC.	SHT NR	NEXT SHT		REV
	2.0	3.0	90A02409A	B

Form No. 97A00020A


J1
1 +5V
2 -15V
3 GND
4 GND
5 INB00-
6 INB01-
7 INB02-
8 INB03-
9 INB04-
10 INB05-
11 INB06-
12 INB07-
13 INB08-
14 INB09-
15 INB10-
16 INB11-
17 INB12-
18 INB13-
19 INB14-
20 INB15-
21 OTB00-
22 OTB01-
23 OTB02-
24 OTB03-
25 OTB04-
26 OTB05-
27 OTB06-
28 OTB07-
29 OTB08-
30 OTB09-
31 OTB10-
32 OTB11-
33 OTB12-
34 OTB13-
35 OTB14-
36 OTB15-
37 FAP-
38 DTP-
39 DDTP-
40 POLL-
41 D3-
42 SYNC-
43 SFEC-
44 COM I
45 CACK-
46 SYRT-
47 IHLD-
48 CNTL-
49 WRIT-
50 DACK-
J1
51 READ-
52 DREQ-
53 TEST-
54 IREQ-
55 IACK-
56 DMF0-
57 DMF1-
58 RQIN-
59 IPRS-
60 RDCL-
61 DCHN-
62 CLDS-
63
64 IPSO-8
65
66 DPSO-8
67 GND
68
69 INB00-I
70 INB01-I
71 INB02-I
72 INB03-I
73 INB04-I
74 INB05-I
75 GND
76 INB06-I
77 INB07-I
78 INB08-I
79 INB09-I
80 INB10-I
81 INB11-I
82 INB12-I
83 GND
84 INB13-I
85 INB14-I
86 INB15-I
87 OTB00-I
88 OTB01-I
89 OTB02-I
90 OTB03-I
91 GND
92 OTB04-I
93 OTB05-I
94 OTB06-I
95 OTB07-I
96 OTB08-I
97 OTB09-I
98 OTB10-I
99 GND
100 OTB11-I
J18
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97
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99
100
J1
101 OTB12-I
102 OTB13-I
103 OTB14-I
104 OTB15-I
105 FAP-I
106 DTP-I
107 GND
108 DDTP-I
109 POLL-I
110 D3-I
111 SYNC-I
112 SFEC-I
113 VU+I
114 CACK+I
115 GND
116 SYRT-I
117 IHLD-I
118 CNTL-I
119 WRIT-I
120 DACK-I
121 READ-I
122 DREQ-I
123 GND
124 TEST-I
125 IREQ-I
126 IACK-I
127 DMF0-I
128 DMF1-I
129 RQIN-I
130 IPRS-I
131 GND
132 RDCL-I
133 DCHN-I
134 CLDS-I
135
136
137 GND
138 GND
139 +15 V
140 +5V
J18
101
102
103
104
105
106
107
108
109
110
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112
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114
115
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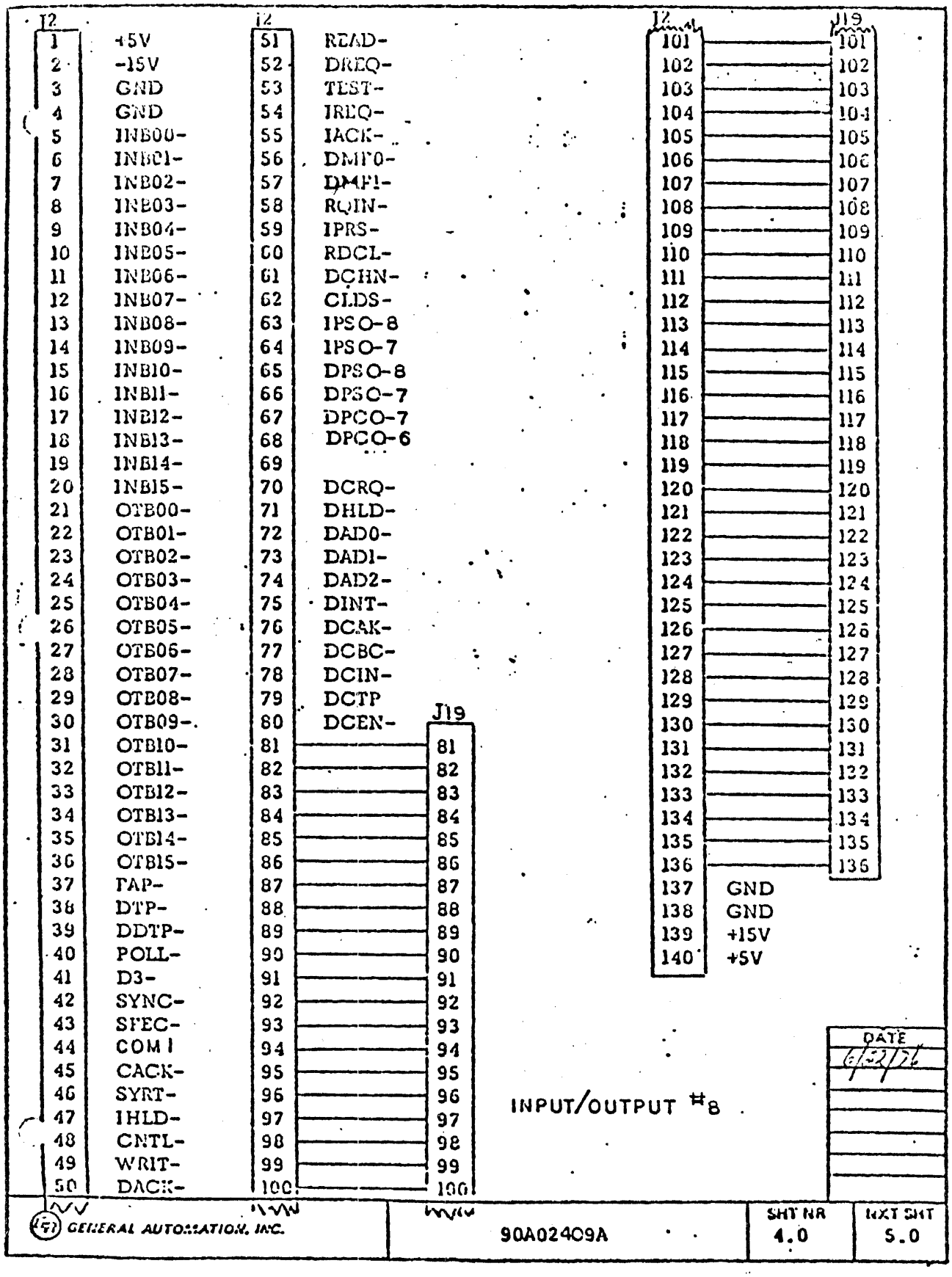
DATE
APR
CABLE INTERFACE
DRIVER
GENERAL AUTOMATION, INC.
90A02409A
SHT NR
3.0
NXT SHT
4.0


J2
1 +5V
2 -15V
3 GND
4 GND
5 INB00-
6 INB01-
7 INB02-
8 INB03-
9 INB04-
10 INB05-
11 INB06-
12 INB07-
13 INB08-
14 INB09-
15 INB10-
16 INB11-
17 INB12-
18 INB13-
19 INB14-
20 INB15-
21 OTB00-
22 OTB01-
23 OTB02-
24 OTB03-
25 OTB04-
26 OTB05-
27 OTB06-
28 OTB07-
29 OTB08-
30 OTB09-
31 OTB10-
32 OTB11-
33 OTB12-
34 OTB13-
35 OTB14-
36 OTB15-
37 PAP-
38 DTP-
39 DDTP-
40 POLL-
41 D3-
42 SYNC-
43 SPEC-
44 COM I
45 CACK-
46 SYRT-
47 IHLD-
48 CNTL-
49 WRIT-
50 DACK-
J2
51 READ-
52 DREQ-
53 TEST-
54 IREQ-
55 IACK-
56 DMF0-
57 DMF1-
58 RQIN-
59 IPRS-
60 RDCL-
61 DCHN-
62 CLDS-
63 IPSO-8
64 IPSO-7
65 DPSO-8
66 DPSO-7
67 DPCO-7
68 DPCO-6
69
70 DCRQ-
71 DHLD-
72 DAD0-
73 DAD1-
74 DAD2-
75 DINT-
76 DCAK-
77 DCBC-
78 DCIN-
79 DCTP
80 DCEN-
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
J19
81
82
83
84
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96
97
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99
100
J2
101
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116
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118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137 GND
138 GND
139 +15V
140 +5V
J19
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
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131
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134
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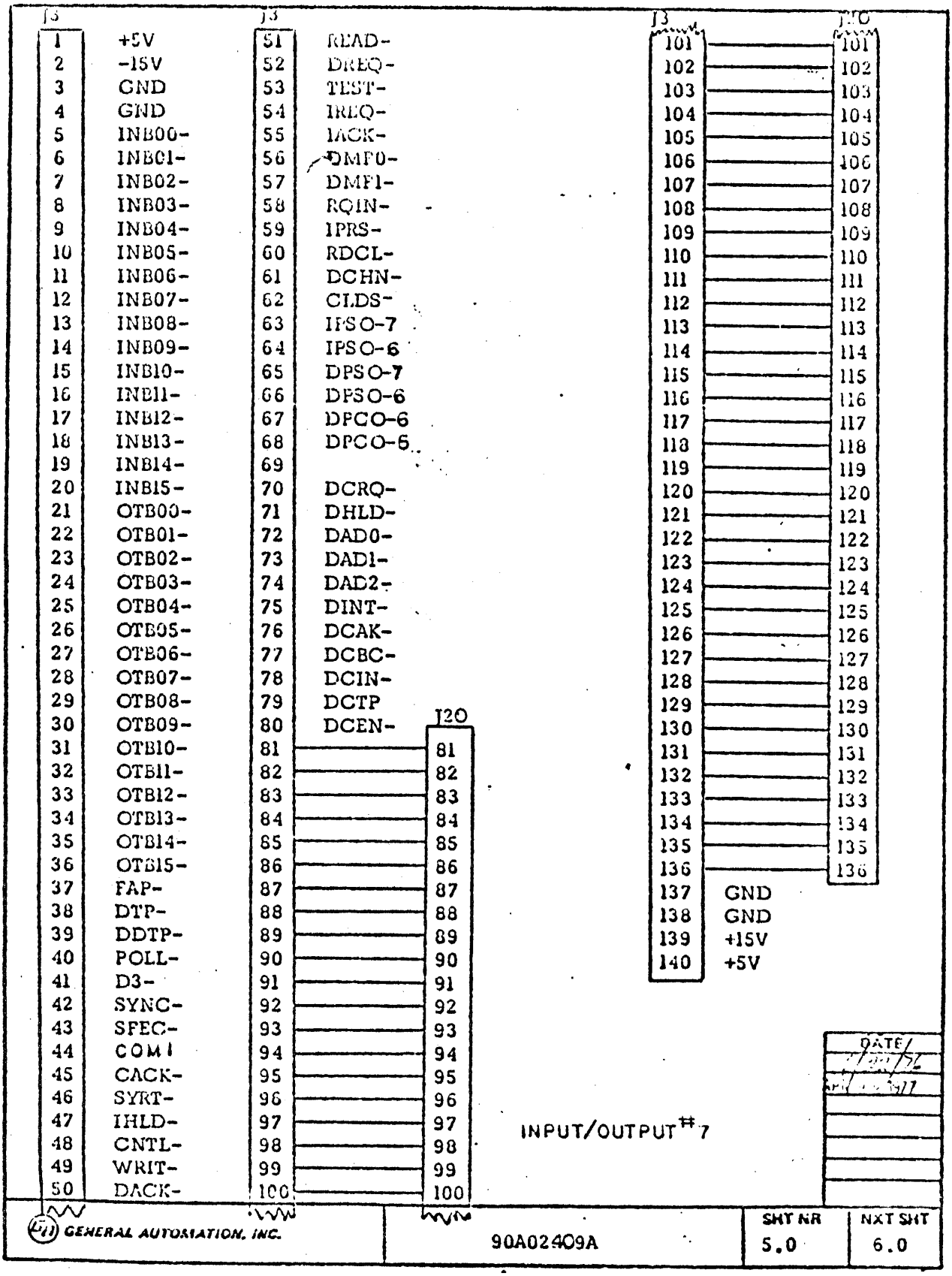
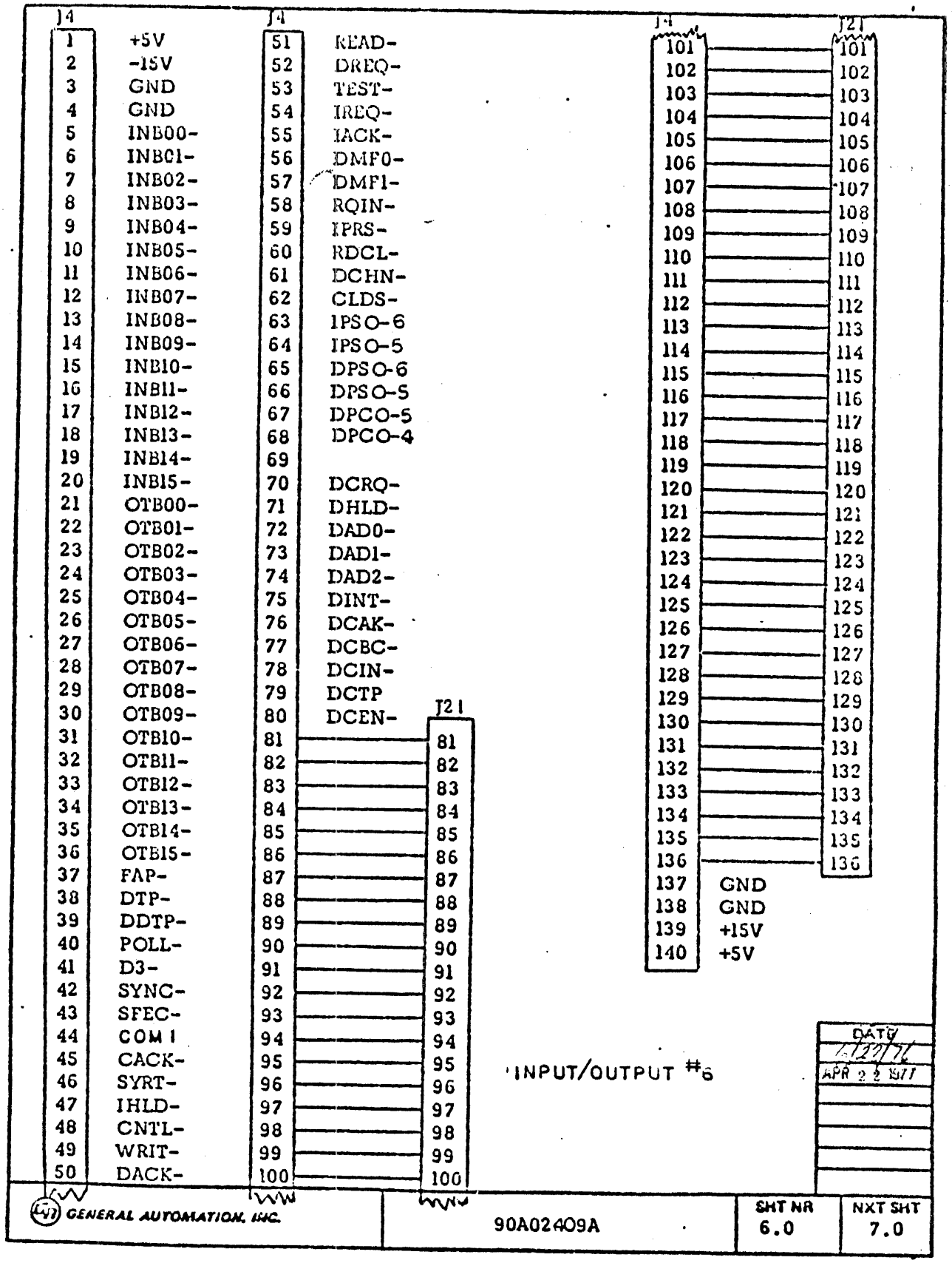
136
INPUT/OUTPUT #8
DATE
6/22/76
GENERAL AUTOMATION, INC.
90A02409A
SHT NR
4.0
NXT SHT
5.0


J3
1 +5V
2 -15V
3 GND
4 GND
5 INB00-
6 INB01-
7 INB02-
8 INB03-
9 INB04-
10 INB05-
11 INB06-
12 INB07-
13 INB08-
14 INB09-
15 INB10-
16 INB11-
17 INB12-
18 INB13-
19 INB14-
20 INB15-
21 OTB00-
22 OTB01-
23 OTB02-
24 OTB03-
25 OTB04-
26 OTB05-
27 OTB06-
28 OTB07-
29 OTB08-
30 OTB09-
31 OTB10-
32 OTB11-
33 OTB12-
34 OTB13-
35 OTB14-
36 OTB15-
37 FAP-
38 DTP-
39 DDTP-
40 POLL-
41 D3-
42 SYNC-
43 SFEC-
44 COMI
45 CACK-
46 SYRT-
47 IHLD-
48 CNTL-
49 WRIT-
50 DACK-
J3
51 READ-
52 DREQ-
53 TEST-
54 IREQ-
55 IACK-
56 DMF0-
57 DMF1-
58 RQIN-
59 IPRS-
60 RDCL-
61 DCHN-
62 CLDS-
63 IPSO-7
64 IPSO-6
65 DPSO-7
66 DPSO-6
67 DPCO-6
68 DPCO-5
69
70 DCRQ-
71 DHLD-
72 DAD0-
73 DAD1-
74 DAD2-
75 DINT-
76 DCAK-
77 DCBC-
78 DCIN-
79 DCTP
80 DCEN-
J20
81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
J3
101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136
137 GND
138 GND
139 +15V
140 +5V
J10
101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136
DATE
INPUT/OUTPUT #7
GENERAL AUTOMATION, INC.
90A02409A
SHT NR 5.0
NXT SHT 6.0


J4
1 +5V
2 -15V
3 GND
4 GND
5 INB00-
6 INBC1-
7 INB02-
8 INB03-
9 INB04-
10 INB05-
11 INB06-
12 INB07-
13 INB08-
14 INB09-
15 INB10-
16 INB11-
17 INB12-
18 INB13-
19 INB14-
20 INB15-
21 OTB00-
22 OTB01-
23 OTB02-
24 OTB03-
25 OTB04-
26 OTB05-
27 OTB06-
28 OTB07-
29 OTB08-
30 OTB09-
31 OTB10-
32 OTB11-
33 OTB12-
34 OTB13-
35 OTB14-
36 OTB15-
37 FAP-
38 DTP-
39 DDTP-
40 POLL-
41 D3-
42 SYNC-
43 SFEC-
44 COM I
45 CACK-
46 SYRT-
47 IHLD-
48 CNTL-
49 WRIT-
50 DACK-
J4
51 READ-
52 DREQ-
53 TEST-
54 IREQ-
55 IACK-
56 DMF0-
57 DMF1-
58 RQIN-
59 IPRS-
60 RDCL-
61 DCHN-
62 CLDS-
63 IPSO-6
64 IPSO-5
65 DPSO-6
66 DPSO-5
67 DPCO-5
68 DPCO-4
69
70 DCRQ-
71 DHLD-
72 DAD0-
73 DAD1-
74 DAD2-
75 DINT-
76 DCAK-
77 DCBC-
78 DCIN-
79 DCTP
80 DCEN-
81
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83
84
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90
91
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J21
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J4
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133
134
135
136
137 GND
138 GND
139 +15V
140 +5V
J21
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113
114
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116
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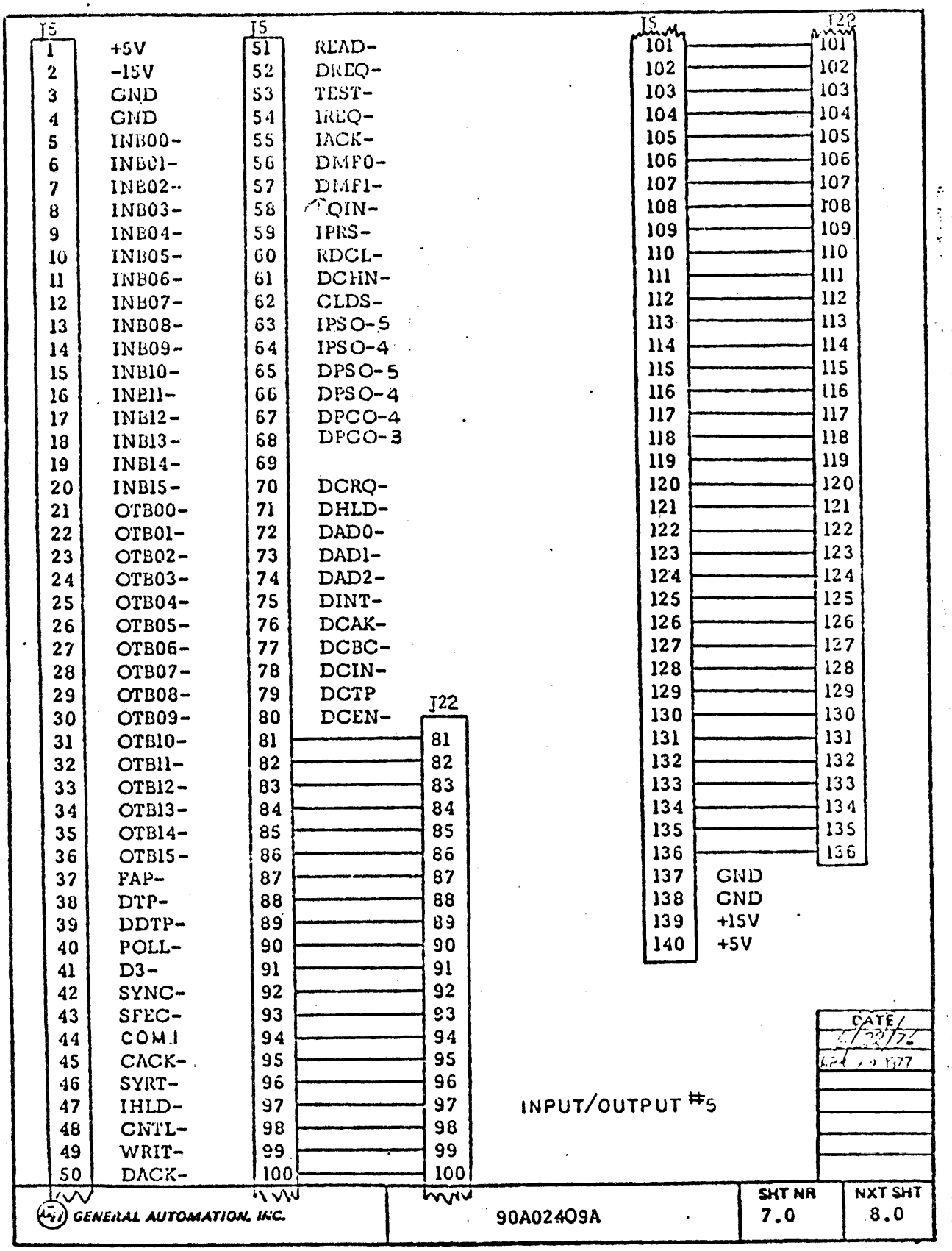
INPUT/OUTPUT #6
DATE
4/29/76
APR 22 1977
GENERAL AUTOMATION, INC.
90A02409A
SHT NR
6.0
NXT SHT
7.0


J5
1 +5V
2 -15V
3 GND
4 GND
5 INB00-
6 INB01-
7 INB02-
8 INB03-
9 INB04-
10 INB05-
11 INB06-
12 INB07-
13 INB08-
14 INB09-
15 INB10-
16 INB11-
17 INB12-
18 INB13-
19 INB14-
20 INB15-
21 OTB00-
22 OTB01-
23 OTB02-
24 OTB03-
25 OTB04-
26 OTB05-
27 OTB06-
28 OTB07-
29 OTB08-
30 OTB09-
31 OTB10-
32 OTB11-
33 OTB12-
34 OTB13-
35 OTB14-
36 OTB15-
37 FAP-
38 DTP-
39 DDTP-
40 POLL-
41 D3-
42 SYNC-
43 SFEC-
44 COMI
45 CACK-
46 SYRT-
47 IHLD-
48 CNTL-
49 WRIT-
50 DACK-
J5
51 READ-
52 DREQ-
53 TEST-
54 IREQ-
55 IACK-
56 DMF0-
57 DMF1-
58 QIN-
59 IPRS-
60 RDCL-
61 DCHN-
62 CLDS-
63 IPSO-5
64 IPSO-4
65 DPSO-5
66 DPSO-4
67 DPCO-4
68 DPCO-3
69
70 DCRQ-
71 DHLD-
72 DAD0-
73 DAD1-
74 DAD2-
75 DINT-
76 DCAK-
77 DCBC-
78 DCIN-
79 DCTP
80 DCEN-
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
J22
81
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J5
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128
129
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131
132
133
134
135
136
137 GND
138 GND
139 +15V
140 +5V
J22
101
102
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106
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110
111
112
113
114
115
116
117
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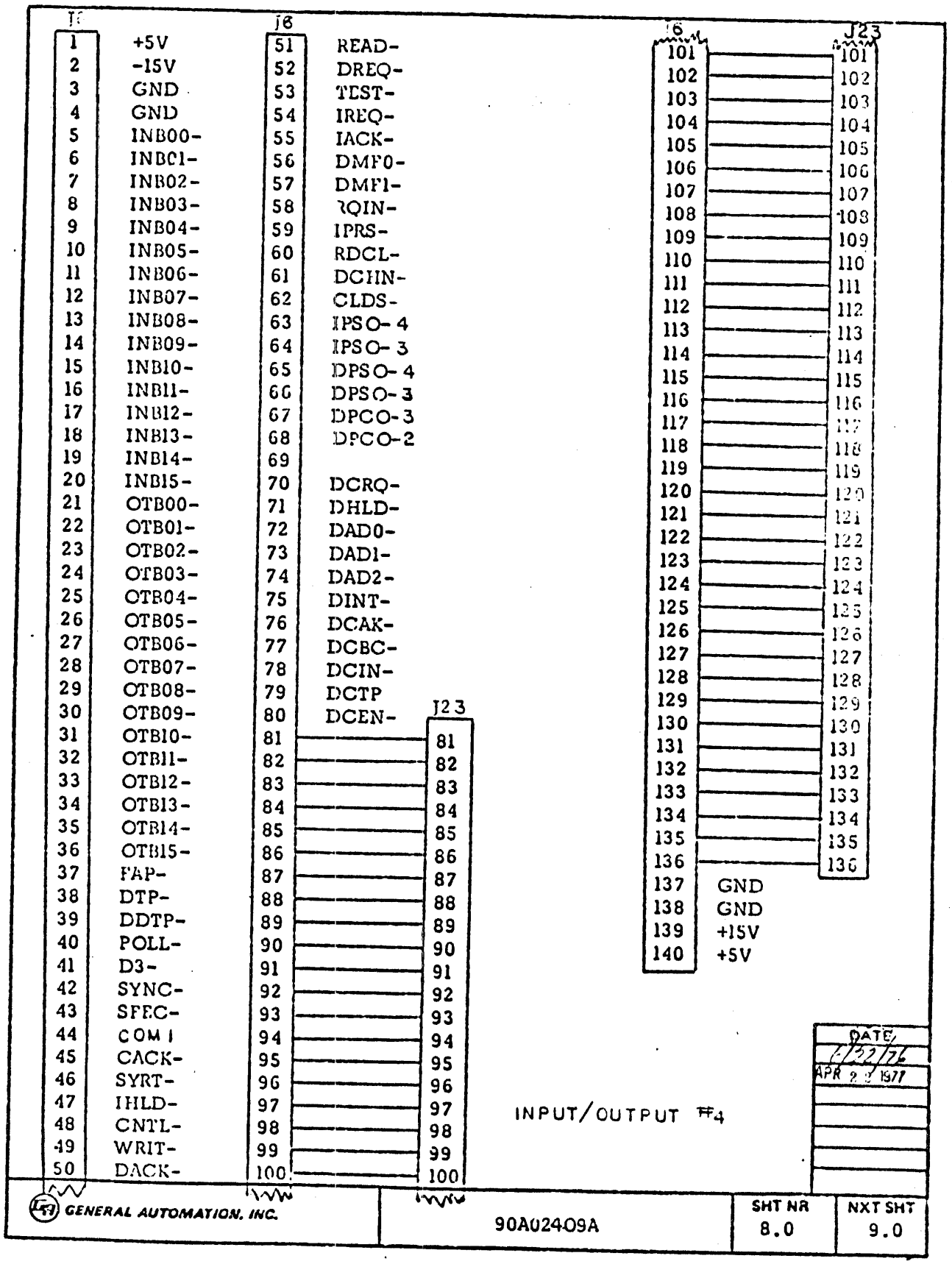
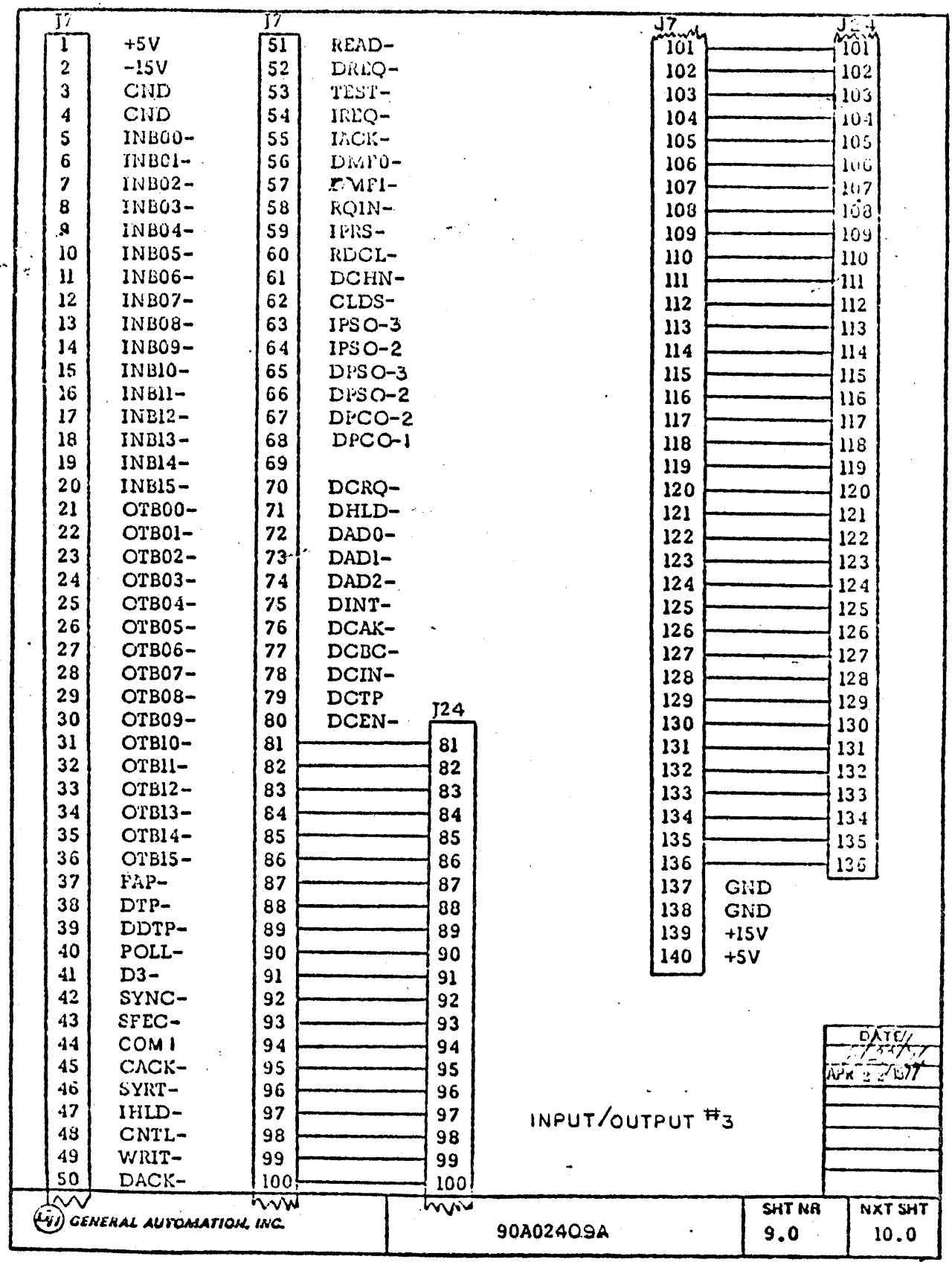
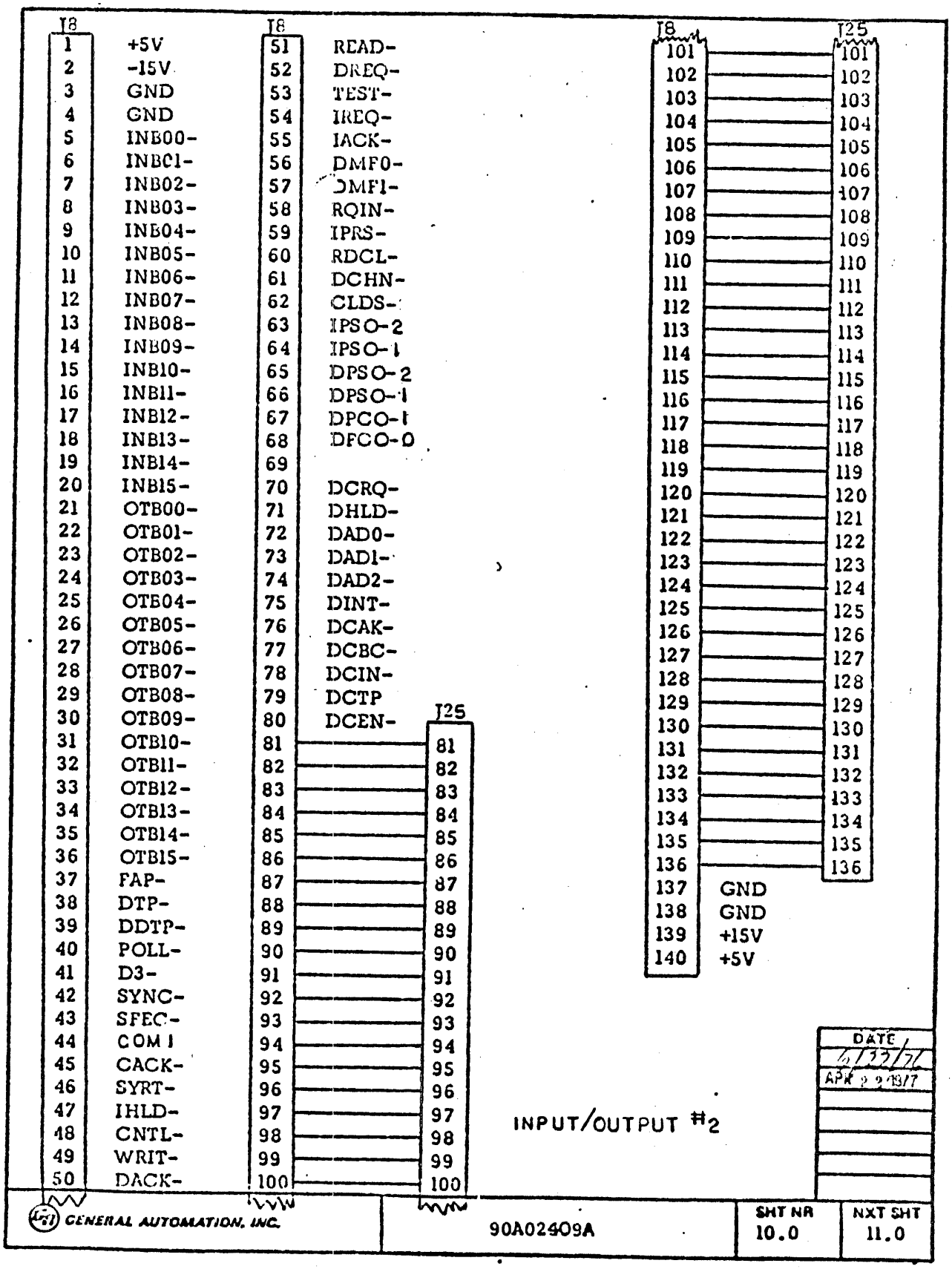
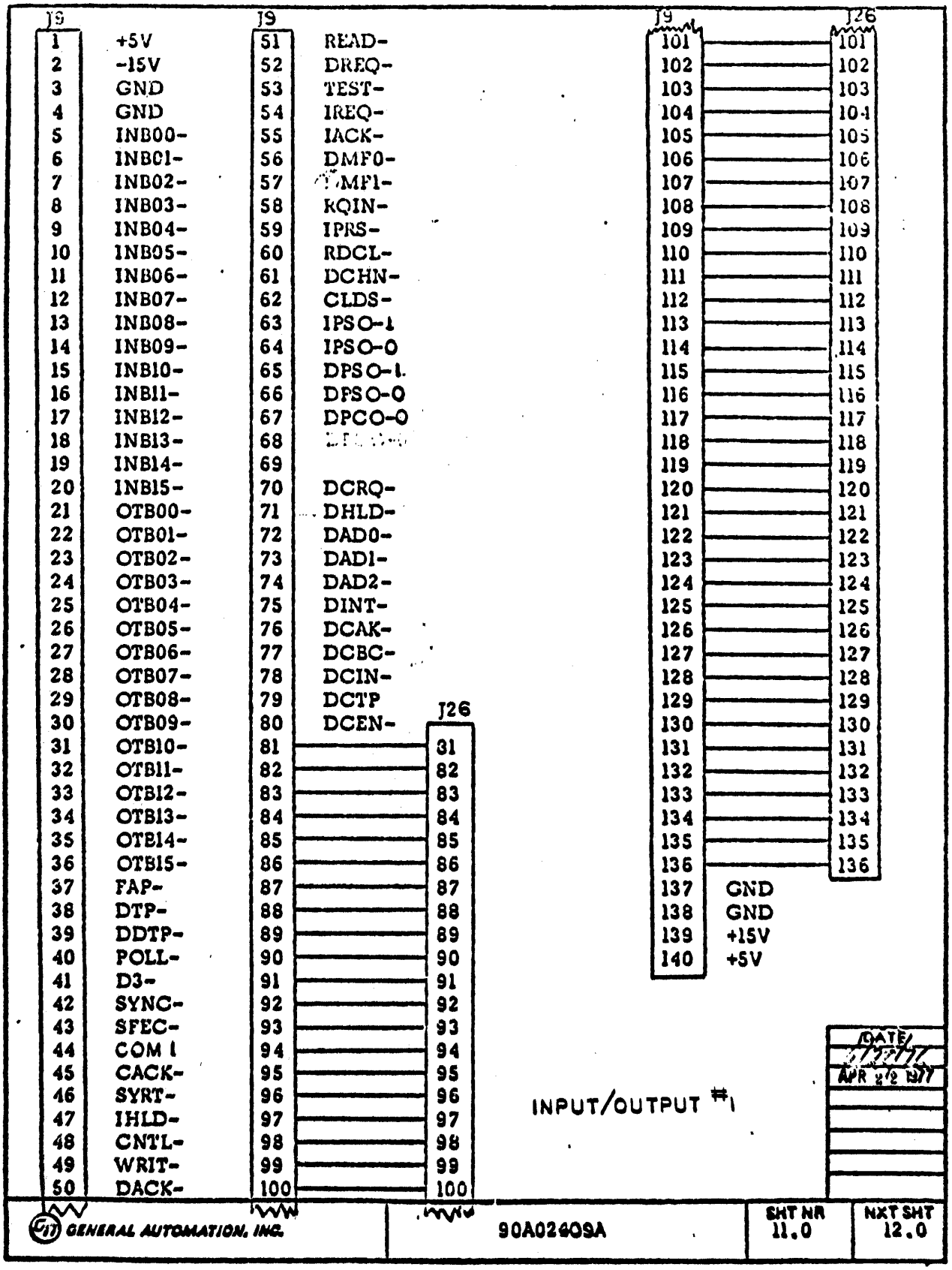
DATE
INPUT/OUTPUT #5
GENERAL AUTOMATION, INC.
90A02409A
SHT NR
7.0
NXT SHT
8.0


J1
1 +5V
2 -15V
3 GND
4 GND
5 INB00-
6 INB01-
7 INB02-
8 INB03-
9 INB04-
10 INB05-
11 INB06-
12 INB07-
13 INB08-
14 INB09-
15 INB10-
16 INB11-
17 INB12-
18 INB13-
19 INB14-
20 INB15-
21 OTB00-
22 OTB01-
23 OTB02-
24 OTB03-
25 OTB04-
26 OTB05-
27 OTB06-
28 OTB07-
29 OTB08-
30 OTB09-
31 OTB10-
32 OTB11-
33 OTB12-
34 OTB13-
35 OTB14-
36 OTB15-
37 FAP-
38 DTP-
39 DDTP-
40 POLL-
41 D3-
42 SYNC-
43 SFEC-
44 COM I
45 CACK-
46 SYRT-
47 IHLD-
48 CNTL-
49 WRIT-
50 DACK-
J8
51 READ-
52 DREQ-
53 TEST-
54 IREQ-
55 IACK-
56 DMF0-
57 DMF1-
58 RQIN-
59 IPRS-
60 RDCL-
61 DCHN-
62 CLDS-
63 IPSO-4
64 IPSO-3
65 DPSO-4
66 DPSO-3
67 DPCO-3
68 DPCO-2
69
70 DCRQ-
71 DHLD-
72 DAD0-
73 DAD1-
74 DAD2-
75 DINT-
76 DCAK-
77 DCBC-
78 DCIN-
79 DCTP
80 DCEN-
J23
81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
J6
101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136
137 GND
138 GND
139 +15V
140 +5V
J23
101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136
INPUT/OUTPUT #4
DATE
6/22/76
APR 2 9 1977
GENERAL AUTOMATION, INC.
90A0240-9A
SHT NR
8.0
NXT SHT
9.0


J7
1 +5V
2 -15V
3 GND
4 GND
5 INB00-
6 INB01-
7 INB02-
8 INB03-
9 INB04-
10 INB05-
11 INB06-
12 INB07-
13 INB08-
14 INB09-
15 INB10-
16 INB11-
17 INB12-
18 INB13-
19 INB14-
20 INB15-
21 OTB00-
22 OTB01-
23 OTB02-
24 OTB03-
25 OTB04-
26 OTB05-
27 OTB06-
28 OTB07-
29 OTB08-
30 OTB09-
31 OTB10-
32 OTB11-
33 OTB12-
34 OTB13-
35 OTB14-
36 OTB15-
37 FAP-
38 DTP-
39 DDTP-
40 POLL-
41 D3-
42 SYNC-
43 SFEC-
44 COM I
45 CACK-
46 SYRT-
47 IHLD-
48 CNTL-
49 WRIT-
50 DACK-
J7
51 READ-
52 DREQ-
53 TEST-
54 IREQ-
55 IACK-
56 DMT0-
57 DMT1-
58 RQIN-
59 IPRS-
60 RDCL-
61 DCHN-
62 CLDS-
63 IPSO-3
64 IPSO-2
65 DPSO-3
66 DPSO-2
67 DPCO-2
68 DPCO-1
69
70 DCRQ-
71 DHLD-
72 DAD0-
73 DAD1-
74 DAD2-
75 DINT-
76 DCAK-
77 DCBC-
78 DCIN-
79 DCTP
80 DCEN-
J24
81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
J7
101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136
137 GND
138 GND
139 +15V
140 +5V
J24
101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136
DATE
APR 2 2 1977
INPUT/OUTPUT #3
GENERAL AUTOMATION, INC.
90A0240-9A
SHT NR
9.0
NXT SHT
10.0


J8
1 +5V
2 -15V
3 GND
4 GND
5 INB00-
6 INB01-
7 INB02-
8 INB03-
9 INB04-
10 INB05-
11 INB06-
12 INB07-
13 INB08-
14 INB09-
15 INB10-
16 INB11-
17 INB12-
18 INB13-
19 INB14-
20 INB15-
21 OTB00-
22 OTB01-
23 OTB02-
24 OTB03-
25 OTB04-
26 OTB05-
27 OTB06-
28 OTB07-
29 OTB08-
30 OTB09-
31 OTB10-
32 OTB11-
33 OTB12-
34 OTB13-
35 OTB14-
36 OTB15-
37 FAP-
38 DTP-
39 DDTP-
40 POLL-
41 D3-
42 SYNC-
43 SFEC-
44 COM I
45 CACK-
46 SYRT-
47 IHLD-
48 CNTL-
49 WRIT-
50 DACK-
J8
51 READ-
52 DREQ-
53 TEST-
54 IREQ-
55 IACK-
56 DMF0-
57 DMF1-
58 RQIN-
59 IPRS-
60 RDCL-
61 DCHN-
62 CLDS-
63 IPSO-2
64 IPSO-1
65 DPSO-2
66 DPSO-1
67 DPCO-1
68 DFCO-0
69
70 DCRQ-
71 DHLD-
72 DAD0-
73 DAD1-
74 DAD2-
75 DINT-
76 DCAK-
77 DCBC-
78 DCIN-
79 DCTP
80 DCEN-
J25
81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
J8
101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136
137 GND
138 GND
139 +15V
140 +5V
J25
101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136
DATE
6/22/76
APR 2 2 1977
INPUT/OUTPUT #2
GENERAL AUTOMATION, INC.
90A0240 9A
SHT NR
10.0
NXT SHT
11.0


J9
1 +5V
2 -15V
3 GND
4 GND
5 INB00-
6 INB01-
7 INB02-
8 INB03-
9 INB04-
10 INB05-
11 INB06-
12 INB07-
13 INB08-
14 INB09-
15 INB10-
16 INB11-
17 INB12-
18 INB13-
19 INB14-
20 INB15-
21 OTB00-
22 OTB01-
23 OTB02-
24 OTB03-
25 OTB04-
26 OTB05-
27 OTB06-
28 OTB07-
29 OTB08-
30 OTB09-
31 OTB10-
32 OTB11-
33 OTB12-
34 OTB13-
35 OTB14-
36 OTB15-
37 FAP-
38 DTP-
39 DDTP-
40 POLL-
41 D3-
42 SYNC-
43 SFEC-
44 COM I
45 CACK-
46 SYRT-
47 IHLD-
48 CNTL-
49 WRIT-
50 DACK-
J9
51 READ-
52 DREQ-
53 TEST-
54 IREQ-
55 IACK-
56 DMF0-
57 DMF1-
58 RQIN-
59 IPRS-
60 RDCL-
61 DCHN-
62 CLDS-
63 IPSO-1
64 IPSO-0
65 DPSO-1
66 DPSO-0
67 DPCO-0
68
69
70 DCRQ-
71 DHLD-
72 DAD0-
73 DAD1-
74 DAD2-
75 DINT-
76 DCAK-
77 DCBC-
78 DCIN-
79 DCTP
80 DCEN-
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J26
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J9
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132
133
134
135
136
137 GND
138 GND
139 +15V
140 +5V
J26
101
102
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112
113
114
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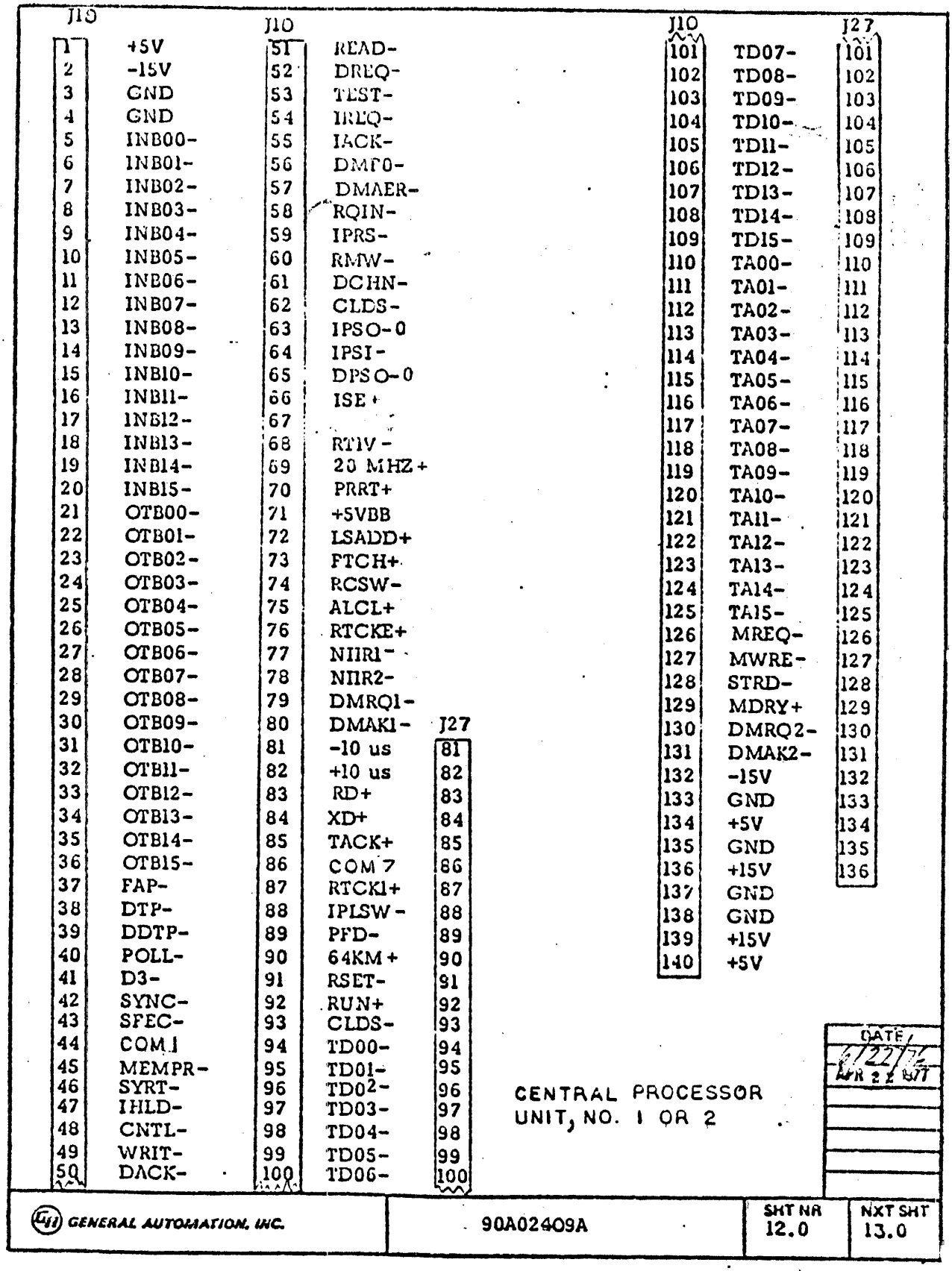
DATE
APR 2/2 1977
INPUT/OUTPUT #1
GENERAL AUTOMATION, INC.
90A0260SA
SHT NR 11.0
NXT SHT 12.0


J10
1 +5V
2 -15V
3 GND
4 GND
5 INB00-
6 INB01-
7 INB02-
8 INB03-
9 INB04-
10 INB05-
11 INB06-
12 INB07-
13 INB08-
14 INB09-
15 INB10-
16 INB11-
17 INB12-
18 INB13-
19 INB14-
20 INB15-
21 OTB00-
22 OTB01-
23 OTB02-
24 OTB03-
25 OTB04-
26 OTB05-
27 OTB06-
28 OTB07-
29 OTB08-
30 OTB09-
31 OTB10-
32 OTB11-
33 OTB12-
34 OTB13-
35 OTB14-
36 OTB15-
37 FAP-
38 DTP-
39 DDTP-
40 POLL-
41 D3-
42 SYNC-
43 SFEC-
44 COM1
45 MEMPR-
46 SYRT-
47 IHLD-
48 CNTL-
49 WRIT-
50 DACK-
J10
51 READ-
52 DREQ-
53 TEST-
54 IREQ-
55 IACK-
56 DMT0-
57 DMAER-
58 RQIN-
59 IPRS-
60 RMW-
61 DCHN-
62 CLDS-
63 IPSO-0
64 IPSI-
65 DPSO-0
66 ISE+
67
68 RTIV-
69 20 MHZ+
70 PRRT+
71 +5VBB
72 LSADD+
73 FTCH+
74 RCSW-
75 ALCL+
76 RTCKE+
77 NIIR1-
78 NIIR2-
79 DMRQ1-
80 DMAK1-
J27
81 -10 us
82 +10 us
83 RD+
84 XD+
85 TACK+
86 COM 7
87 RTCK1+
88 IPLSW-
89 PFD-
90 64KM+
91 RSET-
92 RUN+
93 CLDS-
94 TD00-
95 TD01-
96 TD02-
97 TD03-
98 TD04-
99 TD05-
100 TD06-
J10
101 TD07-
102 TD08-
103 TD09-
104 TD10-
105 TD11-
106 TD12-
107 TD13-
108 TD14-
109 TD15-
110 TA00-
111 TA01-
112 TA02-
113 TA03-
114 TA04-
115 TA05-
116 TA06-
117 TA07-
118 TA08-
119 TA09-
120 TA10-
121 TA11-
122 TA12-
123 TA13-
124 TA14-
125 TA15-
126 MREQ-
127 MWRE-
128 STRD-
129 MDRY+
130 DMRQ2-
131 DMAK2-
132 -15V
133 GND
134 +5V
135 GND
136 +15V
137 GND
138 GND
139 +15V
140 +5V
J27
101
102
103
104
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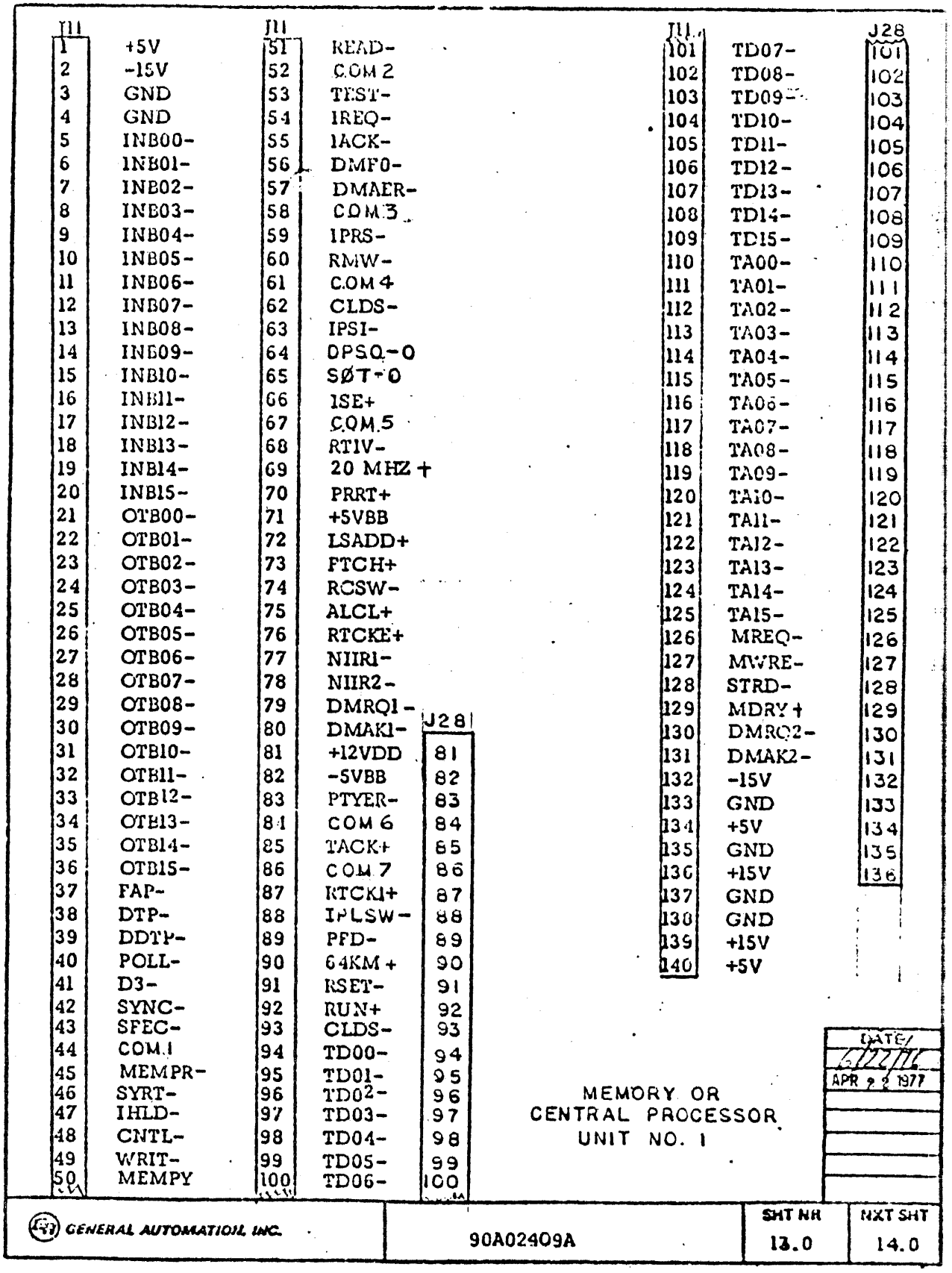
136
CENTRAL PROCESSOR
UNIT, NO. 1 OR 2
DATE
6/22/76
APR 2 2 BUT
GENERAL AUTOMATION, INC.
90A02409A
SHT NR
12.0
NXT SHT
13.0


J11
1 +5V
2 -15V
3 GND
4 GND
5 INB00-
6 INB01-
7 INB02-
8 INB03-
9 INB04-
10 INB05-
11 INB06-
12 INB07-
13 INB08-
14 INB09-
15 INB10-
16 INB11-
17 INB12-
18 INB13-
19 INB14-
20 INB15-
21 OTB00-
22 OTB01-
23 OTB02-
24 OTB03-
25 OTB04-
26 OTB05-
27 OTB06-
28 OTB07-
29 OTB08-
30 OTB09-
31 OTB10-
32 OTB11-
33 OTB12-
34 OTB13-
35 OTB14-
36 OTB15-
37 FAP-
38 DTP-
39 DDTP-
40 POLL-
41 D3-
42 SYNC-
43 SPEC-
44 COM.1
45 MEMPR-
46 SYRT-
47 IHLD-
48 CNTL-
49 WRIT-
50 MEMPY
J11
51 READ-
52 COM 2
53 TEST-
54 IREQ-
55 IACK-
56 DMF0-
57 DMAER-
58 COM 3
59 IPRS-
60 RMW-
61 COM 4
62 CLDS-
63 IPSI-
64 DPSQ-0
65 SØT-0
66 ISE+
67 COM 5
68 RTIV-
69 20 MHZ +
70 PRRT+
71 +5VBB
72 LSADD+
73 FTCH+
74 RCSW-
75 ALCL+
76 RTCKE+
77 NIIR1-
78 NIIR2-
79 DMRQ1-
80 DMAK1-
81 +12VDD
82 -5VBB
83 PTYER-
84 COM 6
85 TACK+
86 COM 7
87 RTCK1+
88 IPLSW-
89 PFD-
90 64KM +
91 RSET-
92 RUN+
93 CLDS-
94 TD00-
95 TD01-
96 TD02-
97 TD03-
98 TD04-
99 TD05-
100 TD06-
J28
81
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86
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88
89
90
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94
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96
97
98
99
100
J11
101 TD07-
102 TD08-
103 TD09-
104 TD10-
105 TD11-
106 TD12-
107 TD13-
108 TD14-
109 TD15-
110 TA00-
111 TA01-
112 TA02-
113 TA03-
114 TA04-
115 TA05-
116 TA06-
117 TA07-
118 TA08-
119 TA09-
120 TA10-
121 TA11-
122 TA12-
123 TA13-
124 TA14-
125 TA15-
126 MREQ-
127 MWRE-
128 STRD-
129 MDRY+
130 DMRQ2-
131 DMAK2-
132 -15V
133 GND
134 +5V
135 GND
136 +15V
137 GND
138 GND
139 +15V
140 +5V
J28
101
102
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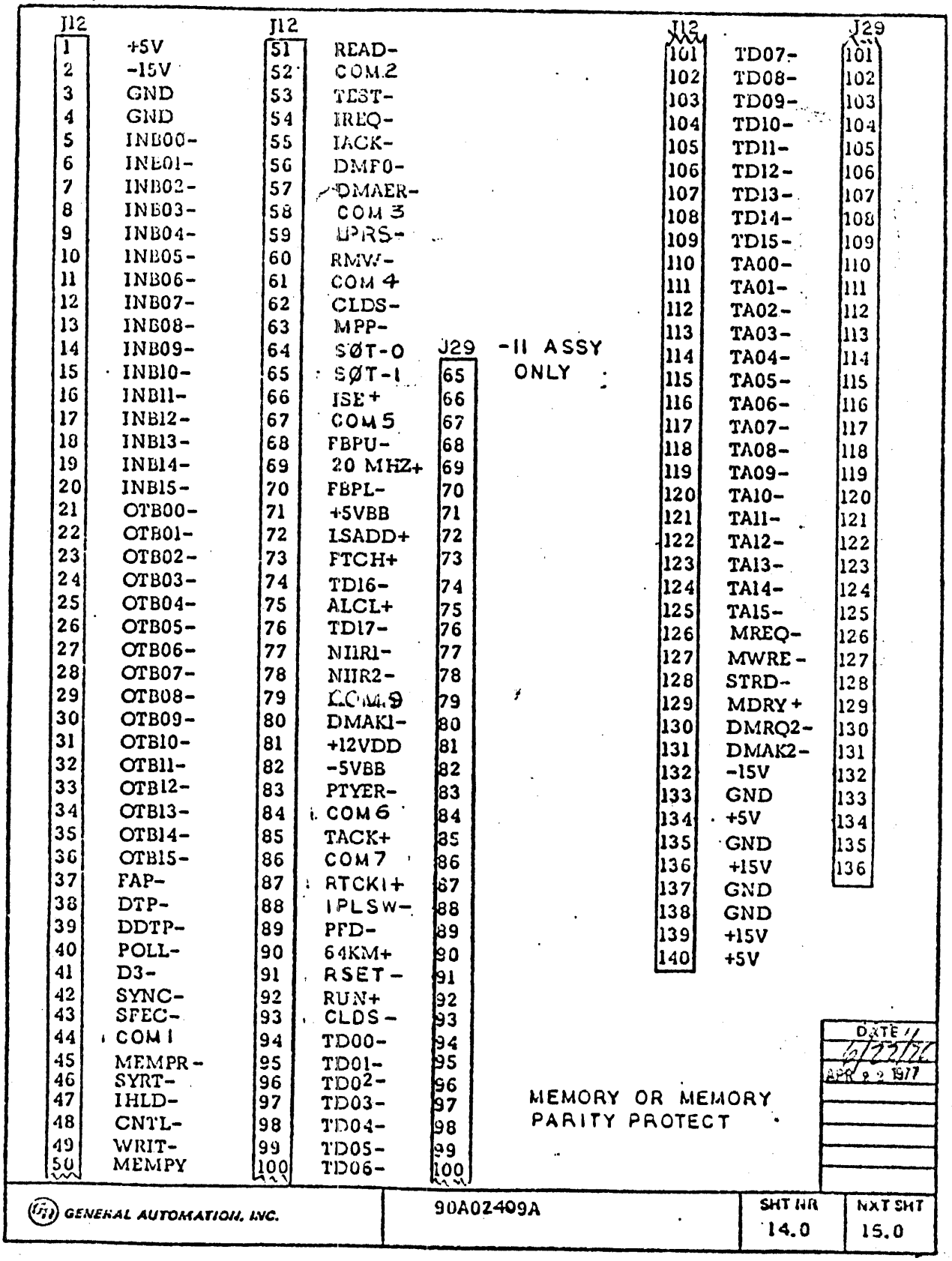
MEMORY OR
CENTRAL PROCESSOR
UNIT NO. 1
DATE/
APR 2 2 1977
GENERAL AUTOMATION INC.
90A02409A
SHT NR
13.0
NXT SHT
14.0


J12
1 +5V
2 -15V
3 GND
4 GND
5 INB00-
6 INB01-
7 INB02-
8 INB03-
9 INB04-
10 INB05-
11 INB06-
12 INB07-
13 INB08-
14 INB09-
15 INB10-
16 INB11-
17 INB12-
18 INB13-
19 INB14-
20 INB15-
21 OTB00-
22 OTB01-
23 OTB02-
24 OTB03-
25 OTB04-
26 OTB05-
27 OTB06-
28 OTB07-
29 OTB08-
30 OTB09-
31 OTB10-
32 OTB11-
33 OTB12-
34 OTB13-
35 OTB14-
36 OTB15-
37 FAP-
38 DTP-
39 DDTP-
40 POLL-
41 D3-
42 SYNC-
43 SFEC-
44 COM1
45 MEMPR-
46 SYRT-
47 IHLD-
48 CNTL-
49 WRIT-
50 MEMPY
J12
51 READ-
52 COM2
53 TEST-
54 IREQ-
55 IACK-
56 DMF0-
57 DMAER-
58 COM3
59 UPRS-
60 RMW-
61 COM4
62 CLDS-
63 MPP-
64 SØT-0
65 SØT-1
66 ISE+
67 COM5
68 FBPU-
69 20 MHZ+
70 FBPL-
71 +5VBB
72 ISADD+
73 FTCH+
74 TD16-
75 ALCL+
76 TD17-
77 NIIR1-
78 NIIR2-
79 COM9
80 DMAK1-
81 +12VDD
82 -5VBB
83 PTYER-
84 COM6
85 TACK+
86 COM7
87 RTCK1+
88 IPLSW-
89 PFD-
90 64KM+
91 RSET-
92 RUN+
93 CLDS-
94 TD00-
95 TD01-
96 TD02-
97 TD03-
98 TD04-
99 TD05-
100 TD06-
J29
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100
-11 ASSY ONLY
J12
101 TD07-
102 TD08-
103 TD09-
104 TD10-
105 TD11-
106 TD12-
107 TD13-
108 TD14-
109 TD15-
110 TA00-
111 TA01-
112 TA02-
113 TA03-
114 TA04-
115 TA05-
116 TA06-
117 TA07-
118 TA08-
119 TA09-
120 TA10-
121 TA11-
122 TA12-
123 TA13-
124 TA14-
125 TA15-
126 MREQ-
127 MWRE-
128 STRD-
129 MDRY+
130 DMRQ2-
131 DMAK2-
132 -15V
133 GND
134 +5V
135 GND
136 +15V
137 GND
138 GND
139 +15V
140 +5V
J29
101
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103
104
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MEMORY OR MEMORY PARITY PROTECT
DATE
6/22/76
APR 22 1977
GENERAL AUTOMATION, INC.
90A02409A
SHT NR
14.0
NXT SHT
15.0

J13

1	+5V
2	-15V
3	GND
4	GND
5	INB00-
6	INB01-
7	INB02-
8	INB03-
9	INB04-
10	INB05-
11	INB06-
12	INB07-
13	INB08-
14	INB09-
15	INB10-
16	INB11-
17	INB12-
18	INB13-
19	INB14-
20	INB15-
21	OTB00-
22	OTB01-
23	OTB02-
24	OTB03-
25	OTB04-
26	OTB05-
27	OTB06-
28	OTB07-
29	OTB08-
30	OTB09-
31	OTB10-
32	OTB11-
33	OTB12-
34	OTB13-
35	OTB14-
36	OTB15-
37	FAP-
38	DTP-
39	DDTP-
40	POLL-
41	D3-
42	SYNC-
43	SPEC-
44	COM 1
45	MEMPR-
46	SYRT-
47	IHLD-
48	CNTL-
49	WRIT-
50	MEMPY

J13

51	READ-
52	COM 2
53	TEST-
54	IREQ-
55	IACK-
56	DMF0-
57	DMAER-
58	COM 3
59	IPRS-
60	RMW-
61	COM 4
62	CLDS-
63	MPP-
64	SØT-1
65	SØT-2
66	ISE+
67	COM 5
68	FBPU-
69	20 MHZ+
70	FBPL-
71	+5VBB
72	LSADD+
73	FTCH+
74	TD16-
75	ALCL+
76	TD17-
77	NIIR1-
78	NIIR2-
79	DMRQ1-
80	DMAK1-
81	+12VDD
82	-5VBB
83	PTYER-
84	COM 6
85	TACK+
86	COM 7
87	RTCK1+
88	IPLSW-
89	PFD-
90	64KM+
91	RSET-
92	RUN+
93	CLDS-
94	TD00-
95	TD01-
96	TD02-
97	TD03-
98	TD04-
99	TD05-
100	TD06-

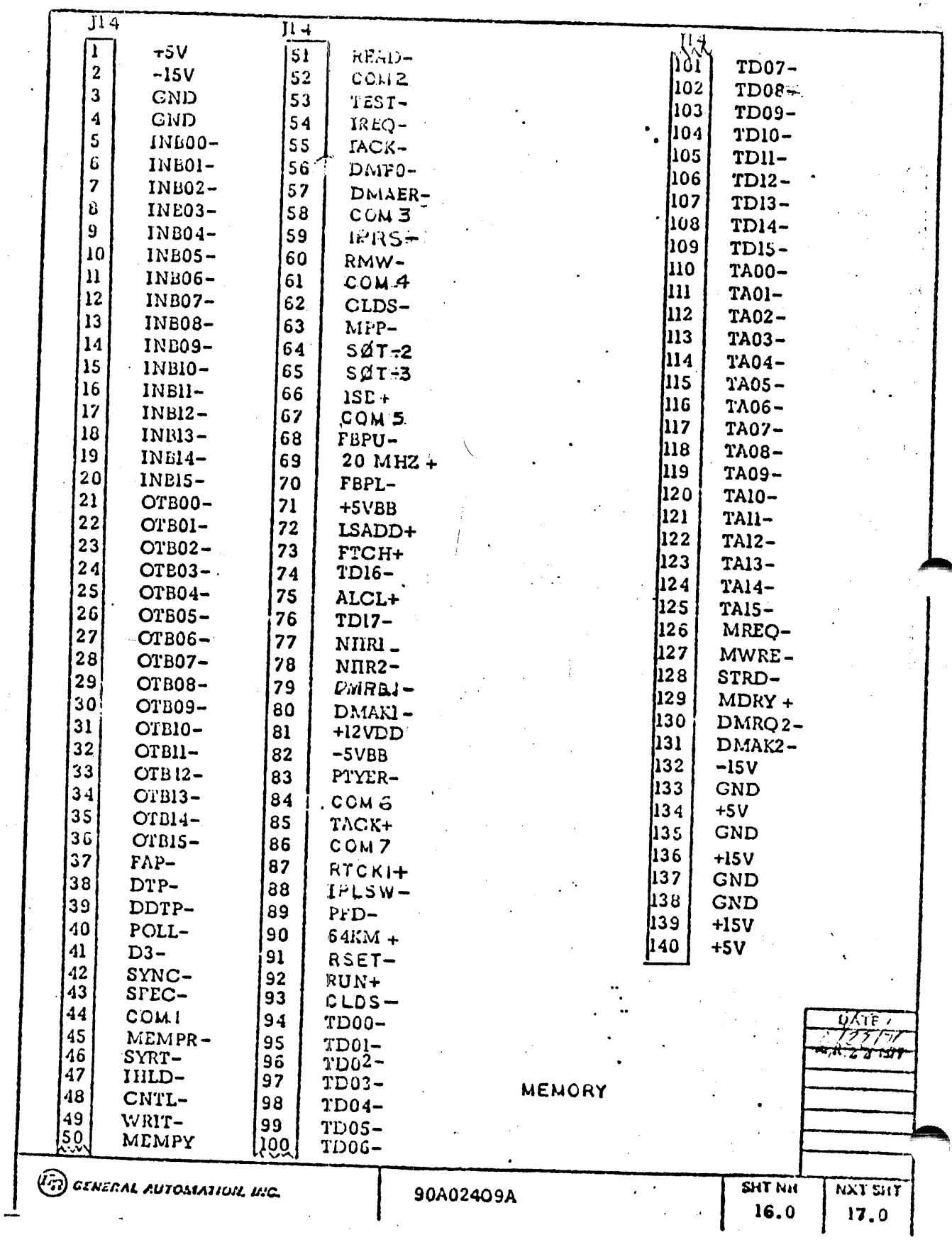
J13

101	TD07-
102	TD08-
103	TD09-
104	TD10-
105	TD11-
106	TD12-
107	TD13-
108	TD14-
109	TD15-
110	TA00-
111	TA01-
112	TA02-
113	TA03-
114	TA04-
115	TA05-
116	TA06-
117	TA07-
118	TA08-
119	TA09-
120	TA10-
121	TA11-
122	TA12-
123	TA13-
124	TA14-
125	TA15-
126	MREQ-
127	MWRE-
128	STRD-
129	MDRY+
130	DMRQ2-
131	DMAK2-
132	-15V
133	GND
134	+5V
135	GND
136	+15V
137	GND
138	GND
139	+15V
140	+5V

MEMORY

DATE
7/27/77
EFF 8 = 1977

GENERAL AUTOMATION, INC.	90A02409A	SHT NR 15.0	NXT SHT 16.0



J14		J14		J14	
1	+5V	51	READ-	101	TD07-
2	-15V	52	COM2	102	TD08-
3	GND	53	TEST-	103	TD09-
4	GND	54	IREQ-	104	TD10-
5	INB00-	55	IACK-	105	TD11-
6	INB01-	56	DMF0-	106	TD12-
7	INB02-	57	DMAER-	107	TD13-
8	INE03-	58	COM 3	108	TD14-
9	INB04-	59	IPRS-	109	TD15-
10	INB05-	60	RMW-	110	TA00-
11	INB06-	61	COM 4	111	TA01-
12	INB07-	62	CLDS-	112	TA02-
13	INB08-	63	MPP-	113	TA03-
14	INB09-	64	SØT-2	114	TA04-
15	INB10-	65	SØT-3	115	TA05-
16	INB11-	66	ISE+	116	TA06-
17	INB12-	67	COM 5	117	TA07-
18	INB13-	68	FBPU-	118	TA08-
19	INB14-	69	20 MHZ +	119	TA09-
20	INB15-	70	FBPL-	120	TA10-
21	OTB00-	71	+5VBB	121	TA11-
22	OTB01-	72	LSADD+	122	TA12-
23	OTB02-	73	FTCH+	123	TA13-
24	OTB03-	74	TD16-	124	TA14-
25	OTB04-	75	ALCL+	125	TA15-
26	OTB05-	76	TD17-	126	MREQ-
27	OTB06-	77	NIIR1-	127	MWRE-
28	OTB07-	78	NIIR2-	128	STRD-
29	OTB08-	79	DMRB1-	129	MDRY +
30	OTB09-	80	DMAK1-	130	DMRQ2-
31	OTB10-	81	+12VDD	131	DMAK2-
32	OTB11-	82	-5VBB	132	-15V
33	OTB12-	83	PTYER-	133	GND
34	OTB13-	84	COM 6	134	+5V
35	OTB14-	85	TACK+	135	GND
36	OTB15-	86	COM 7	136	+15V
37	FAP-	87	RTCK1+	137	GND
38	DTP-	88	IPLSW-	138	GND
39	DDTP-	89	PFD-	139	+15V
40	POLL-	90	64KM +	140	+5V
41	D3-	91	RSET-		
42	SYNC-	92	RUN+		
43	SPEC-	93	CLDS-		
44	COM1	94	TD00-		
45	MEMPR-	95	TD01-		
46	SYRT-	96	TD02-		
47	IHLD-	97	TD03-		
48	CNTL-	98	TD04-		
49	WRIT-	99	TD05-		
50	MEMPY	100	TD06-		

MEMORY

DATE / 1/23/81

GENERAL AUTOMATION INC. | 90A02409A | SHT NO 16.0 | NXT SHT 17.0

J15		J15		J15	
1	+5V	51	READ-	101	TD07-
2	-15V	52	COM 2	102	TD08-
3	GND	53	TEST-	103	TD09-
4	GND	54	IREQ-	104	TD10-
5	INB00-	55	IACK-	105	TD11-
6	INB01-	56	DMF0-	106	TD12-
7	INB02-	57	DMAER-	107	TD13-
8	INB03-	58	COM 3	108	TD14-
9	INB04-	59	IPRS-	109	TD15-
10	INB05-	60	RMW-	110	TA00-
11	INB06-	61	COM 4	111	TA01-
12	INB07-	62	CLDS-	112	TA02-
13	INB08-	63	MPP-	113	TA03-
14	INB09-	64	SØT-3	114	TA04-
15	INB10-	65	SØT-4	115	TA05-
16	INB11-	66	ISE +	116	TA06-
17	INB12-	67	COM 5	117	TA07-
18	INB13-	68	FBPU-	118	TA08-
19	INB14-	69	20 MHZ+	119	TA09-
20	INB15-	70	FBPL-	120	TA10-
21	OTB00-	71	+5VBB	121	TA11-
22	OTB01-	72	LSADD+	122	TA12-
23	OTB02-	73	FTCH+	123	TA13-
24	OTB03-	74	TD16-	124	TA14-
25	OTB04-	75	ALCL+	125	TA15-
26	OTB05-	76	TD17-	126	MREQ-
27	OTB06-	77	NIIR1-	127	MWRE-
28	OTB07-	78	NIIR2-	128	STRD-
29	OTB08-	79	DMRQ1-	129	MDRY+
30	OTB09-	80	DMAK1-	130	DMRQ2-
31	OTB10-	81	+12VDD	131	DMAK2-
32	OTB11-	82	-5VBB	132	-15V
33	OTB12-	83	PTYER-	133	GND
34	OTB13-	84	COM 6	134	+5V
35	OTB14-	85	TACK+	135	GND
36	OTB15-	86	COM 7	136	+15V
37	FAP-	87	RTCK1+	137	GND
38	DTP-	88	IPL SW-	138	GND
39	DDTP-	89	PFD-	139	+15V
40	POLL-	90	64KM +	140	+5V
41	D3-	91	RSET-		
42	SYNC-	92	RUN+		
43	SFEC-	93	CLDS-		
44	COM 1	94	TD00-		
45	MEMPR-	95	TD01-		
46	SYRT-	96	TD02-		
47	IHLD-	97	TD03-		
48	CNTL-	98	TD04-		
49	WRIT-	99	TD05-		
50	MEMPY	100	TD06-		

MEMORY

DATE // 8/23/72
APR 2 2 1977

GENERAL AUTOMATION, INC.	90A02409A	SHT NR 17.0	NXT SHT 18.0

J16		J16		J16	
1	+5V	51	READ-	101	TD07-
2	-15V	52	COM2	102	TD08-
3	GND	53	TEST-	103	TD09-
4	GND	54	IREQ-	104	TD10-
5	INB00-	55	IACK-	105	TD11-
6	INB01-	56	DMF0-	106	TD12-
7	INB02-	57	DMAER-	107	TD13-
8	INB03-	58	COM3	108	TD14-
9	INB04-	59	IPRS-	109	TD15-
10	INB05-	60	RMW-	110	TA00-
11	INB06-	61	COM4	111	TA01-
12	INB07-	62	CLDS-	112	TA02-
13	INB08-	63	MPP-	113	TA03-
14	INB09-	64	SØT=4	114	TA04-
15	INB10-	65	SØT=5	115	TA05-
16	INB11-	66	ISE+	116	TA06-
17	INB12-	67	COM5	117	TA07-
18	INB13-	68	FBPU-	118	TA08-
19	INB14-	69	20 MHZ+	119	TA09-
20	INB15-	70	FBPL-	120	TA10-
21	OTB00-	71	+5VBB	121	TA11-
22	OTB01-	72	LSADD+	122	TA12-
23	OTB02-	73	FTCH+	123	TA13-
24	OTB03-	74	TD16-	124	TA14-
25	OTB04-	75	ALCL+	125	TA15-
26	OTB05-	76	TD17-	126	MREQ-
27	OTB06-	77	NIIR1-	127	MWRE-
28	OTB07-	78	NIIR2-	128	STRD-
29	OTB08-	79	DMRQ1-	129	MDRY+
30	OTB09-	80	DMAK1-	130	DMRQ2-
31	OTB10-	81	+12VDD	131	DMAK2-
32	OTB11-	82	-5VBB	132	-15V
33	OTB12-	83	PTYER-	133	GND
34	OTB13-	84	COM6	134	+5V
35	OTB14-	85	TACK+	135	GND
36	OTB15-	86	COM7	136	-15V
37	FAP-	87	RTCK1+	137	GND
38	DTP-	88	IPLSW-	138	GND
39	DDTP-	89	PFD-	139	+15V
40	POLL-	90	64KM+	140	+5V
41	D3-	91	RSET-		
42	SYNC-	92	RUN+		
43	SPEC-	93	CLDS-		
44	COM1	94	TD00-		
45	MEMPR-	95	TD01-		
46	SYRT-	96	TD02-		
47	IHLD-	97	TD03-		
48	CNTL-	98	TD04-		
49	WRIT-	99	TD05-		
50	MEMPY	100	TD06-		

MEMORY

DATE
6/22/76
APR 22 1977

GENERAL AUTOMATION, INC.	90A02409A	SHT NR 18.0	NXT SHT 19.0

J17		J17		J17	
1	+5V	51	READ-	101	TD07-
2	-15V	52	COM 2	102	TD08-
3	GND	53	TEST-	103	TD09-
4	GND	54	IREQ-	104	TD10-
5	INB00-	55	IACK-	105	TD11-
6	INB01-	56	DMF0-	106	TD12-
7	INB02-	57	DMAER-	107	TD13-
8	INB03-	58	COM 3	108	TD14-
9	INB04-	59	IPRS-	109	TD15-
10	INB05-	60	RMW-	110	TA00-
11	INB06-	61	COM 4	111	TA01-
12	INB07-	62	CLDS-	112	TA02-
13	INB08-	63	MPP-	113	TA03-
14	INB09-	64	SØT-5	114	TA04-
15	INB10-	65	SØT-6	115	TA05-
16	INB11-	66	ISE +	116	TA06-
17	INB12-	67	COM 5	117	TA07-
18	INB13-	68	FBPU-	118	TA08-
19	INB14-	69	20 MHZ +	119	TA09-
20	INB15-	70	FBPL-	120	TA10-
21	OTB00-	71	+5VBB	121	TA11-
22	OTB01-	72	LSADD+	122	TA12-
23	OTB02-	73	FTCH+	123	TA13-
24	OTB03-	74	TD16-	124	TA14-
25	OTB04-	75	ALCL+	125	TA15-
26	OTB05-	76	TD17-	126	MREQ-
27	OTB06-	77	NIIR1-	127	MWRE -
28	OTB07-	78	NIIR2 -	128	STRD-
29	OTB08-	79	DMRQ1-	129	MDRY +
30	OTB09-	80	DMAK1 -	130	DMRQ2-
31	OTB10-	81	+12VDD	131	DMAK2-
32	OTB11-	82	-5VBB	132	-15V
33	OTB12-	83	PTYER-	133	GND
34	OTB13-	84	COM6	134	+5V
35	OTB14-	85	TACK+	135	GND
36	OTB15-	86	COM7	136	+15V
37	FAP-	87	RTCK1+	137	GND
38	DTP-	88	IPLSW-	138	GND
39	DDTP-	89	PFD-	139	+15V
40	POLL-	90	64KM +	140	+5V
41	D3-	91	RSET-		
42	SYNC-	92	RUN+		
43	SPEC-	93	CLDS-		
44	COM 1	94	TD00-		
45	MEMPR-	95	TD01-		
46	SYRT-	96	TD02-		
47	IHLD-	97	TD03-		
48	CNTL-	98	TD04-		
49	WRIT-	99	TD05-		
50	MEMPY	100	TD06-		

MEMORY OR
BACK UP POWER SUPPLY

DATE
4/22/77
APR 22 1977

J31	
1	GND
2	CHASSIS GND

J30	
1	
2	GND
3	GND
4	
5	GND
6	GND
7	GND
8	GND
9	
10	+15V
11	+5V
12	PFD-
13	-15V
14	+5V
15	+5V

EXTERNAL POWER
AND GROUND

DATE
APR 22 1977

QUANTITY REQ'D PER DASH NO.					PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SIZE, VALUE, MATERIAL	REMARKS/REF. DES.	ITEM NO.
			-11	-01	31D02409A	MIBIASSY			—
			1	1	30D02479A01	BOARD DETAIL			1
			17	17	41D00374A21	CONNECTOR	140 PIN (SOLDER)	J1-J17	3
			10	10	41D00374A01	CONNECTOR	56 PIN (SOLDER)	J19-J28	4
			2	1	41D00374A11	CONNECTOR	72 PIN (SOLDER)	J18, J29	5
			1	1	41D00061A02	CONNECTOR	15 PIN	J30	6
			15	15	42A00040A02	CONTACT PC SOCKET			8
			1	1	15A00003A02	TERMINAL BLOCK	2 POSITION	J31	10
			1	1	21A04831A01	JUMPER, TERMINAL BLOCK			11

GENERAL AUTOMATION	PARTS LIST	NO. 31P02409A	SHEET NO. 2 OF 2	REV F

Form No. 97A00634A Rev "A"

NOTES: UNLESS OTHERWISE SPECIFIED

REVISIONS			
SYM	DESCRIPTION	APPR	DATE
D	REMOVED FROM DWG & REVISED PER ECO-8899 PRODUCTION RELEASE Jw 10-18-79		10-23-79
E	REVISED PER ECO.-12170 12-14-79		12-17-79
F	REVISED PER ECO 12507 J.S.1-23-80		1-24-80

DASH NO.	NEXT ASSEMBLY	SIGNATURES		DATE
ALL	31D02409A	DR	D. DOWLING	5-17-76
		CHK	R. SZABO	6-15-76
		APPD	D. BLAIR	6-21-76
		APPD	J. MIELKE	6-21-76
		REL	J. Krueger	10 24 79

GENERAL AUTOMATION

TITLE MASTER INTERCONNECTION BD, JUMBO SYSTEM, ASSY OF

PARTS LIST | NO. 31P02409A | SHEET NO. 1 OF 2 | REV F

Form No. 97A00633A Rev "A"