Intel Singapore Limited
Block 26 Ayer Rajah Crescent
No. 03-01 to 03-10
Ayer Rajah Industrial Estate
Singapore 0513

Dear Customer:

Thank you for buying this Intel iSBC* 80/24A single board computer. The iSBC 80/24A is an upgrade of the iSBC 80/24, an 8-bit CPU board Intel has been manufacturing since 1980.

The significant feature of the upgrade is the RAM memory portion of the board. The 4 KBytes of 8185-2 SRAM used on the iSBC 80/24 have been replaced with **8 KBytes** of **SRAM on board.** In order to get this 8 KBytes before the upgrade required a two-slot solution using the iSBC 80/24 and iSBC 301. The iSBC 80/24A is an 8 KByte, one slot solution; no memory expansion Multimodule is needed.

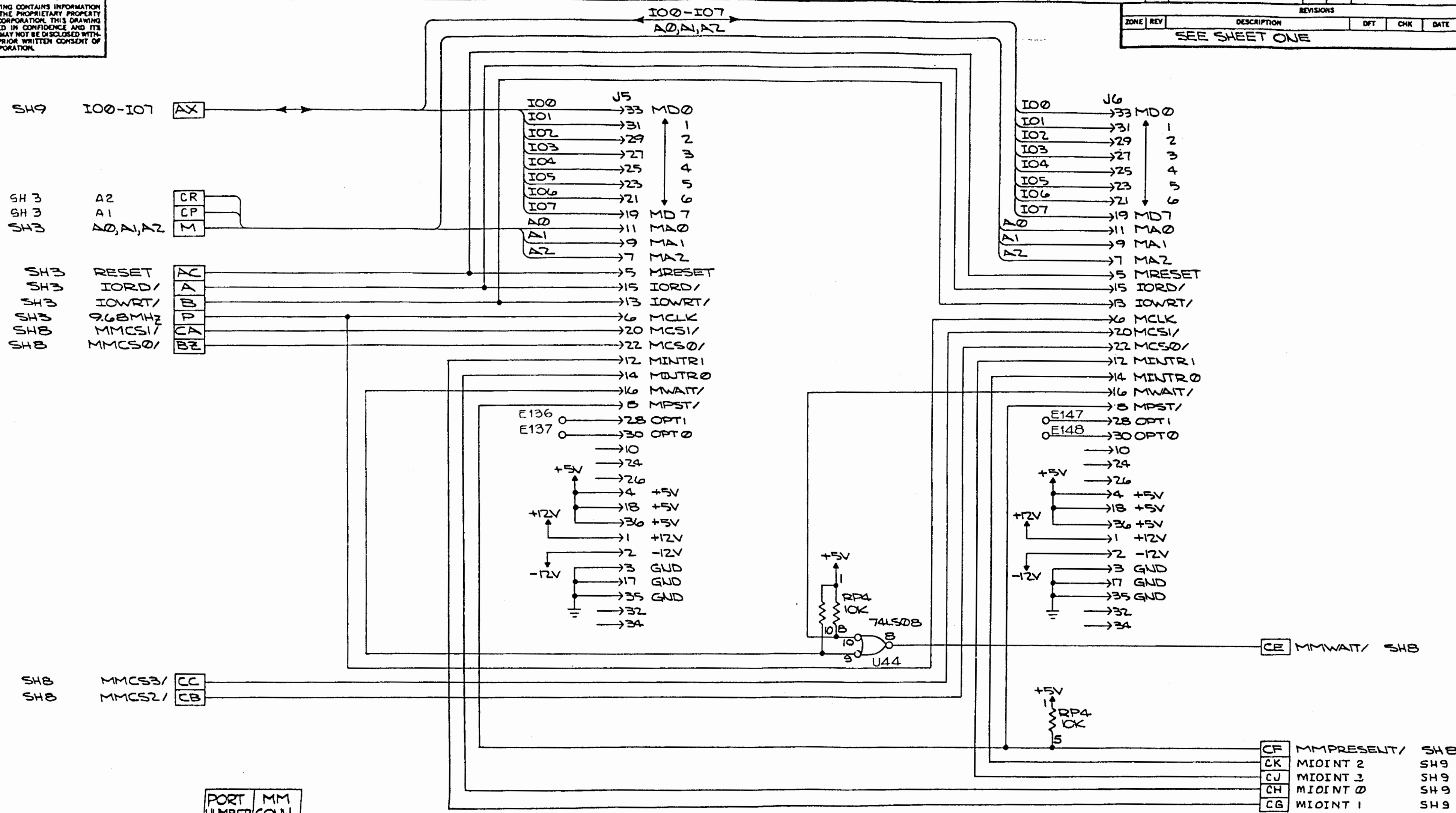
Also, the iSBC 80/24A is completely software and hardware compatible with the iSBC 80/24. The iSBC 80/24A upgrade is transparent to the 80/24 simplifying your transition from the old to the new.

Intel offers a hardware subscription service called iMBX MULTIBUS* EXCHANGE. This service provides subscribers with regular publications of engineering changes, product change histories and helpful ancillary notes. If you are using the iSBC 80/24A board in a production product, we recommend that you consider this service as a means to stay informed of subtle changes and their potential implications.

For further information regarding Intel's iMBX Hardware Subscription Service, or if you have any questions regarding the iSBC 80/24A board, please contact your local Intel Sales Representative. Data Sheets and Hardware Reference Manuals for the iSBC 80/24A are available through Intel Literature and your Intel Sales Office.

* iSBC and MULTIBUS are trademarks of Intel Corporation.

ZONE	REV	DESCRIPTION	DFT	CHK	DATE	APPROVED
		SEE SHEET ONE				



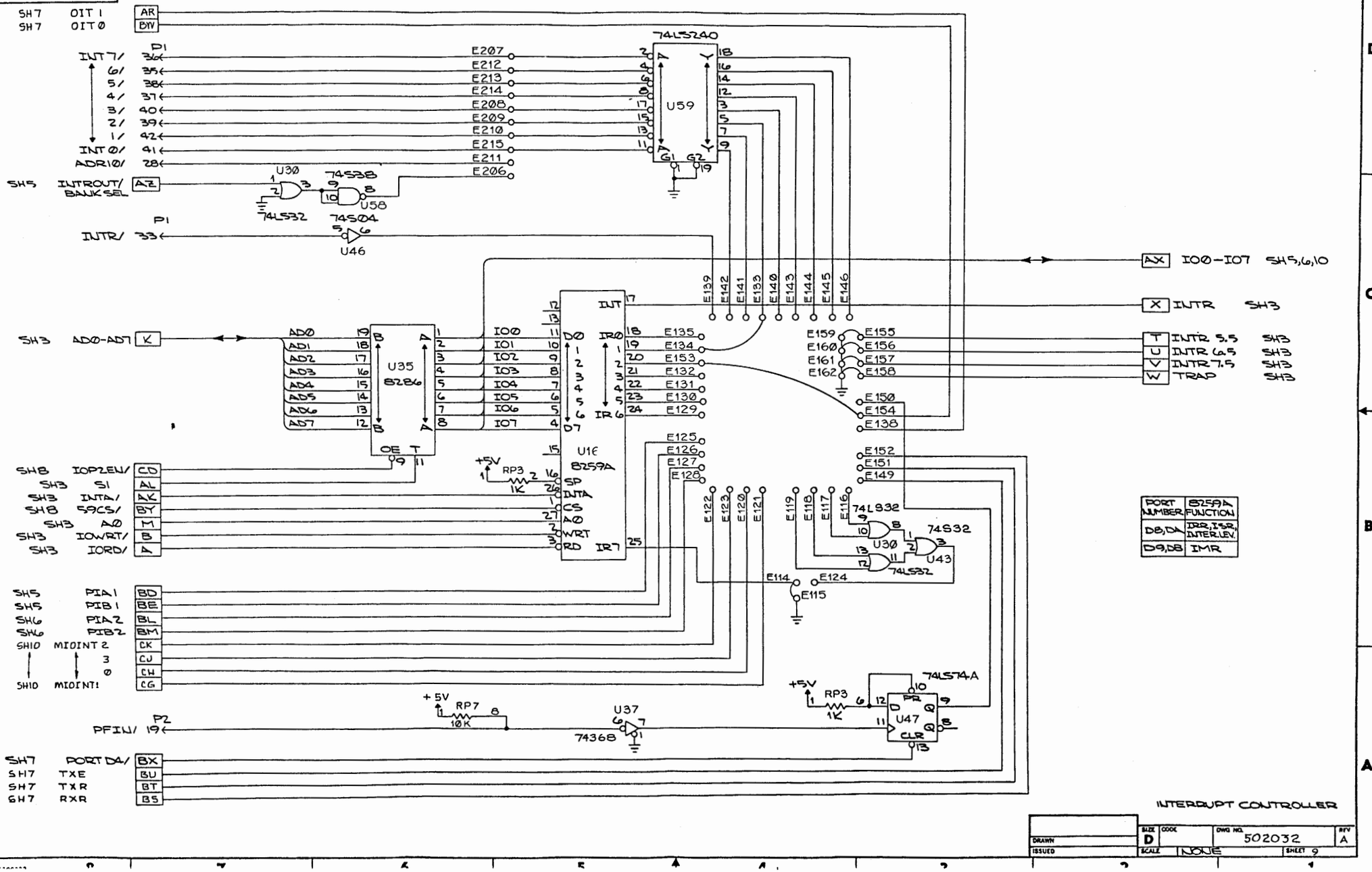
IO0-IO7
A0,A1,A2
SH9 IO0-IO7 AX
SH3 A2 CR
SH3 A1 CP
SH3 A0,A1,A2 M
SH3 RESET AC
SH3 IORD/ A
SH3 IOWRT/ B
SH3 9.68MHz P
SH8 MMCS1/ CA
SH8 MMCS0/ BZ
SH8 MMCS3/ CC
SH8 MMCS2/ CB
J5
33 MD0
19 MD7
11 MA0
9 MA1
7 MA2
5 MRESET
15 IORD/
13 IOWRT/
6 MCLK
20 MCS1/
22 MCS0/
12 MINTR1
14 MINTR0
16 MWAIT/
8 MPST/
E136 28 OPT1
E137 30 OPT0
+5V
+12V
-12V
GND
J6
E147
E148
RP4 10K
74LS08
U44
CE MMWAIT/ SH8
CF MMPRESENT/ SH8
CK MIOINT 2 SH9
CJ MIOINT 3 SH9
CH MIOINT 0 SH9
CG MIOINT 1 SH9

PORT NUMBER	MM CONN.
F0-F7	J6 CS0
F8-FF	J6 CS1
C0-C7	J5 CS0
C8-CF	J5 CS1

MULTIMODULE INTERFACES

DRAWN	SIZE D	CODE	DWG NO. 502032	REV A
ISSUED	SCALE NONE		SHEET 10	

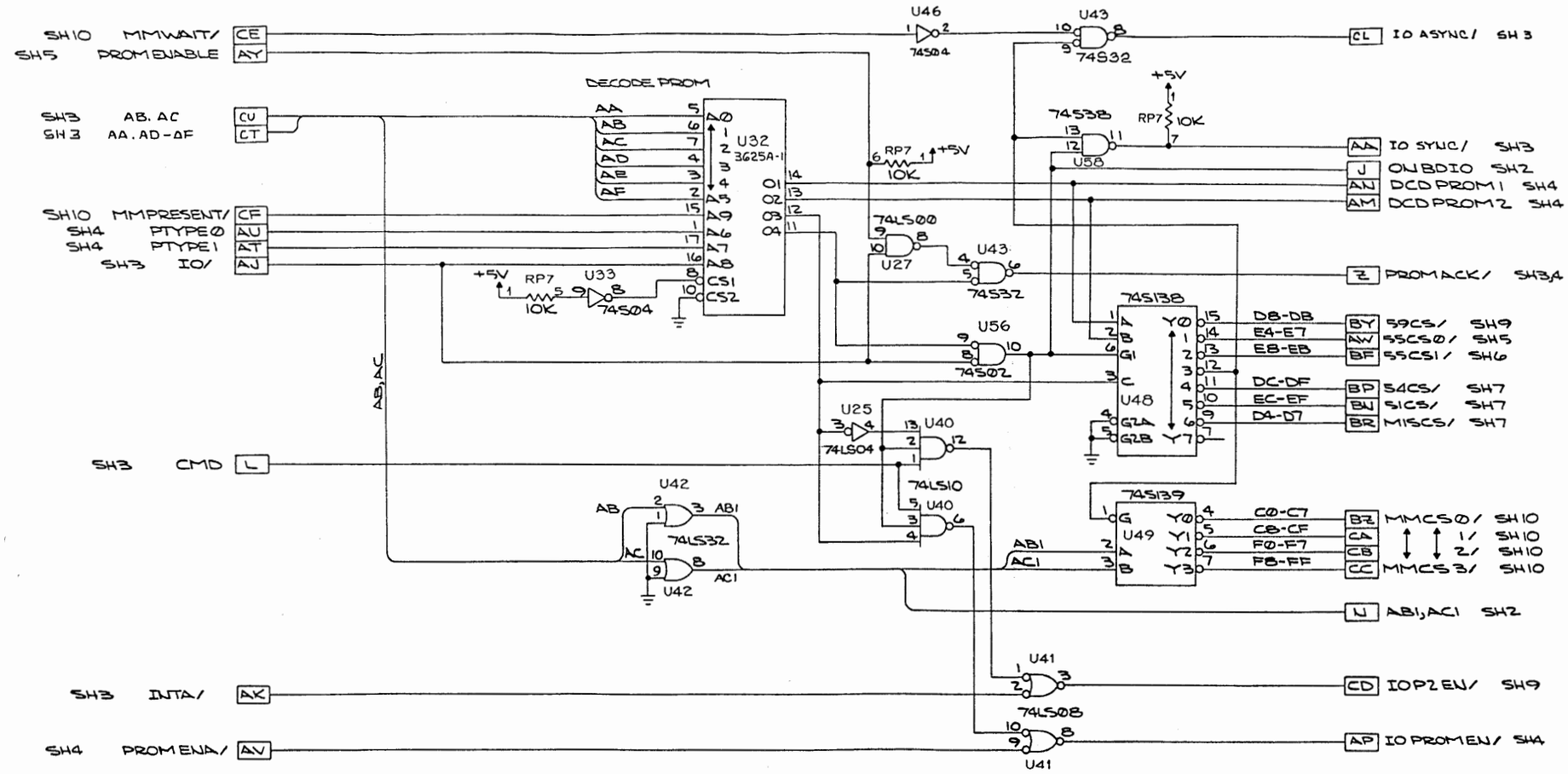
REVISIONS						
ZONE	REV	DESCRIPTION	DFT	CHK	DATE	APPROVED
SEE SHEET ONE						



INTERRUPT CONTROLLER

DRAWN	SIZE D	CODE	DWG NO. 502032	REV A
ISSUED	SCALE NONE		SHEET 9	

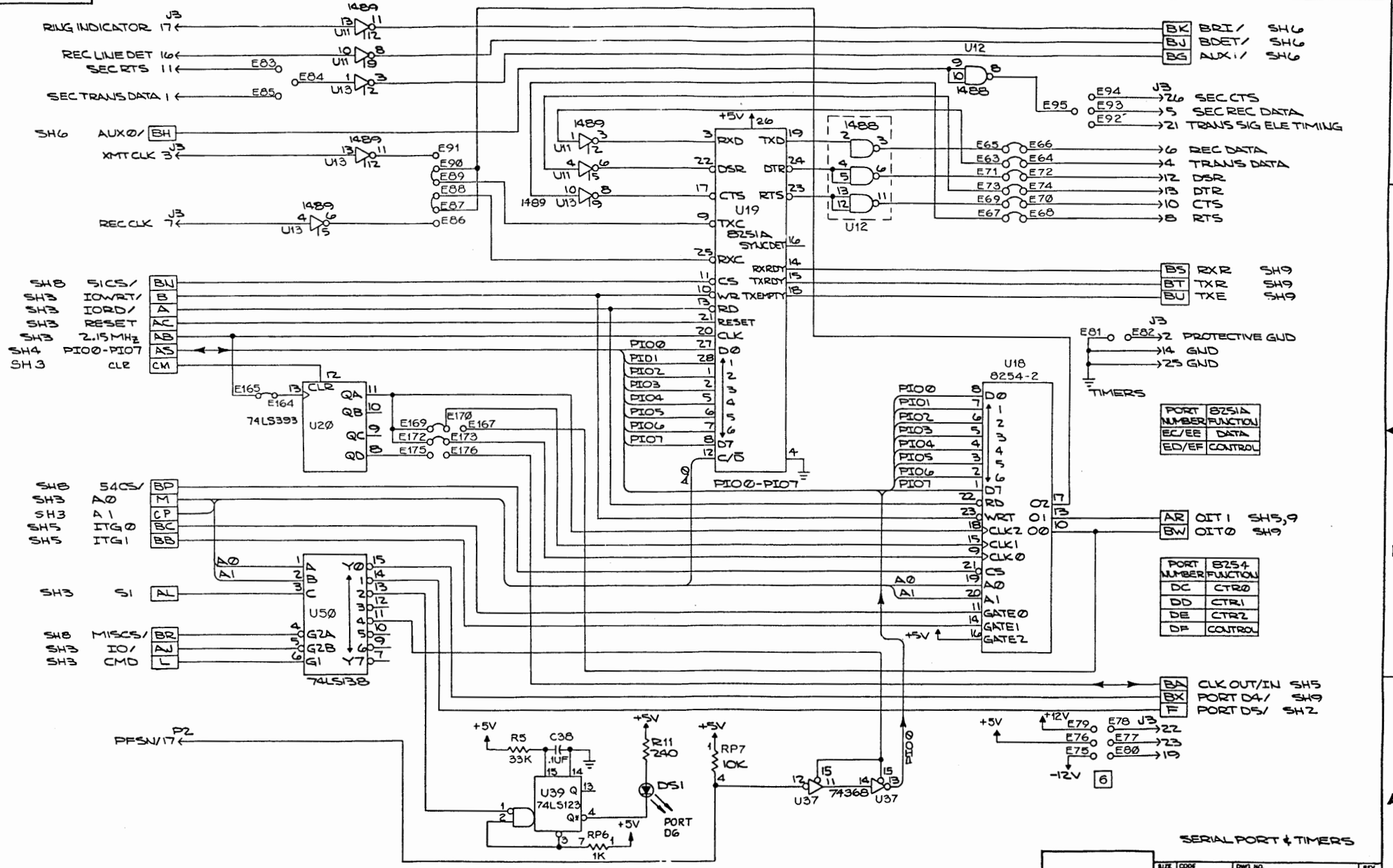
REVISIONS					
ZONE	REV	DESCRIPTION	DFT	CHK	DATE	APPROVED
SEE SHEET ONE						



DECODE PROM & CHIP SELECT DECODE

DRAWN	SIZE	CODE	DWG NO.	REV
ISSUED	D		502032	A
	SCALE	NONE	SHEET 8	

REVISIONS						
ZONE	REV	DESCRIPTION	DFT	CHK	DATE	APPROVED
SEE SHEET ONE						

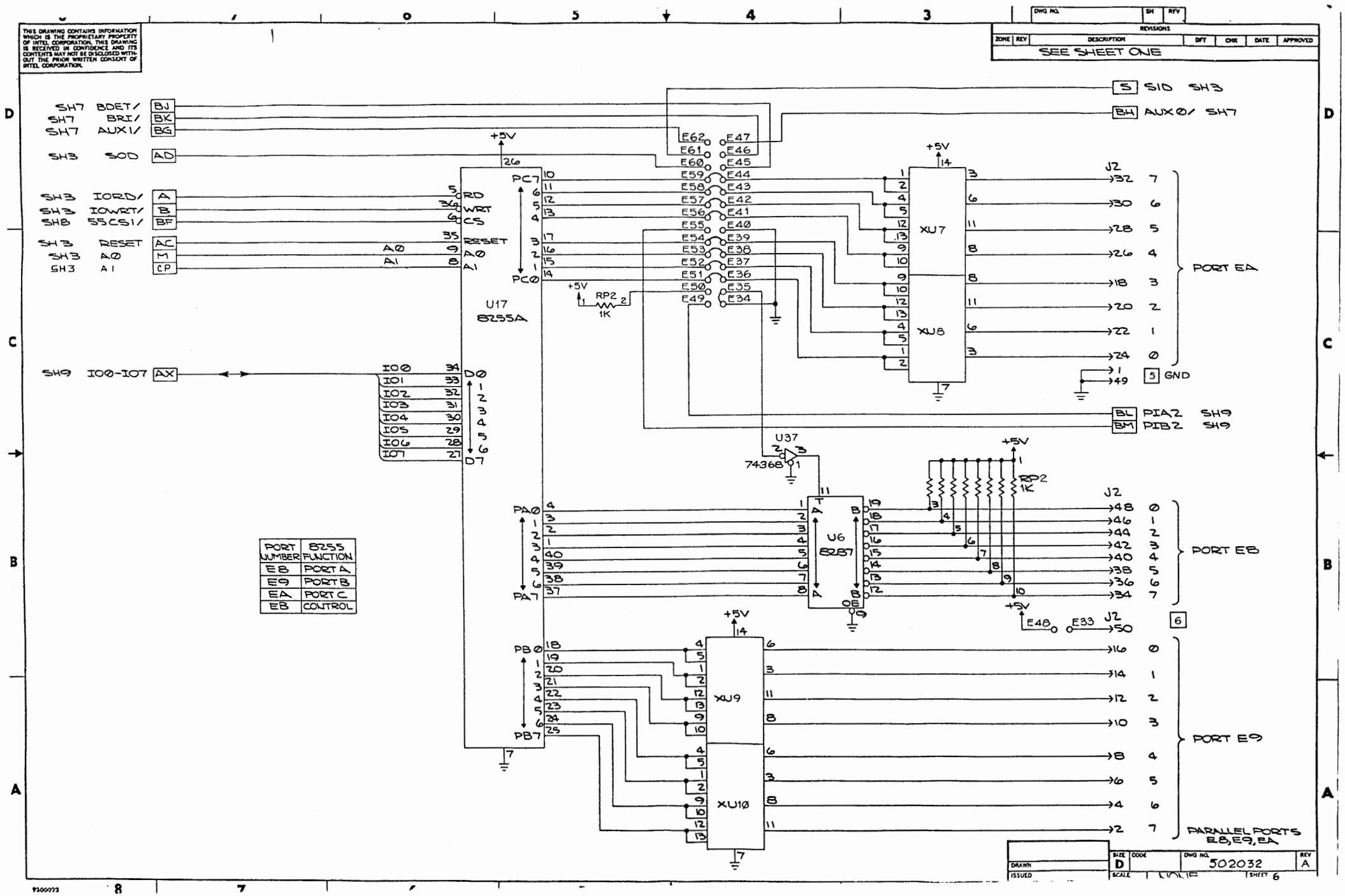


PORT NUMBER	8251A FUNCTION
EC/EE	DATA
ED/EF	CONTROL

PORT NUMBER	8254 FUNCTION
DC	CTR0
DD	CTR1
DE	CTR2
DF	CONTROL

SERIAL PORT & TIMERS

DRAWN	SIZE	CODE	DWG NO.	REV
ISSUED	D		502032	A
	SCALE	NONE	SHEET 7	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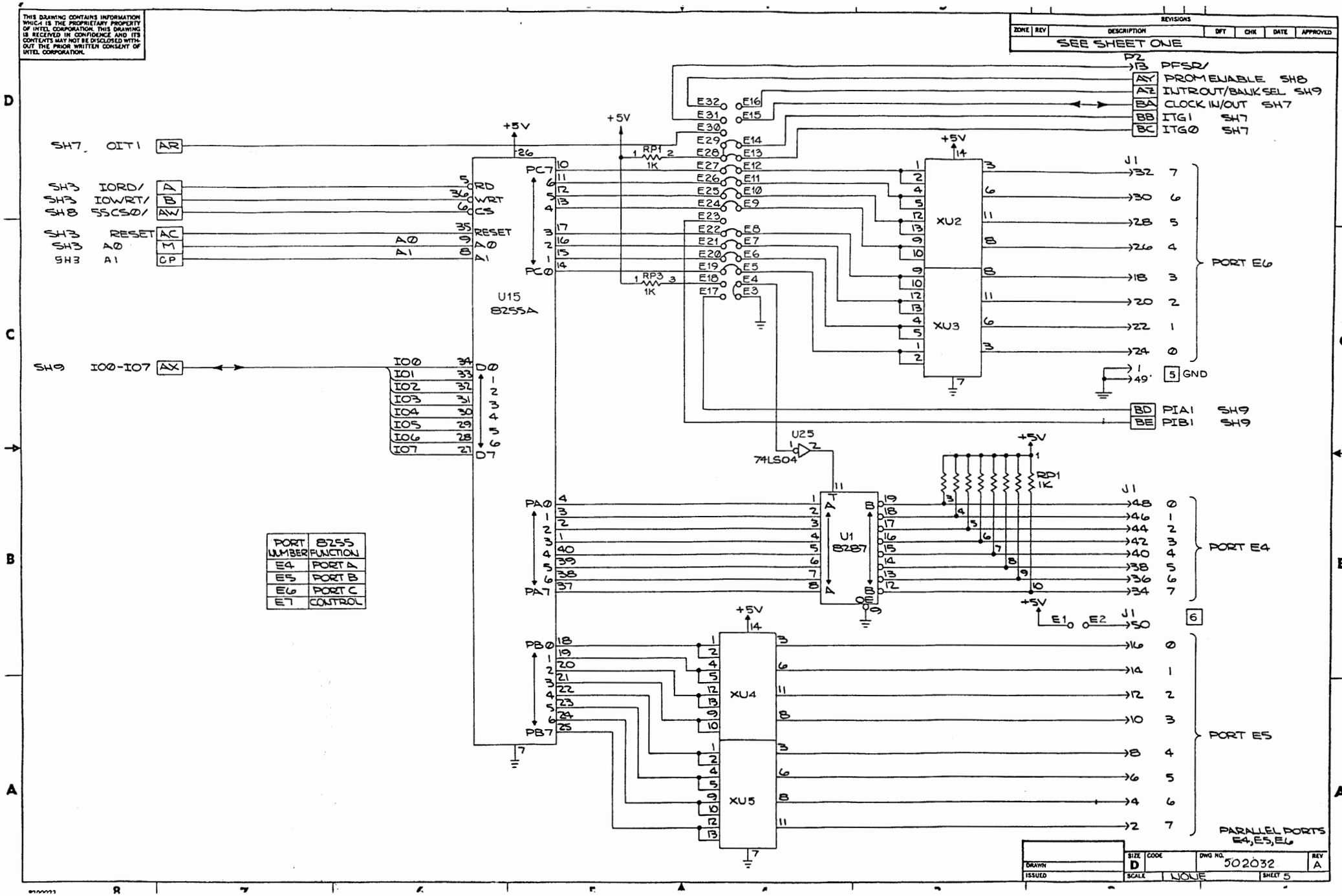
DWG NO. SH REV
REVISIONS
ZONE REV DESCRIPTION DFT CHK DATE APPROVED
SEE SHEET ONE
SH7 BDET/ BJ
SH7 BRI/ BK
SH7 AUX1/ BG
SH3 SOD AD
SH3 IORD/ A
SH3 IOWRT/ B
SH8 SSCS1/ BF
SH3 RESET AC
SH3 A0 M
SH3 A1 CP
SH9 IO0-IO7 AX
U17
8255A
RD
WRT
CS
RESET
A0
A1
D0
D7
PC7
PC0
PA0
PA7
PB0
PB7
+5V
RP2
1K
XU7
XU8
XU9
XU10
U37
74368
U6
8287
E62 E47
E61 E46
E60 E45
E59 E44
E58 E43
E57 E42
E56 E41
E55 E40
E54 E39
E53 E38
E52 E37
E51 E36
E50 E35
E49 E34
E48 E33
5 SID SH3
BH AUX0/ SH7
BL PIA2 SH9
BM PIB2 SH9
J2
PORT EA
PORT EB
PORT E9
5 GND
6
PORT NUMBER | 8255 FUNCTION
E8 | PORT A
E9 | PORT B
EA | PORT C
EB | CONTROL
PARALLEL PORTS E8,E9,EA
DRAWN
ISSUED
SIZE D
CODE
DWG NO. 302032
REV A
SCALE
SHEET 6

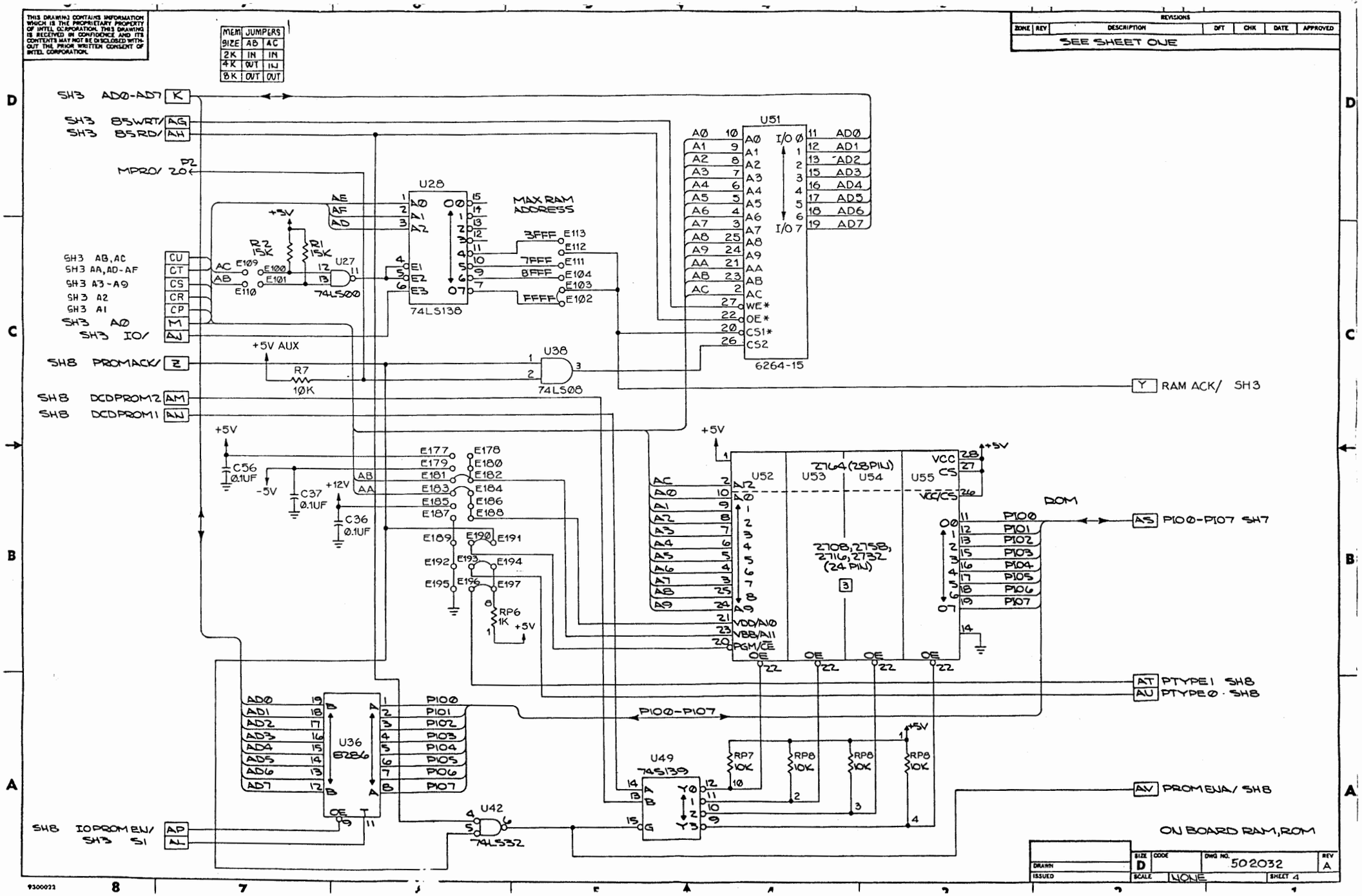
REVISIONS					
ZONE | REV	DESCRIPTION	DFT	CHK	DATE	APPROVED
SEE SHEET ONE					



PORT NUMBER	8255 FUNCTION
E4	PORT A
E5	PORT B
E6	PORT C
E7	CONTROL

PARALLEL PORTS E4, E5, E6

DRAWN	SIZE	CODE	DWG NO.	REV
ISSUED	D		502032	A
	SCALE	WOLIE	SHEET 5	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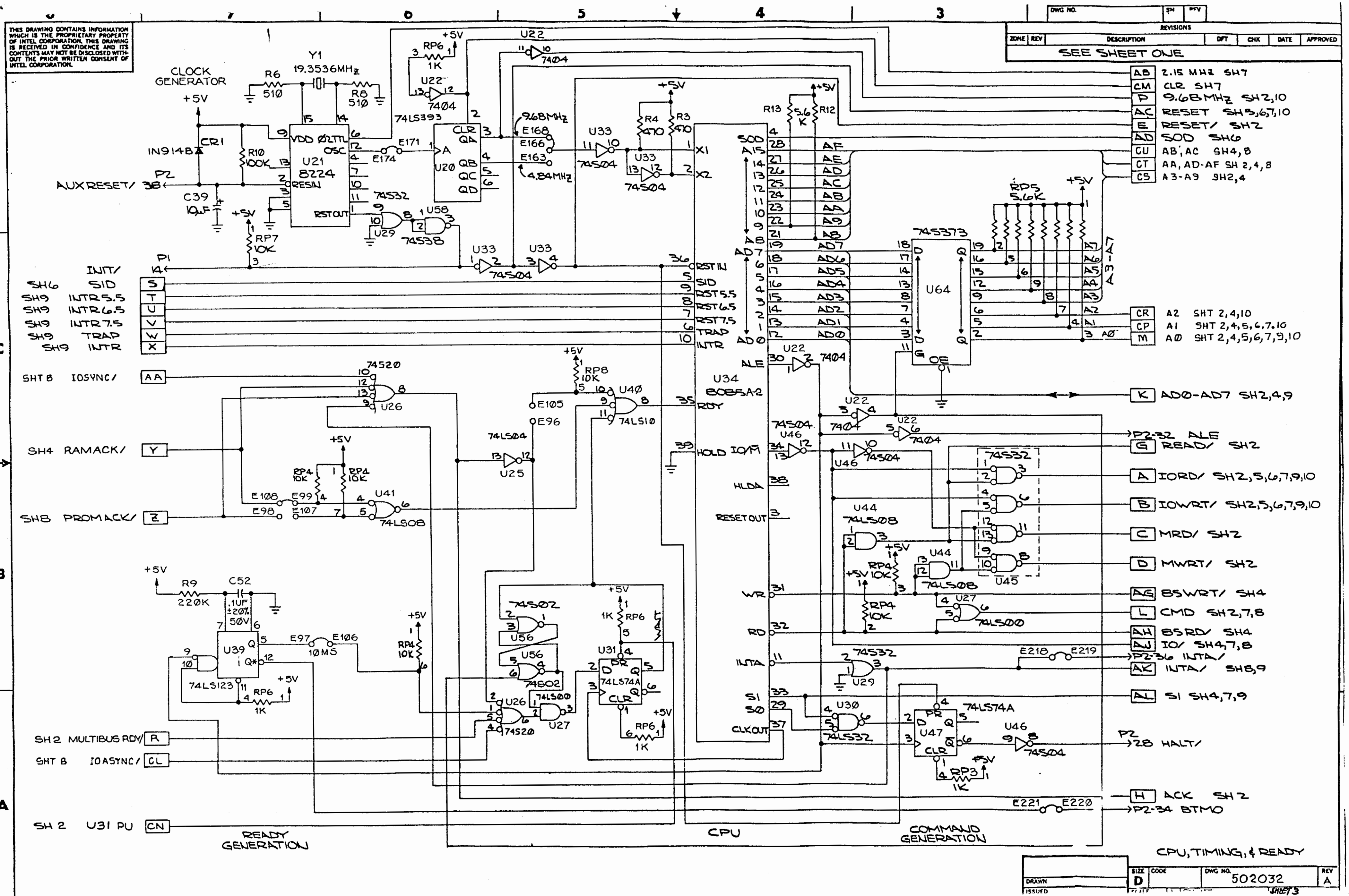
REVISIONS
ZONE REV DESCRIPTION DFT CHK DATE APPROVED
SEE SHEET ONE
MEM SIZE JUMPERS AB AC
2K IN IN
4K OUT IN
8K OUT OUT
SH3 AD0-AD7 K
SH3 B5WRT/ AG
SH3 B5RD/ AH
MPRO/ 20 P2
U28
74LS138
MAX RAM ADDRESS
3FFF E113
E112
7FFF E111
BFFF E104
E103
FFFF E102
U51
6264-15
AD0 AD1 AD2 AD3 AD4 AD5 AD6 AD7
WE*
OE*
CS1*
CS2
SH3 AB,AC
SH3 AA,AD-AF
SH3 A3-A9
SH3 A2
SH3 A1
SH3 A0
SH3 IO/
CU CT CS CR CP M N
R2 15K
R1 15K
+5V
U27
74LS00
E109 E100 E101 E110
+5V AUX
R7 10K
U38
74LS08
SH8 PROMACK/ N
SH8 DCDPROM2 AM
SH8 DCDPROM1 AN
Y RAM ACK/ SH3
C56 0.1UF
C37 0.1UF
C36 0.1UF
-5V
+12V
E177 E178 E179 E180 E181 E182 E183 E184 E185 E186 E187 E188 E189 E190 E191 E192 E193 E194 E195 E196 E197
RP6 1K
U52
U53 U54
2764 (28 PIN)
2708, 2758, 2716, 2732 (24 PIN)
U55
VCC CS
VCC/CS
ROM
P100 P101 P102 P103 P104 P105 P106 P107
AS P100-P107 SH7
VDD/A10
VBB/A11
PGM/CE
OE
AT PTYPE1 SH8
AU PTYPE0 SH8
P100-P107
U36
8286
U49
74S139
RP7 10K
RP8 10K
AV PROMENA/ SH8
U42
74LS32
SH8 IOPROMEN/ AP
SH3 S1 AF
ON BOARD RAM,ROM
DRAWN
ISSUED
SIZE D
CODE
DWG NO. 502032
REV A
SCALE NONE
SHEET 4
9300022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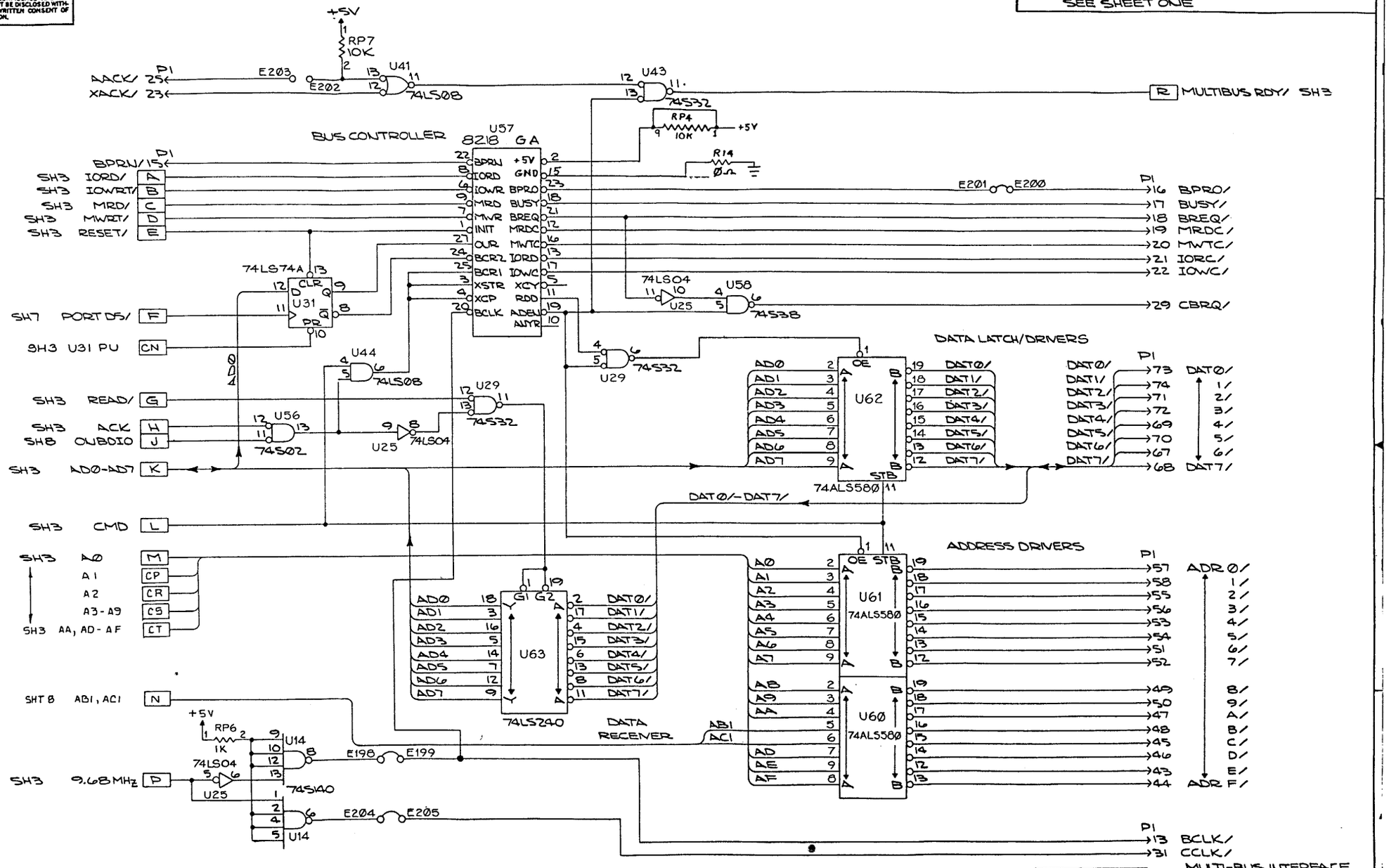
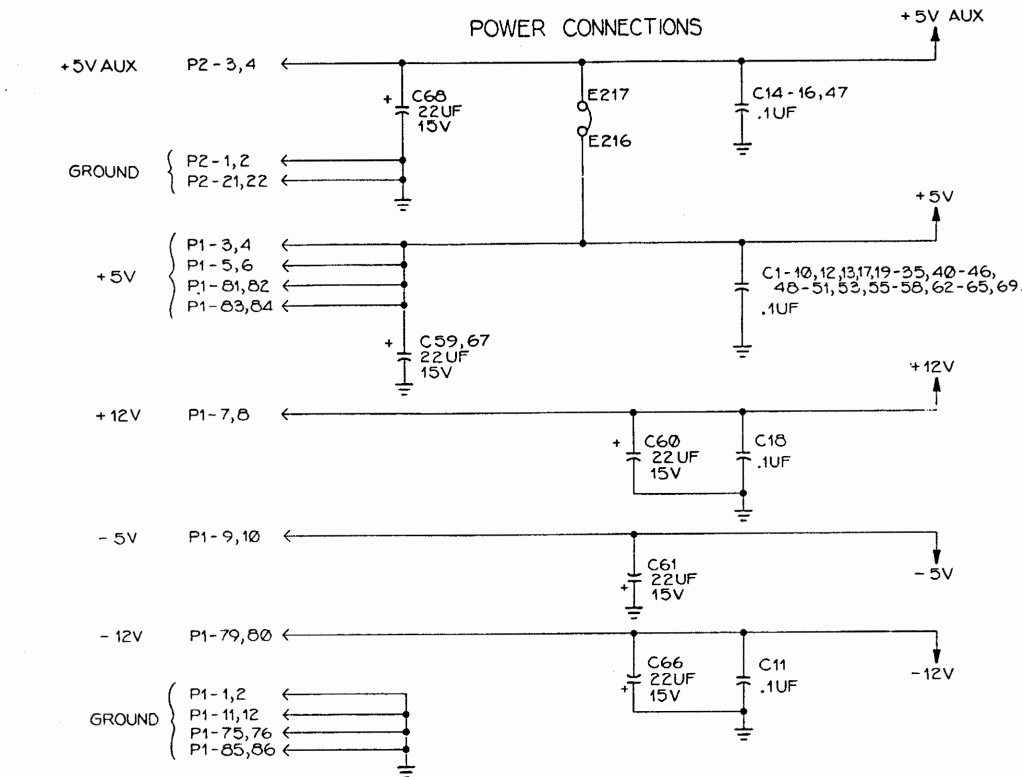
REVISIONS
ZONE REV DESCRIPTION DFT CHK DATE APPROVED
SEE SHEET ONE
CLOCK GENERATOR
Y1 19.3536MHz
U21 8224
74LS393
U20
U22 7404
9.68MHz
4.84MHz
U33 74S04
U34 8085A-2
U64 74S373
RP5 5.6K
AUX RESET/
INIT/
SH6 SID
SH9 INTR5.5
SH9 INTR6.5
SH9 INTR7.5
SH9 TRAP
SH9 INTR
SHT 8 IOSYNC/
SH4 RAMACK/
SH8 PROMACK/
SH2 MULTIBUS RDY/
SHT 8 IOASYNC/
SH 2 U31 PU
AB 2.15 MHz SH7
CM CLR SH7
P 9.68MHz SH2,10
AC RESET SH5,6,7,10
E RESET/ SH2
AD SOD SH6
CU AB, AC SH4,8
CT AA, AD-AF SH 2,4,8
CS A3-A9 SH2,4
CR A2 SHT 2,4,10
CP A1 SHT 2,4,5,6,7,10
M A0 SHT 2,4,5,6,7,9,10
K AD0-AD7 SH2,4,9
P2-32 ALE
G READ/ SH2
A IORD/ SH2,5,6,7,9,10
B IOWRT/ SH2,5,6,7,9,10
C MRD/ SH2
D MWRT/ SH2
AG 85WRT/ SH4
L CMD SH2,7,8
AH 85RD/ SH4
AJ IO/ SH4,7,8
P2-36 INTA/
AK INTA/ SH8,9
AL SI SH4,7,9
P2 28 HALT/
H ACK SH2
P2-34 BTMO
READY GENERATION
CPU
COMMAND GENERATION
CPU, TIMING, & READY
DRAWN
ISSUED
SIZE D
DWG NO. 502032
REV A
SHEET 3

REVISIONS						
ZONE	REV	DESCRIPTION	DFT	CHK	DATE	APPROVED
SEE SHEET ONE						



DRAWN	SIZE D	CODE	DWG NO. 502032	REV A
ISSUED	SCALE	UONE	SHEET 2	

REV	DESCRIPTION	DFT	DATE	CHK	DATE	APVD	DATE
A	ECO 5500328	EA	5/24/79	[illegible]	6/6/79	TK	6/6/79



NOTES; UNLESS OTHERWISE SPECIFIED:

1. RESISTOR VALUES ARE IN OHMS, 1/4W, 5%.
2. CAPACITOR VALUES ARE IN MICRO FARADS, +80%, -20%, 50V.
3. ALL 24 PIN PARTS USED IN SOCKETS XU52 THRU XU55 SHOULD BE INSERTED WITH PIN 1 OF THE 24 PIN I.C. IN PIN 3 OF THE 28 PIN SOCKET.
4. U2 THRU U5, U7 THRU U10, U52-U55 ARE SHOWN FOR CLARITY. ACTUAL COMPONENTS ARE CUSTOMER INSTALLED.
5. ODD PINS ON J1 AND J2 ARE ALL GROUNDED.
6. IMPROPERLY INSTALLED CONNECTORS (J1, J2 AND J3) COULD RESULT IN DAMAGE WHEN JUMPERS E2-E1, E33-E48, E76-E77, E78-E79, OR E80-E75 ARE INSTALLED.

DEVICE TABLE

REFERENCE DESIGNATION	DEVICE TYPE	POWER PINS GND	+5V	+12V	-5V	-12V	+5V AUX	UNUSED LOGIC ELEMENT OUTPUT PINS
U27	74LS00	7	14					
U56	74S02	7	14					
U22	7404	7	14					U22-8
U33,46	74S04	7	14					U33-6, U46-4
U25	74LS04	7	14					
U38,41,44	74LS08	7	14					U38-6,8,11
U40	74LS10	7	14					
U26	74S20	7	14					
U29,43,45	74S32	7	14					
U30,42	74LS32	7	14					U42-11
U58	74S38	7	14					
U31,47	74LS74A	7	14					
U39	74LS123	8	16					
U48	74S138	8	16					
U28,50	74LS138	8	16					
U49	74S139	8	16					
U14	74S140	7	14					
U59,63	74LS240	10	20					
U37	74368	8	16					U37-5,9
U64	74S373	10	20					
U20	74LS393	7	14					
U60-62	74ALS580	10	20					
U12	1488	7		14		1		
U11,13	1489	7	14					
U57	8218	14	28					
U32	3625A-1	9	18					
U51	6264-15	14					28	
U34	8085A-2	20	40					
U21	8224	8	16					
U19	8251A	4	26					
U18	8254-2	12	24					
U15,17	8255A	7	26					
U16	8259A	14	28					
U35,36	8286	10	20					
U1,6	8287	10	20					
XU2-5	SOCKET	7	14					
XU7-10	SOCKET	7	14					
XU52-55	SOCKET	14	28					

REF. DESIGNATION LAST USED	NOT USED
U64, Y1, RP8, DS1, R14, J6, C69, E221, Q1, CR1	U23,24

UNLESS OTHERWISE SPECIFIED:
1. DIMENSIONS ARE IN INCHES.
2. DO NOT SCALE DRAWING.
3. TOLERANCES: ANGLES ±

DRN BY E. ALONZO 5/25/79
CHK BY [illegible] 6/6/79
ENGR APVD [illegible] 6/6/79

intel 3065 BOWERS AVE. SANTA CLARA CALIF. 95051

TITLE: SCH.PBA, SBC 80/24A

SIZE D | SCALE / | CL CODE / | DOCUMENT NUMBER 502032 | SHEET 1 OF 10 | REV A