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SERVICE MANUAL

53A-171

CONTROL CARD

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REV 8705-06-C

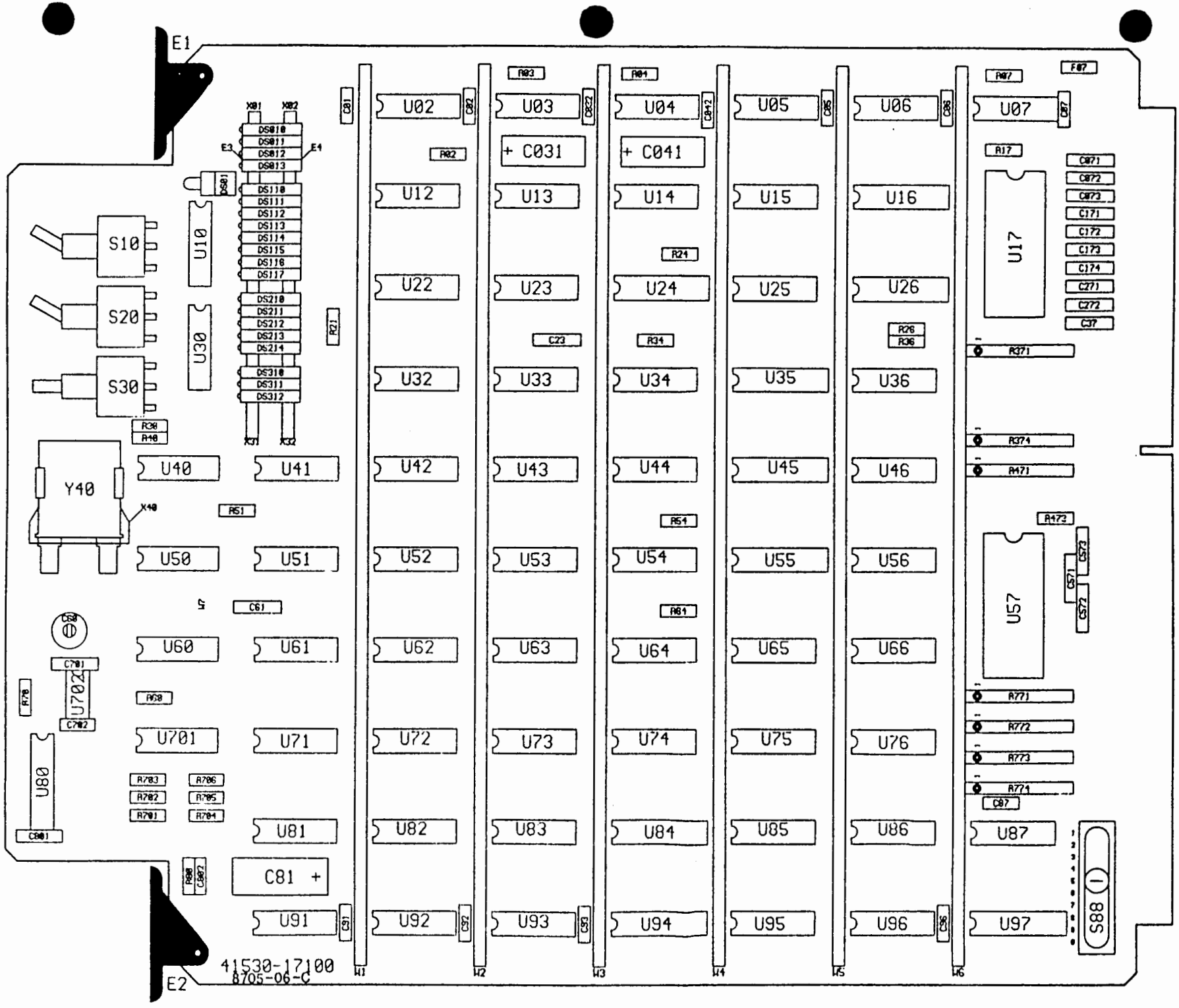
REFERENCE DESIGNATOR	CDS PART NUMBER	QTY.	PART DESCRIPTION	MFG. NUM.	MFG. PART NUMBER
FOR USE W/S30	42050-12671	1	SWITCH CAP WHITE FOR 8125A	0024	8018-1
C01,02,032,042,05,06,07,702,802 91,92,93,96	20128-10006	13	CAP FXD CER .1UF 80% -20% 50VDCW	0106	1C20Z5U104Z050B
C031,041	21018-10008	2	CAP FXD ELECT 10UF 75% -10% 16VDCW	0025	NLW10-16
C071,072,073,171,172,173,174,271 272,37,571,572,701	21528-10003	13	CAP FXD MICA 100PF 5% 500VDCW	0012	DM5FY101J
C23	21528-20002	1	CAP FXD MICA 20PF 5% 500VDCW	0025	CD6CA200J03
C573	20128-10005	1	CAP FXD CER .01UF 80% -20% 50VDCW	0106	1C25Z5U103M050B
C60	25028-20002	1	CAP VAR CER 2.3-20PF	0057	9308
C61	21528-10004	1	CAP FXD MICA 1000PF 5% 100VDCW	0012	DM-15-102J
C801	21528-20003	1	CAP FXD MICA 200PF 5% 500VDCW	0012	DM-15-201J
C81	21018-15009	1	CAP FXD ELECT 150UF 75% -10% 16VDCW	0025	NLW 150-16
C87	20128-47006	1	CAP FXD CER .47UF 20% 50VDCW	0075	RPE122Z5U474M50V
DS01	32000-00103	1	DIODE LIGHT EMITTING RED 50MA	0039	550-0103
DS010,011,012,013,110,111,112 113,114,115,116,117,210,211,212 213,214,310,311,312	32000-02003	20	DIODE LIGHT EMITTING RED WITH RESISTOR	0039	547-2003
E1	40401-00171	1	EJECTOR STAMP 53A-171 STYLE B BLACK	0026	40401-00171
E2	40401-10009	1	EJECTOR STAMP CONTROL STYLE D BLACK	0026	40401-10009
E3	45050-03223	1	DCL LED 23POS DRW 00000-00458 6-78	0026	45050-03223
E4	45050-03224	1	DCL LED 23POS BLK DRW 0000 0-00459 6-78	0026	45050-03224
F07	42202-52001	1	FUSE SUB-MIN 2AMP	0061	251002

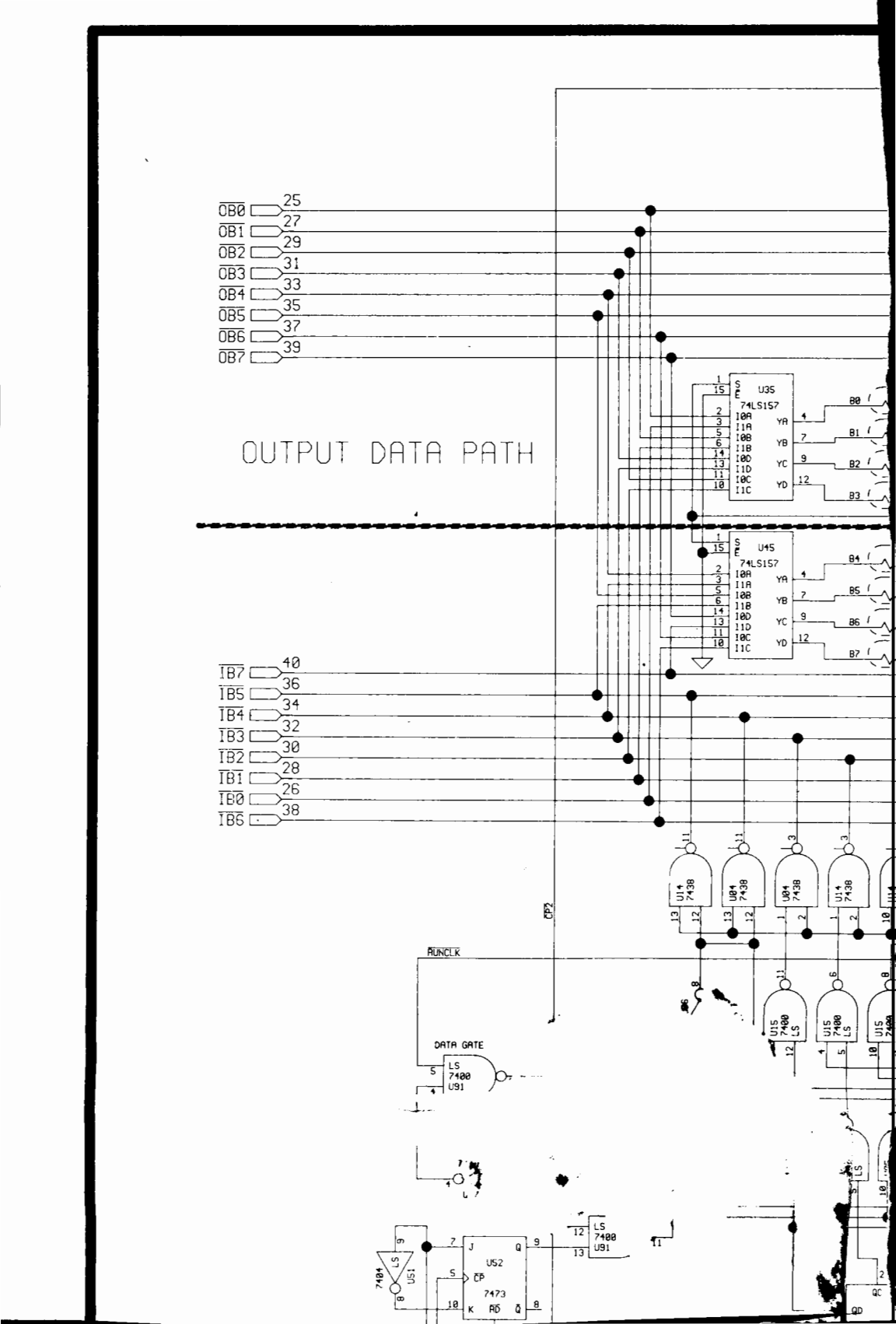
REFERENCE DESIGNATOR	CDS PART NUMBER	QTY.	PART DESCRIPTION	MFG. NUM.	MFG. PART NUMBER
PCB	41530-17100	1	P.C. BOARD VERSION 8705	0026	41530-17100
R02,30,40,51,54,64,70	10117-10005	7	10K RES COMP 1-4W 5%	0087	R25J-10K-5%
R03,07,24,26,80	10117-10004	5	1K RES COMP 1-4W 5%	0087	R25J-1K-5%
R04	10117-20005	1	20K RES COMP 1-4W 5%	0087	R25J-20K-5%
R17,36,473	10117-27003	3	270 OHM RES COMP 1-4W 5%	0087	R25J-270-5%
R21	10117-33003	1	330 OHM RES COMP 1-4W 5%	0087	R25J-330-5%
R34	10117-22005	1	22K RES COMP 1-4W 5%	0087	R25J-22K-5%
R371,374,471	12006-22004	3	2.2K RES NETWORK SIP 5% .7W 7-PKG	0027	750-81-R2.2K
R60	10117-22003	1	220 OHM RES COMP 1-4W 5%	0087	R25J-220-5%
R701,702,703	10117-51003	3	510 OHM RES COMP 1-4W 5%	0087	R25J-510-5%
R704,705,706	10117-82003	3	820 OHM RES COMP 1-4W 5%	0087	R25J-820-5%
R771,774	12006-22003	2	220 OHM RES NETWORK SIP 5% .7W 7-PKG	0027	750-81-R220
R772,773	12006-33003	2	330 OHM RES NETWORK SIP 5% .7W 7-PKG	0027	750-81-R330
S10,20	42050-12370	2	SWITCH ALT SPDT PC BRD MNT	0024	7101P4D9AB
S30	42050-12670	1	SWITCH MOM SPDT PC BRD MNT	0024	8125A
S88	42050-10010	1	SWITCH 10POS.	0101	C42315-A61-A11
U02,06,36,46,51,95,96	73301-07404	7	IC TTL LS HEX INVERTER	0107	74LS04
U03	78400-07413	1	IC TTL DUAL 4-INPUT NAND SCHMITT TRIGGER	0107	7413
U04,14,64,75,76	76601-07438	5	IC TTL QUAD 2-INPUT NAND BUFFER W-OC	0107	7438
U05,12,15,22,32,62,71,81,83,91	76500-07400	10	IC TTL LS QUAD 2-INPUT NAND GATE	0107	74LS00
U07	71400-74177	1	IC TTL 4-BIT BINARY COUNTER-LATCH	0107	74177
U10	73000-07474	1	IC TTL DUAL D-TYPE EDGE-TRIG FLIP-FLOP	0107	7474

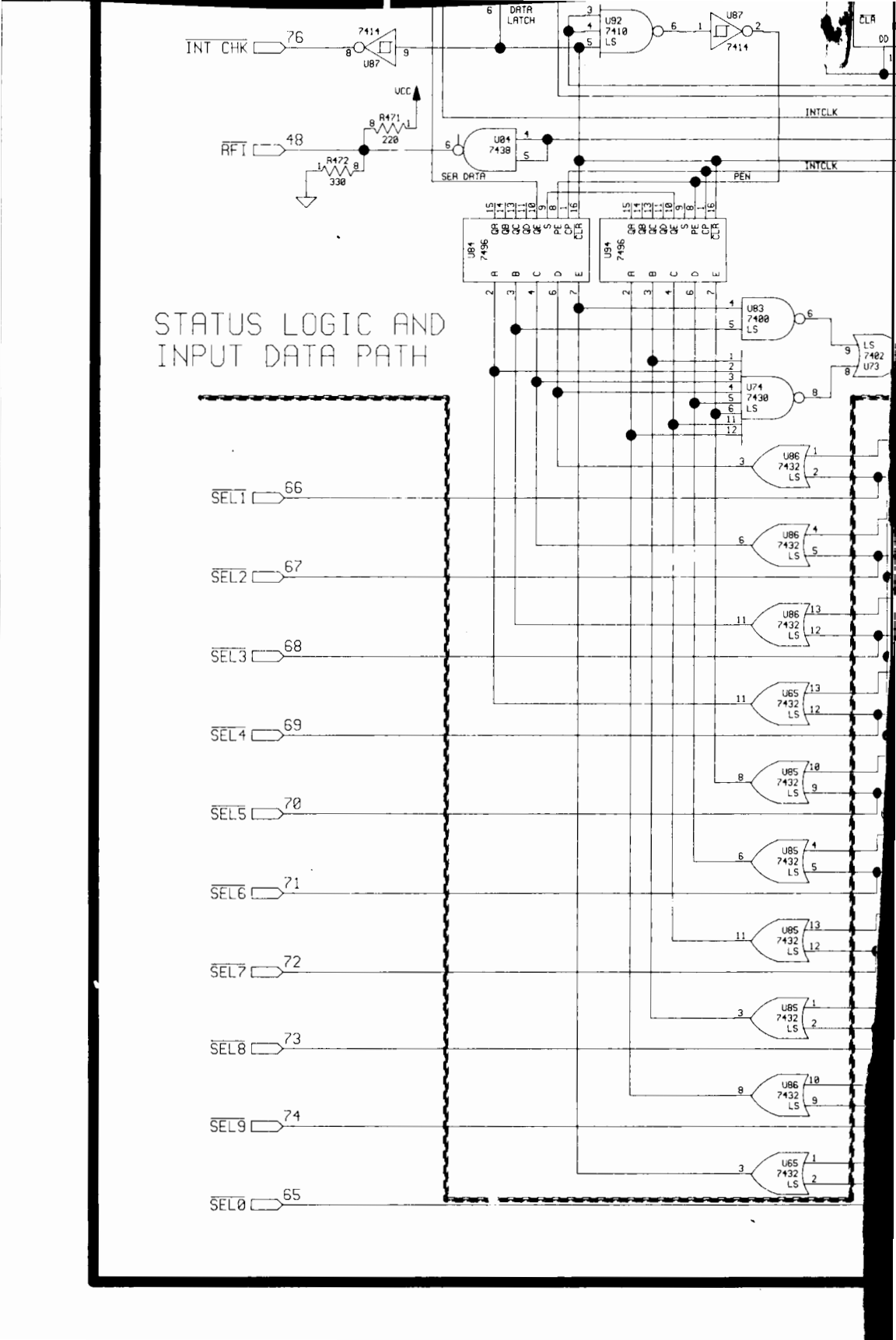
REFERENCE DESIGNATOR	CDS PART NUMBER	QTY.	PART DESCRIPTION	MFG. NUM.	MFG. PART NUMBER
U13,40,43,63,82,92	76500-07410	6	IC TTL LS TRIPLE 3-INPUT NAND GATE	0107	74LS10
U16	71251-07483	1	IC TTL LS 4-BIT BINARY FULL ADDER	0107	74LS83
U17,57	79000-09311	2	IC TTL 1-OF-16 DIGITAL DECODER	0107	9311 OR 74154
U23,42,72,73	76901-07402	4	IC TTL LS QUAD 2-INPUT NOR GATE	0107	74LS02
U24,80	74200-09602	2	IC TTL DUAL RETRIGGERABLE MONOSTABLE	0041	9602
U25	73002-07474	1	IC TTL S DUAL D-TYPE EDGE TRIG FLIP-FLOP	0107	74S74
U26	71200-74161	1	IC TTL LS SYNCH 4-BIT COUNTER	0107	74LS161A
U30	76600-07400	1	IC TTL QUAD 2-INPUT NAND GATE	0107	7400
U33,93	76500-07420	2	IC TTL LS DUAL 4-INPUT NAND GATE	0107	74LS20
U34,41,44,66	78402-07414	4	IC TTL LS HEX SCHMITT INVERTING BUFFER	0107	74LS14
U35,45	79911-74157	2	IC TTL LS QUAD 2-TO-1 LINE DATA SEL-MUX	0107	74LS157
U50,52,53	73000-07473	3	IC TTL DUAL J-K MASTER-SLAVE FLIP-FLOP	0107	7473
U54,56	79500-74180	2	IC TTL 8-BIT ODD-EVEN PARITY GEN-CHECKER	0107	74180
U55	73600-07475	1	IC TTL QUAD BISTABLE LATCH	0107	7475
U60	71200-07490	1	IC TTL DECADE COUNTER	0107	7490
U61	73001-07473	1	IC TTL LS DUAL J-K MASTER-SLAVE FLIP-FLOP	0107	74LS73
U65,85,86	77815-07432	3	IC TTL LS QUAD 2-INPUT OR GATE	0107	74LS32
U701	73300-07406	1	IC TTL HEX INVERTER BUFFER-DRIVER	0107	7406
U702	79605-07209	1	IC TTL OSCILLATOR	0055	ICM 7209 IPA
U74	76500-07430	1	IC TTL LS 8-INPUT NAND GATE	0107	74LS30

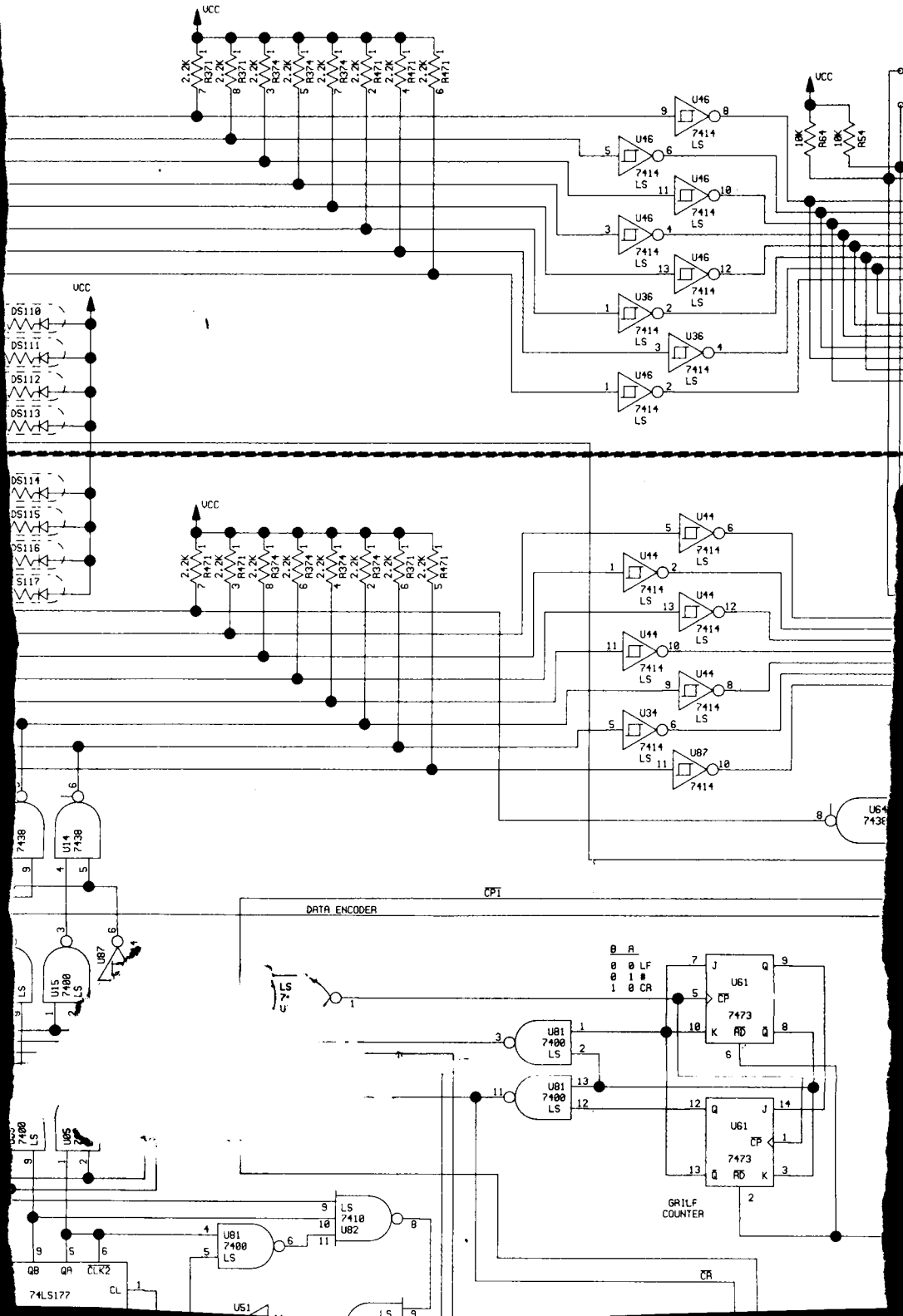
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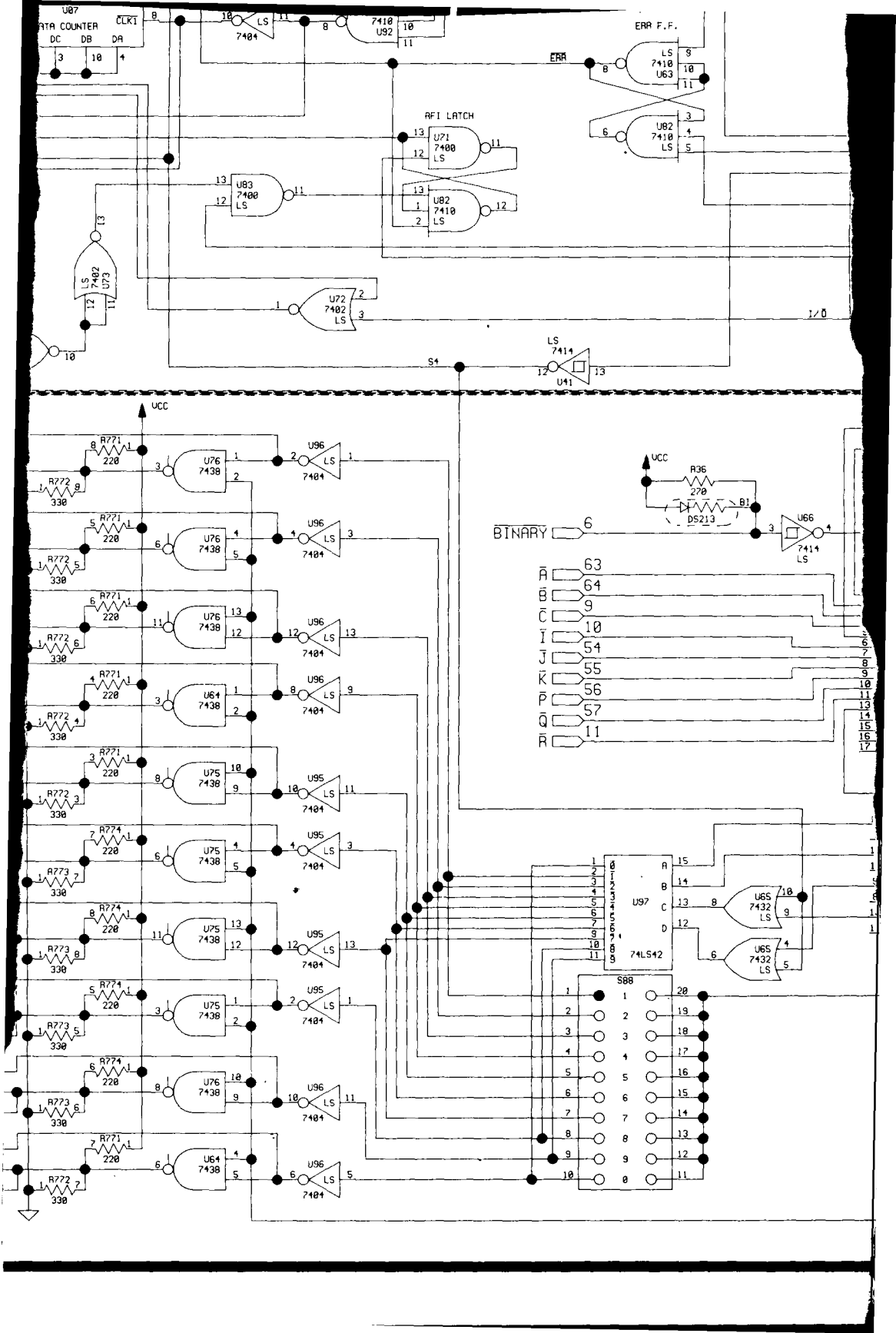
REFERENCE DESIGNATOR	CDS PART NUMBER	QTY.	PART DESCRIPTION	MFG. NUM.	MFG. PART NUMBER
U84,94	75401-07496	2	IC LS 5-BIT SERIAL-PARALLEL SHIFT REGISTER	0107	74LS96
U87	78401-07414	1	IC TTL HEX SCHMITT INVERTING BUFFER	0107	7414
U97	79000-07442	1	IC TTL BCD-TO-DECIMAL DECODER	0107	7442
W1,2,3,4,5,6	93517-75397	6	BUS BAR P.75 F.3 X9 L7.2	0090	M-833 9.75.3
W7	90000-06022	1	WIRE 22 GA UNINSULATED	0017	QQ-W-3430
X01,02	45010-14100	2	SOCKET SIP 14 PIN	0026	45010-14100
X31,32	45001-12100	2	CONNECTOR SIP 12 PIN	0026	45001-12100
X40	45010-00002	1	SOCKET CRYSTAL HC25 HOLDER	0014	8000-AG36
Y40	89500-20006	1	CRYSTAL 2.00MHZ .001% 10PF HC6U HLDR	0056	432311 CS-1 10PF

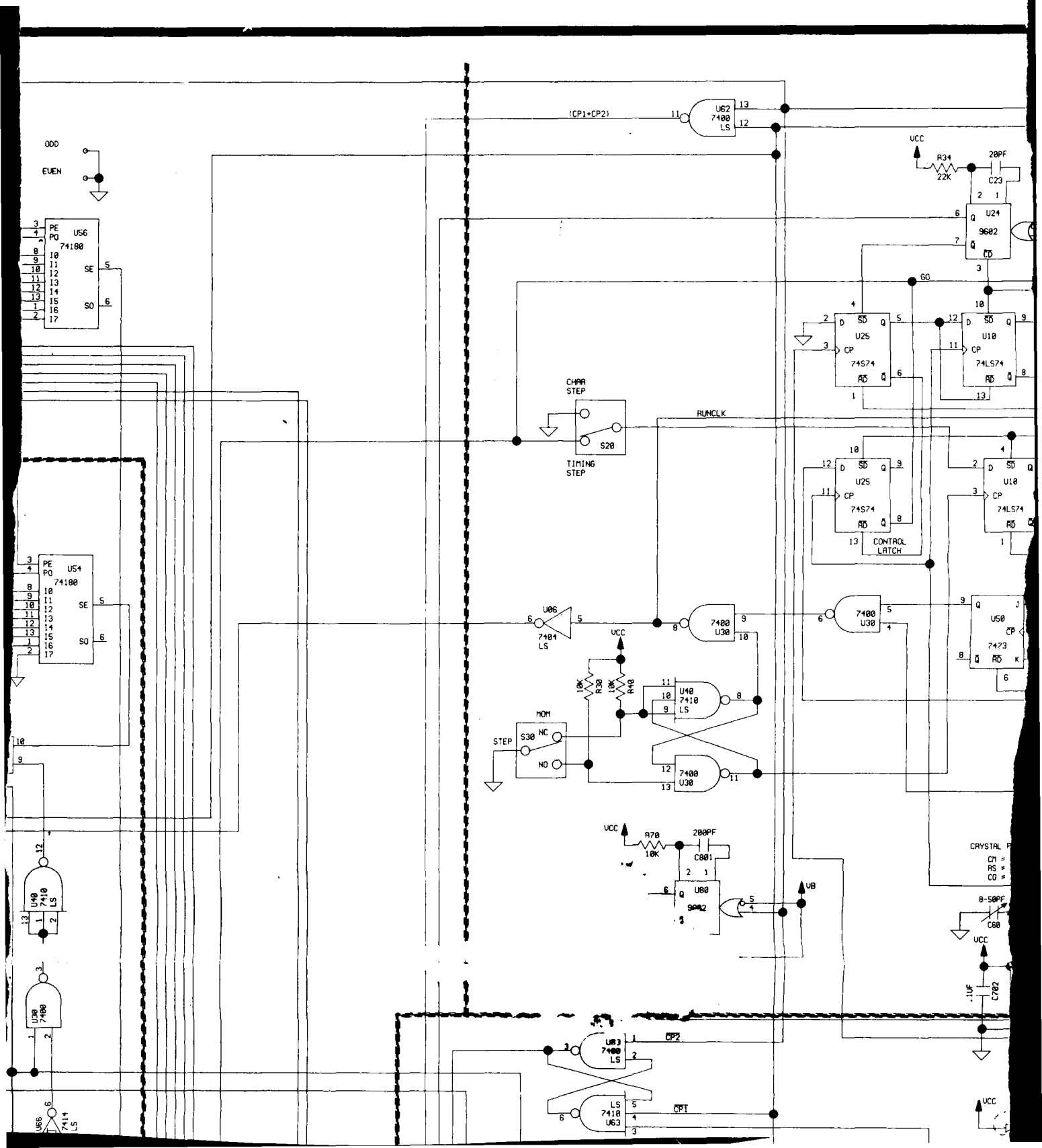

E1
E2
X01
X02
DS010
DS011
DS012
DS013
DS110
DS111
DS112
DS113
DS114
DS115
DS116
DS117
DS210
DS211
DS212
DS213
DS214
DS310
DS311
DS312
X31
X32
S10
S20
S30
U10
U30
Y40
X40
U02
U03
U04
U05
U06
U07
U12
U13
U14
U15
U16
U17
U22
U23
U24
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U26
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U66
U701
U702
U71
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U74
U75
U76
U80
U81
U82
U83
U84
U85
U86
U87
U91
U92
U93
U94
U95
U96
U97
C031
C041
C81 +
S88
41530-17100
8705-06-C

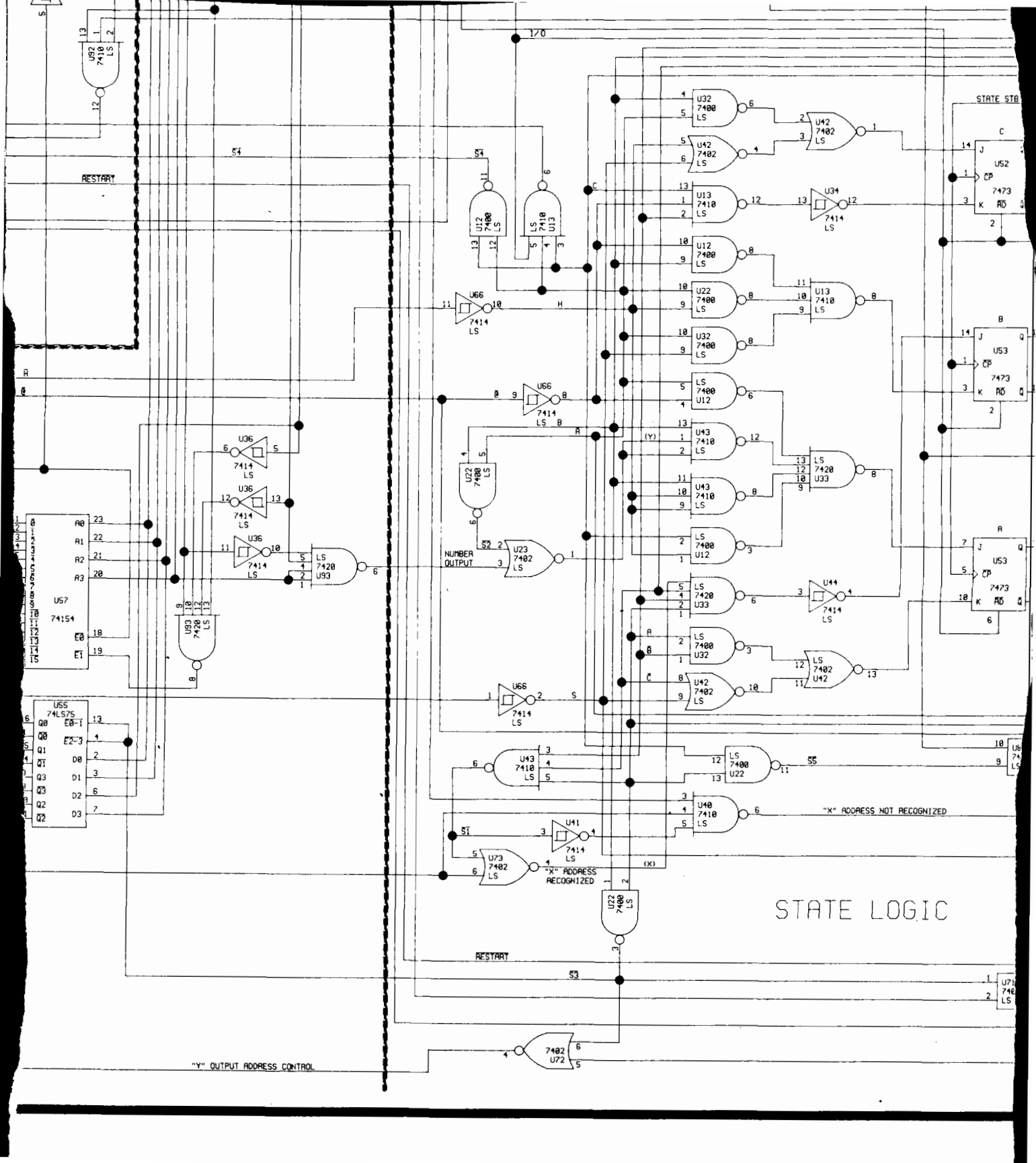

OUTPUT DATA PATH
OB0 25
OB1 27
OB2 29
OB3 31
OB4 33
OB5 35
OB6 37
OB7 39
IB7 40
IB5 36
IB4 34
IB3 32
IB2 30
IB1 28
IB0 26
IB6 38
U35
74LS157
U45
74LS157
B0
B1
B2
B3
B4
B5
B6
B7
CP2
RUNCLK
DATA GATE
LS 7400 U91
7404 LS U51
U52 7473
LS 7400 U91

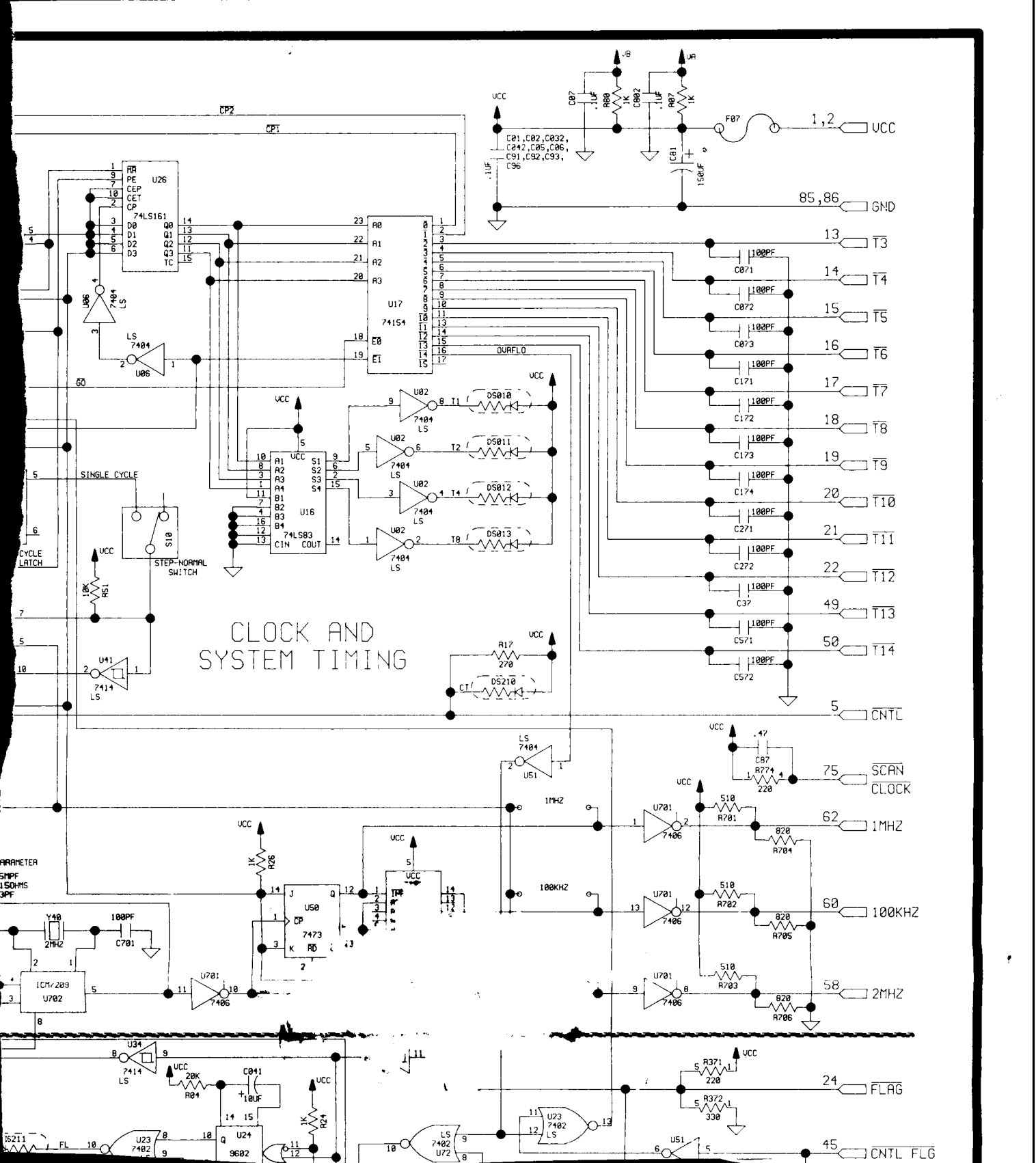

STATUS LOGIC AND
INPUT DATA PATH
INT CHK
76
7414
U87
DATA
LATCH
U92
7410
LS
U87
7414
CLR
DD
INTCLK
VCC
R471
220
RFI
48
R472
330
U84
7438
SER DATA
INTCLK
PEN
U84
7496
U84
7496
U83
7400
LS
LS
7402
U73
U74
7430
LS
SEL1
66
SEL2
67
SEL3
68
SEL4
69
SEL5
70
SEL6
71
SEL7
72
SEL8
73
SEL9
74
SEL0
65
U86
7432
LS
U86
7432
LS
U86
7432
LS
U65
7432
LS
U85
7432
LS
U85
7432
LS
U85
7432
LS
U85
7432
LS
U86
7432
LS
U65
7432
LS

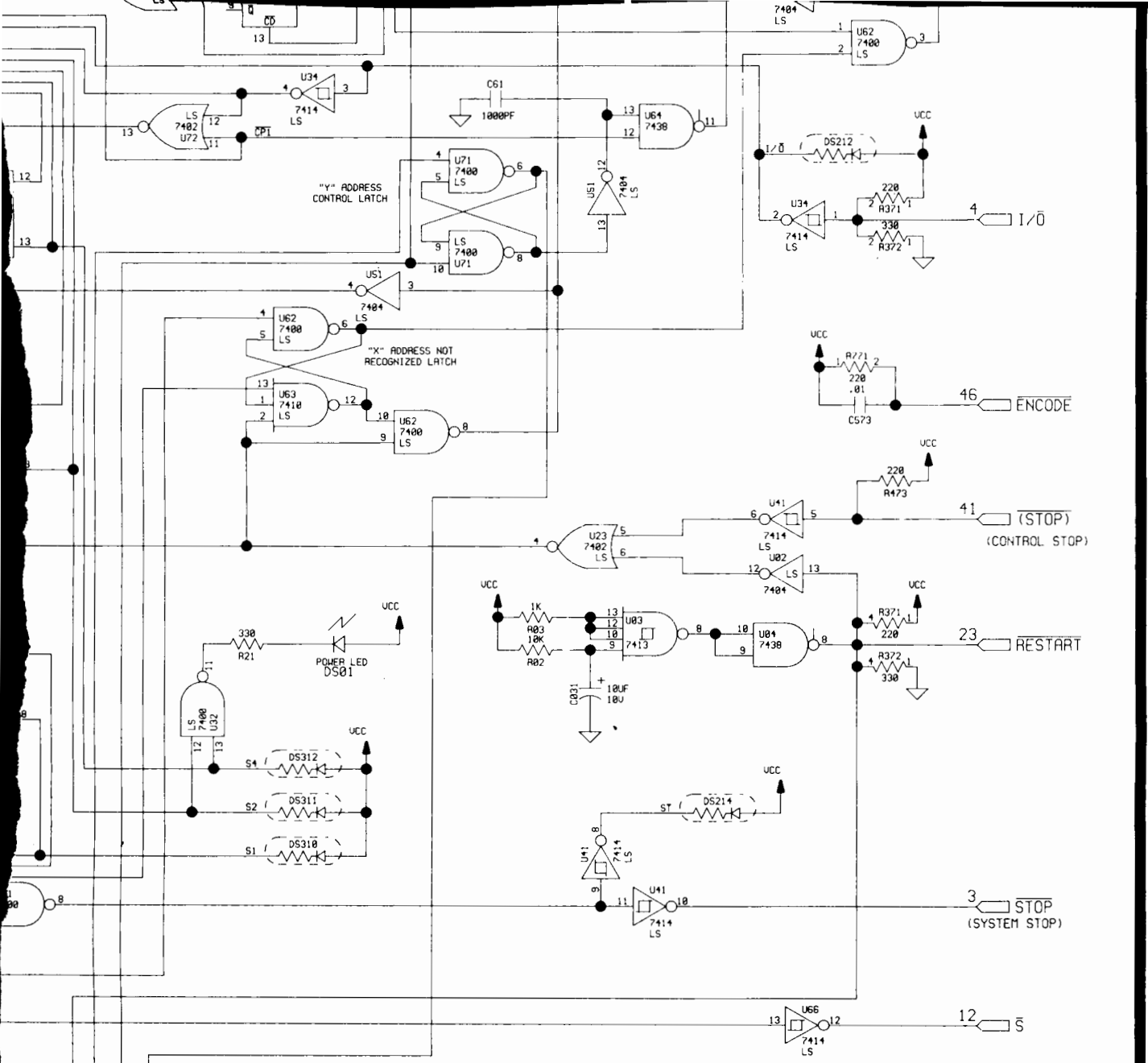

VCC
2.2K
R371
R374
R471
U46
7414
LS
U36
U44
U34
U87
10K
R64
R54
DS110
DS111
DS112
DS113
DS114
DS115
DS116
S117
7438
U14
U15
7400
U87
U81
U82
7410
U61
7473
U51
74LS177
QB
QA
CLR2
CL
CPI
DATA ENCODER
B A
0 0 LF
0 1 #
1 0 CR
GAILF
COUNTER
CR


U07
DATA COUNTER
DC
DB
DA
CLK1
7404
7410
U92
ERR F.F.
ERR
U63
RFI LATCH
U71
7400
LS
U82
7410
U83
U73
7402
U72
I/O
S4
7414
U41
VCC
R771
220
R772
330
R773
R774
U76
U61
U75
U95
U96
7438
BINARY
R36
270
DS213
U66
A
B
C
I
J
K
P
Q
R
U97
74LS42
U65
7432
S88


ODD
EVEN
U56
74180
PE
PO
I0
I1
I2
I3
I4
I5
I6
I7
SE
SO
U54
74180
(CP1+CP2)
U62
7400
LS
VCC
R34
22K
20PF
C23
U24
9602
GO
U25
74S74
U10
74LS74
CHAR
STEP
TIMING
STEP
S20
RUNCLK
CONTROL
LATCH
U06
7406
LS
U30
7400
U40
7410
LS
MOM
S30
NC
NO
STEP
R30
10K
R40
10K
R70
10K
200PF
C801
U80
9602
VB
U50
7473
CRYSTAL
8-50PF
C60
.1UF
C702
U63
7400
LS
CP2
CP1
U63
7410
LS
U66
7414
LS


STATE LOGIC
RESTART
"Y" OUTPUT ADDRESS CONTROL
"X" ADDRESS NOT RECOGNIZED
"X" ADDRESS RECOGNIZED
NUMBER OUTPUT
STATE STB
U57 74154
U55 74LS75
U92 7410 LS
U32 7400 LS
U42 7402 LS
U13 7410 LS
U34 7414 LS
U12 7400 LS
U22 7400 LS
U66 7414 LS
U36 7414 LS
U43 7410 LS
U33 7420 LS
U23 7402 LS
U93 7430 LS
U52 7473
U53 7473
U44 7414 LS
U40 7410 LS
U41 7414 LS
U73 7402 LS
U72 7402
U22 7400 LS


CLOCK AND
SYSTEM TIMING
VCC
GND
CP2
CP1
SINGLE CYCLE
CYCLE LATCH
STEP-NORMAL SWITCH
74LS161
74154
74LS83
7404 LS
7414 LS
7406
7473
9602
7402 LS
1MHZ
100KHZ
2MHZ
OVAFLO
SCAN CLOCK
CNTL
FLAG
CNTL FLG
1,2
85,86
13 T3
14 T4
15 T5
16 T6
17 T7
18 T8
19 T9
20 T10
21 T11
22 T12
49 T13
50 T14
5 CNTL
75 SCAN CLOCK
62 1MHZ
60 100KHZ
58 2MHZ
24 FLAG
45 CNTL FLG



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8705-06-C

REVISION LEVEL	ECO #
8605-06-B	498
8705-06-C	552

COLORADO DATA SYSTEMS

PART NO.: 53A-171

DESCRIPTION: CONTROL CARD

P.C.B. NUMBER: 41530-17100

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