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53A-307 RELAY DRIVER CARD

SERVICE MANUAL

BFGoodrich
Aerospace

JcAIR Test Systems

WARRANTY

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http:\\www.jcair.com

6/22/98 8103-01-A
through
8604-02-A

JcAIR INC.

NAME: 40 BIT RELAY DRIVER BD 8604-02-A ASSY NO: 53A-307

REVISION: 00 DATE: 03/22/95

ITEM/ SYMBOL	JcAIR P/N	DESCRIPTION	U/M	QTY	MFG	MFG'S P/N
1	41530-30700	P.C. BOARD VERSION 2S 8604	EA	1.00	HARMON	41530-30700
					MCCURDY CIRCUIT	41530-30700
					TEKTRONIX INC.	41530-30700
					UNICIRCUITS	41530-30700
C01	20128-10006	CAP FXD CER .1UF 20% 50VDCW	EA	15.00	AVX/KYOCERA	SR215E104MAA50VDCW
					KEMET-UNION CAR	C322C104M5U5CA
					SPRAGUE/VISHAY	1C20Z5U104M050B
C02	20128-10006	CAP FXD CER .1UF 20% 50VDCW	EA	-		
C07	20128-10006	CAP FXD CER .1UF 20% 50VDCW	EA	-		
C15	20128-10006	CAP FXD CER .1UF 20% 50VDCW	EA	-		
C16	20128-10006	CAP FXD CER .1UF 20% 50VDCW	EA	-		
C37	21018-15009	CAP FXD ELECT 150UF 75% -10% 16VDCW	EA	1.00	CORNELL-DUBILIE	NLW150-16
					MALLORY CAPACIT	TT16M150A
C91	20128-10006	CAP FXD CER .1UF 20% 50VDCW	EA	-		
C94	20128-10006	CAP FXD CER .1UF 20% 50VDCW	EA	-		
C041	20128-10006	CAP FXD CER .1UF 20% 50VDCW	EA	-		
C042	20128-10006	CAP FXD CER .1UF 20% 50VDCW	EA	-		
C861	20128-10006	CAP FXD CER .1UF 20% 50VDCW	EA	-		
C862	20128-10006	CAP FXD CER .1UF 20% 50VDCW	EA	-		
C931	20128-10006	CAP FXD CER .1UF 20% 50VDCW	EA	-		
C932	20128-10006	CAP FXD CER .1UF 20% 50VDCW	EA	-		
C951	21528-20002	CAP FXD MICA 20PF 5% 500VDCW	EA	1.00	CORNELL-DUBILIE	CD6CD200J03
					CORNELL-DUBILIE	CD6ED200J03
C952	20128-10006	CAP FXD CER .1UF 20% 50VDCW	EA	-		
C971	20128-10006	CAP FXD CER .1UF 20% 50VDCW	EA	-		
C972	21018-10008	CAP FXD ELECT 10UF 75% -10% 16VDCW	EA	1.00	CORNELL-DUBILIE	NLW10-16
					SPRAGUE/VISHAY	TE1155
CR86	32000-04148	DIODE SILICON 75V 1A 5%	EA	2.00	NATIONAL SEMI /	1N4148
CR87	32000-04148	DIODE SILICON 75V 1A 5%	EA	-		
DS01	32000-00103	DIODE LED RED 50MA	EA	1.00	DIALIGHT	550-0103
					DIALIGHT	550-0406
					QUALITY TECHNOL	MV60538.MP7
DS010	32000-02003	DIODE LED RED W/RES	EA	14.00	DIALIGHT	547-2003
					EATON CORPORATI	134LIC
					QUALITY TECHNOL	MR5010.MP1
DS011	32000-02003	DIODE LED RED W/RES	EA	-		
DS012	32000-02003	DIODE LED RED W/RES	EA	-		
DS013	32000-02003	DIODE LED RED W/RES	EA	-		
DS110	32000-02003	DIODE LED RED W/RES	EA	-		
DS111	32000-02003	DIODE LED RED W/RES	EA	-		
DS112	32000-02003	DIODE LED RED W/RES	EA	-		
DS113	32000-02003	DIODE LED RED W/RES	EA	-		
DS114	32000-02003	DIODE LED RED W/RES	EA	-		
DS210	32000-02003	DIODE LED RED W/RES	EA	-		
DS211	32000-02003	DIODE LED RED W/RES	EA	-		
DS212	32000-02003	DIODE LED RED W/RES	EA	-		
DS213	32000-02003	DIODE LED RED W/RES	EA	-		
DS214	32000-02003	DIODE LED RED W/RES	EA	-		

JcAIR INC.

NAME: 40 BIT RELAY DRIVER BD 8604-02-A ASSY NO: 53A-307

REVISION: 00 DATE: 03/22/95

ITEM/ SYMBOL	JcAIR P/N	DESCRIPTION	U/M	QTY	MFG	MFG'S P/N
E1	40401-00307	STAMP 53A-307 STYLE B BLUE	EA	1.00	STU PHILLIPS CO	53A-307
E2	40401-10034	STAMP RLY DRIV STYLE D BLUE	EA	1.00	STU PHILLIPS CO	RLY DRIV
E3	45050-03256	DCL LED 14POS -00498	EA	1.00	GOOD DECAL	45050-03256
E4	45050-03257	DCL LED 14POS BLK -00499	EA	1.00	GOOD DECAL	45050-03257
E5	42050-12671	SWITCH CAP WHITE FOR 8125A	EA	1.00	C & K COMPONENT	8018-1
F07	42202-52001	FUSE SUB-MIN 2AMP	EA	1.00	LITTLEFUSE INC.	251002
					SAN-O	SP5-2A
R01	10117-33003	RES COMP 330 1-4W 5%	EA	1.00	ALLEN-BRADLEY C	RC07GF331J
					NIC	NIC-NCF25-330
					ROHM CORP.	R25JE-330-5%
R06	10117-10004	RES COMP 1K 1-4W 5%	EA	4.00	ALLEN-BRADLEY C	RC07GF102J
					ROHM CORP.	R25JE-1K-5%
R07	10117-10005	RES COMP 10K 1-4W 5%	EA	4.00	ALLEN-BRADLEY C	RC07GF103J
					ROHM CORP.	R25JE-10K-5%
R17	10117-10005	RES COMP 10K 1-4W 5%	EA	-		
R25	10117-10004	RES COMP 1K 1-4W 5%	EA	-		
R35	10117-10004	RES COMP 1K 1-4W 5%	EA	-		
R86	10117-33005	RES COMP 33K 1-4W 5%	EA	1.00	ALLEN-BRADLEY C	RC07GF333J
					ROHM CORP.	R25JE-33K-5%
R87	10117-10005	RES COMP 10K 1-4W 5%	EA	-		
R95	10117-10005	RES COMP 10K 1-4W 5%	EA	-		
R97	10117-10004	RES COMP 1K 1-4W 5%	EA	-		
S77	42050-10010	SWITCH 10POS.	EA	1.00	JcAIR	42050-10010
S91	42050-12670	SWITCH MOM SPDT PC BRD MNT	EA	1.00	C & K COMPONENT	8125SD9ABE
S93	42050-10121	SWITCH DIP 1POS DPDT	EA	1.00	GRAYHILL INC.	76SD01S
U02	73000-74276	IC TTL QUAD FLIP-FLOP J-K	EA	10.00	TEXAS INSTR. IN	74276 TI ONLY
U03	73601-74259	IC TTL LS QUAD BISTABLE LATCH	EA	8.00	MOTOROLA SEMICO	SN74LS259
					NATIONAL SEMI /	DM74LS259
U04	79005-74153	IC TTL DUAL 4-TO-1 DATA SELECTOR	EA	5.00	NATIONAL SEMI /	DM74153
					TEXAS INSTR. IN	74153
U05	79000-07442	IC TTL BCD-TO-DECIMAL DECODER	EA	2.00	NATIONAL SEMI /	DM7442
					TEXAS INSTR. IN	7442
U06	71202-74161	IC TTL BINARY COUNTER SYNCHRONOUS 4-BIT	EA	1.00	TEXAS INSTR. IN	74161
U07	76600-07400	IC TTL QUAD 2-INPUT NAND GATE	EA	5.00	NATIONAL SEMI /	DM7400
					TEXAS INSTR. IN	7400
U12	73000-74276	IC TTL QUAD FLIP-FLOP J-K	EA	-		
U13	73601-74259	IC TTL LS QUAD BISTABLE LATCH	EA	-		
U14	79005-74153	IC TTL DUAL 4-TO-1 DATA SELECTOR	EA	-		
U15	76900-07402	IC TTL QUAD 2-INPUT NOR GATE	EA	9.00	NATIONAL SEMI /	DM7402
					TEXAS INSTR. IN	7402
U16	76600-07400	IC TTL QUAD 2-INPUT NAND GATE	EA	-		
U17	73310-74240	IC TTL LS OCTAL BUFFER	EA	2.00	MOTOROLA SEMICO	SN74LS240
					NATIONAL SEMI /	DM74LS240
					TEXAS INSTR. IN	74LS240
U22	73000-74276	IC TTL QUAD FLIP-FLOP J-K	EA	-		
U23	73601-74259	IC TTL LS QUAD BISTABLE LATCH	EA	-		
U24	79005-74153	IC TTL DUAL 4-TO-1 DATA SELECTOR	EA	-		

NAME: 40 BIT RELAY DRIVER BD 8604-02-A ASSY NO: 53A-307

REVISION: 00 DATE: 03/22/95

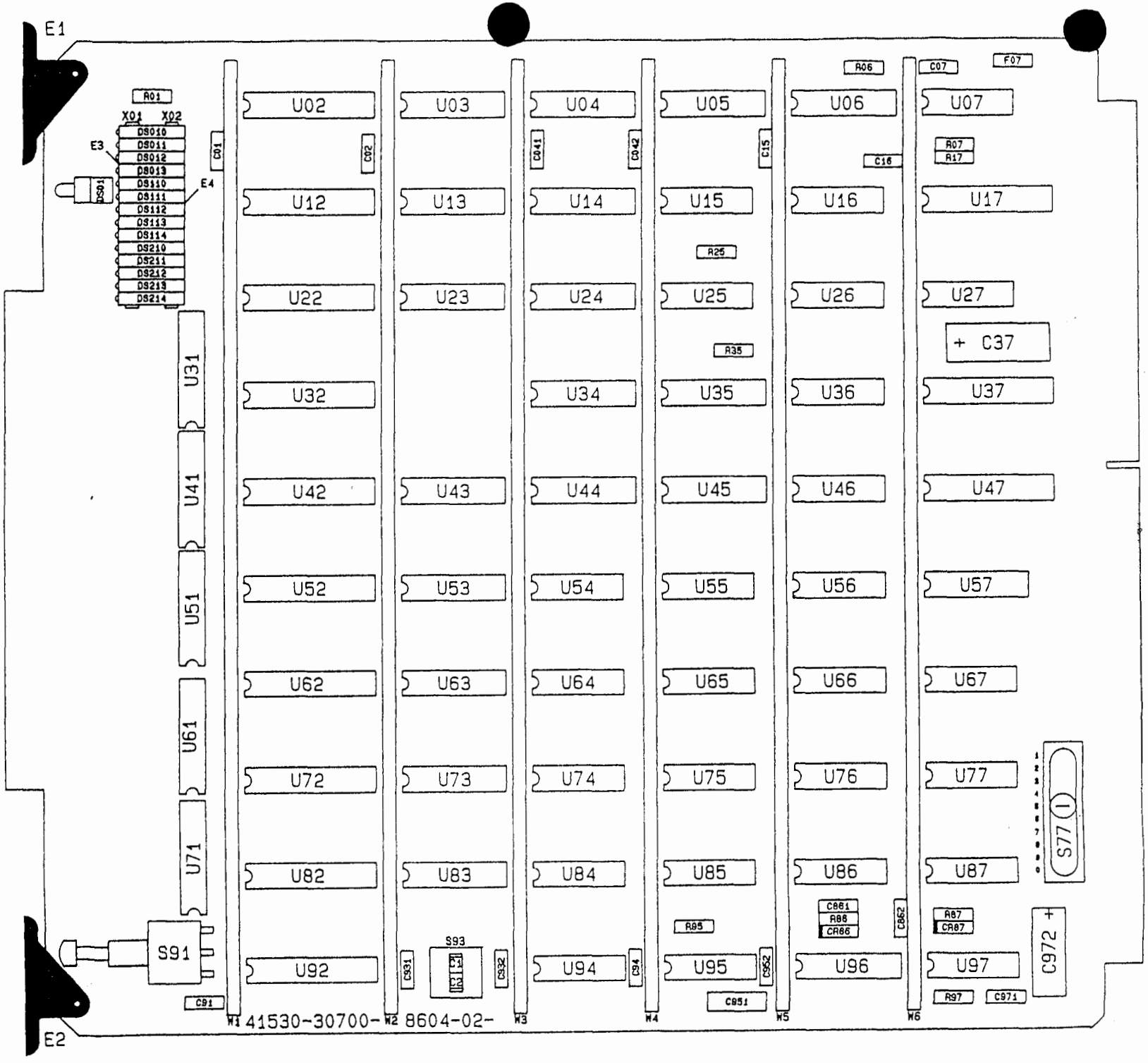
ITEM/ SYMBOL	JcAIR P/N	DESCRIPTION	U/M	QTY	MFG	MFG'S P/N
U25	76601-07438	IC TTL QUAD 2-INPUT NAND BUFFER W-OC	EA	1.00	NATIONAL SEMI /	DM7438
					TEXAS INSTR. IN	7438
U26	73300-07404	IC TTL HEX INVERTER	EA	3.00	NATIONAL SEMI /	DM7404
					TEXAS INSTR. IN	7404
U27	76900-07402	IC TTL QUAD 2-INPUT NOR GATE	EA	-		
U31	73405-02803	IC HIGH-VLT-CUR DARLINGTON TRANS ARRAY	EA	5.00	ALLEGRO	ULN2803A
					MOTOROLA SEMICO	ULN2803A
					SGS/THOMPSON MO	ULN2803A
U32	73000-74276	IC TTL QUAD FLIP-FLOP J-K	EA	-		
U34	79005-74153	IC TTL DUAL 4-TO-1 DATA SELECTOR	EA	-		
U35	79910-74157	IC TTL QUAD 2-TO-1 LINE DATE SELECTOR-MU	EA	1.00	NATIONAL SEMI /	DM74157
					TEXAS INSTR. IN	74157
U36	76600-07400	IC TTL QUAD 2-INPUT NAND GATE	EA	-		
U37	73310-74240	IC TTL LS OCTAL BUFFER	EA	-		
U41	73405-02803	IC HIGH-VLT-CUR DARLINGTON TRANS ARRAY	EA	-		
U42	73000-74276	IC TTL QUAD FLIP-FLOP J-K	EA	-		
U43	73601-74259	IC TTL LS QUAD BISTABLE LATCH	EA	-		
U44	79005-74153	IC TTL DUAL 4-TO-1 DATA SELECTOR	EA	-		
U45	71200-74192	IC TTL COUNTER SYNCH UP-DOWN	EA	1.00	TEXAS INSTR. IN	74192
U46	76900-07402	IC TTL QUAD 2-INPUT NOR GATE	EA	-		
U47	73000-74273	IC TTL OCTAL FLIP-FLOP D-TYPE	EA	1.00	TEXAS INSTR. IN	74273
U51	73405-02803	IC HIGH-VLT-CUR DARLINGTON TRANS ARRAY	EA	-		
U52	73000-74276	IC TTL QUAD FLIP-FLOP J-K	EA	-		
U53	73601-74259	IC TTL LS QUAD BISTABLE LATCH	EA	-		
U54	76900-07402	IC TTL QUAD 2-INPUT NOR GATE	EA	-		
U55	77200-07408	IC TTL QUAD 2-INPUT AND GATE	EA	2.00	NATIONAL SEMI /	DM7408
					TEXAS INSTR. IN	7408
U56	76900-07402	IC TTL QUAD 2-INPUT NOR GATE	EA	-		
U57	79000-07442	IC TTL BCD-TO-DECIMAL DECODER	EA	-		
U61	73405-02803	IC HIGH-VLT-CUR DARLINGTON TRANS ARRAY	EA	-		
U62	73000-74276	IC TTL QUAD FLIP-FLOP J-K	EA	-		
U63	73601-74259	IC TTL LS QUAD BISTABLE LATCH	EA	-		
U64	76900-07402	IC TTL QUAD 2-INPUT NOR GATE	EA	-		
U65	77200-07408	IC TTL QUAD 2-INPUT AND GATE	EA	-		
U66	76600-07430	IC TTL 8-INPUT NAND GATE	EA	3.00	NATIONAL SEMI /	DM7430
					TEXAS INSTR. IN	7430
U67	76600-07410	IC TTL TRIPLE 3-INPUT NAND GATE	EA	1.00	NATIONAL SEMI /	DM7410
					TEXAS INSTR. IN	7410
U71	73405-02803	IC HIGH-VLT-CUR DARLINGTON TRANS ARRAY	EA	-		
U72	73000-74276	IC TTL QUAD FLIP-FLOP J-K	EA	-		
U73	73601-74259	IC TTL LS QUAD BISTABLE LATCH	EA	-		
U74	76600-07430	IC TTL 8-INPUT NAND GATE	EA	-		
U75	76600-07420	IC TTL DUAL 4-INPUT NAND GATE	EA	1.00	NATIONAL SEMI /	DM7420
					TEXAS INSTR. IN	7420
U76	76600-07430	IC TTL 8-INPUT NAND GATE	EA	-		
U77	73300-07404	IC TTL HEX INVERTER	EA	-		
U82	73000-74276	IC TTL QUAD FLIP-FLOP J-K	EA	-		
U83	73601-74259	IC TTL LS QUAD BISTABLE LATCH	EA	-		

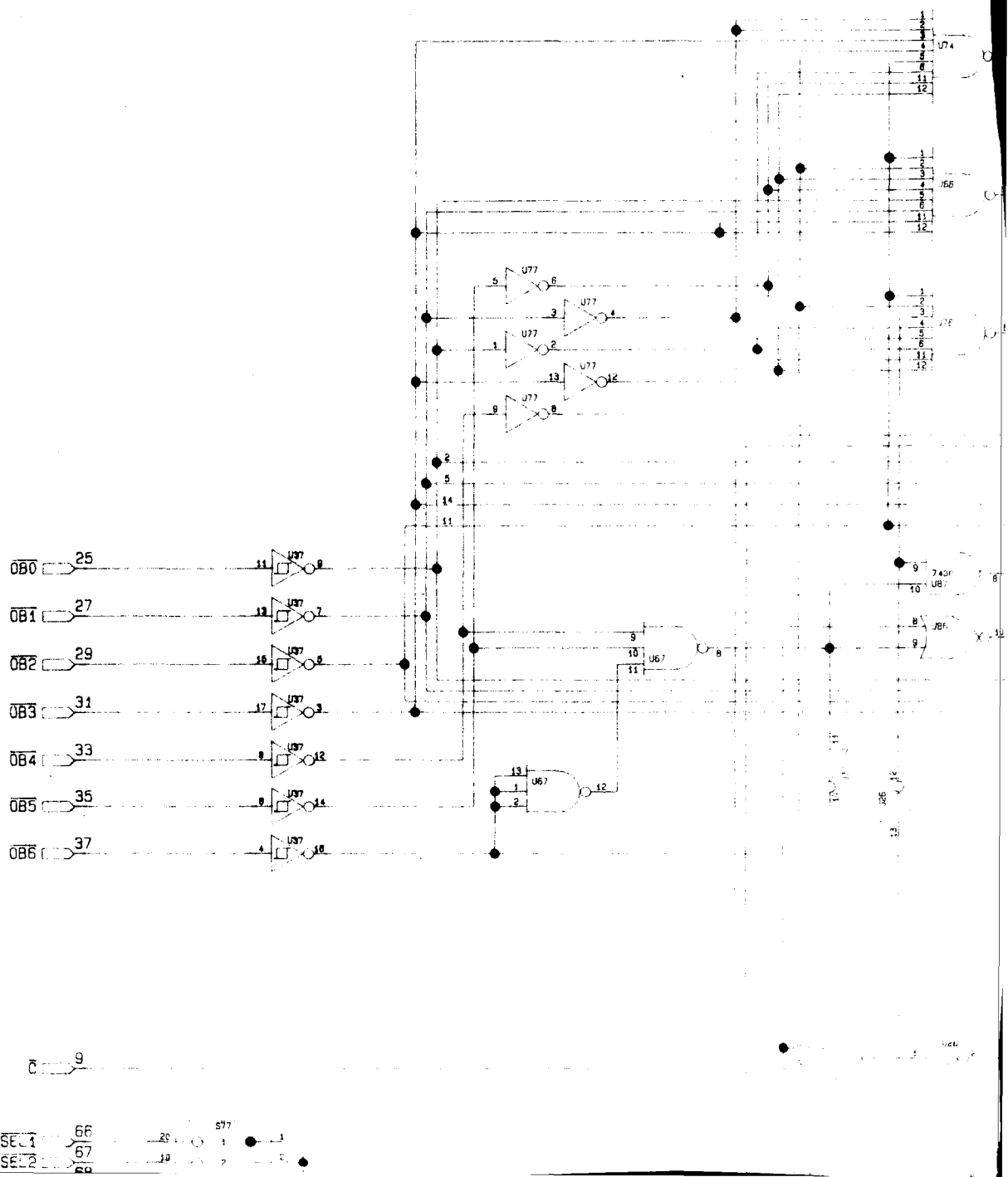
JcAIR INC.

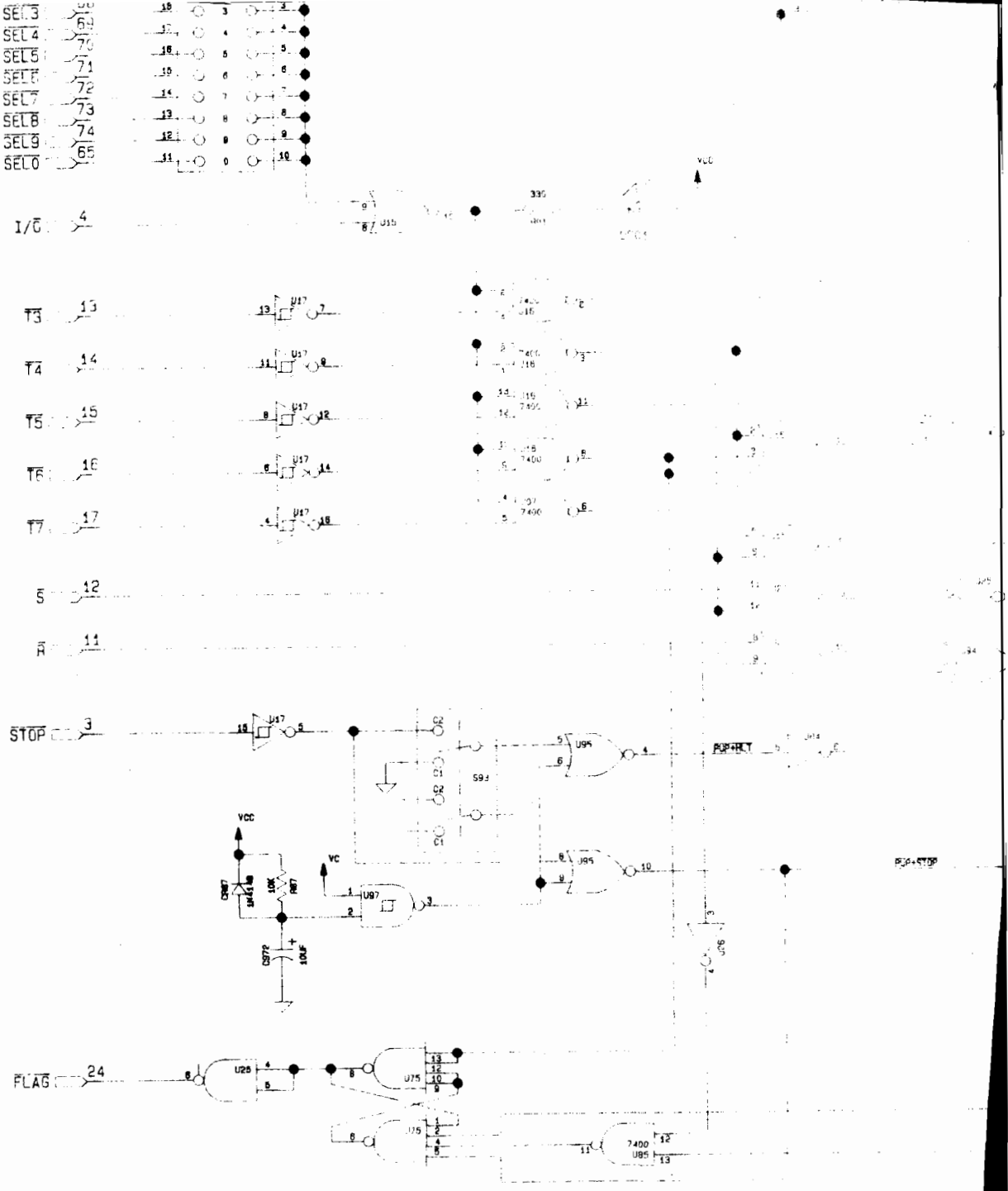
NAME: 40 BIT RELAY DRIVER BD 8604-02-A ASSY NO: 53A-307

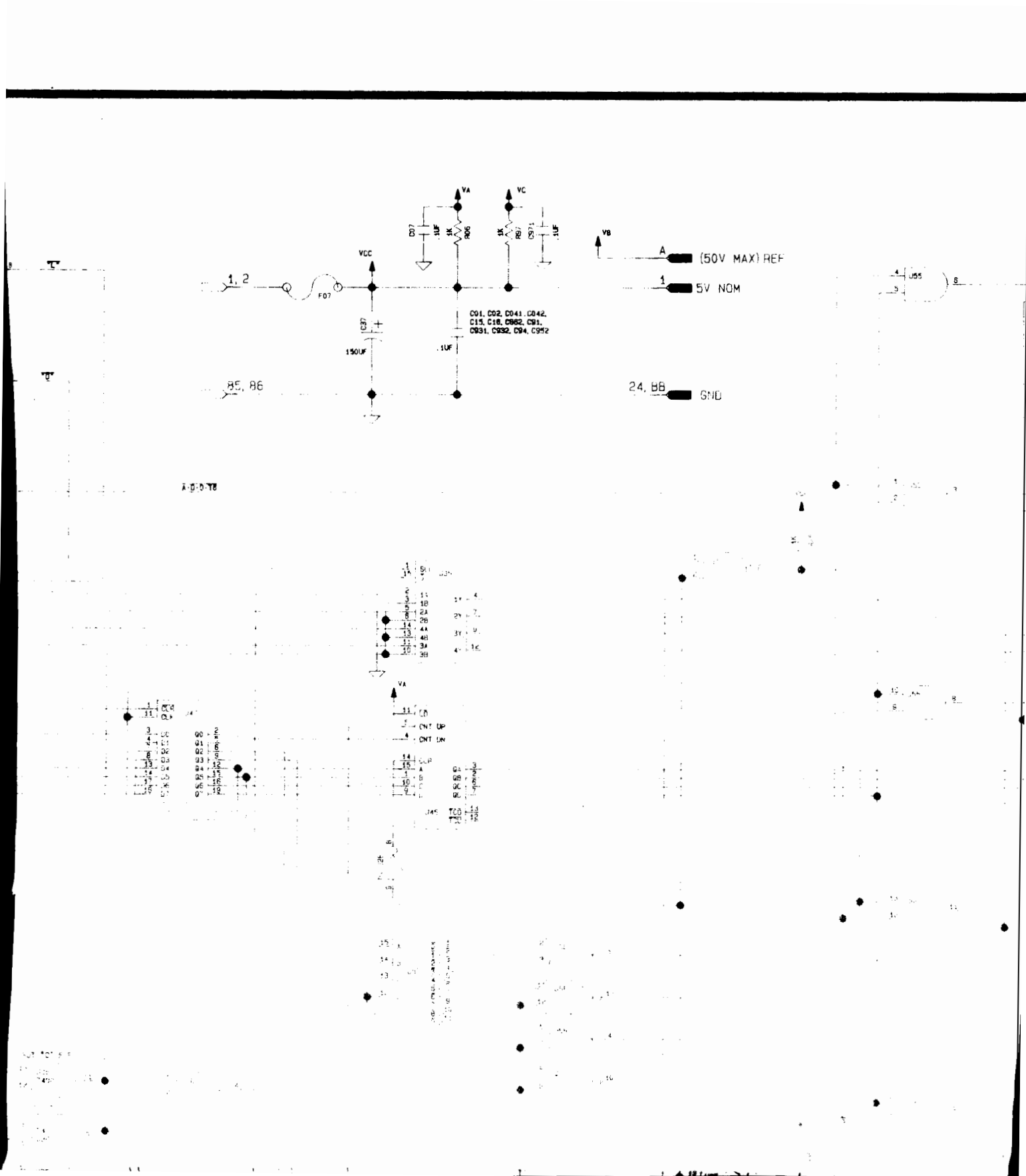
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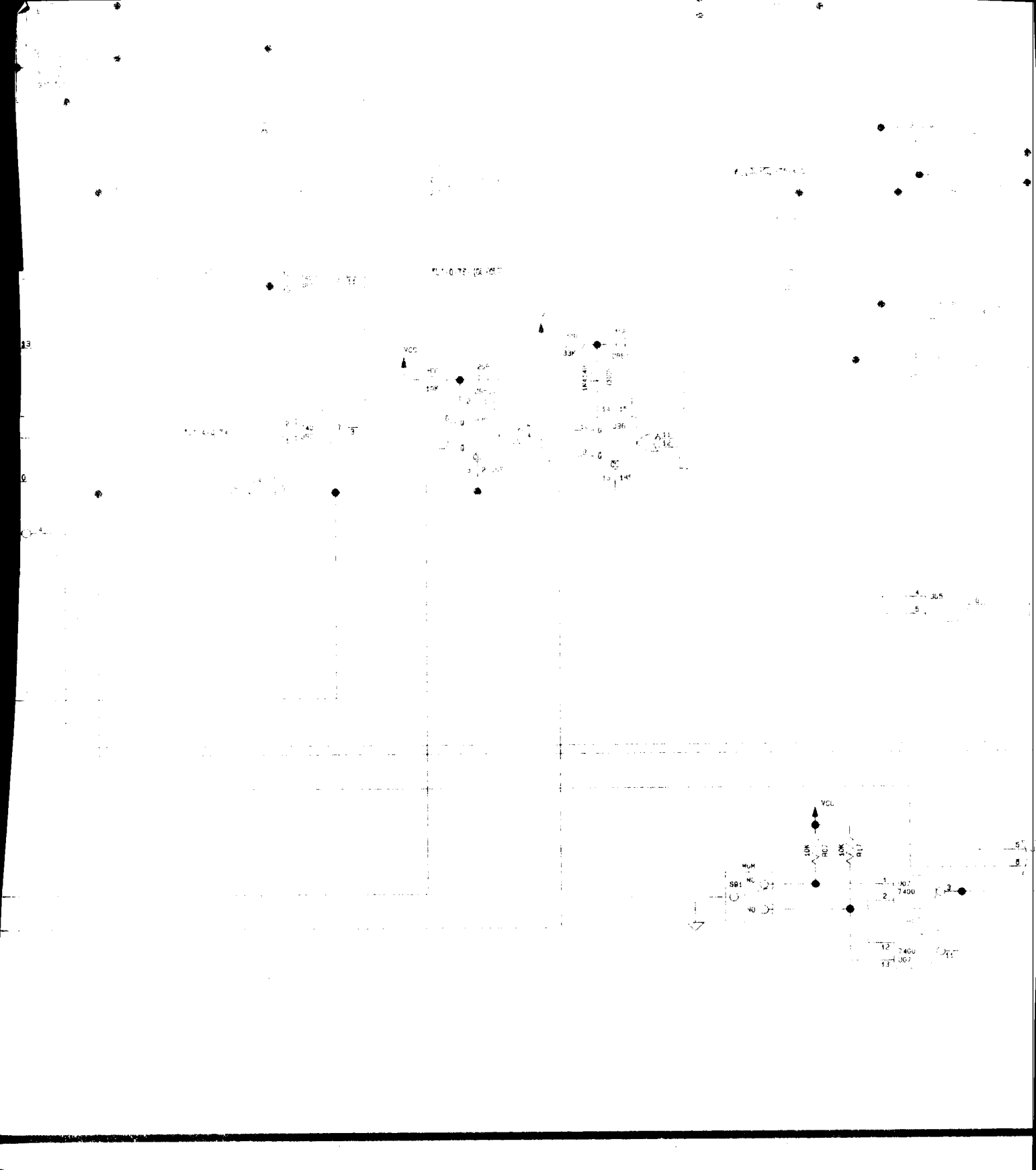
ITEM/ SYMBOL	JcAIR P/N	DESCRIPTION	U/M	QTY	MFG	MFG'S P/N
U84	73300-07404	IC TTL HEX INVERTER	EA	-		
U85	76600-07400	IC TTL QUAD 2-INPUT NAND GATE	EA	-		
U86	76900-07402	IC TTL QUAD 2-INPUT NOR GATE	EA	-		
U87	76600-07400	IC TTL QUAD 2-INPUT NAND GATE	EA	-		
U92	73000-74276	IC TTL QUAD FLIP-FLOP J-K	EA	-		
U94	76900-07402	IC TTL QUAD 2-INPUT NOR GATE	EA	-		
U95	76900-07402	IC TTL QUAD 2-INPUT NOR GATE	EA	-		
U96	74200-09602	IC TTL DUAL RETRIGGERABLE MONOSTABLE	EA	1.00	FAIRCHILD	DM9602N
					NATIONAL SEMI /	DM8602N
					NATIONAL SEMI /	DM9602
U97	78400-74132	IC TTL QUAD 2-INPUT NAND SCHMITT TRIGGER	EA	1.00	NATIONAL SEMI /	DM74132
					TEXAS INSTR. IN	74132
W1	93517-75397	BUS BAR P.75 F.3 X9 L7.2 1	EA	6.00	CIRCUIT COMPONE	M-833 9.75.3
					ELDRE	6102-6-10.3
W2	93517-75397	BUS BAR P.75 F.3 X9 L7.2 1	EA	-		
W3	93517-75397	BUS BAR P.75 F.3 X9 L7.2 1	EA	-		
W4	93517-75397	BUS BAR P.75 F.3 X9 L7.2 1	EA	-		
W5	93517-75397	BUS BAR P.75 F.3 X9 L7.2 1	EA	-		
W6	93517-75397	BUS BAR P.75 F.3 X9 L7.2 1	EA	-		
X01	45010-14100	SOCKET SIP 14 PIN	EA	2.00	CIRCUIT ASSEMBL	CAS-14VSC-12B
					STANFORD APPLIE	CSA3000-14BC
X02	45010-14100	SOCKET SIP 14 PIN	EA	-		
REF0	53A-307	40 BIT RELAY DRIVER BD 8604-02-A	EA	-		

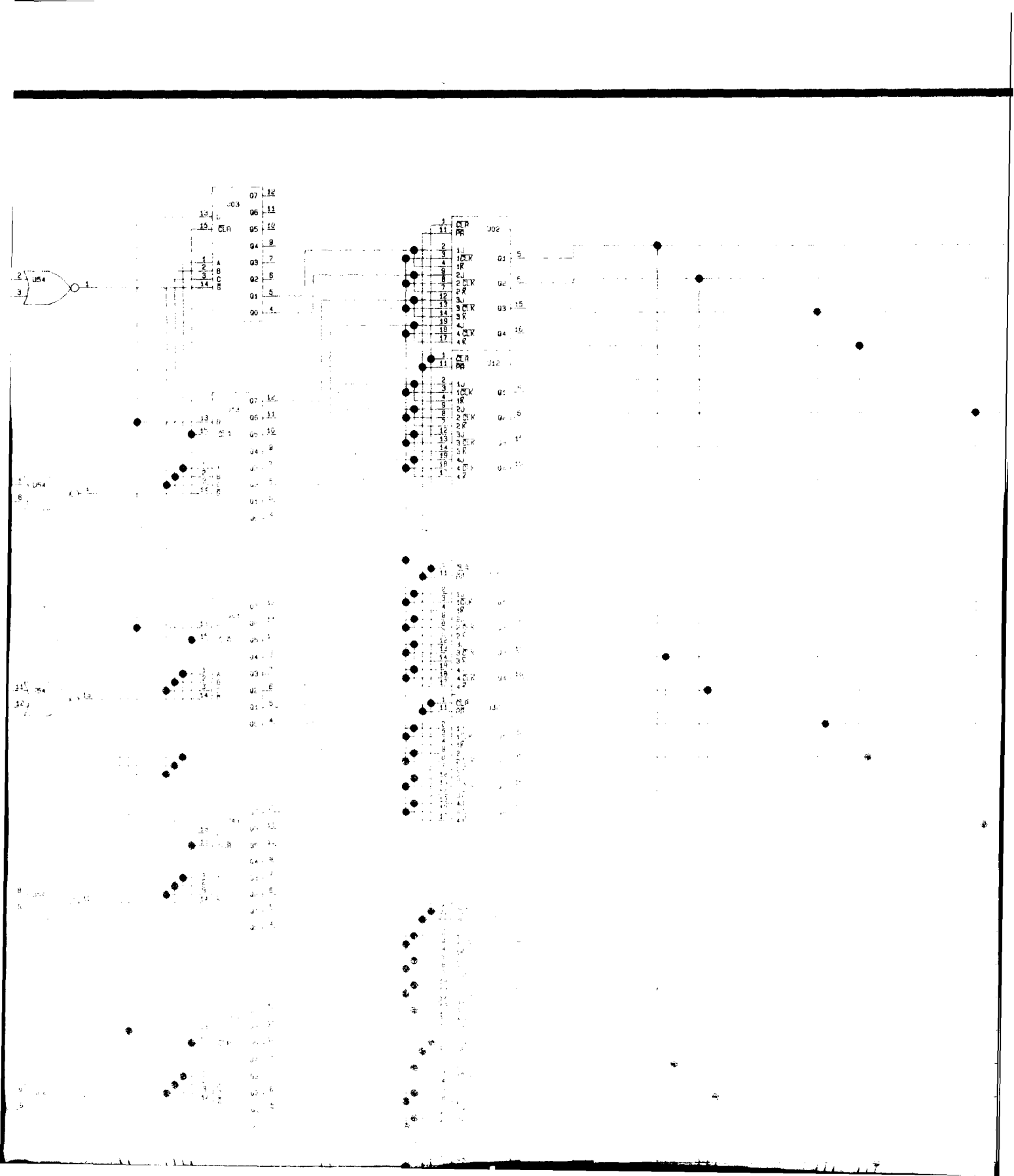

E1
E2
E3
E4
X01
X02
DS010
DS011
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DS013
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DS113
DS114
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DS211
DS212
DS213
DS214
DS01
R01
C01
C02
C041
C042
C15
R06
C07
F07
C16
R07
R17
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R35
C37
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CR96
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41530-30700-
8604-02-

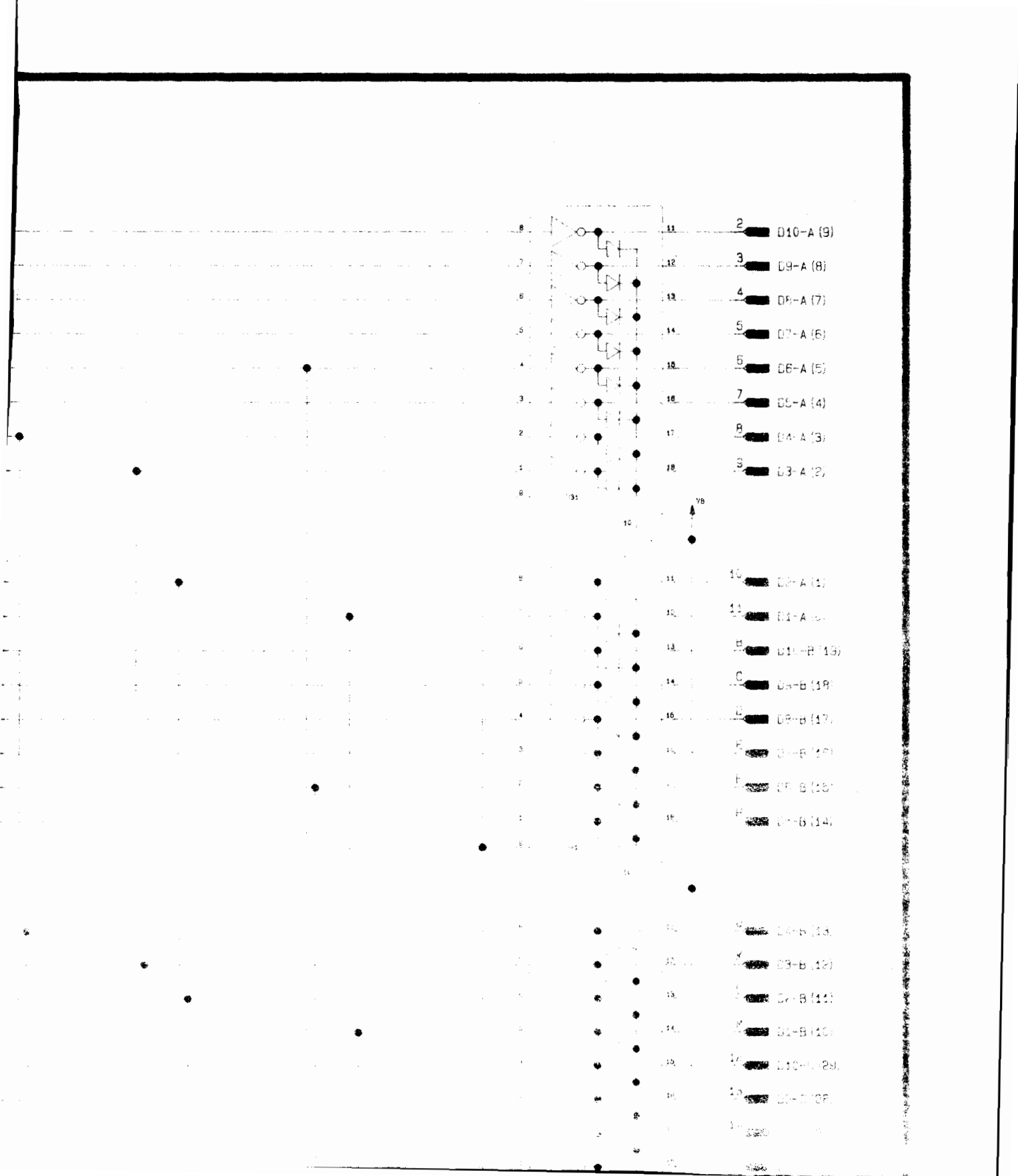

OB0 25
OB1 27
OB2 29
OB3 31
OB4 33
OB5 35
OB6 37
U77
U67
U74
J66
J26
SEL1 66
SEL2 67

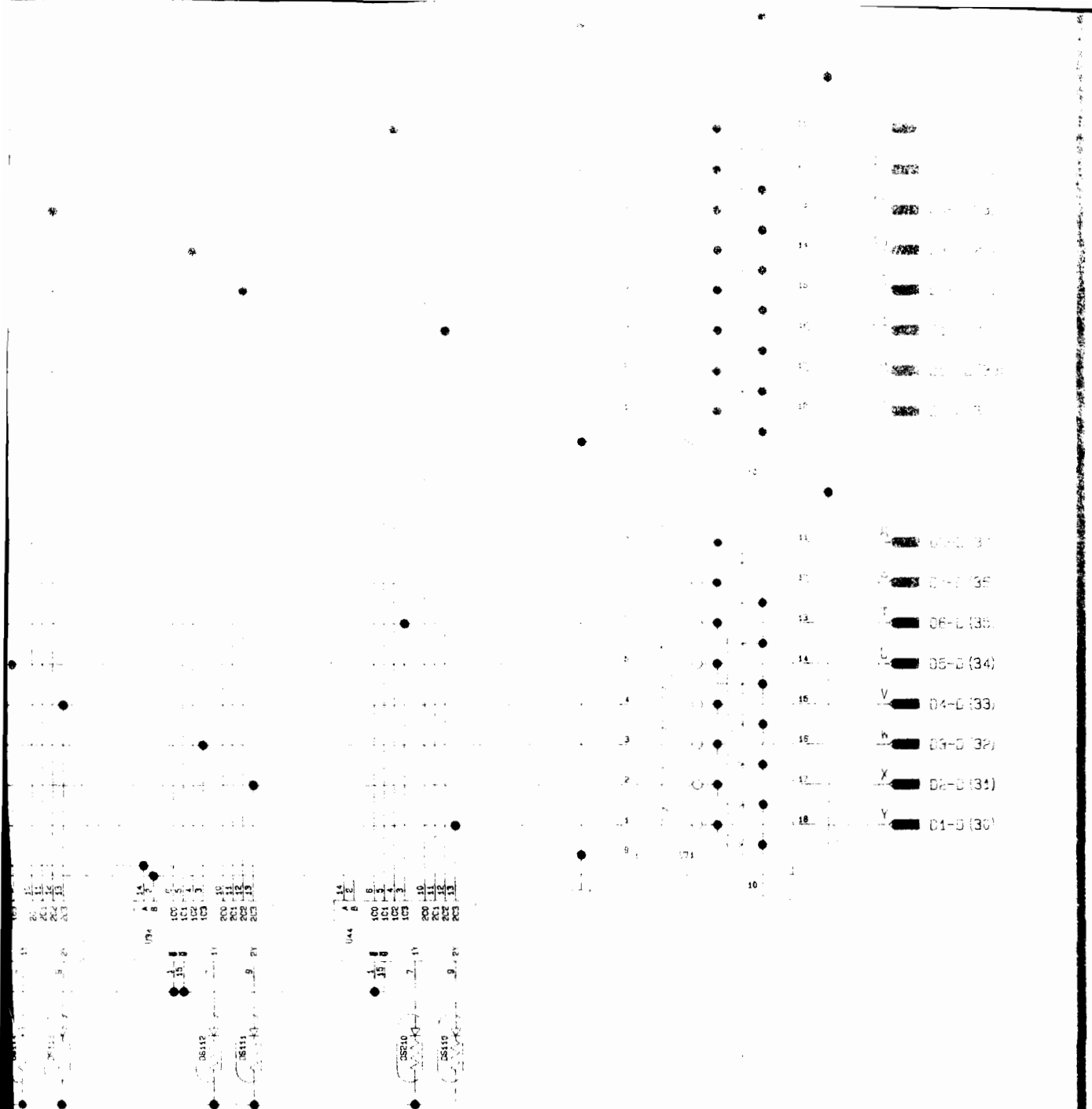

SEL3
SEL4
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SEL9
SEL0
I/O
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T7
S
R
STOP
FLAG
VCC
POP+RET
POP+STOP
7400
U85


VA
VC
VB
C07
.1UF
1K
R06
1K
R07
C071
.1UF
VCC
1, 2
F07
C07
150UF
.1UF
C01, C02, C041, C042,
C15, C16, C862, C91,
C931, C932, C94, C952
A
(50V MAX) REF
1
5V NOM
85, 86
24, 88
GND
U55
6
CNT UP
CNT DN
TC8


VCC
10K
R16
10K
R17
SB1
NUM
NC
NO
7400
7400




D10-A (9)
D9-A (8)
D8-A (7)
D7-A (6)
D6-A (5)
D5-A (4)
D4-A (3)
D3-A (2)
VB



REVISION LEVEL
R604-02-A

ECO #
420

PART NO.:
R604-02-A

DESCRIPTION:
40 BIT RELAY
DRIVER CARD

COLORADO
DATA
SYSTEMS

P.C.B. NUMBER:
4153.-30706

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