digital

TUI6

Engineering Drawings

Digital Equipment Corporation

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

DRAWING DIRECTORY

CUSTOMER PRINT SET INDEX

THIS IS PRINT SET

Title	Drawing No.	Sequence
DRAWING DIRECTORY	B-DD-TU16-Ø	SHEET 1 ONLY
LOGIC AND WRITE BOARD	D-CS-M891Ø-Ø-1	
CLOCK AND TEST LOGIC	D-CS-M8911-Ø-1	
SLAVE TEST FUNCTION GEN.	D-CS-M8912-Ø-1	
POWER BOARD	D-CS-H6Ø6-Ø-1	
READ CHAN. AMP/ANA. & DIA	D-CS-GØ56-Ø-1	
D.S. POWER SUPPLY	D-CS-5410451-0-1	
GENERAL PURPOSE CARD (E & F)	D-CS-M9ØØ1-YA-1	
GENERAL PURPOSE CARD (A & B)	D-CS-M9ØØ1-YB-1	
GENERAL PURPOSE CARD (E & F)	D-CS-M9ØØ1-YC-1	
DATA DRIVER	D-CS-M8913-Ø-1	
DATA DRIVER	D-CS-M8913-YA-1	
GENERAL PURPOSE CARD (A & B)	D-CS-M9ØØ1-Ø-1	
CONTROL BOX	D-CS-7009637-0-1	
WIRED ASSY	E-AD-7009635-0-0	
READ BOARD	D-CS-GØ66-0-1	
WIRE LIST	K-WL-TU16-Ø-WL	
MODULE UTILIZATION	D-MU-TU16-Ø-MU	
MASS BUS TRANCIEVER	D-BS-TU16-Ø-2	
TAPE TRANSPORT ASSY	E-AD-7009634-0-0	
MAGTAPE DRIVE	D-UA-TU16-0-0	

UNIT VARIATIONS

VAR	TITLE	PRINT SET 1
TU16-EE	SLAVE 115V 60 HZ	X
TU16-EF	SLAVE 230V 60 HZ	X
TU16-EH	SLAVE 115V 50HZ	X
TU16-EJ	SLAVE 230V 50 HZ	X
TU16-EA	TU16-EE & TMØ2-FA	
TU16-EB	TU16-EF & TMØ2-FB	
TU16-EC	TU16-EH & TMØ2-FA	
TU16-ED	TU16-EJ & TMØ2-FB	
TU16-EK	TU16-EE & TMØ2-FC	
TU16-EL	TU16-EF & TMØ2-FD	
TU16-EM	TU16-EH & TMØ2-FC	
TU16-EN	TU16-EJ & TMØ2-FD	
TU16-AE	SLAVE 115V 6Ø HZ	
TU16-AF	SLAVE 23ØV 6Ø HZ	
TU16-AH	SLAVE 115V 5Ø HZ	
TU16-AJ	SLAVE 23ØV 5Ø HZ	
TU16-AA	TU16-AE & TMØ2-FA	
TU16-AB	TU16-AF & TMØ2-FB	
TU16-AC	TU16-AH & TMØ2-FA	
TU16-AD	TU16-AJ & TMØ2-FB	

REV	ECO NO.	
A	TU16-3	
	[illegible]	
B	TU16-5	
C	TU16-6	
D	TU16-9	
E	TU16-10	J.H.
F	TU16-11	
H	TU16-12	
J	TU16-13	
K	TU16-14	
L	TU16-15	
M	TU16-16	
N	TU16-19	
P	7005743-2	
R	TU16-20	
S	TU16-21	
T	TU16-22	
U	TU16-23	
V	TU16-25	
W	TU16-28	7-DEC-7?
Y	TU16-29	
Z	TU16-30	3-77
AA	TU16-31	3-77
AB	TU16-32	5-77

USED ON OPTION/MODEL

SHEET 1 OF 12

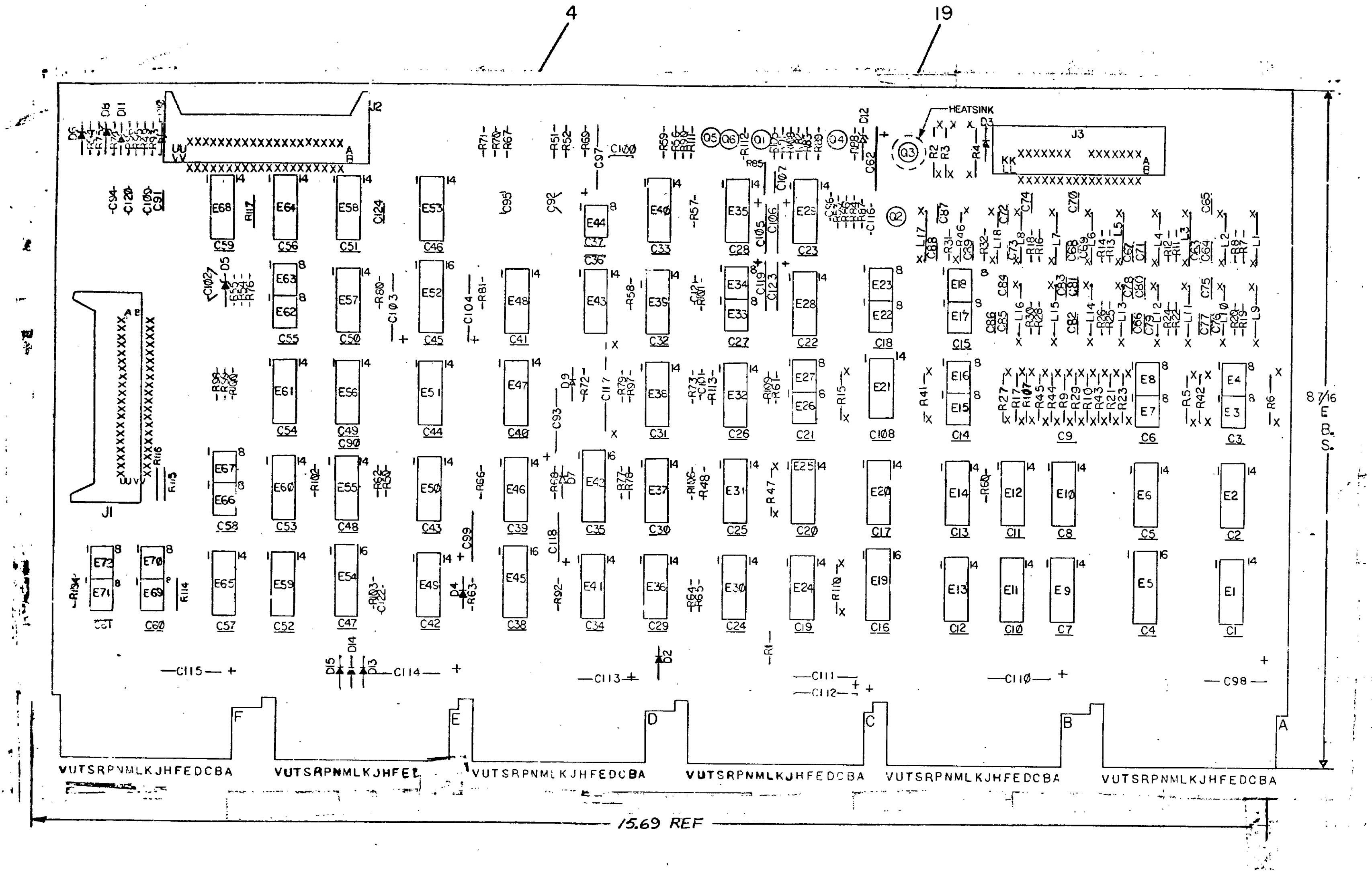
TITLE: MAGNETIC TAPE UNIT

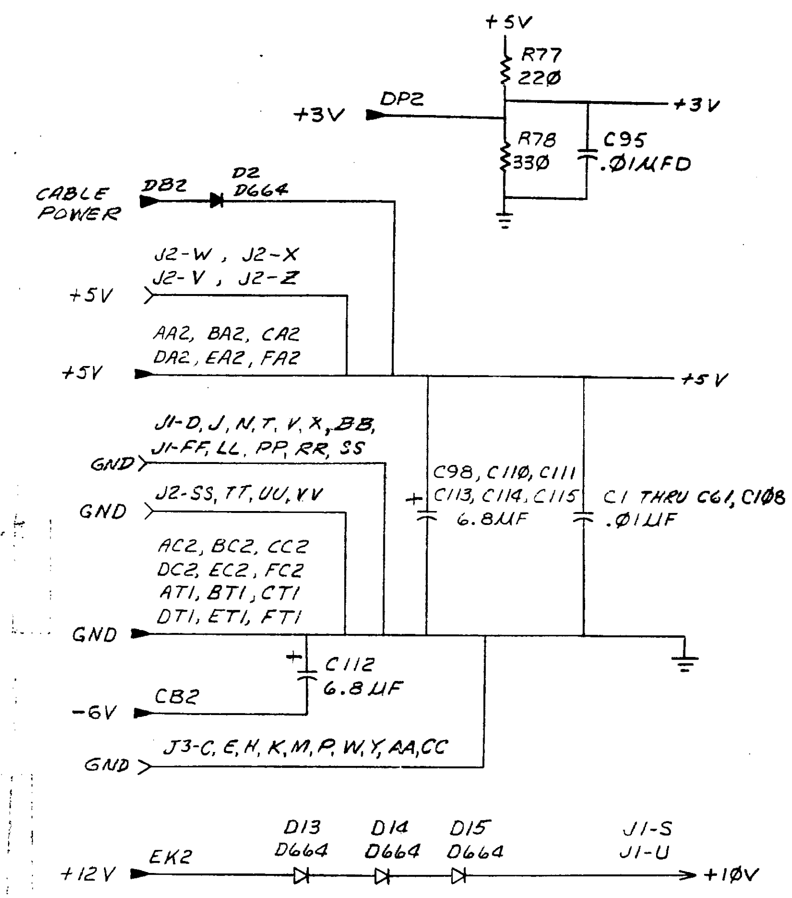
SIZE: D | CODE: DD | NUMBER: TU16-Ø | REV: A: B

DIST

MP-0TU16-00

NOTES:





8640	1	8
75452	4	8
74123	8	16
8266	8	16
7473	11	4
384	1	8
IC TYPE	GND	+5V

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY EXCEPTIONS ARE STATED ABOVE

IC PIN LOCATIONS

REVISIONS: K M8910-00005 10 JUN 76; J M8910-00005; H M3910-00004; G; F M3910-00003; E M8910-02202; D M3910-00001

CHANGE NO. / REV.

SEMICONDUCTOR CONVERSION CHART (DEC NO. / EIA NO.)

FIRST USED ON OPTION MODEL: TU16

ETCH BOARD REV E

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.

PARTS LIST

DRN / CHK'D / ENG / PROJ ENG / DATE 11-9-73, 2/11/74

NEXT HIGHER ASSY

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE: LOGIC AND WRITE BOARD (LAWI)

SIZE D CODE CS NUMBER M8910-0-1 REV. K

SCALE — SHEET 1 OF 9

DIST.

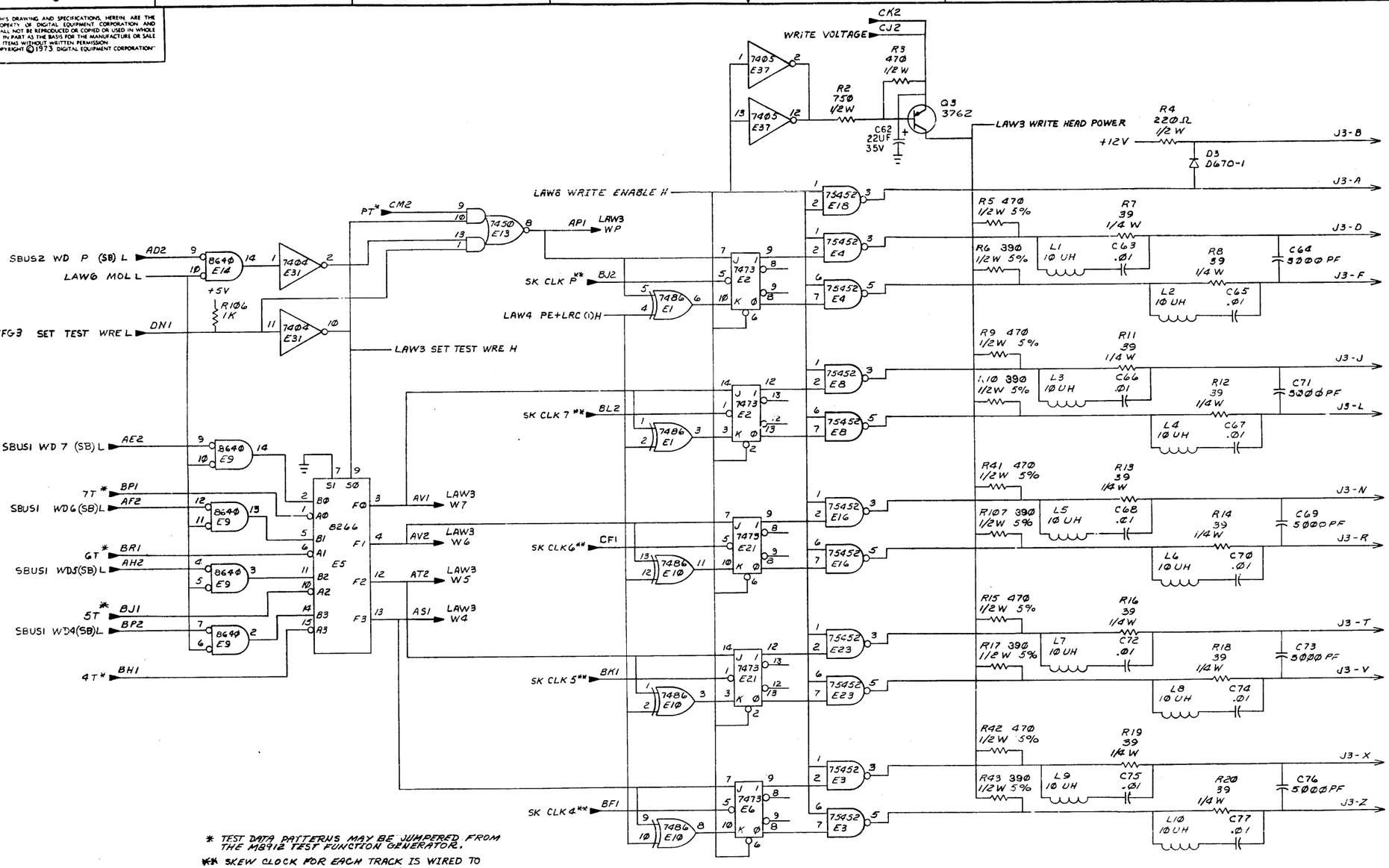
QTY	REF DESIGNATION	DESCRIPTION	PART NO	ITEM NO
REF		X-Y COORDINATE HOLE LOCATION	K-CO-M8910-0-4	1
REF		ASSY/DRILLING HOLE LAYOUT	D-AH-M8910-0-5	2
REF		MODULE ECO HISTORY	B-MH-M8910-0-6	3
1		ETCHED CIRCUIT BOARD	5010470	4
1	C96	CAP 220PF 100V 5% DM	1000021	5
1	C122	CAP 330PF 100V 5% DM	1000023	6
1	C121	CAP 1000PF 250V 20% DISC	1000043	7
6	C99, C105, C106, C123, C119, C118	CAP 3.9UF 10% 10V TANT	1000064	8
3	C97, C93, C104	CAP 39UF 10% 10V TANT	1000076	9
87	C1-C61, C65-C68, C63, C70, C72, C74, C75, C77, C78, C80, C81, C83, C84, C86, C87, C89, C91, C94, C95, C101, C102, C108, C109, C120	CAP .01UF, 100V DISC	1001610-01	10
1	C103	CAP 15UF 20V 10% TANT	1004812	11
2	C100, C124	CAP .05UF, 25V, 20% DISC	1001774	12
1	C62	CAP 22UF, 35V, 20% TANT	1002433	13
1	C117	CAP 330UF 20% TANT	1009808	14
7	C98, C110 THRU C115	CAP 6.8UF 10% 35V TANT	1005306	15
11	C64, C69, C71, C73, C76 C79, C82, C85, C88, 107, 116	CAP .5000PF 100V 20% DISC	1001765	16
1	C90	CAP 470PF 100V 5% DM	1000024	17
1	C92	CAP 100PF 100V 5% DM	1000016	18
1		HEAT SINK	1210001	19
7	D7, D9, D2, D4, D13, D14, D15	DIODE D664	1100114	20
1	D12	DIODE 1N748A 3.9V	1100122	21
1	D3	DIODE D670-1	1102162	22
5	D5, D6, D8, D10, D11	DIODE 1N746A 3.3V	1104860	23
2	J1, J2	CONN 40 PIN RT. ANGLE HDR	1209941	24
1	J3	CONN 28 PIN	1210067-2	25
1	R4	RES 220 OHM 1/2W 5%	1300274	26
4	R66, R77, R101 & R112	RES 220 OHM 1/4W 5%	1300271	27
1	R78	RES 330 OHM 1/4W 5%	1300295	28
10	R3, R5, R9, R15, R21, R27, R41, R42, R44 & R46	RES 470 OHM 1/2W 5%	1300315	29
34	R48-R50, R54-R61, R70, R71, R74-R76, R79, R89, R90, R93-R100, R102, R104, R106, R109, R111, R113, R117	RES 1K 1/4W 5%	1300365	30
2	R86, R108	RES 1.8K 1/4W 5%	1300398	31
2	R64, R67	RES 3.9K 1/4W 5%	1300444	32
2	R52, R53	RES 4.7K 1/4W 5%	1300447	33
2	R63, R68	RES 10K 1/4W 5%	1300479	34
2	R69, R92	RES 12K 1/4W 5%	1300488	35
3	R73, R82, R84	RES 1.2K 1/4W 5%	1301320	36
2	R83, R85	RES 6.8K 1/4W 5%	1301423	37
1	R51,	RES 680 OHM 1/4 5%	1301424	38
1	R72	RES 47K 1/4W 5%	1302177	39
18	R7, R8, R11 THRU R14, R16, R18, R19, R20, R22, R24, R25, R26, R28, R30, R31, R32	RES 39 OHM 1/4W 5%	1302377	40
2	R87, R105	RES 27K 1/4W 5%	1305346	41
4	R62, R103, R88, R91	RES 100 OHM 1/4W 5%	1300229	42
1	R2	RES 750 OHM 1/2W 5%	1300354	43
1	R80	RES 20K 1/4W 5%	1302391	44
1	R110	RES 47 OHM 1/2W 5%	1301695	45

QTY	REF DESIGNATION	DESCRIPTION	PART NO	ITEM NO
2	Q1, Q2	TRANSISTOR 3639B	1502762	46
3	Q4, Q5, Q6	TRANSISTOR 6531B	1509338	47
1	Q3	TRANSISTOR 3762	1509649	48
18	L1 THRU L18	INDUCTOR, FIXED, 10UH, 10%	1609477	49
7	E11, E51, E53, E59, E60, E65, E47	I.C. 7474	1905547	50
4	E28, E41, E58, E68	I.C. 7400	1905575	51
1	E55	I.C. 7410	1905576	52
1	E64	I.C. 7420	1905577	53
1	E44	I.C. 75452	1910645-00	54
5	E2, E6, E20, E21, E25	I.C. 7473	1905587	55
1	E61	I.C. 7401	1905590	56
2	E43, E57	I.C. 7402	1909004	57
1	E29	I.C. 384	1909486	58
3	E31, E35, E40	I.C. 7404	1909686	59
1	E39	I.C. 8242	1909712	60
2	E37, E38	I.C. 7405	1909930	61
3	E5, E19, E54	I.C. 8266	1909934	62
3	E1, E10, E24	I.C. 7486	1910011	63
1	E12	I.C. 74164	1910041	64
3	E46, E49, E32	I.C. 7408	1910155	65
3	E42, E45, E52	I.C. 74123	1910436	66
.11 (SEE NOTE 1)	(E3, E4)(E7, E8)(E15, E16)(E17, E18)(E22, E23)(E26, E27,) (E33, E34)(E62, E63)(E66, E67)(E69, E70)(E71, E72)	I.C. 75452	1910645-01	67
1	E50	I.C. 7427	1910878	68
6	E9, E14, E30, E36, E48, E56	I.C. 8640	1911469	69
1	E13	I.C. 7450	1905580	70
1		HANDLE ASSY	1210711-02	71
12		EYELET	9006732	72
A/R		WIRE, SOLID, INSULATED	9105740-55	73
A/R		WIRE, SOLID, INSULATED	9107688-55	74
3	R114, R115 & R116	RES. 300 OHM, 1/4W, 5%	1301425	75
1	R65	RES. 68 OHM, 1/4W, 5%	1300219	76
9	R6, R10, R17, R23, R29, R43, R45, R47 & R107	RES 390 OHM, 1/2W, 5%	1300308	77
1	R81	RES 22K 1/4W 5%	1301808	78

NOTES:
1. FOR PART NO. 1910645-01 - QTY 2 75452S PER CARRIER.

REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE	CODE	NUMBER	REV
LOGIC AND WRITE BOARD (LAW2)	D	CS	M8910-0-1	K
SCALE —	SHEET 2 OF 3		DIST.	



* TEST DATA PATTERNS MAY BE JUMPERED FROM THE M8912 TEST FUNCTION GENERATOR.

** SKEW CLOCK FOR EACH TRACK IS WIRED TO SK CLK A,B,C ORD ACCORDING TO SKEW TIMING SHEET.

REVISIONS		
GHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
LOGIC AND WRITE BOARD (LAW3)	D	CS	M8910-0-1	K
SCALE	SHEET 3 OF 9	DIST.		

LAW3 WRITE HEAD POWER

LAW3 SET TEST WRE H

SBUS1 WD3 (SB) L — BR2 — 8646 E30

3T — AJ1

SBUS1 WD2 (SB) L — BS2 — 8640 E30

2T — AF1

SBUS1 WD1 (SB) L — BU2 — 8640 E30

1T — AE1

SBUS1 WD0 (SB) L — BV2 — 8640 E30

ØT — AC1

8266 E19: S1 S0 B1 A1 B0 A0 B2 A2 B3 A3 → F1 F0 F2 F3

BA1 → W3

BC1 → W2

BB1 → W1

BB2 → W0

SK CLK 3 ** — BN1 — 7486 E10 — 7473 E6 J K Ø

LAW8 WRITE ENABLE H

SK CLK 2 ** — BE2 — 7486 E24 — 7473 E20 J K Ø

SK CLK 1 ** — BN2 — 7486 E24 — 7473 E20 J K Ø

SK CLK Ø — BF2 — 7486 E24 — 7473 E25 J K Ø

75452 E7 / E7 — R21 470 1/2 W 5% — R22 39 1/4 W — L11 10 UH — C78 .01 — R23 390 1/2 W 5% — R24 39 1/4 W — L12 10 UH — C80 .01 — C79 5000 PF — J3-BB — J3-DD

75452 E15 / E15 — R44 470 1/2 W 5% — R25 39 1/4 W — L13 10 UH — C81 .01 — R45 390 1/2 W 5% — R26 39 1/4 W — L14 10 UH — C83 .01 — C82 5000 PF — J3-FF — J3-EE

75452 E22 / E22 — R27 470 1/2 W 5% — R28 39 1/4 W — L15 10 UH — C84 .01 — R29 390 1/2 W 5% — R30 39 1/4 W — L16 10 UH — C86 .01 — C85 5000 PF — J3-JJ — J3-HH

75452 E17 / E17 — R46 470 1/2 W 5% — R31 39 1/4 W — L17 10 UH — C87 .01 — R47 390 1/2 W 5% — R32 39 1/4 W — L18 10 UH — C89 .01 — C88 5000 PF — J3-LL — J3-KK

LAW 6 MOL L — 8640 E14

SBUS LR C STRB (SB) L — AK2

7404 E31

SC3 PES L — DU1 — 7408 E96

LAW 4 PE + LRC (1) H

LAW8 WRITE ENABLE H — 7473 E25 J K Ø

SC3 RECORD PULSE L — DL2

LAW8 WRITE ENABLE (1) L

+3V — 7474 E11 D C Ø

74164 E12: R5(1) R4(1) R3(1) R2(1) R1(1) R0(1) SER IN CLR CLK

R3(1) — AB1, AB2 — LAW 4 SK CLK D

R2(1) — AL1, AL2 — LAW 4 SK CLK C

R1(1) — AN1, AN2 — LAW 4 SK CLK B

R0(1) — AR1 AR2 — LAW 4 S4 CLK A

7404 E31 — SC2 CLK L — DC1

* TEST DATA PATTERNS MAY BE JUMPED FROM THE M8912 TEST FUNCTION GENERATOR.

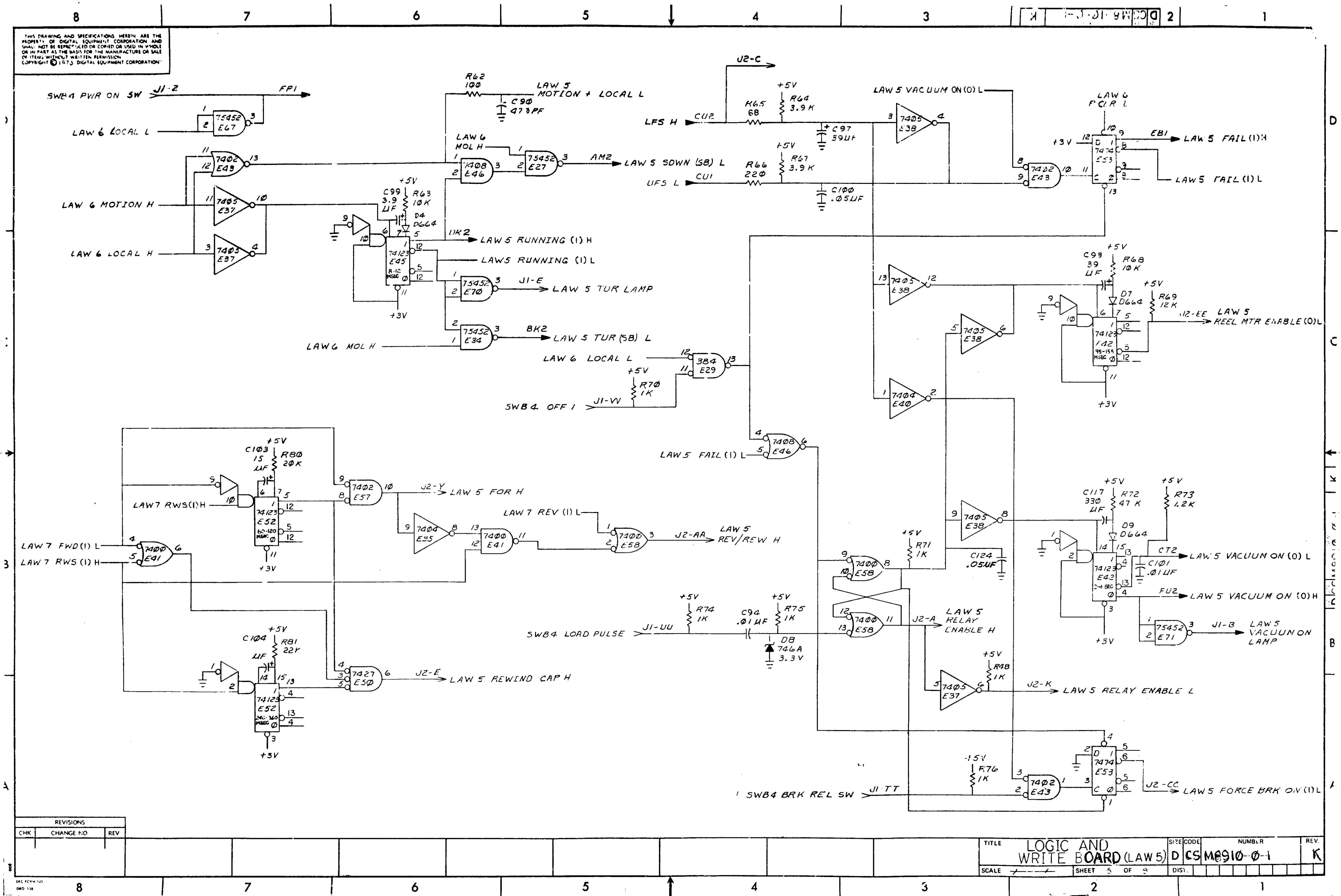
** SKEW CLOCK FOR EACH TRACK IS WIRED TO SK CLK A, B, C OR D ACCORDING TO SKEW TIMING SHEET.

REVISIONS

CHK	CHANGE NO	REV

TITLE	SIZE	CODE	NUMBER	REV.
LOGIC AND WRITE BOARD (LAW4)	D	CS	M8910-0-1	K
SCALE —	SHEET 4 OF 9	DIST.		

DEC FORM NO. UMD 138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SW84 PWR ON SW
J1-2
FP1
LAW 6 LOCAL L
75452 E67
R62 100
C90 47 PF
LAW 5 MOTION + LOCAL L
7402 E43
LAW 6 MOL H
7408 E46
75452 E27
AM2
LAW 5 SDWN (SB) L
LAW 6 MOTION H
7405 E37
LAW 6 LOCAL H
7405 E37
C99 3.9 UF
R63 10K
D4 D664
74123 E45
DK2
LAW 5 RUNNING (1) H
LAW5 RUNNING (1) L
75452 E70
J1-E
LAW 5 TUR LAMP
75452 E34
BK2
LAW 5 TUR (SB) L
LAW 6 MOL H
J2-C
LFS H
CU2
R65 68
R64 3.9 K
C97 39 UF
UFS L
CU1
R66 220
R67 3.9 K
C100 .05 UF
LAW 5 VACUUM ON (0) L
7405 E38
LAW 6 PCLR L
7474 E53
7402 E43
EB1
LAW 5 FAIL (1) H
LAW 5 FAIL (1) L
LAW 6 LOCAL L
384 E29
SW84 OFF 1
J1-VV
R70 1K
7405 E38
7405 E38
7404 E40
C98 39 UF
R68 10K
D7 D664
R69 12K
74123 E42
J2-EE
LAW 5 REEL MTR ENABLE (0) L
7408 E46
LAW 5 FAIL (1) L
C103 15 UF
R80 20K
LAW7 RWS (1) H
74123 E52
7402 E57
J2-Y
LAW 5 FOR H
7404 E35
7400 E41
LAW 7 REV (1) L
7400 E58
J2-AA
LAW 5 REV/REW H
LAW 7 FWD (1) L
LAW 7 RWS (1) H
7400 E41
7405 E38
R71 1K
C124 .05UF
C117 330 UF
R72 47 K
R73 1.2K
D9 D664
74123 E43
C101 .01 UF
CT2
LAW 5 VACUUM ON (0) L
FU2
LAW 5 VACUUM ON (0) H
75452 E71
J1-B
LAW 5 VACUUM ON LAMP
7400 E58
7400 E58
SW84 LOAD PULSE
J1-UU
R74 1K
C94 .01 UF
R75 1K
D8 746A 3.3 V
J2-A
LAW 5 RELAY ENABLE H
7405 E37
R48 1K
J2-K
LAW 5 RELAY ENABLE L
C104 UF
R81 22K
74123 E52
7427 E50
J2-E
LAW 5 REWIND CAP H
R76 1K
7402 E43
7474 E53
J2-CC
LAW 5 FORCE BRK ON (1) L
SW84 BRK REL SW
J1 TT
REVISIONS
CHK
CHANGE NO
REV
TITLE
LOGIC AND WRITE BOARD (LAW 5)
SIZE D
CODE CS
NUMBER M8910-0-1
REV. K
SCALE
SHEET 5 OF 9
DIST.

+5V R90 1K, R88 120, R89 1K, R91 100, R111 1K, FE1, LAW6 P CLR L, Q4 6531B, Q6 6531B, Q5 6531B, LAW6 MOL H, D12 IN748A, R112 220

LED L, CC1, R110 47Ω 1/2W 5%

BOT EMIT, CD1, C107 .005 UF, R105 27K, -6V, Q1 3639B, R82 1.2K, R108 1.8K, R83 6.8K, C105 3.9 UF, C106 3.9 UF, 7400 E28, 384 E29

EOT EMIT, CD2, C116 .005 UF, R87 27K, -6V, Q2 3639B, R84 1.2K, R86 1.8K, R85 6.8K, C119 3.9 UF, C123 3.9 UF, 7400 E28, 384 E29

LAW6 MOL H, 7404 E35, LAW 6 BOT L, 75452 E69, BH2, LAW6 BOT (SB) L, CH1, LAW6 BOT H, 75452 E63, J1-H, LAW6 BOT LAMP

FB1, LAW6 END PT H, 75452 E26, AP2, LAW6 END PT (SB) L, J1-L, LAW6 END PT LAMP

LAW 7 FWD(I) H, 7400 E28, 7474 E51

LAW7 RWS(I) L, LAW7 REV(I) L, 7400 E58, 7402 E57, EN2, LAW6 MOTION L, LAW7 FWD(I) H, DF1, LAW6 MOTION H

LAW 7 EXT RWS(I) L, LAW6 P CLR L, 7408 E32

+5V R56 1K, SWB4 SW1, J1-JJ, 7404 E40

+5V R57 1K, SWB4 SW2, J1-KK, 7404 E40

+5V R58 1K, SWB4 SW4, J1-MM, 7402 E40

SWB4 SELECT QUALIFY L, J1-NN, R113 1K, 7405 E38

SBUS2 SS Ø (SB) L, CV1, SBUS2 SS 1 (SB) L, CV2, SBUS2 SS 2 (SB) L, DD1, 8640 E48, 8242 E39

+5V R59 1K, DB1, LAW6 SLAVE PRESENT H, 75452 E44, DA1, LAW6 SPR (SB) L

LAW5 VACUUM ON(Ø)H, LAW 6 DELAYED LOCAL(Ø)L, 7408 E46, MOL ENABLE H, 75452 E33, CS1, LAW6 MOL L

+5V R61 1K, +5V R109 1K, 75452 E71, FV2, LAW6 MOL (SB) L, EM2, LAW6 MOL H, 75452 E67, J1-C, LAW6 SELECT LAMP

TFG3 TESTER ENABLE L, LAW 7 SET OFF LINE L, DD2, 7408 E32

LAW6 P CLR L, 75452 E44, J1-A, LAW6 OFF LINE LAMP

SWB4 OFF LINE SW, J1-Y, +5V R93 1K, C109 .01 UF, +5V R94 1K, DI0 74LA 3.3V, 7420 E64, DH1, LAW6 LOCAL H

SWB4 ON LINE SW, J1-AA, +5V R95 1K, C120 .01 UF, +5V R96 1K, DI1 74LA 3.3V, 7400 E68, FD1, LAW6 LOCAL L

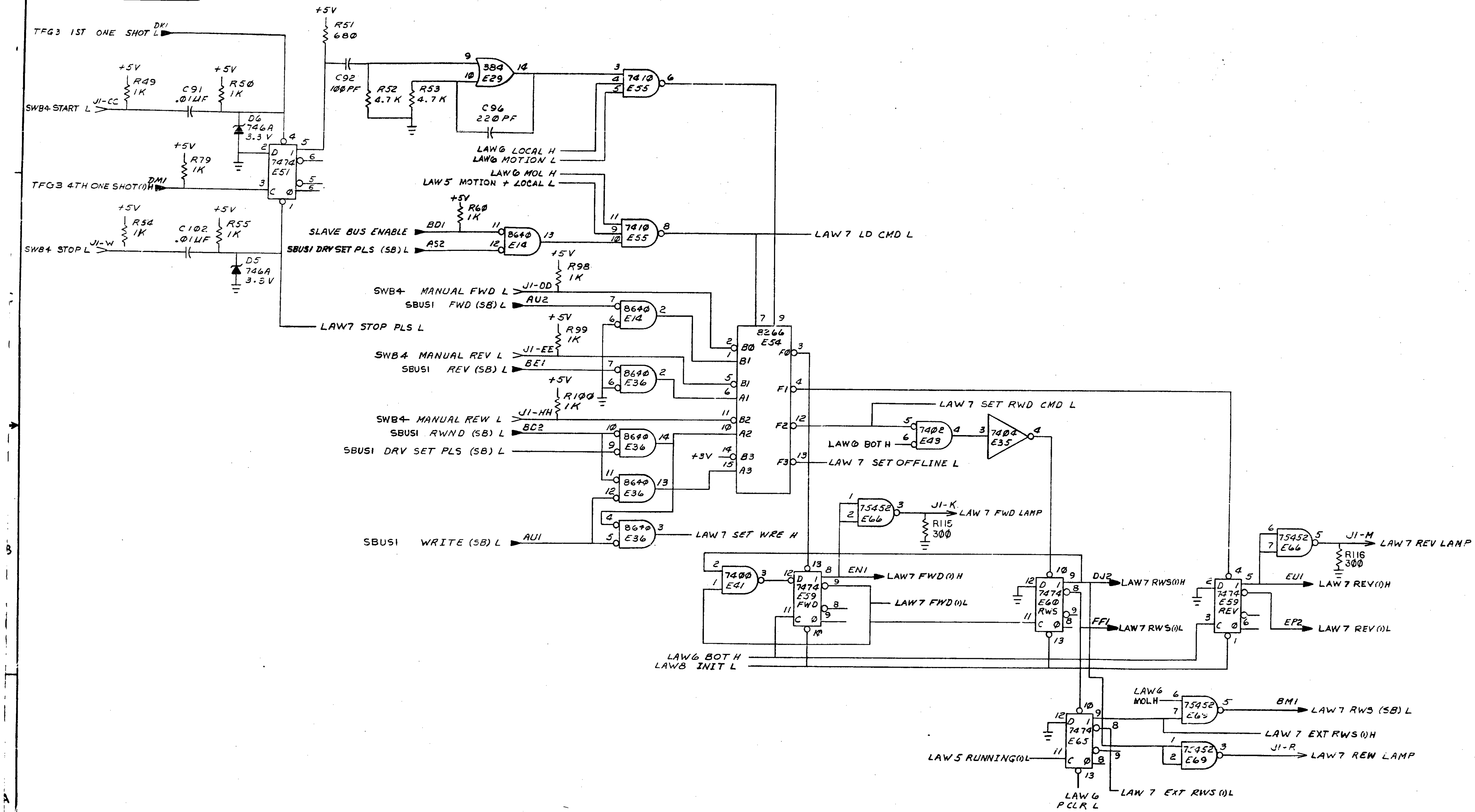
LAW6 ON LINE SW FLS L, LAW6 OFF LINE SW FLS L

7405 E37, C118 3.9 MFD, +5V R92 12K, 74123 E45 10-18 NSEC, +3V, LAW 6 DELAYED LOCAL(Ø)L

REVISIONS

CHK	CHANGE NO	REV

TITLE	LOGIC AND WRITE BOARD (LAW6)	SIZE CODE / NUMBER	D CS M8910-0-1 REV K
SCALE		SHEET 6 OF 9	DIST

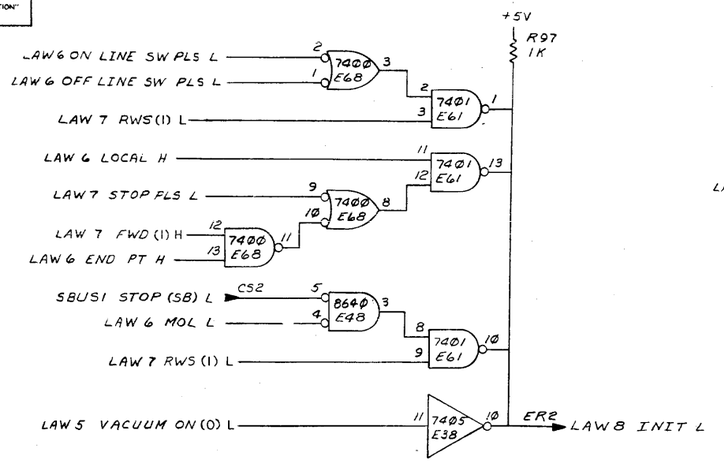


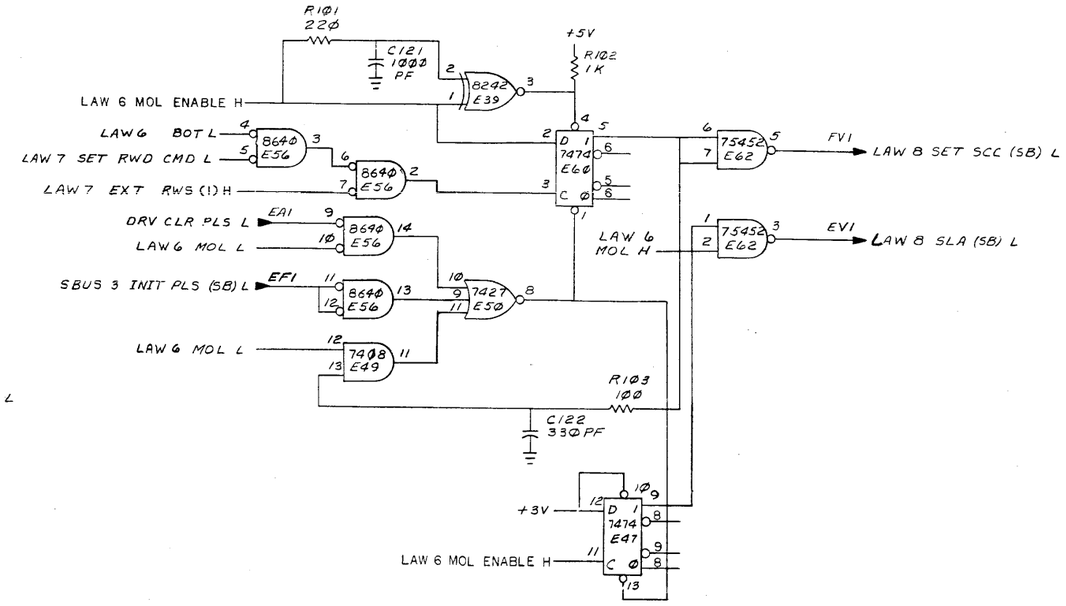
REVISIONS		
CHK	CHANGE NO	REV

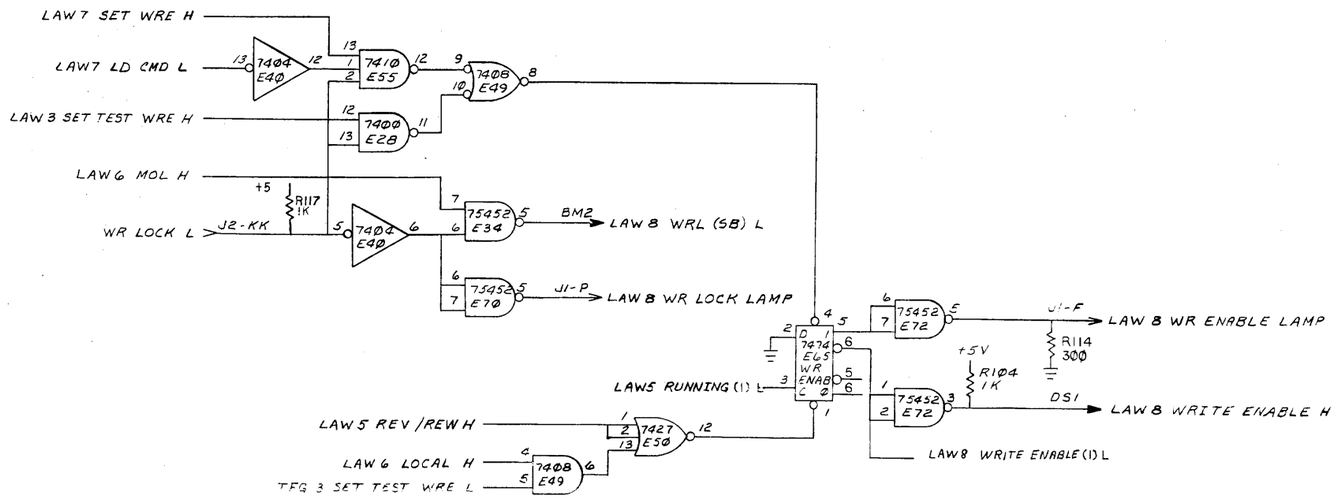
TITLE LOGIC AND WRITE BOARD (LAW7)

SIZE D | CODE CS | NUMBER M8910-0-1 | REV. K

SCALE | SHEET 7 OF 9 | DIST.

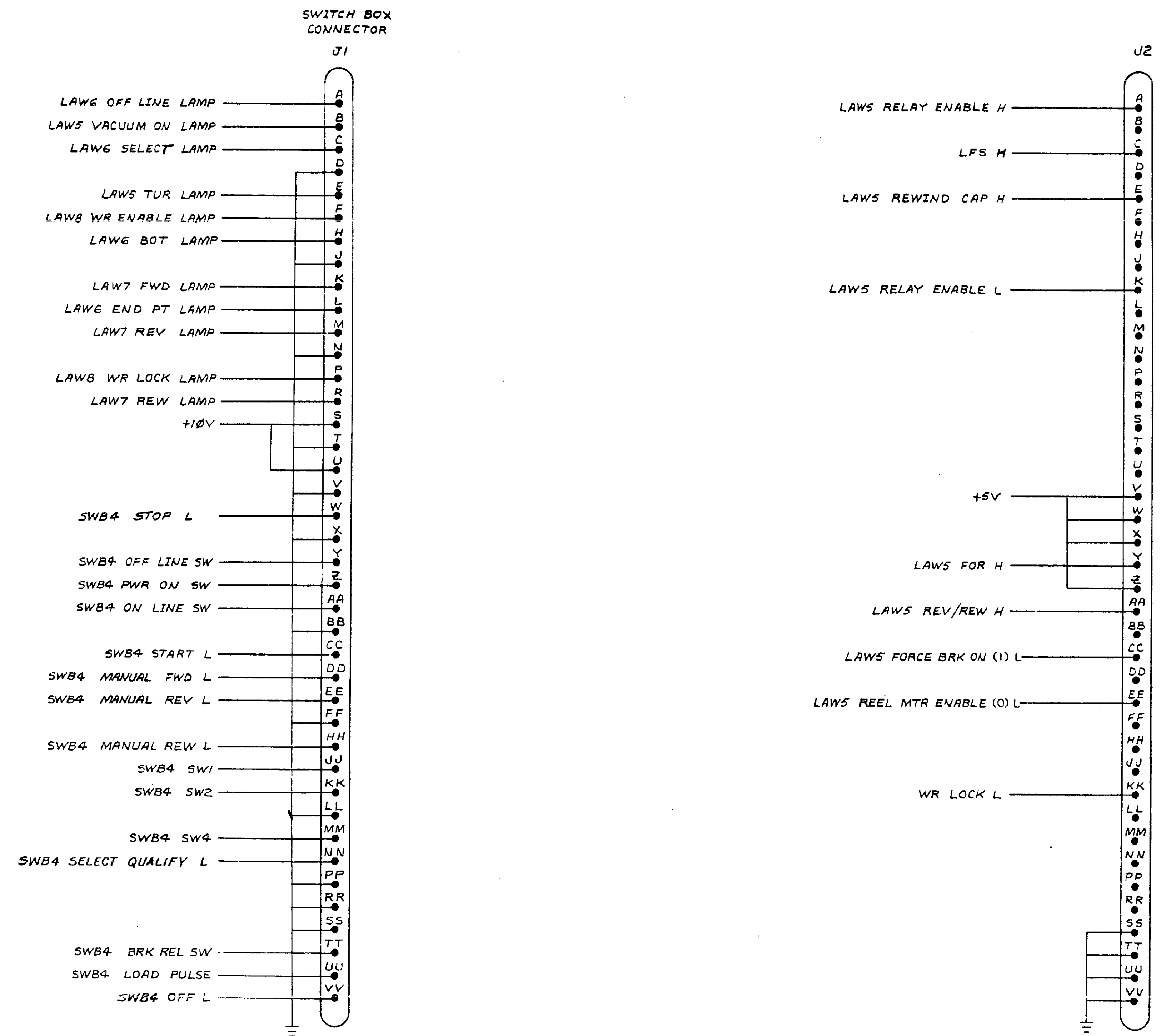






REVISIONS		
CHK	CHANGE NO	REV

TITLE	LOGIC AND WRITE BOARD (LAW8)	SIZE / CODE	D CS M8910-0-1 K
SCALE		SHEET 8 OF 9	DIST.


SWITCH BOX CONNECTOR
J1
LAW6 OFF LINE LAMP
LAW5 VACUUM ON LAMP
LAW6 SELECT LAMP
LAW5 TUR LAMP
LAW8 WR ENABLE LAMP
LAW6 BOT LAMP
LAW7 FWD LAMP
LAW6 END PT LAMP
LAW7 REV LAMP
LAW8 WR LOCK LAMP
LAW7 REW LAMP
+10V
SWB4 STOP L
SWB4 OFF LINE SW
SWB4 PWR ON SW
SWB4 ON LINE SW
SWB4 START L
SWB4 MANUAL FWD L
SWB4 MANUAL REV L
SWB4 MANUAL REW L
SWB4 SW1
SWB4 SW2
SWB4 SW4
SWB4 SELECT QUALIFY L
SWB4 BRK REL SW
SWB4 LOAD PULSE
SWB4 OFF L
J2
LAW5 RELAY ENABLE H
LFS H
LAW5 REWIND CAP H
LAW5 RELAY ENABLE L
+5V
LAW5 FOR H
LAW5 REV/REW H
LAW5 FORCE BRK ON (1) L
LAW5 REEL MTR ENABLE (0) L
WR LOCK L

REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE	CODE	NUMBER	REV.
LOGIC AND WRITE BOARD (LAW9)	D	CS	M8910-0-1	K
SCALE	SHEET 9 OF 9		DIST	

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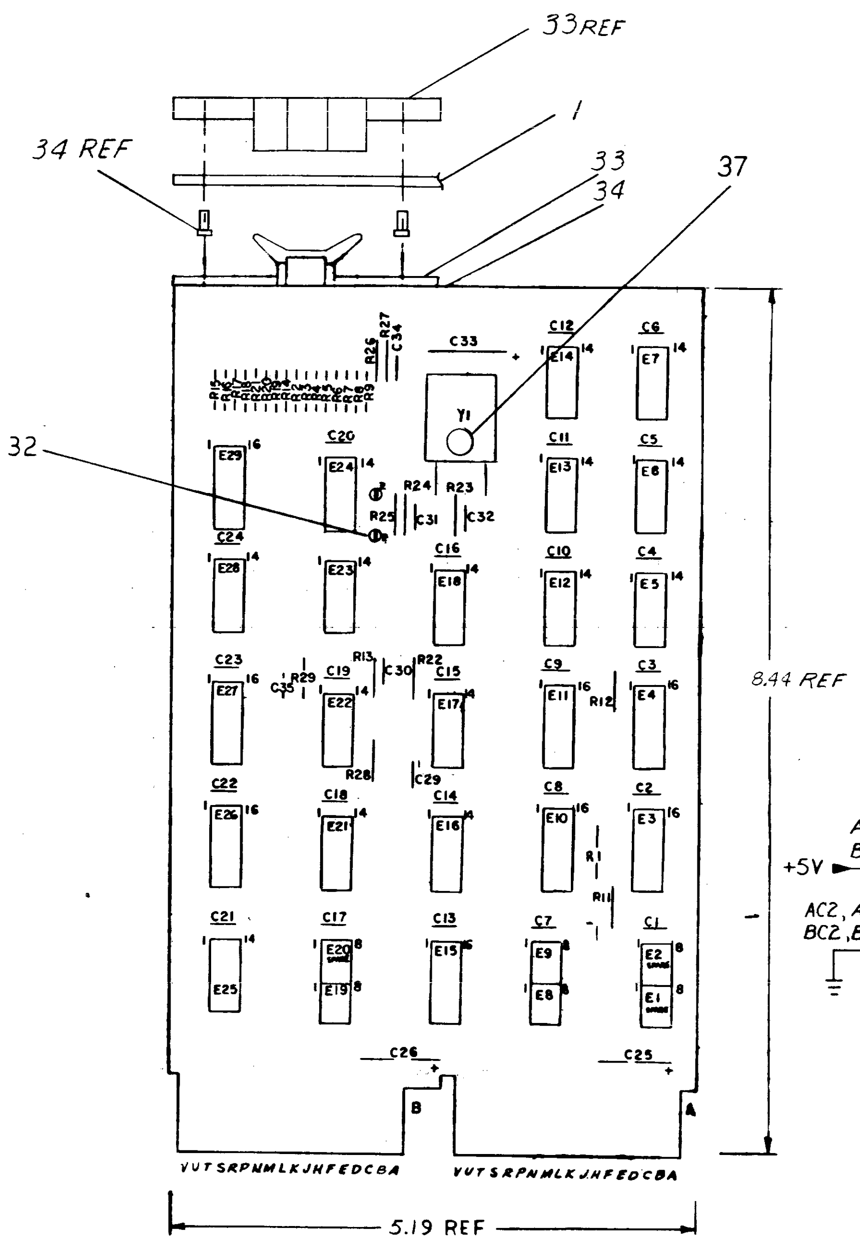
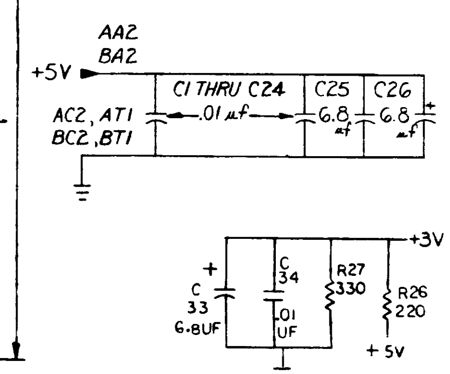
NOTES:





PARTS LIST

M8911-YD QTY	M8911-YC QTY	M8911-YB QTY	M8911-YA QTY	M8911 QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
REF	REF	REF	REF	REF		X-Y COORDINATE HOLE LOCATION	K-CO-M8911-Ø-4	REF
REF	REF	REF	REF	REF		ASSY/DRILLING HOLE LAYOUT	D-AH-M8911-Ø-5	REF
REF	REF	REF	REF	REF		MODULE ECO HISTORY	B-MH-M8911-Ø-6	REF
1	1	1	1	1		ETCHED CIRCUIT BOARD	5010471	1
25	25	25	25	25	C1 THRU C24, C34	CAP .01 UF	1001610	2
2	2	2	2	2	C29, C30	CAP 1000PF	1000042	3
2	2	2	2	2	C31, C32	CAP .047UF	1009678	4
3	3	3	3	3	C25, C26, C33	CAP 6.8 UF	1005306	5
								6
3	3	3	3	3	R13, R27, R28	RES 330 1/4W 5%	1300295	7
3	3	3	3	3	R23 THRU R25	RES 10K 1/4W 5%	1300479	8
17	17	17	17	17	R1 THRU R9, R14 THRU R21	RES 2.7K 1/4W 5%	1300426	9
3	3	3	3	3	R11, R12, R22	RES 1K 1/4W 5%	1300365	10
2	2	2	2	2	R26, R29	RES 220 1/4W 5%	1300271	11
1	1	1	1	1	Y1	CRYSTAL 2.304 MHZ	1811110	12
2	2	2	2	2	E23, E28	IC 74197	1910035	13
3	3	3	3	3	E6, E12, E25	IC 7404	1909686	14
3	3	3	3	3	E3, E4, E10	IC 74161	1910650	15
3	3	3	3	3	E5, E13, E18	IC 7402	1909004	16
1	1	1	1	1	E11	IC 7476	1905585	17
2	2	2	2	2	E15, E26	IC 8266	1909934	18
2	2	2	2	2	E7, E14	IC 11380	1911113	19
1	1	1	1	1	E24	IC 380	1912549	20
3	3	3	3	3	E8, E9, E19	IC 75452	1910645	21
1	1	1	1	1	E17	IC 7400	1905575	22
1	1	1	1	1	E16	IC 7408	1910155	23
1	1	1	1	1	E22	IC 7486	1910011	24
1	1	1	1	1	E21	IC 7430	1905578	25
-	-	-	-	1	E27	ROM, MOTION DELAY, 9TRK	23067A1	26
1	1	1	1	1	E29	ROM, SKEW DELAY	23089A1	27
-	-	1	-	-	E27	ROM, MOTION DELAY FOR M8911-YB	23180A1	28
								29
								30
								31
2	2	2	2	2		LUG, SPLIT	9006735	32
2	2	2	2	2		HANDLE, FLIP CHIP, MAGENTA	9008337-6	33
4	4	4	4	4		EYELET	9006732	34
1	1	1	1	1	C35	CAP .005UF, 100V, 20%, DISC	1001765	35
-	-	-	1	-	E27	ROM, MOTION DELAY, 7TRK	23147A1	36
1	1	1	1	1		BUMPER, RUBBER SELF STICK	9009538	37
-	1	-	-	-	E27	PROM, MOTION DELAY, GAPLESS	23220A1-00	38
1	-	-	-	-	E27	PROM, MOTION DELAY, SHORT BOT	23221A1-00	39

IC PIN LOCATIONS

IC TYPE	GND	+5V
5600	8	16
8266	8	16
75452	4	8
7476	13	5
74161	8	16

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY. EXCEPTIONS ARE STATED ABOVE

FIRST USED ON OPTION MODEL: TU16

ETCH BOARD REV: E

SEMICONDUCTOR CONVERSION CHART

DEC NO.	EIA NO.	DEC NO.	EIA NO.

REVISIONS

REV	CHANGE NO.
K	M8911-00007
J	M8911-00006
H	M8911-00005
F	M8911-00004
E	M8911-00003
D	M8911-00002
C	M8911-00001

DRN. V. Buonocutte DATE 10-17-73

TITLE: SLAVE CLOCK (SC) MOTION DELAY

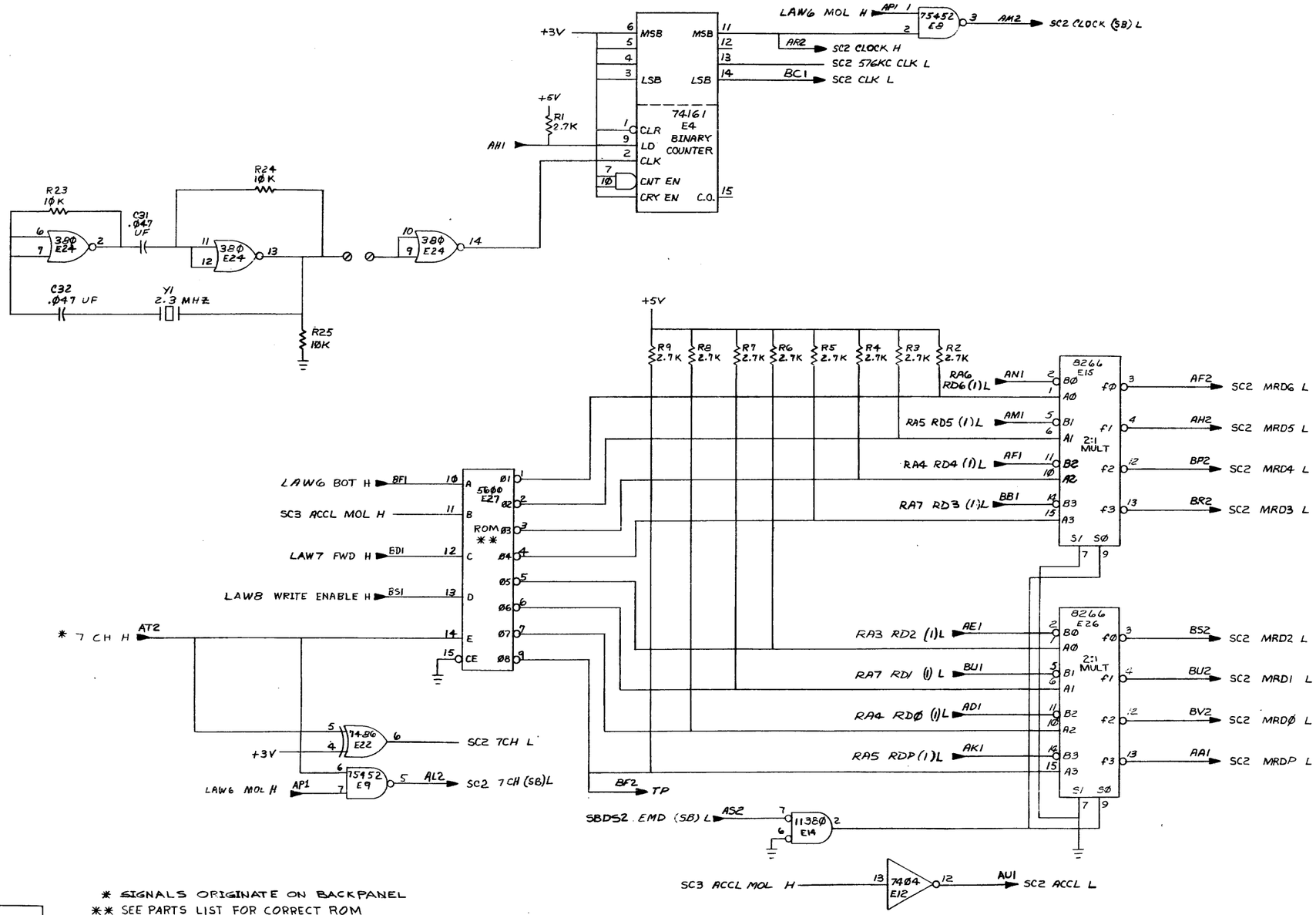
NEXT HIGHER ASSY

SIZE D CODE CS NUMBER M8911-Ø-1 REV. K

SCALE —

SHEET 1 OF 3

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS



* SIGNALS ORIGINATE ON BACKPANEL
** SEE PARTS LIST FOR CORRECT ROM PART NUMBER

REVISIONS		
CHK	CHANGE NO.	REV

TITLE	SIZE	CODE	NUMBER	REV.
SLAVE CLK MOTION DLY (SC2)	D	CS	M8911-0-1	K
SCALE —	SHEET 2 OF 3	DIST.		

+5V
R14 2.7K R15 2.7K R16 2.7K R17 2.7K R18 2.7K R19 2.7K R20 2.7K R21 2.7K
5600 E29 ROM
BP1 SC3 SK DLY 1
BN1 SC3 SK DLY 2
BE2 SC3 SK DLY 4
BM1 SC3 SK DLY 8
BN2 SC3 SK DLY 16
BT2 SC3 SK DLY 32
SC3 WRT+IRD H AV2
74161 E10 BINARY COUNTER
74161 E9 BINARY COUNTER
MSB LSB CLR LD CLK CNT EN CRY EN C.O.
SBUS2 REC (SB) L BK2
SC3 MOL L
1138Ø E7
7402 E13
7476 E11 WRT CLK K Ø
BL1 SC3 WAT CLK (Ø) H
7545Ø E19
BM2 SC3 WAT CLK (SB) L
BL2 SC3 RECORD PULSE L
SC2 576KC CLK L
LAW6 MOL H AP1 7404 E6
SBUS2 ACCL (SB) L AP2
SC3 MOL L
TFG3 WAT CLK TEST ENABLE L BA1
LAW6 LOCAL H BH1
R22 1K
7400 E17
SC3 ACCL MOL H
LAW6 MOL H AP1
SBUS2 DEN 2 (SB) H AU2
LAW6 MOL H AP1 7545Ø E8 AR1 SC3 PES (SB) L
SC2 7 CH L 7408 E16 BB2 SC3 PES H
TG3 TEST PE H AB2
R11 1K
SBUS2 DEN 1 (SB) H BE1
R12 1K
AC1 TG3 TEST DEN H
SBUS2 DEN Ø (SB) H AJ2
7404 E25 AK2 SC3 RSDO (SB) L
C35 .ØØ5 UF
R29 22Ø
7486 E22
R13 33Ø Ω
C3Ø 1ØØØ PF
SC3 CLEAR READ BOARD L AV1
SC3 SDØ H AN2
RA3 PACKET H BJ2
7545Ø E19 BH2 SC3 SET VPE L
LAW8 WRITE ENABLE H BS1
SBUS3 IRD (SB) L AL1
SC3 WRT+IRD H AV2
RA3 RD2(1)L
RA4 RDØ(1)L
RA4 RD4(1)L
RA5 RDP(1)L
RA5 RD5(1)L
RA6 RD6(1)L
RA7 RD1(1)L
RA7 RD3(1)L
7430 E21
SC3 SK DLY 32
SC3 SK DLY 16
SC3 SK DLY 8
SC3 SK DLY 4
SC3 SK DLY 2
SC3 SK DLY 1
74197 E23
74197 E28
R3(1) R2(1) R1(1) RØ(1) CLR LD CLK1 CLKØ
R28 33Ø Ω
C29 1ØØØ PF
BR1 SC3 NTZO H
AN2 SC3 SDØ H
RAG RD7(Ø)H AS1 7404 E12 AE2 SC3 MRD 7 L
SC3 INTERCHG READ L BJ1
SC2 CLK L BC1
SC3 SKEW
SC3 PES L AB1
LAW6 MOL H AP1
SC3 ACCL MOL H

REVISIONS		
CHK	CHANGE NO	REV

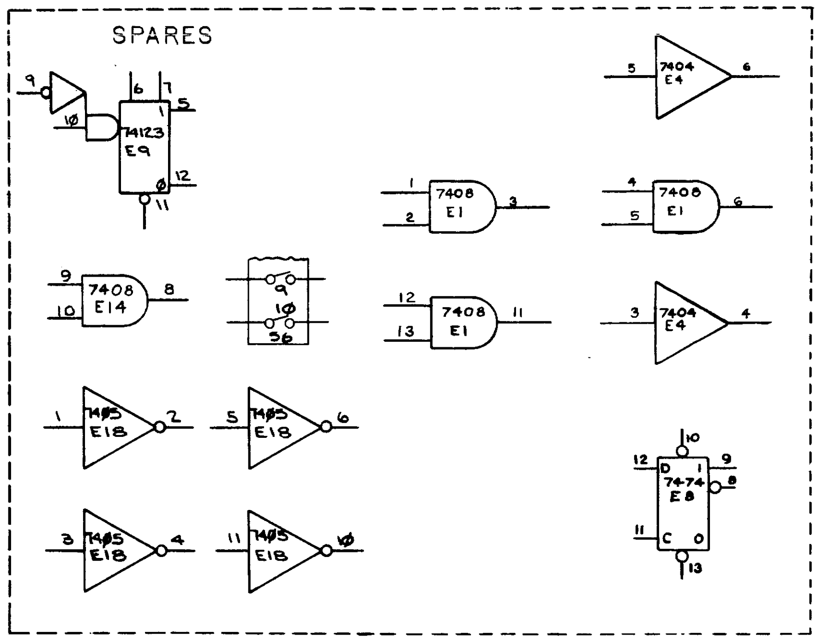
TITLE		SIZE	CODE	NUMBER	REV
SLAVE CLK MOTION DLY (SC3)		D	CS	M8911-Ø-1	K
SCALE	SHEET 3OF3	DIST.			

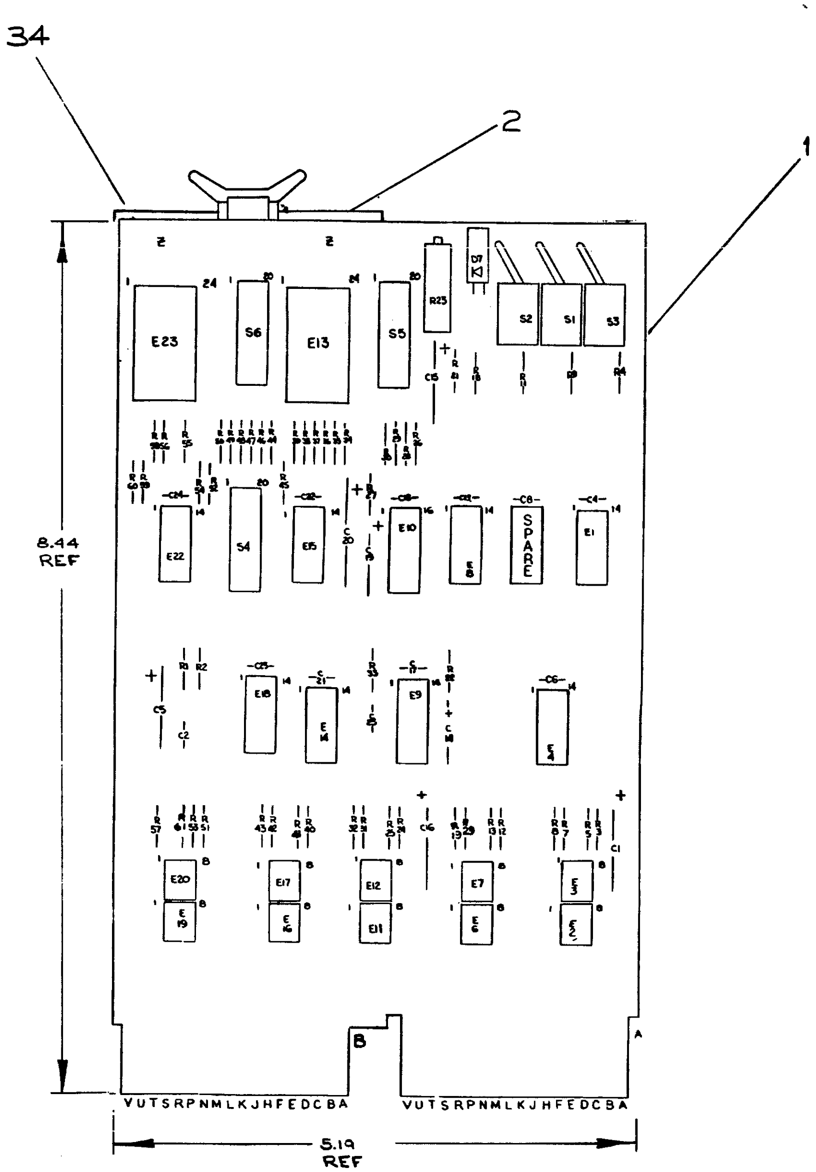
DEC FORM NO

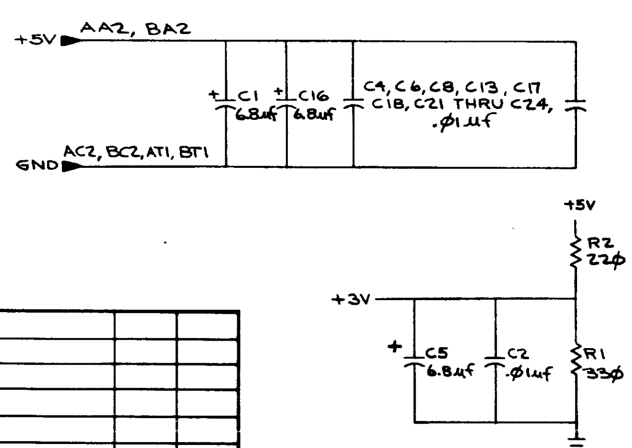
NOTES:

*

DASH VAR	DESCRIPTION
-01	TWO PARTS IN ONE 16 PIN CARRIER







IC PIN LOCATIONS

IC TYPE	GND	+ 5V
74199	12	24
75452	4	8
74123	8	16

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY. EXCEPTIONS ARE STATED ABOVE

PARTS LIST

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
REF		X-Y COORDINATE HOLE LOCATION	K-CO-M8912-Ø-4	REF
REF		ASSY/DRILLING HOLE LAYOUT	D-AH-M8912-Ø-5	REF
REF		MODULE ECO HISTORY	B-MH-M8912-Ø-6	REF
1		ETCHED CIRCUIT BOARD	5010674	1
1		HANDLE, FLIP-CHIP, MAGENTA	9008337-06	2
				3
1	C25	CAP 47Ø PF 1ØØV 5% D.M.	1000024	4
2	C14, C19	CAP 3.9uf 1ØØV 1Ø% TANT	1000064	5
17	C2, C4, C17, C18, C21-24 C6, C8, C13	CAP .Ø1uf 1ØØV 2Ø% DISC	1001610-01	6
1	C15	CAP 1Ø uf 2ØV 1Ø% TANT	1004813	7
1	C20	CAP 1ØØ uf 2ØV 1Ø% TANT	1004815	8
3	C1, C5, C16	CAP 6.8uf 35V 1Ø% TANT	1005306	9
				10
1	D7	DIODE, LIGHT EMITTING	1110324	11
1	R33	RES 15Ø 1/4 W 5%	1300250	12
1	R2	RES 22Ø 1/4W 5%	1300271	13
1	R1,	RES 33Ø 1/4W 5%	1300295	14
5	R4, R9, R11, R40, R61	RES 1K 1/4W 5%	1300365	15
43	R3, R5, R7, R8, R12, R13, R19 THRU R21, R24, R25, R26 R28 THRU R32, R34 THRU R39, R41 THRU R60	RES 4.7K 1/4W 5%	1300447	16
1	R22	RES 1ØK 1/4W 5%	1300479	17
1	R27	RES 15K 1/4W 5%	1300496	18
1	R18	RES 27Ø 1/4W 5%	1301972	19
1	R23	RES 5ØK 3/4W 1Ø% 76 PR	1309148-13	20
				21
				22
				23
1	E4	IC 74Ø4	1909686	24
2	E15, E22	IC 74197	1910035	25
2	E1, E14	IC 74Ø8	1910155	26
2	E9, E1Ø	IC 74123	1910436	27
5	(E2-E3), (E6-E7), (E11-E12), (E16-E17), (E19-E20)	IC 75452	1910645-01*	28
2	E13, E23	IC 74199	1910842	29
1	E8	IC 7474	1905547	30
1	E18	IC 74Ø5	1909930	31
3	S1, S2, S3	SWITCH, TOGGLE	1210209-00	32
3	S4, S5, S6	SWITCH, DIP OF 10	1211164-06	33
2		EYELET	9006732	34

* NOTE

FIRST USED ON OPTION MODEL: TU16

ETCH BOARD REV: D

SEMICONDUCTOR CONVERSION CHART

DEC NO.	EIA NO.	DEC NO.	EIA NO.

REVISIONS: M8912-00002 C; M8912-00004 D; R. CORNEAU; H. DRAB; JOHN HESS

DRN 12-5-73; CHK'D 12/20/73; ENG 1/2/74; PROJ. ENG 1/2/74; PROD 1/14

NEXT HIGHER ASSY

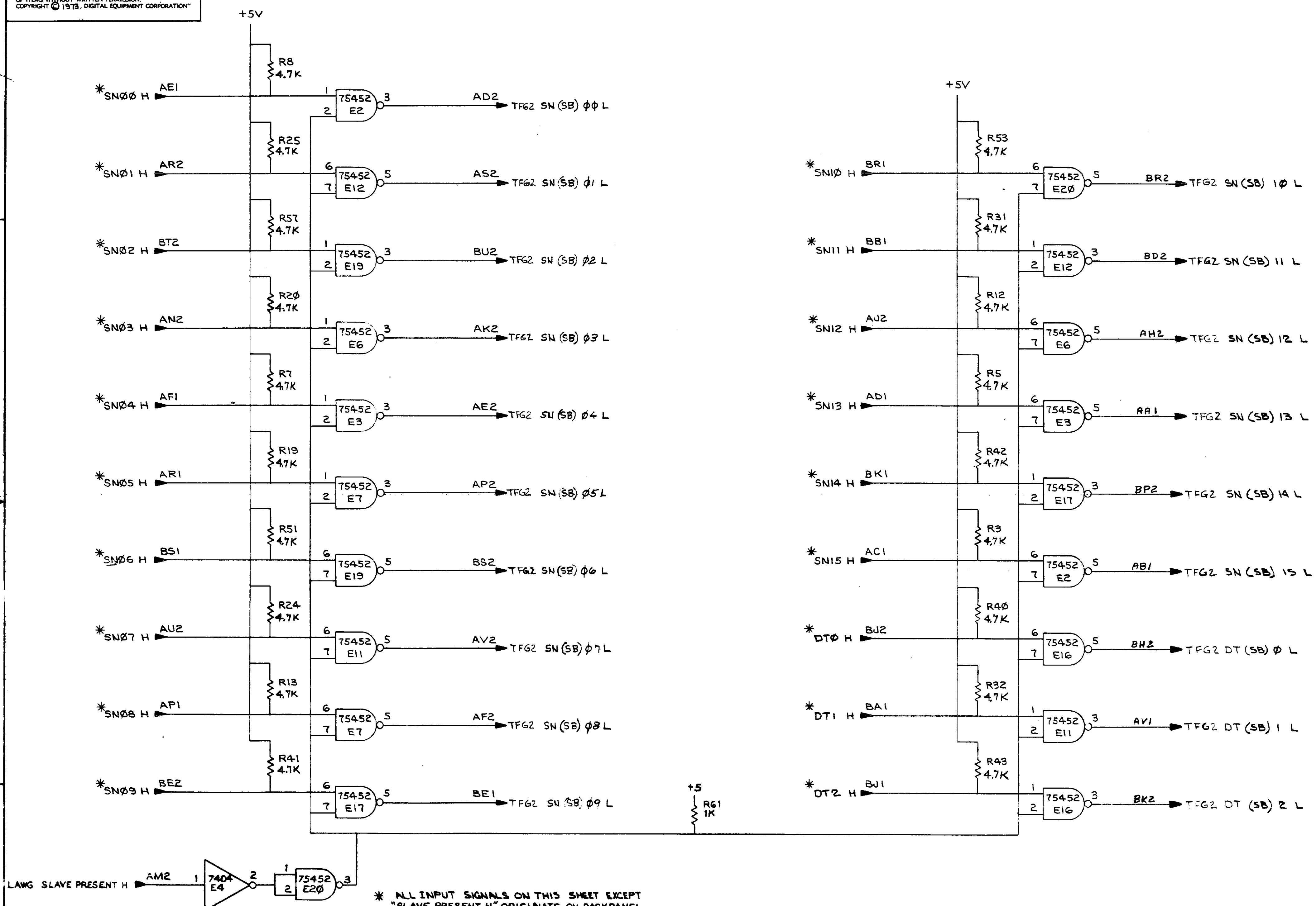
SCALE
SHEET 1 OF 3

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE: SLAVE TEST (TFGI) FUNCTION GENERATOR

SIZE: D CODE: CS NUMBER: M8912-Ø-1 REV: D

DIST.



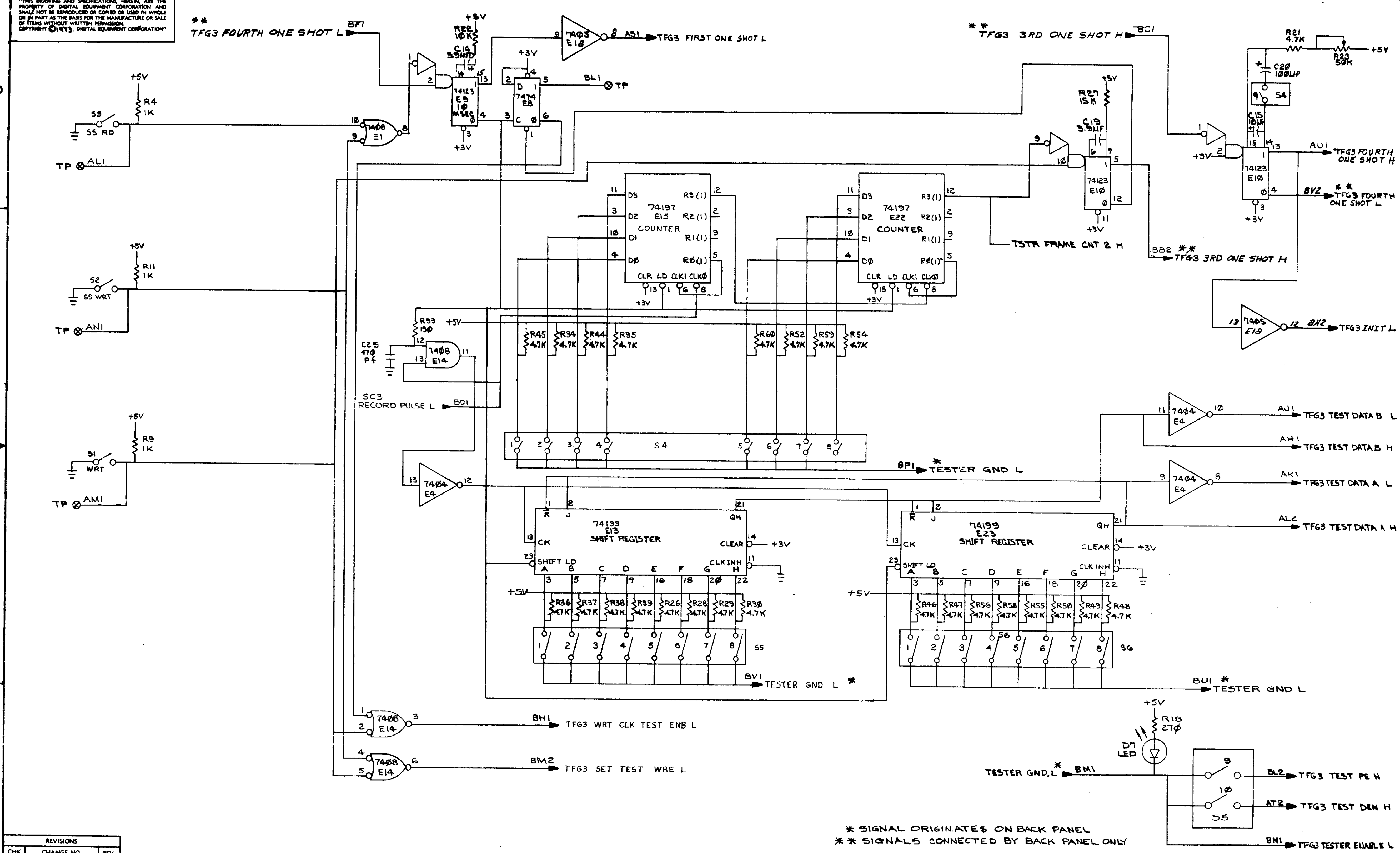
* ALL INPUT SIGNALS ON THIS SHEET EXCEPT "SLAVE PRESENT H" ORIGINATE ON BACKPANEL

REVISIONS		
CHK	CHANGE NO	REV

TITLE SLAVE TEST (TFG2) FUNCTION GENERATOR

SIZE D | CODE CS | NUMBER M8912-Ø-1 | REV. D

SCALE — | SHEET 2 OF 3



* SIGNAL ORIGINATES ON BACK PANEL
** SIGNALS CONNECTED BY BACK PANEL ONLY

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE SLAVE TEST (TFG3) FUNCTION GENERATOR

SIZE D CODE CS NUMBER M8912-Ø-1 REV. D

SCALE 1/1 SHEET 3 OF 3

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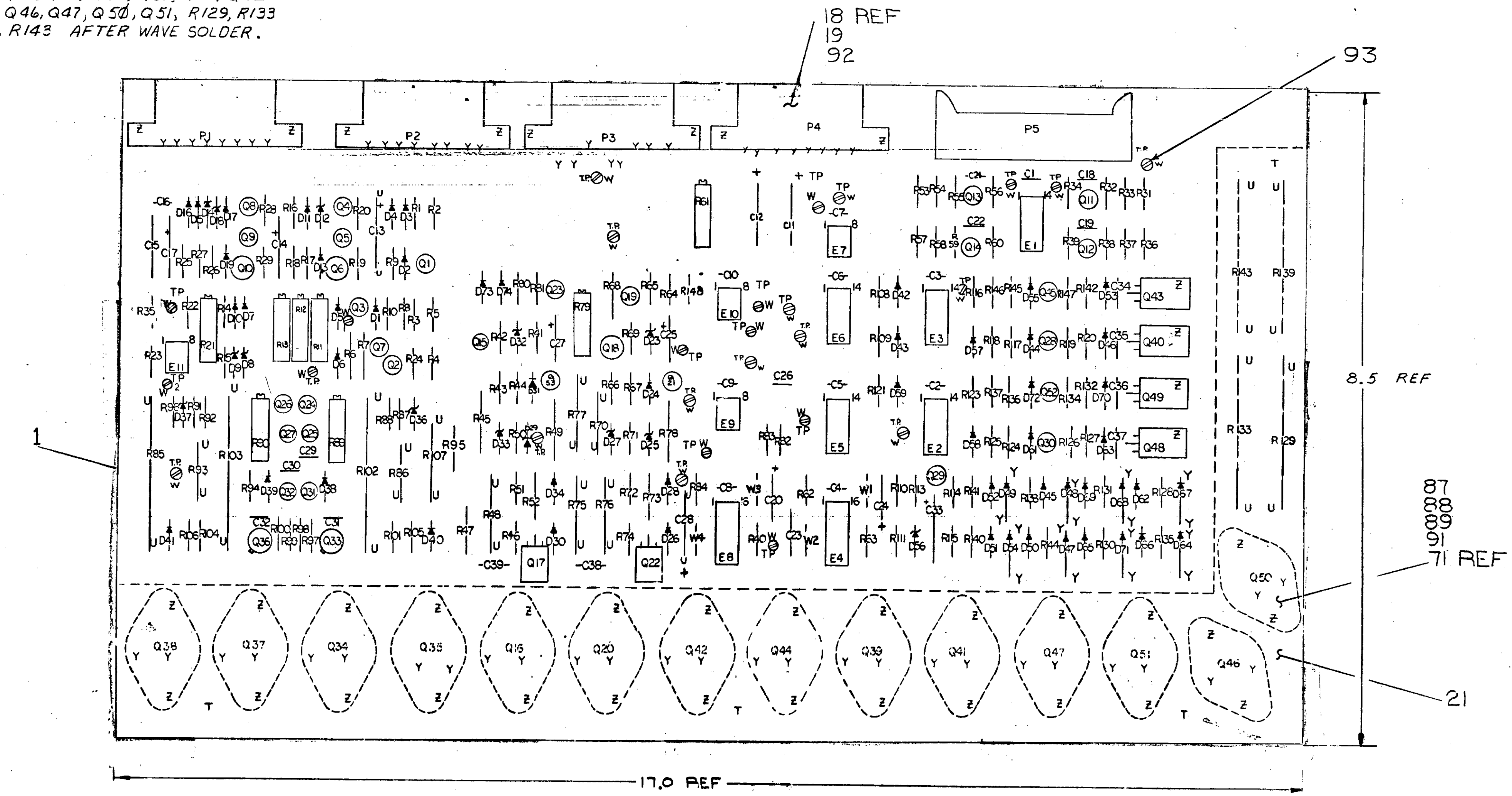
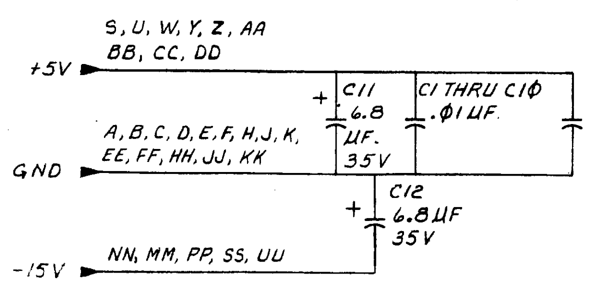
NOTES:

1. UNLESS OTHERWISE SPECIFIED:
   ALL RESISTORS ARE 1/4 W 5%
   ALL CAPACITORS ARE 100V 20%.
2. MOUNT ITEM # 21 AND Q16, Q20, Q34, Q35, Q37, Q38, Q39, Q41, Q42, Q44, Q46, Q47, Q50, Q51, R129, R133, R139, R143 AFTER WAVE SOLDER.





IC TYPE	GND	+ 5V
75452	4	8
75451	4	8
74123	8	16
741	4	7

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY EXCEPTIONS ARE STATED ABOVE

IC PIN LOCATIONS

DEC FORM NO. DRD 135-6

CHK	CHANGE NO	REV
WS Smith (H) 5-17-79	W. J. SMITH 11 MAY 79	H
H Drab (XP) 11-3-77	H606-ML008 / H. DRAB	
	H606-00007	F
		E
	31 DEC 75	D
	JOHN HESS 7-29-74	
	H606-00001	C

REVISIONS

FIRST USED ON OPTION MODEL: TU16

DEC NO.	EIA NO.	DEC NO.	EIA NO.

SEMICONDUCTOR CONVERSION CHART

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.

PARTS LIST

ETCH BOARD REV D

DRN. V. Buissonnette DATE 10-18-73
CHK'D [illegible] DATE 12/18/73
ENG. John Hess DATE 1-4-74
PROJ ENG John Hess DATE 1-4-74
PR [illegible] DATE

NEXT HIGHER ASSY

SCALE — SHEET 1 OF 6

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE (DRVR I) TU16 POWER BOARD

SIZE D CODE CS NUMBER H606-0-1 REV. H

DIST.

QTY	REF DESIGNATION	DESCRIPTION	PART NO	ITEM NO
REF		X-Y COORDINATE HOLE LOCATION	K-CO-H606-0-4	REF
REF		ASSY/DRILLING HOLE LAYOUT	D-AH-H606-0-5	REF
REF		MODULE ECO HISTORY	B-MH-H606-0-6	REF
1		ETCHED CIRCUIT BOARD	5010481	1
1	C15	CAP .027UF 100V 10% MYLAR	1000049	2
5	C20,C23,C24,C27,C25	CAP 3.9UF 10V 10% S TANT	1000064	3
2	C13,C28	CAP 180UF 6V 20% S.TANT	1000086	4
				5
18	C1 THRU C10,C16,C18,C19,C21 C22,C26,C29,C30	CAP .01UF 100V 20% DISC	1001610-01	6
4	C11,C12,C14,C17	CAP 6.8UF 35V 10% S.TANT	1005306	7
2	C31,C32	CAP .02UF	1000004	8
1	C33	CAP 68UF 15V 10% S.TANT	1000082	9
23	D1 THRU D7,D10,D11,D13,D17 D19 ,D38,D39 D42,D43,D44,D55,D57,D58 D59,D61,D72	DIODE D664	1100114	10
2	D23,D32	DIODE IN 748A ZENER	1100122	11
7	D8,D9,D12,D14,D18,D36,D37	DIODE IN 750A ZENER	1100124	12
8	D40,D41,D46,D53,D63,D70,D73,74	DIODE IN 4004	1105796	13
2	D27,D33	DIODE IN 4736A ZENER	1103340	14
3	D25,D29,D56	DIODE IN 756A ZENER	1103441	15
16	D50 THRU D52,D62, D65, D66,D69, D15,D16,D24, D26,D28,D30,D31,D34,D45,	DIODE D672	1105275	16
8	D47,D48,D49,D54,D64,D67,D68,D71	DIODE 5624	1110420	17
4	P1,P2,P3,P4	CONN MATE-N-LOK 8 PIN	1209340	18
32		SOCKET TERMINAL CONTACT	1209456	19
1	P5	CONN 40P RT ANG HEADER	1209941	20
1		HEAT SINK	7411390	21
2	R105,R106	RES 47 ¼W 5%	1300202	22
1	R47	RES 56 ¼W 5%	1300995	23
2	R101,R104	RES 100 ¼W 5%	1300220	24
3	R50,R71,R83	RES 220 ¼W 5%	1300271	25
2	R45,R70	RES 220 1W 10%	1300277	26
2	R7,R6	RES 270 ¼W 5%	1300285	27
9	k82,R119,R120,R126,R127, R132,R134,R142,R147	RES 330 ¼W 5%	1300295	28
2	R86,R93	RES 330 1W 5%	1300297	29
1	R8	RES 470 ¼W 5%	1300316	30
1	R68	RES 750 ¼W 5%	1300354	31
24	R15,R17,R19,R20,R26,R28, R29,R31,R33,R36,R37,R51, R53,R54,R57,R58,R72,R87, R91,R116,R123,R137,R146,R48	RES 1K ¼W 5%	1300365	32
14	R1,R4, ,R24,R42,R65,R69 R80,R81,R97,R100,R110,R111 R118,R125	RES 1.5K ¼W 5%	1300391	33
3	R35,R41,R64	RES 2.2K ¼W 5%	1300417	34
3	R108,R109,R121	RES 3.3K ¼W 5%	1300439	35
3	R2,R5,R96	RES 3.9K ¼W 5%	1300444	36
2	R9,R115	RES 10K ¼W 5%	1300479	37
5	R34,R39,R56,R60,R62	RES 12K ¼W 5%	1300488	38
2	R18,R27	RES 15K ¼W 5%	1300496	39
5	R23,R117,R124,R136,R145	RES 68K ¼W 5%	1301327	40
2	R16,R25	RES 27 ¼W 5%	1301522	41
2	R3,R14	RES 6.8K ¼W 5%	1301423	42
2	R49,R78	RES .82 ¼W 10%	1301642	43
1	R95	RES .47 ¼W 5%	1301695	44
1	R63	RES 22K ¼W 5%	1301808	45
1	R40	RES 5.6K ¼W 5%	1301874	46

QTY	REF DESIGNATION	DESCRIPTION	PART NO	ITEM NO
2	R43,R66	RES 560 ¼W 5%	1301890	47
5	R46,R74,R94,R98,R99	RES 270 ¼W 5%	1301912	48
2	R52,R73	RES 39 ¼W 5%	1302336	49
1	R10	RES 20K ¼W 5%	1302391	50
1	R22	RES 470K ¼W 5%	1302398	51
1	R84	RES 33K ¼W 10%	1300510	52
8	R128,R130,R131,R135,R138 R140,R141,R144	RES 56 ¼W 5%	1302602	53
2	R75,R77	RES 56 2W 5%	1302836	54
2	R88,R92	RES 2K ¼W 5%	1302388	55
1	R114	RES 620 ¼W 5%	1303178	56
7	R32,R38,R44,R55,R59, R67,R113	RES 8.2K ¼W 5%	1303179	57
1	R107	RES 120 2W 5%	1305282	58
4	R129,R133,R139,R143	RES 56 10W 1%	1305396	59
2	R102,R103	RES 12 10W 5%	1305400	60
2	R76,R48	RES 27 2W 10%	1305624	61
1	R85	RES .1 10W 1%	1309108	62
1	R79	POT 100 ½W 10% 76PR	1309143-04	63
2	R89,R90	POT 1K ½W 10% 76PR	1309143-07	64
1	R11	POT 5K ½W 10% 76PR	1309143-09	65
2	R12,R13	POT 10K ½W 10% 76PR	1309143-10	66
2	R21,R61	POT 25K ½W 10% 76PR	1309143-12	67
2	Q10,Q33	TRANS DEC 2904	1501742	68
2	Q6,Q36	TRANS DEC 2219	1501881	69
1	Q18	TRANS DEC 2904A	1501913	70
5	Q37,Q41,Q44,Q50,Q51	TRANS DEC 3715	1503088	71
12	Q1,Q2,Q3,Q29,Q5,Q8,Q21,Q23 Q26,Q27,Q32,Q53	TRANS DEC 6534D	1503409	72
16	Q4,Q7,Q9,Q11 THRU Q15,Q19 Q24,Q25,Q28,Q30,Q31,Q45,Q52	TRANS DEC 6531B	1509338	73
7	Q16,Q20,Q34,Q39,Q42,Q46Q47	TRANS DEC 3791	1509581	74
2	Q17,Q22	TRANS DEC 4923	1509804	75
1	Q35	TRANS DEC 4502	1510334	76
1	Q38	TRANS DEC 802	1510335	77
4	Q40,Q43,Q48,Q49	TRANS D 45C8	1510598	78
1	E5	IC DEC 7400	1905575	79
1	E6	IC DEC 7410	1905578	80
1	E1	IC DEC 7402	1909004	81
2	E2,E3	IC DEC 380	1909485	82
1	E11	IC DEC 741	1910298	83
1	E9	IC DEC 75451	1910406	84
2	E4,E8	IC DEC 74123	1910436	85
2	E7,E10	IC DEC 75452	1910645	86
A/R		THERMAL COMPOUND	9006268	87
28		SCREW,BD HD 4-40X7-16 LG	9006012-4	88
32		KEPNUT 4-40	9006557	89
8		WASHER, NYLON	9006706	90
14		WASHER, ANODIZED	9006721	91
8		EYELET	9006745	92
26		CAMBION TERMINAL	9007791	93
6	C34 THRU C39	CAP .1UF 100V 20% DISC	1000030	94
4		EYELET	9006746	95
4		SCREW, BD HD 4-40 X 5-16 LG	9006010-4	96
A/R		TUBING .X 22 THIN WALL	9007256	97
1		GRIPLET	1212044	98
4	W1 THRU W4	JUMPER,WIRE,WHITE INSULATION	9009185	99

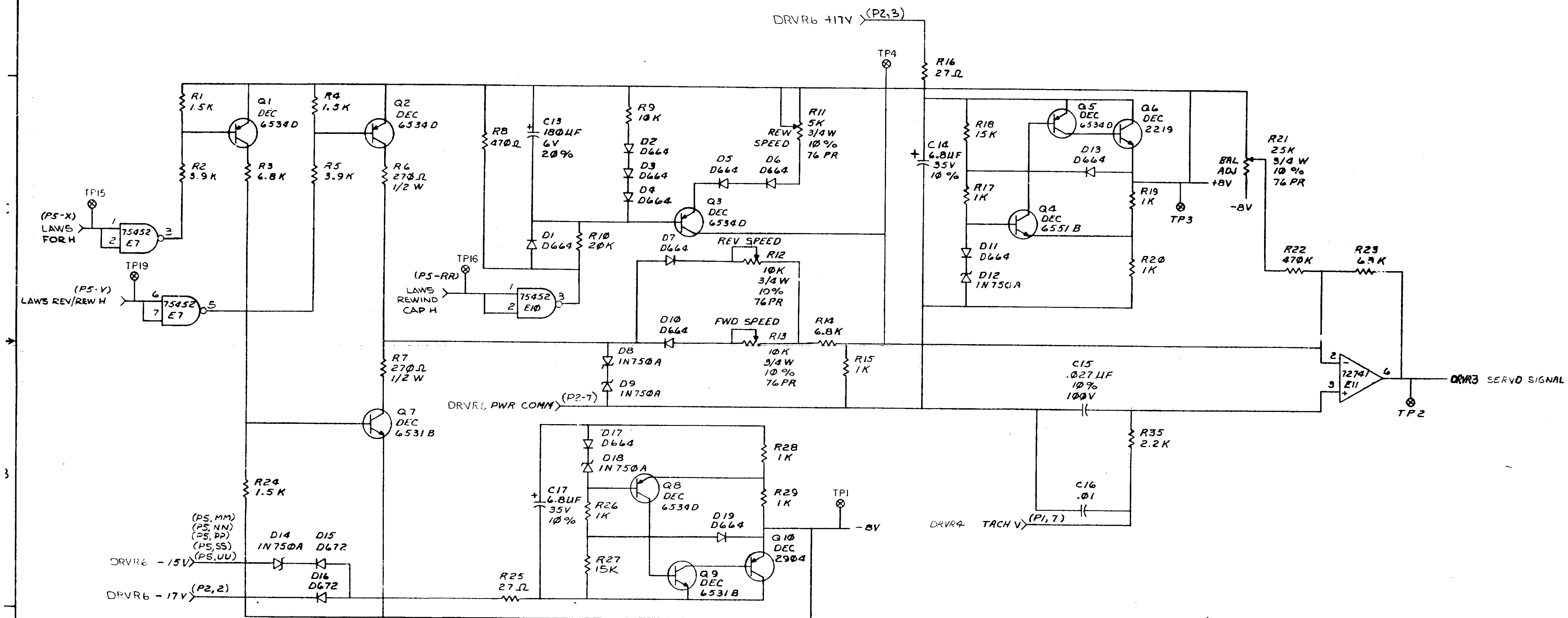
QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.

REVISIONS

CHK	CHANGE NO	REV

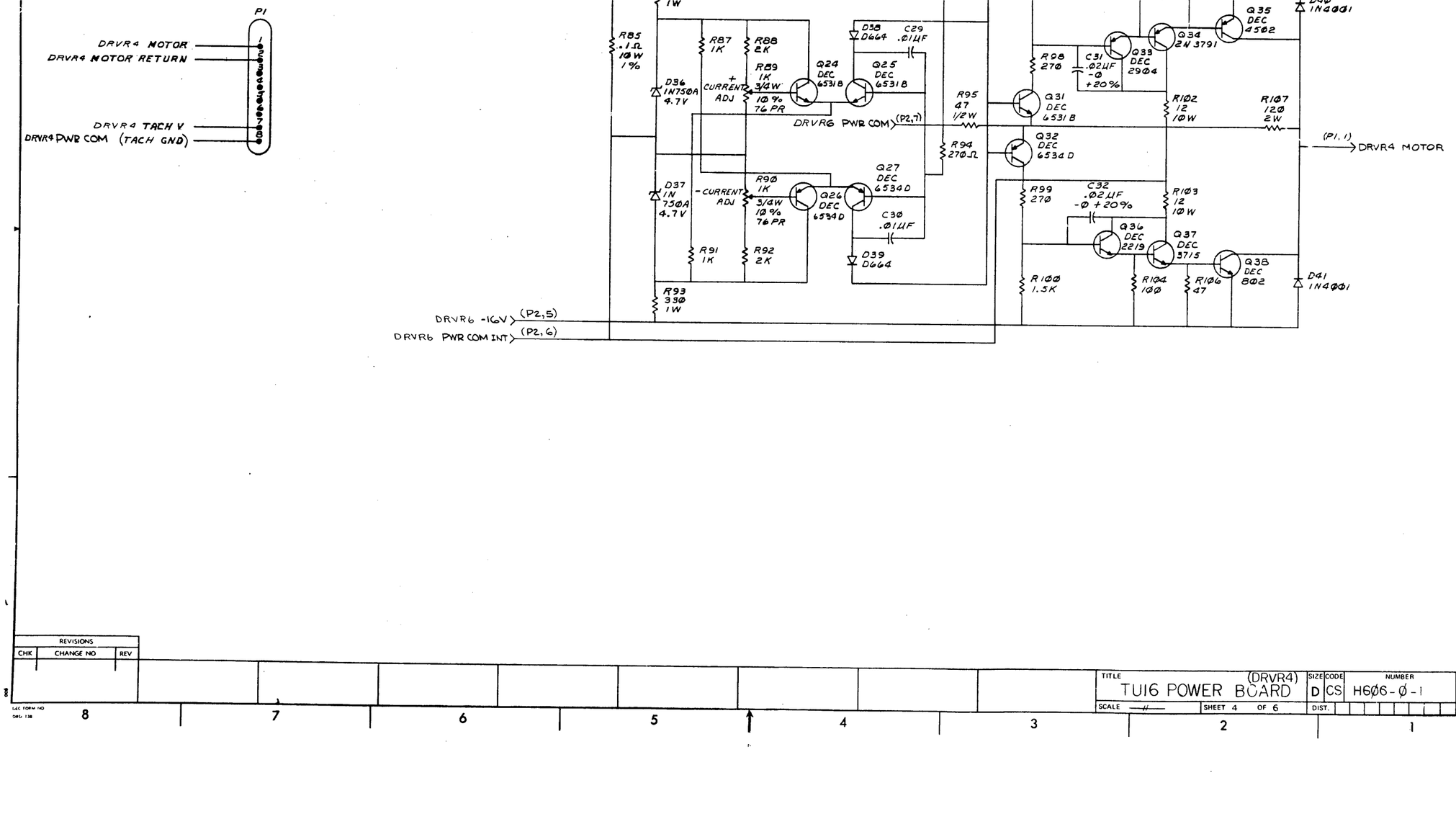
TITLE		SIZE	CODE	NUMBER	REV.
TU16 POWER BOARD (DRVR2)		D	CS	H606 Ø-1	H
SCALE	SHEET 2 OF 6	DIST.			

DCS-H606-0-1 H



REVISIONS		
CHK	CHANGE NO	REV

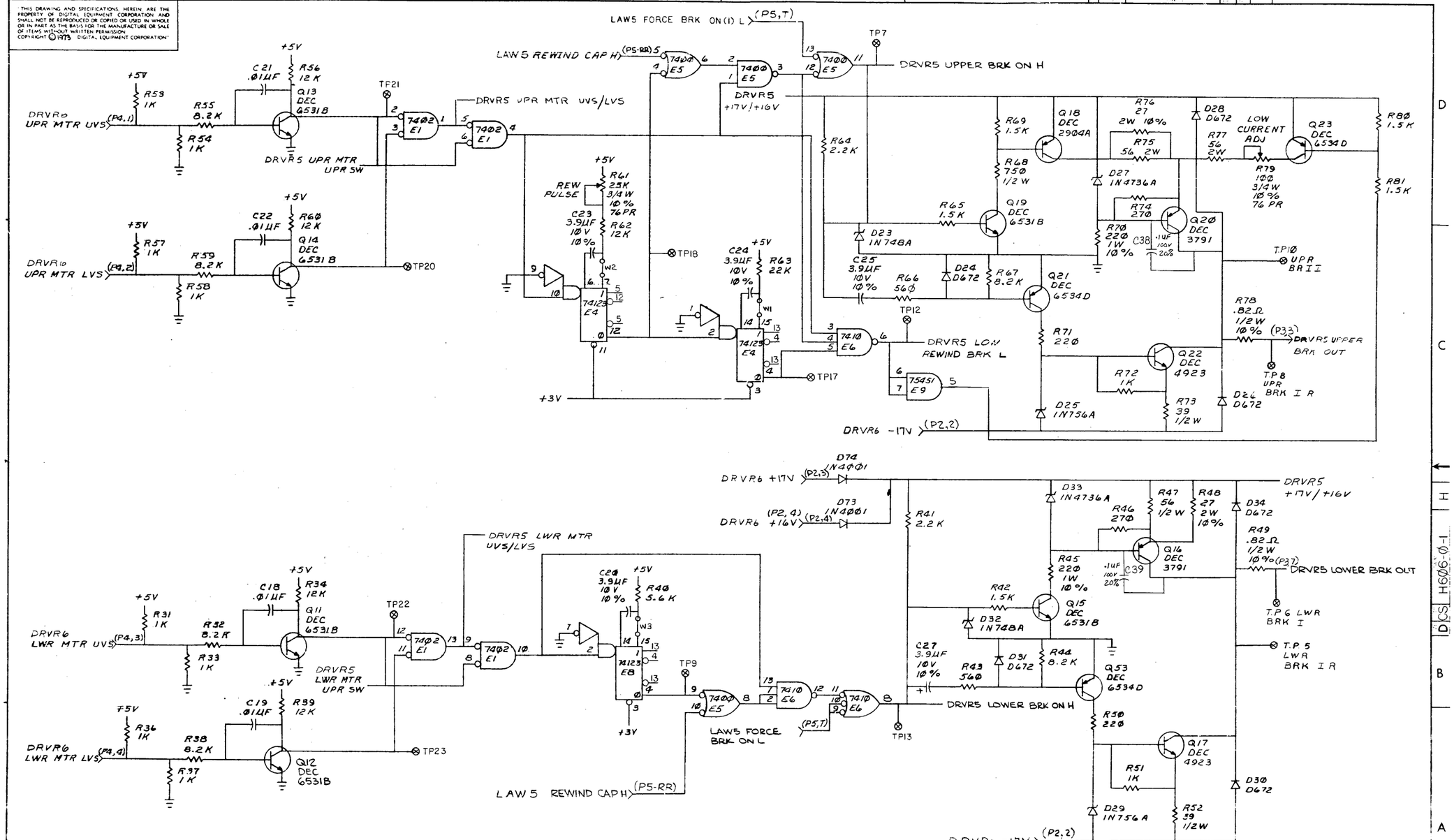
TITLE	SIZE	CODE	NUMBER	REV
TU16 POWER BOARD (DRVR3)	D	CS	H606-Ø-1	H
SCALE	SHEET 3 OF 6	DIST.		



REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE	CODE	NUMBER	REV.
TU16 POWER BOARD (DRVR4)	D	CS	H606-0-1	H
SCALE —H— SHEET 4 OF 6	DIST.			

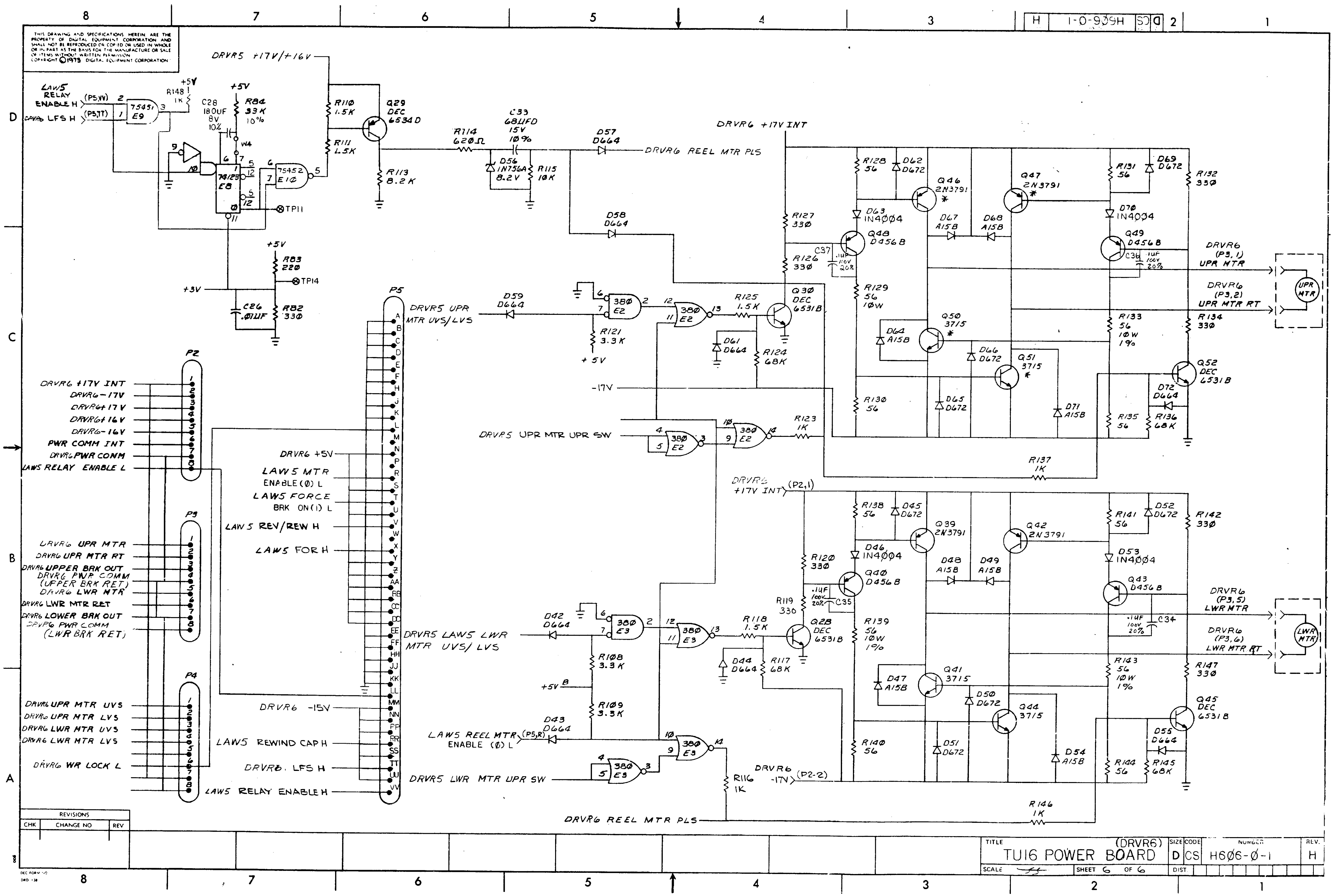
LEC FORM NO 5965 138



REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE	CODE	NUMBER	REV.
TU16 POWER BOARD (DRVR5)	D	CS	H6Ø6-Ø-1	H
SCALE —	SHEET 5 OF 6	DIST.		

DEC FORM NO DEC 138



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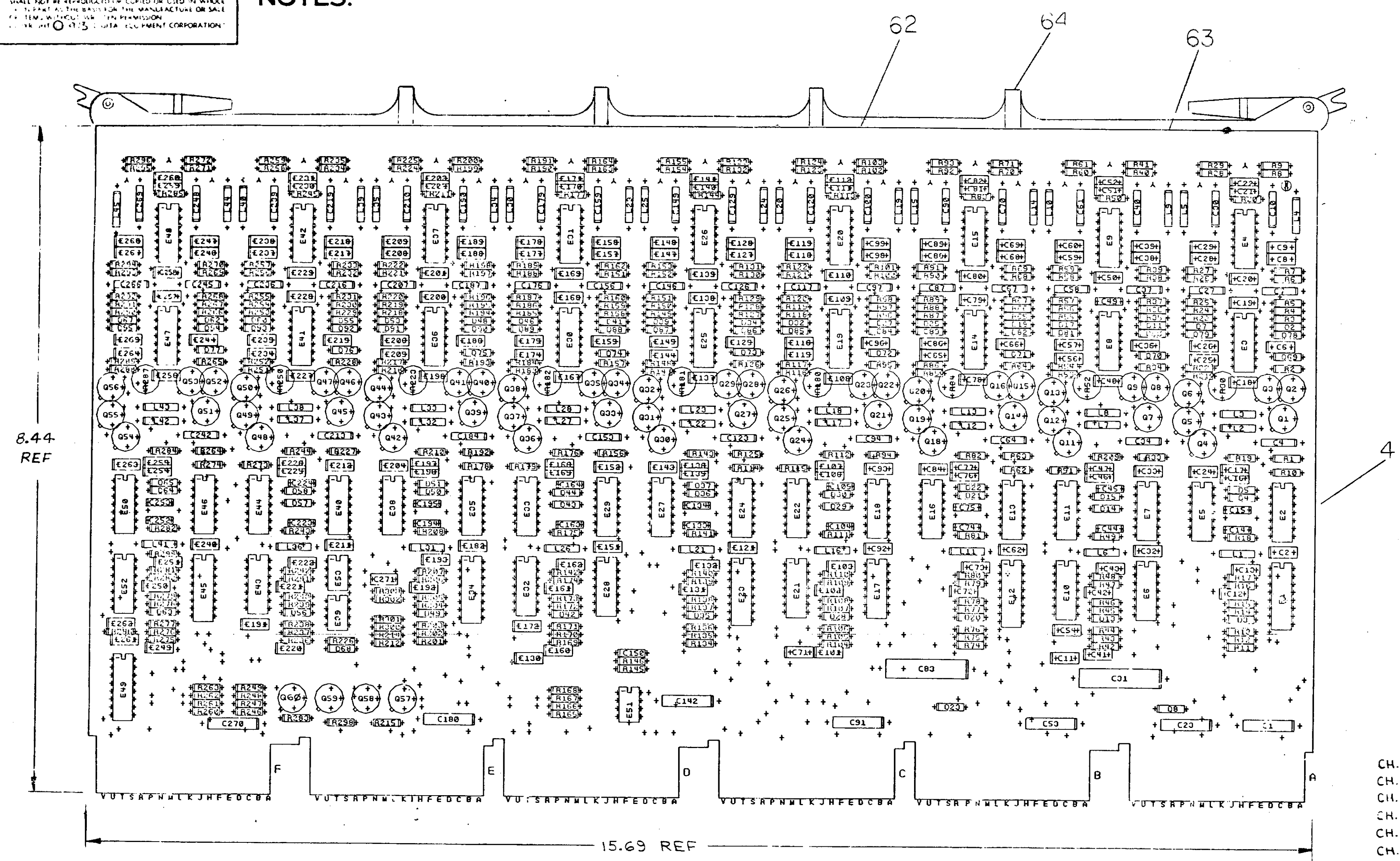
LAWS RELAY ENABLE H
DRVR6 LFS H
DRVR5 +17V/+16V
DRVR6 +17V INT
DRVR6 REEL MTR PLS
DRVR5 UPR MTR UVS/LVS
DRVR5 UPR MTR UPR SW
DRVR5 LAWS LWR MTR UVS/LVS
LAWS REEL MTR ENABLE (0) L
DRVR5 LWR MTR UPR SW
DRVR6 (P3,1) UPR MTR
DRVR6 (P3,2) UPR MTR RT
DRVR6 (P3,5) LWR MTR
DRVR6 (P3,6) LWR MTR RT
UPR MTR
LWR MTR
P2
DRVR6 +17V INT
DRVR6 -17V
DRVR6 +17V
DRVR6 +16V
DRVR6 -16V
PWR COMM INT
DRVR6 PWR COMM
LAWS RELAY ENABLE L
P3
DRVR6 UPR MTR
DRVR6 UPR MTR RT
DRVR6 UPPER BRK OUT
DRVR6 PWR COMM (UPPER BRK RET)
DRVR6 LWR MTR
DRVR6 LWR MTR RET
DRVR6 LOWER BRK OUT
DRVR6 PWR COMM (LWR BRK RET)
P4
DRVR6 UPR MTR UVS
DRVR6 UPR MTR LVS
DRVR6 LWR MTR UVS
DRVR6 LWR MTR LVS
DRVR6 WR LOCK L
P5
DRVR6 +5V
LAWS MTR ENABLE (0) L
LAWS FORCE BRK ON (1) L
LAWS REV/REW H
LAWS FOR H
DRVR6 -15V
LAWS REWIND CAP H
DRVR6 LFS H
LAWS RELAY ENABLE H
REVISIONS
CHK
CHANGE NO
REV
TITLE
TU16 POWER BOARD (DRVR6)
SIZE D
CODE CS
NUMBER H606-0-1
REV. H
SCALE
SHEET 6 OF 6
DIST

NOTES:



AM1, AM2, AR1	-6V(A)	-6V(A)
BE1, BE2, BA1		-6V(B)
BU1, BU2, BV1	-6V(B)	-6V(B)
CN1, CN2, CH1	-6V(C)	-6V(C)
DD1, DD2, DE1		-6V(D)
DS1, DU1, DU2	-6V(D)	-6V(D)
EL1, EL2, EM1	-6V(E)	-6V(E)
FB1, FB2, FA1		-6V(F)
FT2, FV1, FU1	-6V(F)	-6V(F)

TRACK NUMBER	BINARY REFERENCE
1	RD2
2	RDØ
3	RD4
4	RDP
5	RD5
6	RD6
7	RD7
8	RD1
9	RD3

	WRE H A	PES L B	Y3 PIN4	Y2 PIN 5	Y1 PIN 6	Y0 PIN 7
PE	0	0	1	1	1	0
PE	1	0	1	1	0	1
NRZ	0	1	1	0	1	1
NRZ	1	1	0	1	1	1

	IN 7486 OUT	75107	IN	7476	OUT	DIGITAL	ANALOG
CH. 1	9,10 (E1Ø) 8	AJ1	1,2	E1	14	AB1	AL1
CH. 2	12,13 (E1Ø) 11	AH1	6,7	E1	10	AF1	BB1
CH. 3	9,10 (E21) 8	BN1	1,2	E12	14	BF1	BM1
CH. 4	12,13 (E21) 11	BL1	6,7	E12	10	BK1	CK1
CH. 5	9,10 (E32) 8	CU1	1,2	E23	14	CP1	CL1
CH. 6	12,13 (E32) 11	CS1	6,7	E23	10	CR1	DP1
CH. 7	9,10 (E43) 8	EH1	1,2	E34	15	DV1	DR1
CH. 8	12,13 (E43) 11	EF1	6,7	E34	10	EE1	FP1
CH. 9	9,10 (E52) 8	FM1	1,2	E45	14	FK1	FR1

+5V AA2, BA2, CA2, DA2, EA2, FA2

C1, C53, C91, C142, C180, C27Ø — 6.8UF

C2, C24, C32, C33, C54, C62, C84, C92, C93, C121, C143, C151, C152, C172, C182, C2Ø4, C211, C212, C24Ø, C261, C263 — .Ø1UF

AC2, BC2, CC2, DC2, EC2, FC2, AT1, BT1, CT1, DT1, ET1, FT1

IC TYPE	GND	+5V
71Ø	1	8
7476	8	16
74155	8	16

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY. EXCEPTIONS ARE STATED ABOVE

IC PIN LOCATIONS

REV.	CHANGE NO.	CHK
L	G056-00008	ARNOLD KORELITZ
K	G056-00001	W. SMITH
J		A. KORELITZ
H	G056-00003	A. KORELITZ
D	G056-00002	

SEMICONDUCTOR CONVERSION CHART

FIRST USED ON OPTION MODEL: TU16

ETCH BOARD REV: E

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.

PARTS LIST

NEXT HIGHER ASSY

digital EQUIPMENT CORPORATION

TITLE: (RA) READ AMP

SIZE: D CODE: CS NUMBER: G056-0-1 REV: L

SHEET 1 OF 7

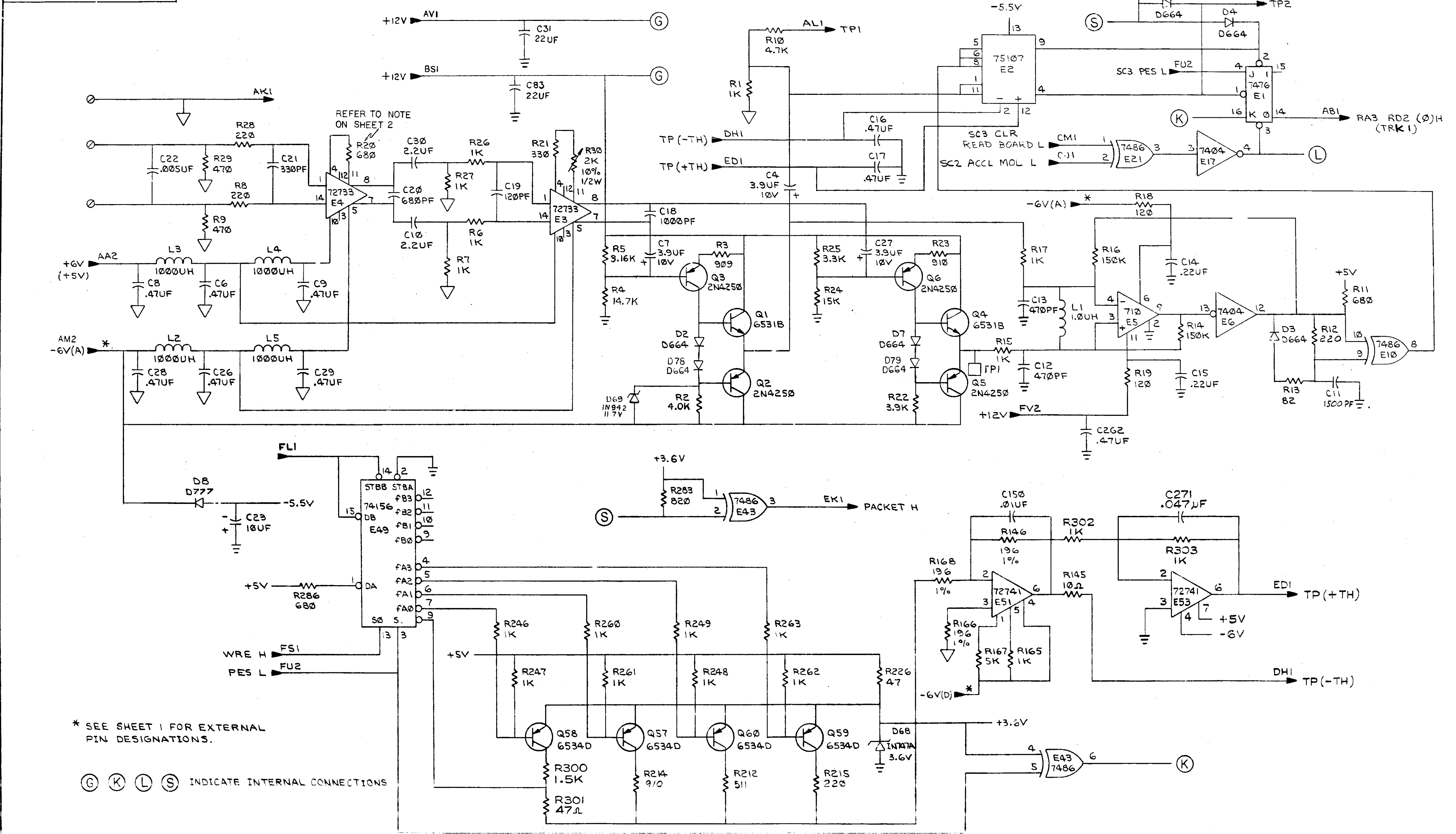
QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
REF		X-Y COORDINATE HOLE LOCATION	K-CO-G056-0-4	1
REF		ASSY-DRILLINGHOLE LAYOUT	D-AH-G056-0-5	2
REF		MODULE ECO HISTORY	B-MH-G056-0-6	3
1		ETCHED CIRCUIT BOARD	5010479	4
9	C20,C50,C80,C110,C139,C169 C201,C229,C258	CAP 680PF,100V,5% DM	1000026	5
6	C1,C53,C91,C142,C180,C270	CAP 6.8UF,35V,10% S.TANT	1005306	6
18	C14,C15,C44,C45,C74,C75,C104 C105,C133,C134,C163,C164, C194,C195,C223,C224,C252 C253	CAP .22UF,50V,10% CER	1010274	7
1	C23	CAP 10UF, 20V, 10% S.TANT	1004813	8
~~9~~	~~C11,C41,C71,C101,C130,C160, C191,C220,C249,~~	~~CAP 820PF,100V,5%~~	~~1000027~~	~~9~~
9	C19,C49,C79,C109,C138,C168 C200,C228,C257	CAP 120PF,100V 5% DM	1000018	10
9	C21,C51,C81,C111,C140,C170 C202,C230,C259	CAP 330PF,100V,5% DM	1000023	11
18	C10,C30,C40,C61,C70,C90,C100 C120,C129,C149,C159,C179, C190,C210,C219,C239,C248C269	CAP 2.2UF,20V,10% S.TANT	1002627	12
9	~~C5~~,C25,~~C35~~,C56,~~C65~~,C85,~~C95~~ C115,~~C124~~,C144,~~C154~~,C174, ~~C185~~,C205,~~C214~~,C234,~~C243,~~ C264	CAP 82PF,100V,5% DM	1000015	13
18	C12,C13,C42,C43,C72,C73,C102 C103,C131,C132,C161,C162, C192,C193,C221,C222,C250,C251	CAP 470PF,100V,5% DM	1000024	14
74	C6,C8,C9,C16,C17,C26,C28,C29 C36,C38,C39,C46,C47,C57,C59 C60,C66,C68,C69,C76,C77,C86 C88,C89,C96,C98,C99,C106, C107,C116,C118,C119,C125, C127,C128,C135,C136,C145,C147 C148,C155,C157,C158,C165,C166 C175,C177,C178,C186,C188,C189 C196,C197,C206,C208,C209,C215 C217,C218,C225 C226,C235,C237 C238,C244,C246,C247,C254,C255 C262,C265,C267,C268,C181	CAP .47UF,25V,20% CER	1010279	15
2	C31,C83	CAP 22UF 35V,20% S.TANT	1002433	16
9	C22,C52,C82,C112,C141,C171 C203,C231,C260	CAP .005UF, 100V, 20% DISC	1001765	17
9	C18,C48,C78,C108,C137,C167, C198,C227,C256,	CAP 1000PF 250V, 20% DISC	1000043	18
27	C4,C7,C27,C34,C37,C58,C64,C67 C87,C94,C97C117,C123,C146,C126 C153,C156,C176,C184,C187,C207 C213,C216,C236,C242,C245,C266	CAP 3.9UF 10V,10% S.TANT	1000064	19
22	C2,C24,C32,C33,C54,C62,C84 C92,C93,~~C113~~,C121,C143,C150, C151,C152,C172,C182,C204,C211 C212,~~C232~~,C240,C261,C263	CAP .01UF 100V,20%, DISC	1001610-01	20
63	D2-5,7,11,13,14,15,17,19,20, 21,22,25,27-30,34-37,39 41,-44,46,~~48~~,49-51,53,55- 58,60 62-65,67,32,78-95	DIODE D664	1100114	21 22
1	D68	DIODE IN747A 3.6V 5%	1110672	23
~~2~~	~~D12,D23~~	~~DIODE IN758A~~	~~1100125~~	~~24~~
10	,R23 R55, R87, R118, ,R149 R185. R218, R253, R290, R214	RES 910 ¼W 5%	1305374	25
1	R145	RES 10 ,¼W 5%	1301317	26
~~2~~	~~R31,R72~~	~~RES 100,¼W 5%~~	~~1301322~~	~~27~~
9	R21,R53,R85,R116,R147,R183 R216,R251,R288	RES 330,¼W 5%	1300295	28
1	R226	RES 47,¼W 5%	1300202	29

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
26	R8,R28,R40,R60,R70,R92,R102 R123,R132,R154,R163,R190, R199,R224,R234 R258,R271,R12,R170,R276, R295,R215,R43,R75,R105,R135,R202,R237	RES 220 1/4W 5%	1300271	30
18	R9,~~R12~~ R29,R41,~~R43~~ R61,R71 ~~R75~~ R93,R103,~~R105~~ R124,R133 ~~R135~~,R155,R164,~~R170~~,R191, R200,~~R202~~,R225,R235,~~R237~~ R259,R272,~~R276~~ R296,	RES 470 ¼W 5%	1300316	31
11	R11,R42,R74,R104,R134,R169, R201,R236,R275,R286,R298	RES 680,¼W 5%	1301424	32
* 9	R20,R50,R83,R113,R144, R177,R211,R245,R285	RES 680, 1/4W, 5% NOMINAL		
74	R1,R6,R7,R15,R17,R26,R27,R33 R38,R39,R46,R48,R58,R59,R63,R68 R69,R78,R80,R90,R91,R94,R100 R101,R108,R110,R121,R122,R125 R130,R131,R138,R140,R142,R152 R153,R156,R161,R162,R173,R188 R189,R192,R197 R198,R205,R207 R221,R222,R227,R232,R233,R240 R242,R246,R247,R248,R249,R256 R257 R260 R261,R262,R263 R264,R269,R270,R279,R281 R286,R294,R299,R302,R303	RES 1K ¼W 5%	1300365	33
1	R283	RES 820, 1/4, 5%	1301775	34
18	R18,R19,R49,R81,R82,R111, R112,R284,R141,R143,R175, R176,R244,R208,R209,R282, R210,R243,	RES 120,¼W,5%	1300247	35
3	R166,R146,R168	RES 196,¼W 1%	1302956	36
11	R10,R51,R62,R114,R115,R165 R167,R178,R179,R273,R274	RES 4.7K ¼W 5%	1300447	37
9	,R22, ,R54, R86,R289, R117, ,R148, ,R184 ,R217, ,R252,	RES 3.9K ¼W 5%	1300444	38
9	R2,R34,R64,R126,R157, R193,R228,R265,R95	RES 4.0K 1/4W 1%	1305127	39
18	R14,R16,R45,R47,R77,R79,R107 R109,R137,R139,R172,R174, R204,R206,R239,R241,R278, R280	RES 150K ¼W 5%	1302396	40
9	R13,R44,R76,R106,R136,R171 R203,R238,R277	RES 82,¼W 5%	1301477	41
~~1~~	~~R214~~	~~RES 910 OHM ¼W 5%~~	~~1305374~~	42
9	,R25, R57, R89, R120, ,R151, ,R187, ,R220, ,R255, R292	RES 3.3K ¼W 5%	1300439	43
9	,R24, ,R56, ,R88, R119, ,R150, ,R186, ,R219, ,R254, R291	RES 15K ¼W 5%	1300496	44
9	R30,R52,R84,R180,R181,R223 R250,R287, R182	POT 2K ½W 10%	1309150-07	45
1	R300	RES 47 ¼ 5%	1300202	46
~~1~~	~~R214~~	~~RES 560 OHM ¼ 5%~~	~~1301893~~	47
4	Q57,Q58,Q59,Q60	TRANSISTOR 6534D	1503409	48
~~2~~	~~Q10,Q17~~	~~TRANSISTOR 2219~~	~~1501281~~	49
18	Q1,Q4,Q7,Q11,Q14,Q18,Q21, Q24,Q27,Q30,Q33,Q36,Q39,Q42 Q45,Q48,Q51,Q54	TRANSISTOR 6531B	1509338	50
36	Q2,Q3,Q5,Q6,Q8,Q9,Q12,Q13, Q15,Q16,Q19,Q20,Q22,Q23,Q25 Q26,Q28,Q29,Q31,Q32,Q34,Q35 Q37,Q38,Q40,Q41,Q43,Q44,Q46 Q47,Q49,Q50,Q52,Q53,Q55,Q56	TRANSISTOR 2N4250	1509142	51

QTY	REF DESIGNATION	DESCRIPTION	PART NO	ITEM NO
				52
45	L1,L6,L11,L16,L21,L26,L31 L36,L41 L2,L3,L4,L5,L7,L8,L9,L10,L12 L13,L14,L15,L17,L18,L19,L20, L22,L23,L24,L25,L27,L28,L29 L30,L32,L33,L34,L35,L37,L38 L39,L40,L42,L43,L44,L45	INDUCTOR 1000 UH	1602723	53
1	E49	I.C. 74156	[illegible]	54
2	E51 E53	I.C. 72741	1910298	55
18	E3,E4,E8,E9,E14,E15,E19,E20 E25,E26,E30,E31,E36,E37,E41 E42,E47,E48	I.C. 72733	1910644	56
5	E1,E12,E23,E34,E45	I.C. 7476	1905585	57
9	E2,E11,E13,E22,E24,E33,E35, E44,E46	I.C. 75107	1910268	58
9	E5,E7,E16,E18,E27,E29,E38, E40,E50	I.C. 710	1905620-01	59
5	E10,E21,E32,E43,E52	I.C. 7486	1910011	60
3	E6,E17,E28,	I.C. 7404	1909686	61
12		EYELET	9006732	62
27		SPLIT LUG	9006735	63
1		HANDLE, HEX	1210711-2	64
				65
1		READ CABLE	7010057-0-0	66
1		CABLE READ BOARD	7009920-0-0	67
* 9	R20,R50,R83,R113,R144 R177,R211,R245,R285	RES 470 1/4W 5% (HIGH GAIN) OR RES 820 1/4W 5% (LOW GAIN) NOTE: TO BE CHANGED AT FINAL SYSTEM TEST IF NECESSARY	1300316 1301775	68
				69
				70
9	C11,C41,C71,C101,C130,C160 C191,C220,C249	CAP 1500 PF	1000054	71
*	NOTE: GAIN ADJUST REFER TO ITEM #20 R50, R93, R113,R144 R177,R211,R245,R285, R20.	RES 470 (MAX GAIN) RES 680 RES 820 RES 1.2K (NORMINAL) RES 1.8K (MIN GAIN)		
1	D8	DIODE D777	1103041	72
~~18~~	~~R300-317~~	~~RES 270 1/4W 5%~~	~~1301972~~	~~73~~
9	D69-D77	ZENER DIODE IN942 11.7V	11-09345	74
9	R5,R37,R67,R98,R160, R196,R268,R231,R129	RES 3.16K 1/4W 1%	13[illegible]3045	75
1	R2[illegible]2	RES 511 1/4W 1%	1302411	76
9	R4,R36,R66,R97,R159, R195,R267,R230,R128	RES 14.7K 1/4W 1%	1302941	77
9	R3,R35,R65,R96,R158, R194,R266,R229,R127	RES 909 1/8W 1%	1302685	78
1	R301	RES 1.5K 1/4W 5%	1300391	79
1	C271	CAP .047 MFD, POLYCARB	1009463	80
1	E39	I.C. 75452	1910645	81

REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE	CODE	NUMBER	REV.
READ AMP (RA2)	D	CS	G056-0-1	L
SCALE	SHEET 2 OF 7	DIST.		



+12V AV1
C31 22UF
+12V BS1
C83 22UF
AK1
R28 22Ø
C22 .ØØ5UF
R29 47Ø
C21 33ØPF
R8 22Ø
R9 47Ø
REFER TO NOTE ON SHEET 2
R2Ø 68Ø
72733 E4
C3Ø 2.2UF
C2Ø 68ØPF
C1Ø 2.2UF
R26 1K
R27 1K
R6 1K
R7 1K
C19 12ØPF
R21 33Ø
R3Ø 2K 1Ø% 1/2W
72733 E3
+6V (+5V) AA2
L3 1ØØØUH
L4 1ØØØUH
C8 .47UF
C6 .47UF
C9 .47UF
AM2 -6V(A)
L2 1ØØØUH
L5 1ØØØUH
C28 .47UF
C26 .47UF
C29 .47UF
C18 1ØØØPF
R5 9.16K
C7 3.9UF 1ØV
R3 9Ø9
Q3 2N425Ø
R4 14.7K
Q1 6531B
D2 D664
D76 D664
D69 1N942 11.7V
R2 4.ØK
Q2 2N425Ø
TP(-TH) DH1
TP(+TH) ED1
R1Ø 4.7K
AL1 TP1
R1 1K
C16 .47UF
C17 .47UF
C4 3.9UF 1ØV
R25 3.3K
C27 3.9UF 1ØV
R23 91Ø
Q6 2N425Ø
R24 15K
Q4 6531B
D7 D664
D79 D664
Q5 2N425Ø
R22 3.9K
R15 1K
TP1
C12 47ØPF
+12V FV2
C262 .47UF
-5.5V
75107 E2
SC3 CLR READ BOARD L CM1
SC2 ACCL MOL L CJ1
7486 E21
7404 E17
+5V
R298 68Ø
D5 D664
D4 D664
AJ1 TP2
SC3 PES L FU2
7476 E1
AB1 RA3 RD2 (Ø)H (TRK 1)
-6V(A)
R18 12Ø
R17 1K
R16 15ØK
C14 .22UF
C13 47ØPF
L1 1.ØUH
71Ø E5
R14 15ØK
7404 E6
R19 12Ø
C15 .22UF
+5V
R11 68Ø
D3 D664
R12 22Ø
R13 82
C11 15ØØPF
7486 E1Ø
FL1
D8 D777
-5.5V
C23 1ØUF
74156 E49
+5V R286 68Ø
WRE H FS1
PES L FU2
+3.6V
R283 82Ø
7486 E43
EK1 PACKET H
R246 1K
R260 1K
R249 1K
R263 1K
+5V
R247 1K
R261 1K
R248 1K
R262 1K
R226 47
Q58 6534D
Q57 6534D
Q6Ø 6534D
Q59 6534D
R3ØØ 1.5K
R3Ø1 47Ω
R214 91Ø
R212 511
R215 22Ø
D68 1N747A 3.6V
+3.6V
E43 7486
C15Ø .Ø1UF
R146 196 1%
R168 196 1%
72741 E51
R166 196 1%
R167 5K
R165 1K
-6V(D)
R3Ø2 1K
R145 1ØΩ
C271 .Ø47µF
R3Ø3 1K
72741 E53
+5V
-6V
ED1 TP(+TH)
DH1 TP(-TH)

* SEE SHEET 1 FOR EXTERNAL PIN DESIGNATIONS.

Ⓖ Ⓚ Ⓛ Ⓢ INDICATE INTERNAL CONNECTIONS

REVISIONS		
CHK	CHANGE NO	REV

TITLE READ AMP (RA3)

SIZE D CODE CS NUMBER G056-0-1 REV L

SCALE — SHEET 3 OF 7

* SEE SHEET 1 FOR EXTERNAL PIN DESIGNATIONS.

Ⓖ Ⓚ Ⓛ Ⓢ INDICATE INTERNAL CONNECTIONS

AT1 · R60 220 · R61 470 · R40 220 · R41 470 · C52 .005UF · C51 330PF · R50 680 · REFER TO NOTE ON SHEET 2 · 72733 E9 · C61 2.2UF · C50 680PF · C40 2.2UF · R58 1K · R59 1K · R38 1K · R39 1K · C49 120PF · R53 330 · R52 2K 10% 1/2W · 72733 E8 · C48 1000PF

+6V (+5V) · BA2 · L8 1000UH · L9 1000UH · C38 .47UF · C36 .47UF · C39 .47UF

-6V(B) * · BE2 · BU1 · BU2 · L7 1000UH · L10 1000UH · C59 .47UF · C57 .47UF · C60 .47UF

BB1 · R51 4.7K · TP1 · R33 1K · TP(-TH) · DH1 · TP(+TH) · ED1 · C46 .47UF · C47 .47UF · C34 3.9UF 10V

-5.5V · 75107 E11 · SC3 PES L · FU2 · D15 D664 · AH1 · TP2 · D14 D664 · 7476 E1 · AF1 · RA4 RD0 (Ø)H (TRK 2)

R37 3.16K · C37 3.9UF 10V · R35 909 · Q9 2N4250 · R36 14.7K · Q7 6531B · D11 D664 · D80 D664 · D70 IN942 11.7V · R34 4.0K · Q8 2N4250

R57 3.3K · C58 3.9UF 10V · R55 910 · Q13 2N4250 · R56 15K · C56 82PF · Q11 6531B · D17 D664 · D81 D664 · TP2 · Q12 2N4250 · R54 3.9K

-6V(B) * · R49 120 · R48 1K · R47 150K · C44 .22UF · C43 470PF · L6 1000UH · 710 E7 · 7404 E6 · +5V · R42 680 · D13 D664 · R48 220 · 7486 E10 · R46 1K · C42 470PF · R209 120 · C45 .22UF · R44 82 · C41 1500PF · +12V · FV2

BP1 · R92 220 · R93 470 · R70 220 · R71 470 · C82 .005UF · C81 330PF · R83 680 · REFER TO NOTE ON SHEET 2 · 72733 E15 · C90 2.2UF · C80 680PF · C70 2.2UF · R90 1K · R91 1K · R68 1K · R69 1K · C79 120PF · R85 330 · RE4 2K 10% 1/2W · 72733 E14 · C78 1000PF

+6V (+5V) · BA2 · L13 1000UH · L14 1000UH · C68 .47UF · C66 .47UF · C69 .47UF

-6V(B) * · L12 1000UH · L15 1000UH · C88 .47UF · C86 .47UF · C89 .47UF

BM1 · R62 4.7K · TP1 · RG3 1K · TP(-TH) · DH1 · TP(+TH) · ED1 · C76 .47UF · C77 .47UF · C64 3.9UF 10V

-5.5V · 75107 E12 · SC3 PES L · FU2 · D22 D664 · BN1 · TP2 · D21 D664 · 7476 E12 · BF1 · RA4 RD4 (Ø)H (TRK 3)

R67 3.16K · C67 3.9UF 10V · R65 909 · Q16 2N4250 · R66 14.7K · Q14 6531B · D19 D664 · D82 D664 · D71 IN942 11.7V · R64 4.0K · Q15 2N4250

R89 3.3K · C87 3.9UF 10V · R87 910 · Q20 2N4250 · R88 15K · C85 82PF · Q18 6531B · D25 D664 · D83 D664 · TP3 · Q19 2N4250 · R86 3.9K

-6V(B) * · R81 120 · R80 1K · R79 150K · C74 .22UF · C73 470PF · L11 1000UH · 710 E16 · 7404 E17 · +5V · R74 680 · D20 D664 · R75 220 · 7486 E21 · R78 1K · C72 470PF · R82 120 · C75 .22UF · R76 82 · C71 1500PF · +12V · FV2

REVISIONS		
CHK	CHANGE NO.	REV

TITLE	SIZE	CODE	NUMBER	REV.
READ AMP (RA4)	D	CS	G056-0-1	L
SCALE —	SHEET 4 OF 7	DIST		

DEC FORM NO. DRD 138

*SEE SHEET 1 FOR EXTERNAL PIN DESIGNATIONS.

Ⓖ Ⓚ Ⓛ Ⓢ INDICATE INTERNAL CONNECTION

CF1 R123 220 C112 .005UF R124 470 C111 330PF R102 220 R103 470 R113 68Ø REFER TO NOTE ON SHEET 2 72733 E20 C120 2.2UF C110 680PF C100 2.2UF R121 1K R122 1K C109 120PF R100 1K R101 1K R116 330 R180 2K 10% 1/2W 72733 E19 C108 1000PF

+6V (+5V) CA2 L18 1000UH L19 1000UH C98 .47UF C96 .47UF C99 .47UF

CN2 -6V(C) * L17 1000UH L20 1000UH C118 .47UF C116 .47UF C119 .47UF

R115 4.7K CK1 TP1 R94 1K TP(-TH) DH1 TP(+TH) ED1 C94 3.9UF 10V C106 .47UF C107 .47UF

R99 3.16K C97 3.9UF 10V R96 909 Q23 2N4250 R97 14.7K Q21 6531B D27 D664 D84 D664 D72 1N942 11.7V R95 4.0K Q22 2N4250

R120 3.3K C117 3.9UF 10V R118 910 Q26 2N4250 R119 15K C115 82PF Q24 6531B D32 D664 D85 D664 R117 3.9K Q25 2N4250

-5.5V 75107 E22 D30 D664 D29 D664 BL1 TP2 SC3 PES L FU2 7476 E12 BK1 RAS RDP (Ø)H (TRK 4)

-6V(C) * R111 120 R110 1K R109 150K C104 .22UF 710 E18 C103 470PF L16 1000UH R108 1K TP4 C102 470PF R112 120 C105 .22UF R107 150K 7404 E17 +5V R104 680 D28 D664 R105 220 7486 E21 R106 82 C101 1500PF +12V FV2

CB1 R154 220 C141 .005UF R155 470 C140 330PF R132 220 R133 470 R144 68Ø REFER TO NOTE ON SHEET 2 72733 E26 C149 2.2UF C139 680PF C129 2.2UF R152 1K R153 1K C138 120PF R130 1K R131 1K R147 330 R181 2K 10% 1/2W 72733 E25 C137 1000PF

+6V (+5V) CA2 L23 1000UH L24 1000UH C127 .47UF C125 .47UF C128 .47UF

DD2 DU2 -6V(D) * L22 1000UH L25 1000UH C147 .47UF C145 .47UF C148 .47UF

R114 4.7K CL1 TP1 R125 1K TP(-TH) DH1 TP(+TH) ED1 C123 3.9UF 10V C135 .47UF C136 .47UF

R129 3.16K C126 3.9UF 10V R127 909 Q29 2N4250 R128 14.7K Q27 6531B D34 D664 D84 D664 D73 1N942 11.7V R126 4.0K Q28 2N4250

R151 3.3K C146 3.9UF 10V R149 910 Q32 2N4250 R150 15K C 82PF Q30 6531B D39 D664 D85 D664 R148 3.9K Q31 2N4250

-5.5V 75107 E24 D37 D664 D36 D664 CU1 TP2 SC3 PES L FU2 7476 E23 CP1 RA5 RD5 (Ø)H (TRK 5)

-6V(D) * R141 120 R140 1K R139 150K C133 .22UF 710 E27 C132 470PF L21 1000UH R138 1K TP5 C131 470PF R143 120 C134 .22UF R137 150K 7404 E28 +5V R134 680 D35 D664 R135 220 7486 E32 R136 82 C130 1500PF +12V FV2

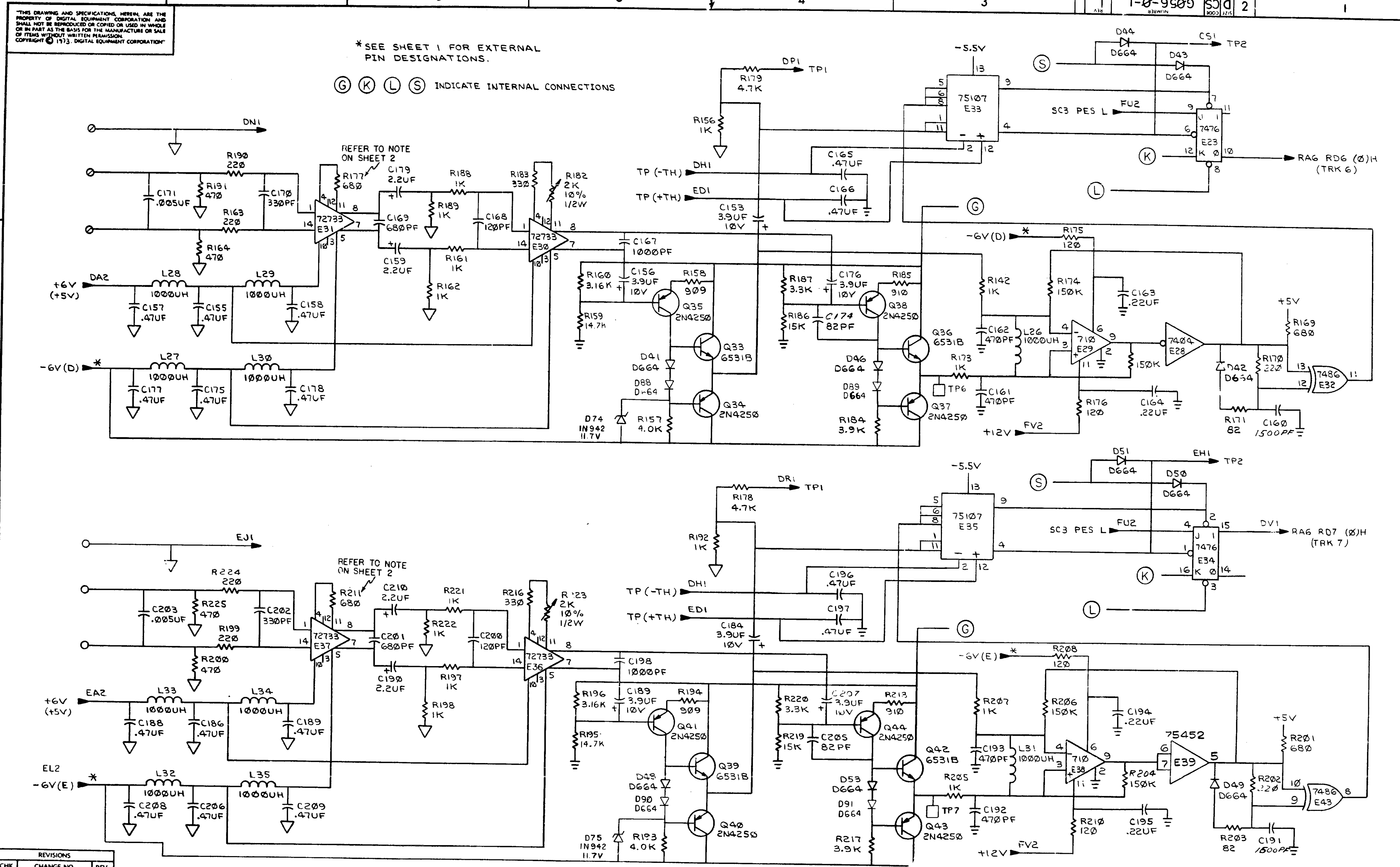
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
READ AMP (RA5)	D	CS	G056-0-1	L
SCALE —	SHEET 5 OF 7	DIST.		

DEC FORM NO DRD 136

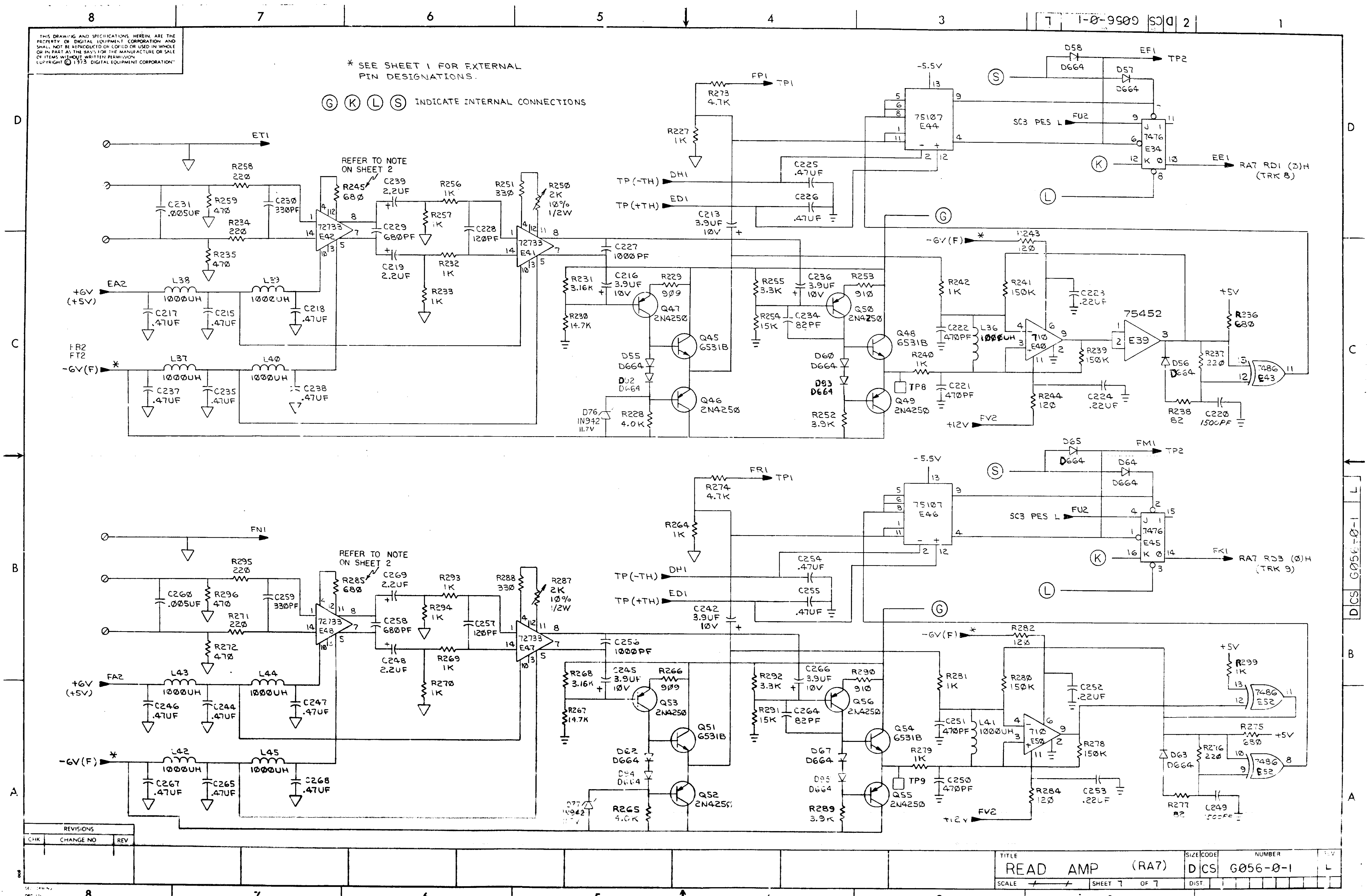
*SEE SHEET 1 FOR EXTERNAL PIN DESIGNATIONS.

Ⓖ Ⓚ Ⓛ Ⓢ INDICATE INTERNAL CONNECTIONS



TITLE	SIZE	CODE	NUMBER	REV.
READ AMP (RA6)	D	CS	G056-Ø-1	L

SCALE — SHEET 6 OF 7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* SEE SHEET 1 FOR EXTERNAL PIN DESIGNATIONS.
G K L S INDICATE INTERNAL CONNECTIONS
REFER TO NOTE ON SHEET 2
ET1
EA2
+6V (+5V)
FR2 FT2
-6V(F)
72733 E42
72733 E41
75107 E44
7476 E34
75452 E39
710 E40
7486 E43
SC3 PES L
EE1
RA7 RD1 (3)H (TRK 8)
TP(-TH)
TP(+TH)
DH1
ED1
FP1
TP1
EF1
TP2
FU2
FV2
+12V
+5V
-5.5V
TP8
D76 1N942 11.7V
Q45 6531B
Q46 2N4250
Q47 2N4250
Q48 6531B
Q49 2N4250
Q50 2N4250
FN1
FA2
72733 E48
72733 E47
75107 E46
7476 E45
710 E50
7486 E52
FK1
RA7 RD3 (0)H (TRK 9)
FR1
FM1
TP9
Q51 6531B
Q52 2N4250
Q53 2N4250
Q54 6531B
Q55 2N4250
Q56 2N4250
REVISIONS
CHK
CHANGE NO
REV
TITLE
READ AMP (RA7)
SIZE D
CODE CS
NUMBER G056-0-1
REV L
SCALE
SHEET 7 OF 7
DIST

NOTES:

1. DIODES ~~D1 THRU D4, D10~~, D13, D18, ~~D19~~, D24 ~~& D27~~ ARE IN4004.
* 2. F2 = 6 1/4 AMP SB FOR 125V/60 CYCLE OPERATION. USE LITTEL FUSE P/N 3136.25. F2 = 4 AMP SB FOR 250V/50 CYCLE OPERATION.
3. ALL 4 TRANSISTORS, Q5, Q7, Q8, Q10, ARE TO HAVE #10 AWG TUBING 5/16" LONG ON 4-40 SCREWS THAT HOLD TRANSISTORS TO HEAT-SINK.
4. THERMAL COMPOUND TO BE APPLIED BETWEEN HEAT SINK AND DIODES D9, D11, & D12.

QTY	REF DESIGNATION	DESCRIPTION	PART NO	ITEM NO
1	R45	RES 2.74K ¼W 1%	1304868	105
1	C23	CAP 5000PF, 100V, 20% DISC	1001765	106
2		ROLL PIN	9009368	107
6		SPLIT LUG	9006735	108
3		LOCK WASHER	9007801	109
2	F13, F14	FUSE 15A	1210929	110
1	F2 (SEE NOTE 2 *)	FUSE 6 1/4A SB	9007223	111
1	F2 (SEE NOTE 2 *)	FUSE 4A SB	9007220	112
4	D10, D18, D19, D27	DIODE, A15B	1110420	113
A/R		TUBING, #10 AWG 5/16" LG	9107302-11	114
1	D12	DIODE, HEAVY DUTY (UNITRODE)	11-13889-0	115

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO
1	R15	RES. 12K, 1/4W, 5%	1300458	51
4	R16, R37, R26, R44	RES 1K POT	1309150-03	52
2	R17, R23	RES 5.6K ¼W 5%	1301374	53
2	R18, R39	RES 56 ¼W 5%	1302602	54
1	R19	RES 330 ¼W 5%	1300295	55
1	R20	RES 0.1 5W 5% WW	1305872	56
4	R21, R42, R46, R52	RES 27 ¼W 5%	1301522	57
4	R22, R43, R53, R56	RES 680 ¼W 5%	1301424	58
1	R54	RES 8.2K ¼W 5%	1303179	59
1	R24	RES 2.7K ¼W 5%	1300426	60
1	R25	RES 220 ¼W 5%	1300271	61
~~1~~	~~R8~~	~~RES 620 ¼W 5%~~	~~[illegible]~~	62
1	R30	RES 30K ¼W 5%	1302394	63
2	R31, R55	RES 12K ¼W 5%	1300488	64
2	L1, L2	INDUCTOR 12UH	1603358	65
2	R38, R47	RES 2.4K ¼W 5%	1303177	66
3	R41, R50, R32	RES 1 2W 5% WW	1305428	67
~~1~~	~~R33~~	~~RES 47 ¼W 5%~~	1300202	68
1	R49	RES 750 ¼W 5%	1301401	69
1	R51	RES 10K ¼W 5%	1300479	70
3		SPACER, ROUND FIBRE #6-32	9009556	71
~~1~~		~~LUG, SPLIT~~	~~9006735~~	72
~~2~~	~~Q1, Q9~~	~~TRANSISTOR SAC 58~~	~~[illegible]~~	73
~~3~~	~~Q2, Q3, Q4~~	~~TRANSISTOR DEC 6531B~~	~~1509338~~	74
3		SCREW, PAN HD #6-32 X 1/4	9006020-1	75
4	Q5, Q7, Q8, Q10	TRANSISTOR 2N3055	1505819	76
1	Q6	TRANSISTOR 2N4234	1504809	77
2	Q11, Q12	TRANSISTOR 2N2904A	1501913	78
3	D15, D22, D26	SCR 2N4441	1505867	79
~~1~~	~~T1~~	~~TRANSFORMER~~	~~[illegible]~~	80
1	E1	IC LM300	1909371	81
2	E2, E3	IC DEC 723	1910415	82
1	E4	IC LM304	1911555	83
1	E5	IC DEC 75451	1910406	84
4	W1-W4	JUMPER INSULATED (.4)	9003185	85
~~1~~	~~F2~~	~~FUSE 4ASB~~	~~[illegible]220~~	86
~~1~~	~~F3~~	~~FUSE 7A SLO BLO~~	~~9007224~~	87
1	F4	FUSE 10ASB	9007225	88
1	F5	FUSE 3.0ASB	9007218	89
2	F6, F7	FUSE 20A	9008835	90
2	F8, F9	FUSE .6A	9007999	91
2	F11, F10	FUSE 3/4A	9007210	92
5	1-4, 6,	TAB FASTON	9006219	93
1	5	TAB FASTON	9007113	94
~~1~~	~~R60~~	~~RES 560 ¼W 5%~~	~~1301690~~	95
1	R57	RES 5K POT	1309150-4	96
~~1~~	~~R59~~	~~RES 1K ¼W 5%~~	~~[illegible]~~	97
~~1~~	~~R34~~	~~RES 4 5W 5% WW~~	~~[illegible]~~	98
6		WASHER NYLON	9009707	99
~~2~~		~~SCREW, PAN HD [illegible]~~	~~[illegible]~~	100
~~1~~		~~HEAT SINK~~	~~[illegible]~~	101
1	F12	FUSE 5A (AXIAL LEAD)	1205747	102
1	D20	DIODE IN756A ZENER 8.2V 5%	1103491	103
1	F1	FUSE 5ASB, BUSS MDX5	9003791	104

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
REF		X-Y COORDINATE HOLE LOCATION	K-CO-5410451-0-4	REF
REF		ASSY/DRILLING HOLE LAYOUT	D-AH-5410451-0-5	REF
REF		MODULE ECO HISTORY	B-MH-5410451-0-6	REF
1		ETCHED CIRCUIT BOARD	5010450	1
6		EYELET	9009000	2
20		FUSE CLIP	9009513	3
2		TERMINAL	9007970	4
2		EYELET	9006746	5
3		TRANSIPAD	9007200	6
2		HEAT SINK	1210001	7
3		SPACER ROUND FIBRE	9007614	8
3		NUT, HEX #6-32	9008957	9
3		SCREW PAN HD #6-32 x 7/8	9006027-1	10
3		SCREW PAN, HD #6-32 x 5/8	9006025-1	11
4		WASHER, INSULATOR	9006721	12
AR	(SEE NOTE 4)	COMPOUND, THERMAL	9008268	13
8		KEP NUT #4-40	9006557	14
8		SCREW PAN HD #4-40 x 1/2	9006013-1	15
AR	~~W1, W2, W3~~	WIRE, STRANDED 18 AWG	9107360	16
1		BRACKET	D-IA-7411387-0-0	17
1		HEAT SINK	C-IA-7411389-0-0	18
1		HEAT SINK	C-MD-7411388-0-0	19
1		RELAY SOCKET	1210694	20
52		PIN, PC	1209456-1-	21
3	C10, C17, C19	CAP .01UF 100V 20% DISC	1001610-1	22
1	C1	CAP .02UF 1000V 20% DUAL DISC	1010767	23
~~1~~	~~C3~~	~~CAP 22 UF 35V 20% TANT~~	~~1002433~~	24
1	[illegible], C5	CAP 1UF 35V 10% TANT	1001776	25
6	C6, C8, C13, C18, C20, C22	CAP 47UF 20V 10% TANT	1004814	26
2	C7, C21	CAP 1000PF 100V 5% DM	1000042	27
1	C9	CAP .22UF 50V -20% +80% CER	1010274	28
2	C11, C15	CAP 10UF 35V 10% TANT	1001476	29
2	C12, C16	CAP 820PF 100V 5% DM	1000027	30
2	D13, D24 ~~D10, D18, D19, D27~~	DIODE IN4004	1105796	31
~~1~~	~~D5~~	~~DIODE 1N367A ZENER 18V 10%~~	~~1110068~~	32
5	D8, D14, D17, D21, D25	DIODE D670-1	1102162	33
~~1~~	~~D28~~	~~DIODE 1N746A ZENER 3.3V 5%~~	~~1104880~~	34
2	D9, D11	DIODE NSS 3514	1110714	35
~~1~~	~~C14~~	~~CAP 180UF 6V 20% TANT~~	1000086	36
1	D16	IN469A 5.8V ZENER	1102808	37
1	D23	DIODE IN964B ZENER 13V 5%	1109988	38
~~2~~	~~K1-K3~~	~~RELAY~~	~~1210101~~	39
1	K2	RELAY	1210683	40
1	J1	CONN, 4PIN	1209350-4	41
2	J4, J5	CONN, 9 PIN	1209350-9	42
2	J2, J3	CONN, 15 PIN	1209350-15	43
1	R1	RES 100 1W 5%	1300232	44
4	R14, R28, R35, R48	RES 100 ¼W 5%	1300229	45
3	R9, R27, R36	RES 1K ¼W 5%	1300365	46
~~1~~	~~R6~~	~~RES 2.2K ¼W 5%~~	~~1300417~~	47
2	R29, R40	RES 470 ¼W 5%	1300316	48
2	R10, R11	RES 390 2W 5%	1301864	49
2	R12, R13	RES 1K 2W 5%	1301952	50

PARTS LIST

FIRST USED ON OPTION MODEL: TU16

ETCH BOARD REV: H

75451	4	8
IC TYPE	GND	+5V

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY. EXCEPTIONS ARE STATED ABOVE

IC PIN LOCATIONS

DEC NO.	EIA NO.	DEC NO.	EIA NO.

SEMICONDUCTOR CONVERSION CHART

REVISIONS: CHANGE NO. 5410451-00001 D; 5410451-00002 E; 5410451-0003 F; 5410451-00004 H; 5410451-00005 J; 5410451-00006 K; 5410451-0007 L; 5410451-0011 M; 5410451-00009 N; 5410451-0010 P; 5410451-00011 R; 5410451-00012 S

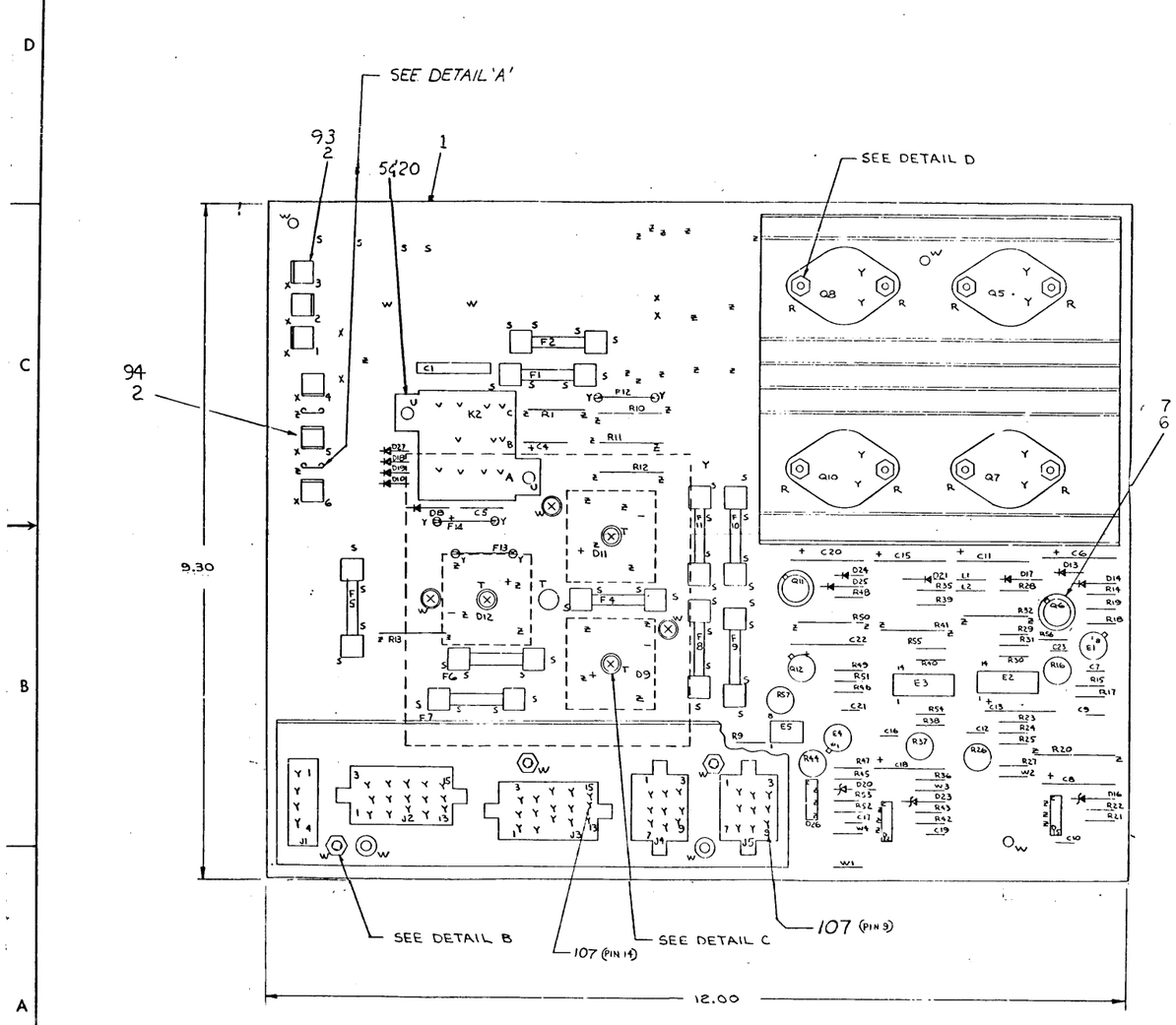
DRN. DATE 11/9/73 · CHK'D. DATE 1/9/74 · PROJ. ENG. · PROD. · NEXT HIGHER ASSY

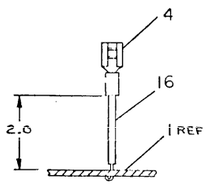
digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE: TU16 POWER SUPPLY

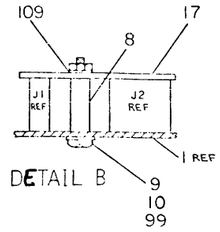
SIZE C · CODE CS · NUMBER 5410451-0-1 · REV. S

SCALE · SHEET 1 OF 4 · DIST.

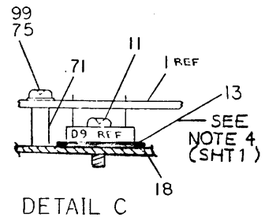




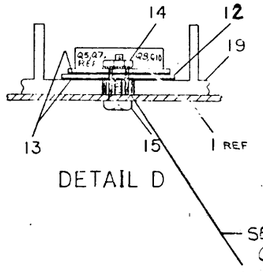
DETAIL A



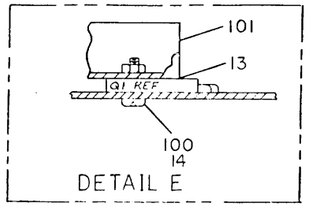
DETAIL B



DETAIL C



DETAIL D



DETAIL E

DO NOT USE

REVISIONS		
CHK	CHANGE NO	REV

TITLE	TU16 POWER SUPPLY		SIZE	CODE	NUMBER
			C	CS	54.0451-0-1
SCALE	SHEET 2 OF 4		DIST		REV S

DEC FORM NO
DRD 136

S 5410451-0-1 CS C

ALL COMPONENTS ABOVE DOTTED LINE ARE NOT ON THE BOARD

C1 THRU C4 = 35,000UF
C5 = 82,200UF

C5=22,000 UF

J2 J3 J1 J4 J5

115 VAC 6
230 5
115 VAC 4
FAN
VM
AC LO 1
AC HI 3
JUMPER GND 2
LINE CORD GND ON TRANFORMER CHASSIS

DUAL DISK1
R1 100 1W
C1 .02 1000V
F2 SEE NOTE 2 SHEET 1
K2C
F1 5ASB

F4 10 ASB
NS53514 D9 +5 AC
R10 390 2W
F12 5A
F14 15A
NS53514 D11 +12
R12 1K 2W
F13 15A
F7 20A
F8 6A
F9 6A
F6 20A
HEAVY DUTY D12
R13 1.0K 2W
F11 3/4A
F10 3/4A
C15 10 35V

D8 D670-1 +5V
R9 1.0K
75451 E5
K2
K2B
K2A
C5 1.0 35V

L1 12 uh
L2 12 uh
D10 D18 D19 D27
R11 390 2W
C11 10 35V

D14 D670-1 Q5 2N3251
Q6 2N4234
R20 5W
W1
R14 100
R56 680
LM380 E1
C6 47
C7 .001
C23 5000 PF
R15 12K
R16 1K
R17 5.6K
R18 56
R19 330
C8 47
D13 IN4004
C9 .22 50V
D15 2N4441
R21 27
C10 .01
D16 IN469A
R22 680

D17 D670-1 Q3 2N3055
R32 1.0 2W
W2
C13 47
R28 100
R29 470
723 E2
R23 5.6K
R34 2.7K
C12 820PF
R25 220R
R26 1K
R27 1K
R57 5K
R30 30K
R31 12K
75451 E5

D21 D670-1 Q8 2N3055
R41 1.0 2W
R35 100
R39 56
W3
C18 .47
723 E3
R54 2.2K
R36 1K
R37 1K
R38 2.4K
C16 820PF
R40 470
R55 12K
D22 2N4441
R42 27
C19 .01
D23 IN964B
R43 680

D24 IN4224
R46 27
R47 2.4K
LM334 E4
C21 .02
P44 1K
R45 2.74K
D25 D670-1 Q10 2N3055
Q11 2N2904A
Q12 2N2904A
R48 100
R49 750
R50 1.0 2W
R51 12K
W4
C22 47
C20 47
D26 2N4441
R52 27
C17 .01
D20 IN756A
R53 680

J5 pins:
1 +5.3 VDC
7 +5.3 VDC
6 GND
3 GND
8 +15/5VDC
5 +12VDC
9 -6.3 VDC
2 PES L

J4 pins:
8 RELAY ENABLE L
5 GND TO SERVO BOARD GND
4 PWR COMM INT
9 -16VDC
2 +16VDC
6
3 +17V INT
1 +17VDC
7 -17VDC

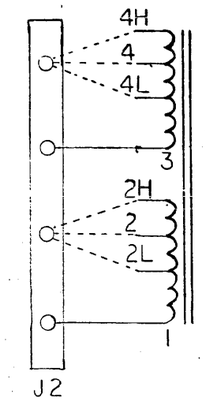
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
TU16 POWER SUPPLY	C	CS	5410451-0-1	S
SCALE	SHEET 3 OF 4	DIST.		

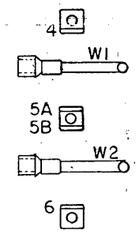
DEC FORM NO. DRD 138

ECO No. 5410457-00011 Sheet 5 of 5

VOLTAGE RANGE 50-60CPS	TRANSFORMER PRIMARY TAPS
95 to 105 190 to 210	1 and 2L ; 3 and 4L
105 to 120 210 to 240	1 and 2 ; 3 and 4
120 to 132 240 to 264	1 and 2H ; 3 and 4H



VOLTAGE (NOMINAL) INPUT	W1 CONN	W2 CONN
115V 50-60 CPS	4	6
230V 50-60 CPS	5A	5B



REVISIONS | REV. | CHANGE NO. | CHK

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
		PARTS LIST		

DIMENSIONAL TOLERANCE
DIMENSIONS ARE MILLIMETERS / INCHES
UNLESS OTHERWISE SPECIFIED

MILLIMETERS	INCHES	ANGLES
X.XX = ±0.10 X.X = ±0.5 X = ±2,	.XXX = ±.005 .XX = ±.02 .X = ±.1	±0° 30'

THIRD ANGLE PROJECTION

REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓

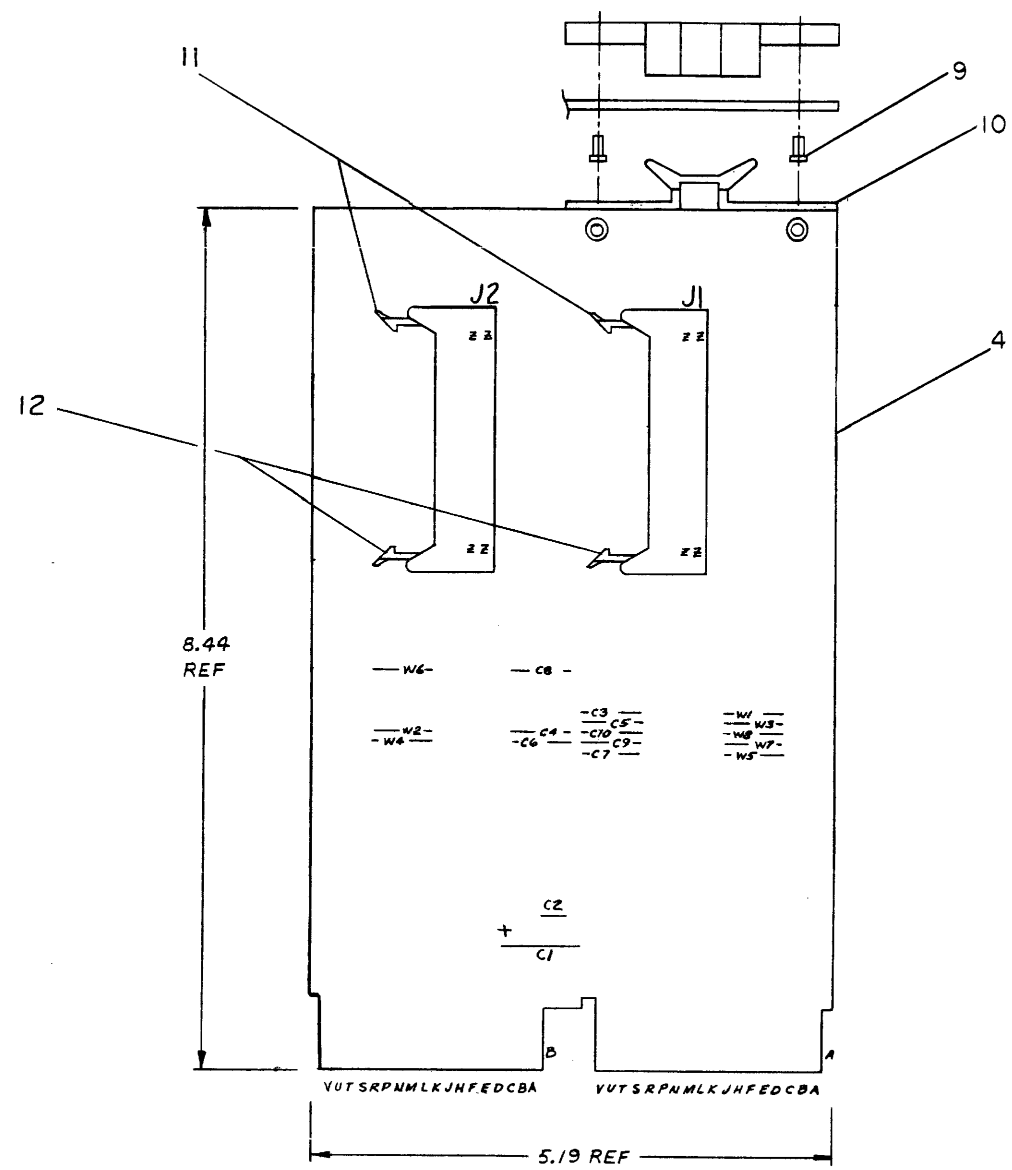
MATERIAL

FINISH

DRN. H. DANALJIAN	DATE 11-9-73	digital
CHK'D. F. CARBERRY	DATE 1-14-74	
ENG. A. KORELITZ	DATE 1-14-74	TITLE: TU16 POWER SUPPLY
PROJ. ENG. A. KORELITZ	DATE 1-14-74	
PROD. R. GOGUEN	DATE 1-14-75	
NEXT HIGHER ASSY.		SIZE C · CODE CS · NUMBER 5410451-01 · REV. S
SCALE — / —		DIST.
SHEET 4 OF 4		

SIZE C · CODE CS · NUMBER 5410451-0-1 · REV. S

NOTES:



QTY	REF DESIGNATION	DESCRIPTION	PART NO	ITEM NO.
REF		X-Y COORDINATE HOLE LOCATION	K-CO-M9001-0-4	1
REF		ASSY/DRILLING HOLE LAYOUT	D-AH-M9001-YA-5	2
REF		MODULE ECO HISTORY •	B-MH-M9001-YA-6	3
1		ETCHED CIRCUIT BOARD	5010465	4
9	C2 THRU C10	CAP .01UF 100V 20% AXIAL	1001610	5
1	C1	CAP 6.8UF 35V 10% TANT	1005306	6
8	W1 THRU W8	JUMPER, INSULATED WIRE	9009185	7
2	J1, J2	CONN, 40 PIN	1209941-2	8
4		EYELET	9006732	9
2		HANDLE, FLIP-CHIP, MAGENTA	9008337-6	10
2		CONNECTOR LATCH, LEFT	1209941-3	11
2		CONNECTOR LATCH, RIGHT	1209941-4	12

PARTS LIST

IC TYPE	GND	+ 5V

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY EXCEPTIONS ARE STATED ABOVE

IC PIN LOCATIONS

FIRST USED ON OPTION MODEL: TU16

ETCH BOARD REV: C

REV	CHANGE NO.			
C	M9001-YA-00001	13-Feb-76	H.DRAB	27FEB76

REVISIONS

DEC NO.	EIA NO.	DEC NO.	EIA NO.

SEMICONDUCTOR CONVERSION CHART

DRN.	(signature)	DATE 3/4/74
CHK'D.	(signature)	DATE 3/5/74
ENG.	(signature)	DATE 3/5/74
PROJ. ENG.	(signature)	DATE 3-6-74
PROD.	R. Gogin	DATE 3-7-74

NEXT HIGHER ASSY

SCALE —

SHEET 1 OF 2

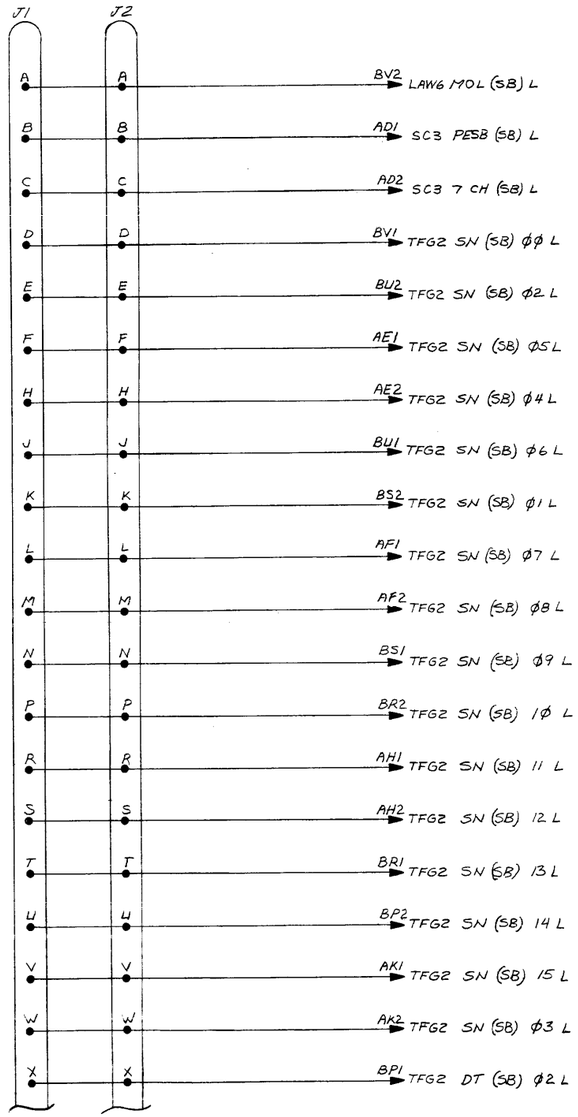
digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE: GEN PURPOSE CARD (E & F)

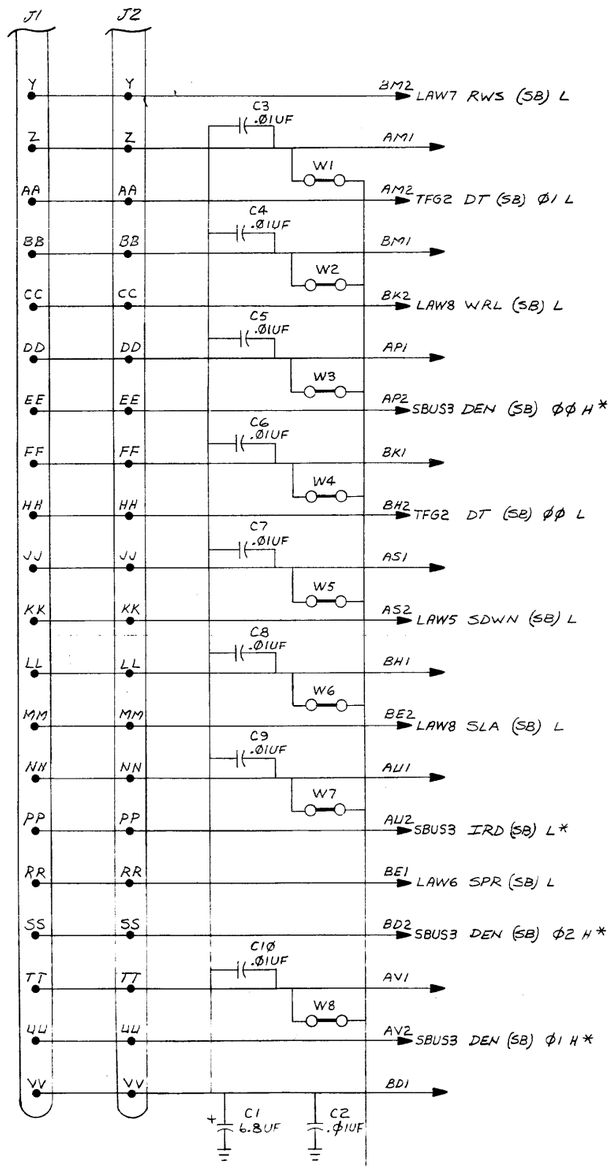
SIZE	CODE	NUMBER	REV.
D	CS	M9001-YA-1	C

DIST.

DEC FORM NO. IRD 135-8



NOTE: ALL SIGNALS DESIGNATED "SBUS" ORIGINATE IN TMØ2.



REVISIONS		
CHK	CHANGE NO.	REV.

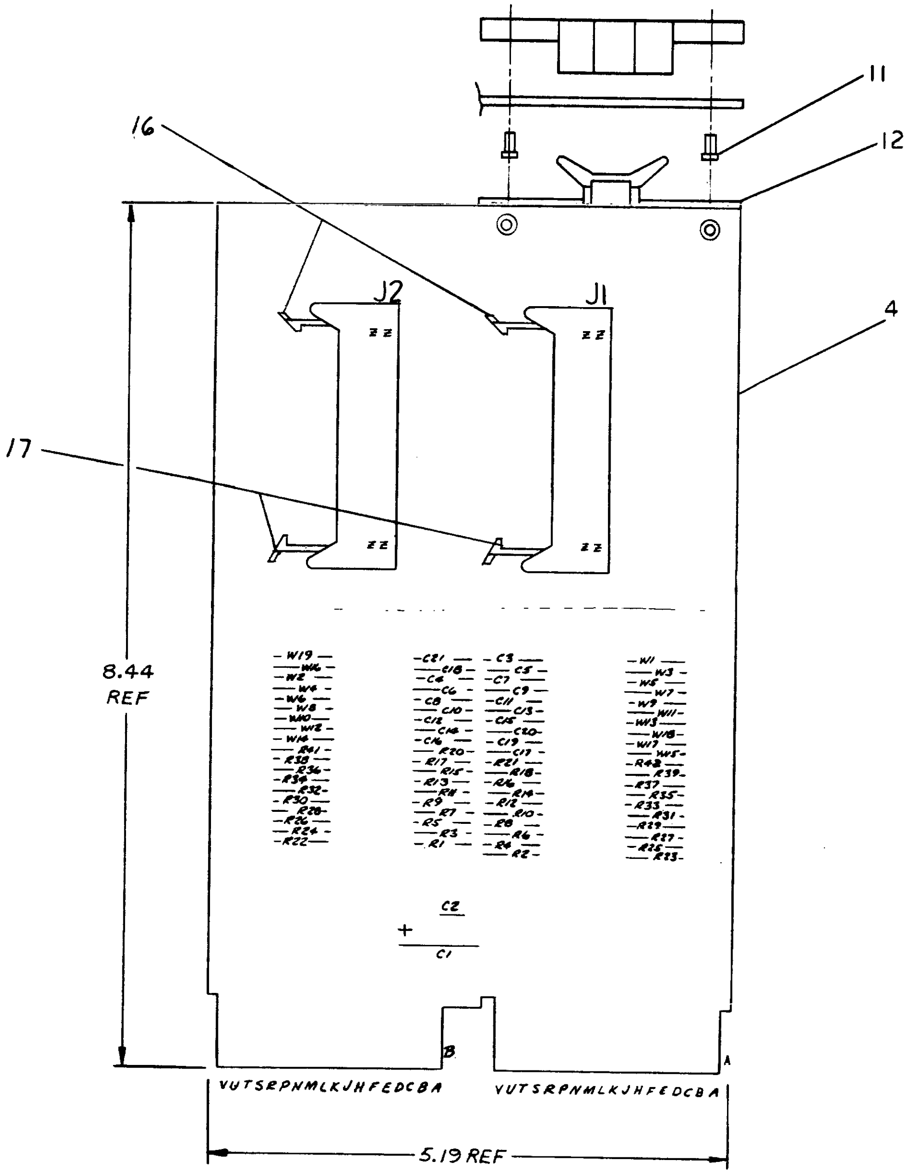
TITLE	SIZE	CODE	NUMBER	REV.
GEN PURPOSE CARD (E & F)	D	CS	M9001-YA-1	C
SCALE	SHEET 2 OF 2		DIST.	

DEC FORM NO. SRD 36

M9001-YA-1 REV C

NOTES:

D CS M9001-YB-1 C



QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
REF		X-Y COORDINATE HOLE LOCATION	K-CO-M9001-0-4	1
REF		ASSY/DRILLING HOLE LAYOUT	D-AH-M9001-YB-5	2
REF		MODULE ECO HISTORY	B-MH-M9001-YB-6	3
1		ETCHED CIRCUIT BOARD	5010465	4
20	C2 THRU C21	CAP .01UF 100V AXIAL	1001610	5
1	C1	CAP 6.8UF 35V 10% TANT	1005306	6
5	R7, R16, R17, R18, R20	RES 120 1/4W 5%	1300247	7
11	R28-R32, R36-R39, R41, R42	RES. 220 1/4W 5%	1300271	8
19	W1 THRU W19	JUMPER, INSULATED WIRE	9009185	9
2	J1, J2	CONN, 40 PIN	1209941-2	10
4		EYELET	9006732	11
2		HANDLE, FLIP-CHIP, MAGENTA	9008337-6	12
6	R8-R11, R15, R21	RES. 150, 1/4 W, 5 %	1300250	13
9	R1-R6, R12-R14	RES. 390, 1/4 W 5%	1300309	14
9	R22-R27, R33-R35	RES. 620, 1/4 W 5%	1303178	15
2		CONNECTOR LATCH, LEFT	1209941-3	16
2		CONNECTOR LATCH, RIGHT	1209941-4	17

PARTS LIST

IC TYPE	GND	+ 5V

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY EXCEPTIONS ARE STATED ABOVE

IC PIN LOCATIONS

FIRST USED ON OPTION MODEL: TU16

ETCH BOARD REV: C

REV	CHANGE NO.			
C	M9001-YB-00001	1 Charlotte 2-16-76	H. DRAB	16-FEB-76

REVISIONS

DEC NO.	EIA NO.	DEC NO.	EIA NO.

SEMICONDUCTOR CONVERSION CHART

		DATE
DRN.	[signature]	3/4/74
CHK'D.	[signature]	3/6/74
ENG.	[signature]	3-6-74
PROJ. ENG.	[signature]	3-6-74
PROD.	R Gozin	3-7-74

NEXT HIGHER ASSY

SCALE — SHEET 1 OF 2

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

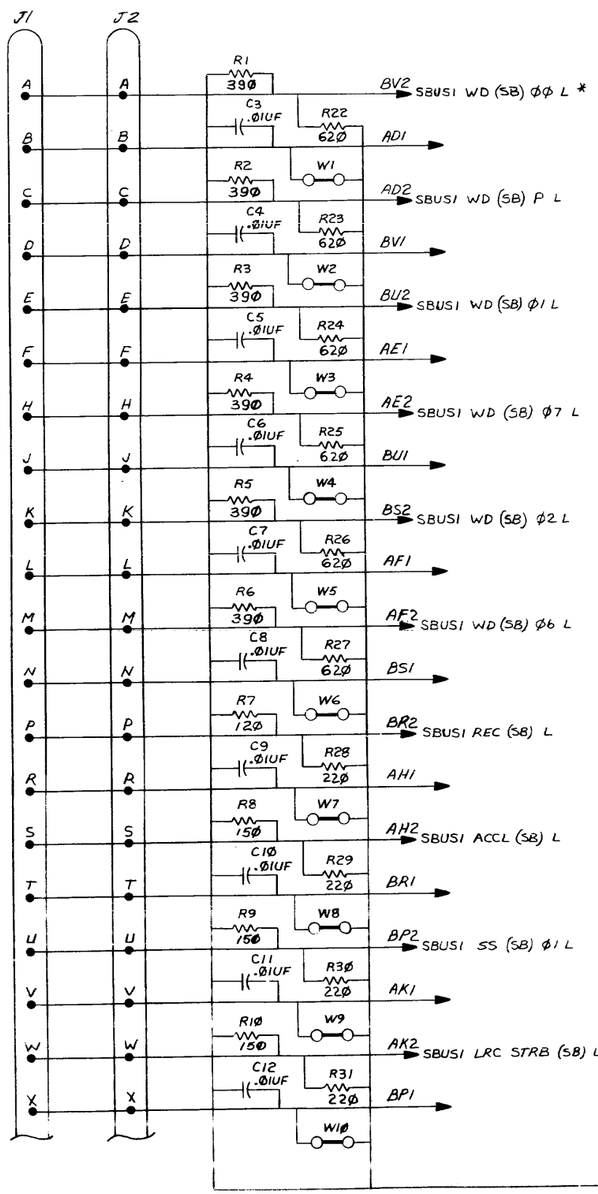
TITLE: GEN PURPOSE CARD (A & B)

SIZE	CODE	NUMBER	REV.
D	CS	M9001-YB-1	C

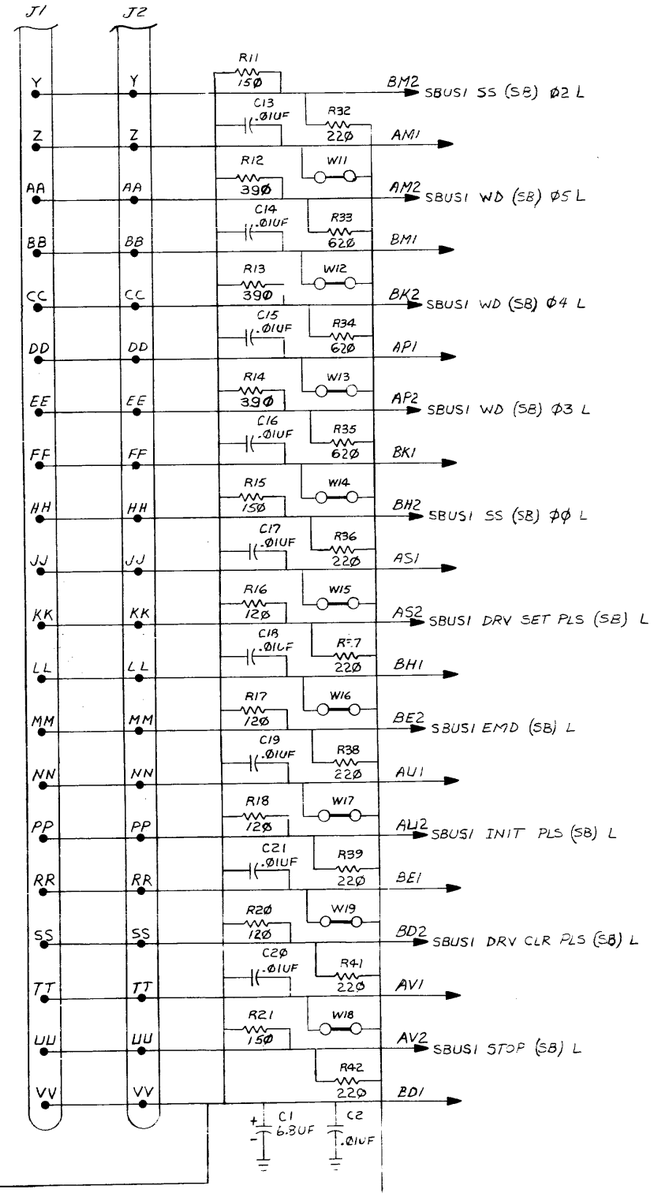
DIST.

DEC FORM NO DRD 125-8

D CS M9001-YB-1 C



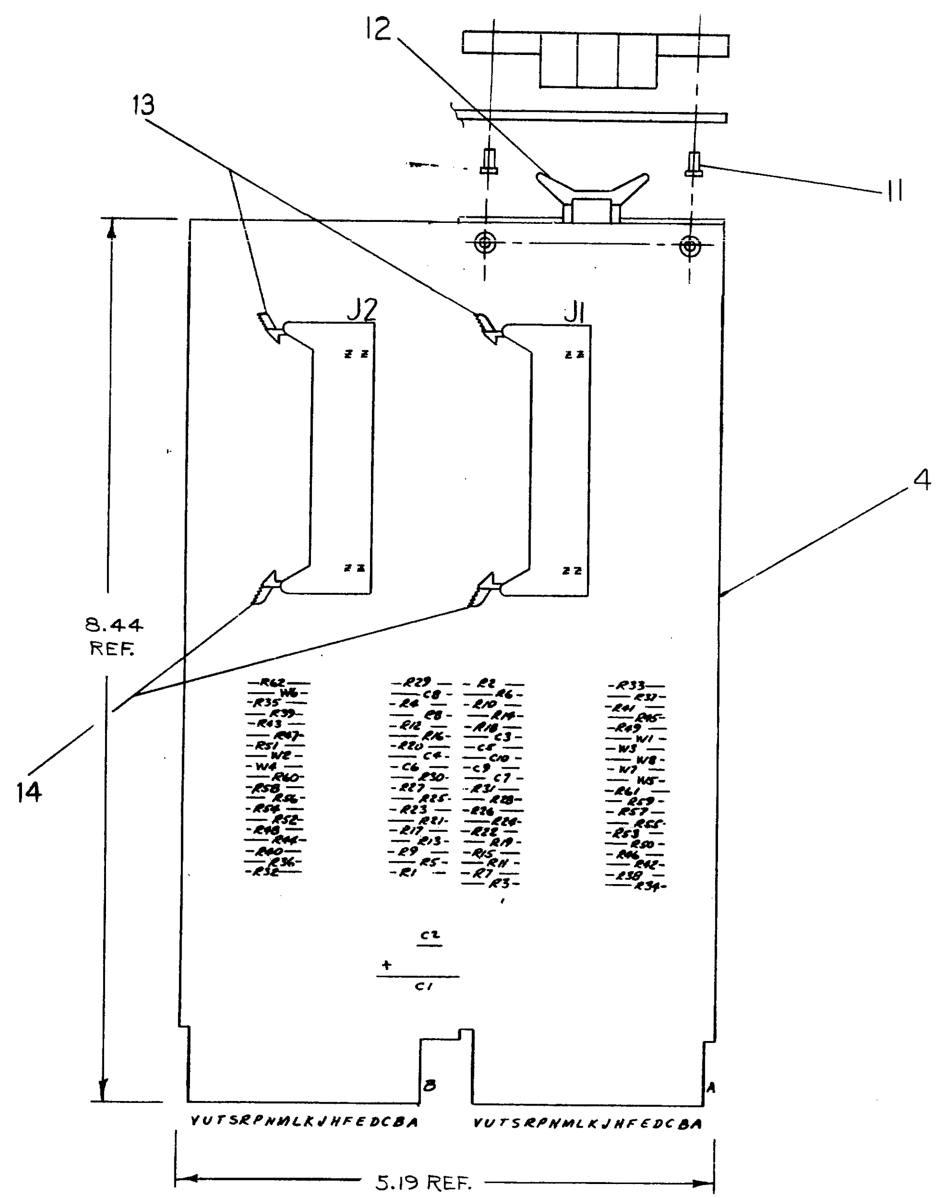
*NOTE: ALL SIGNALS ORIGINATE IN TM02



REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE	CODE	NUMBER	REV.
GEN PURPOSE CARD (A & B)	D	CS	M9001-YB-1	C
SCALE —	SHEET 2 OF 2		DIST.	

NOTES:



QTY	REF DESIGNATION	DESCRIPTION	PART NO	ITEM NO
REF		X-Y COORDINATE HOLE LOCATION	K-CO-M9001-0-4	1
REF		ASSY/DRILLING HOLE LAYOUT	D-AH-M9001-YC-5	2
REF		MODULE ECO HISTORY	B-MH-M9001-YC-6	3
1		ETCHED CIRCUIT BOARD	5010465	4
9	C2 THRU C10	CAP .01 µf, 100V AXIAL	1001610	5
1	C1	CAP 6.8 µf, 35V 10% TANT	1005306	6
31	R1 THRU R31	RESISTOR 150 Ω 1/4W 5% CC	1300250	7
31	R32 THRU R62	RESISTOR 220 Ω 1/4W 5% CC	1300271	8
8	W1 THRU W8	JUMPER, INSULATED WIRE	9009185	9
2	J1, J2	CONN. 40 PIN, RT. ANGLE HEADER	1209941-2	10
4		EYELET	9006732	11
2		HANDLE, FLIP-CHIP, MAGENTA	9008337-6	12
2		LATCH, CONNECTOR LEFT	1209941-3	13
2		LATCH, CONNECTOR RIGHT	1209941-4	14

PARTS LIST

IC TYPE	GND	+ 5V

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY EXCEPTIONS ARE STATED ABOVE

IC PIN LOCATIONS

FIRST USED ON OPTION MODEL: TU16

ETCH BOARD REV: C

REV	CHANGE NO.	CHK	
C	ECO M9001-YC-00001 13-FEB-76	H. DRAB 23 FEB 76	

REVISIONS

DEC NO.	EIA NO.	DEC NO.	EIA NO.

SEMICONDUCTOR CONVERSION CHART

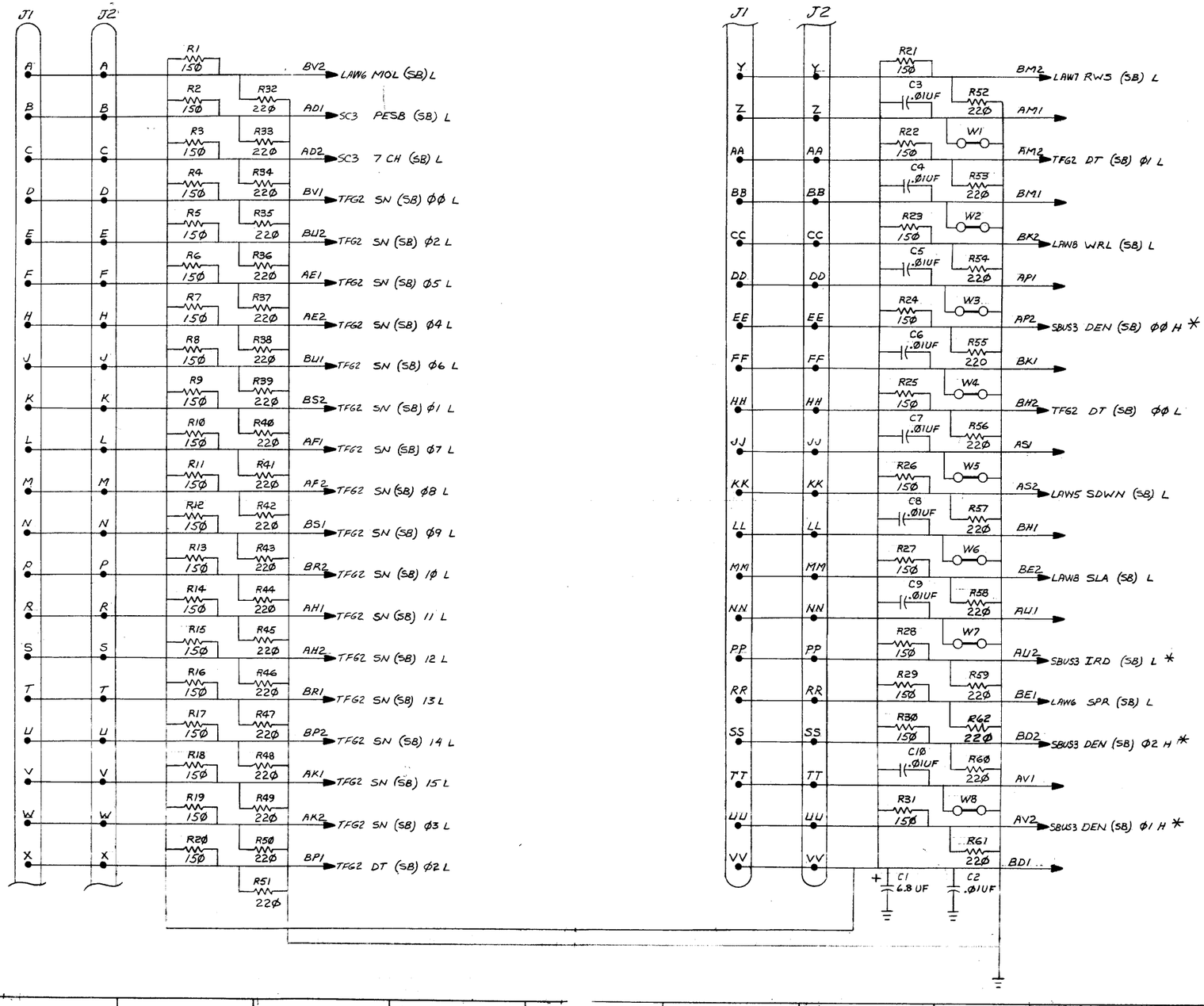
DRN. A. Anderson DATE 3-4-74
CHK'D DATE 3/5/74
ENG. DATE 3-6-74
PROJ. ENG. DATE 3-6-74
PROD. DATE
NEXT HIGHER ASSY
SCALE
SHEET 1 OF 2

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE GEN PURPOSE CARD (E+F)

SIZE D CODE CS NUMBER M9001-YC-1 REV. C

DIST.



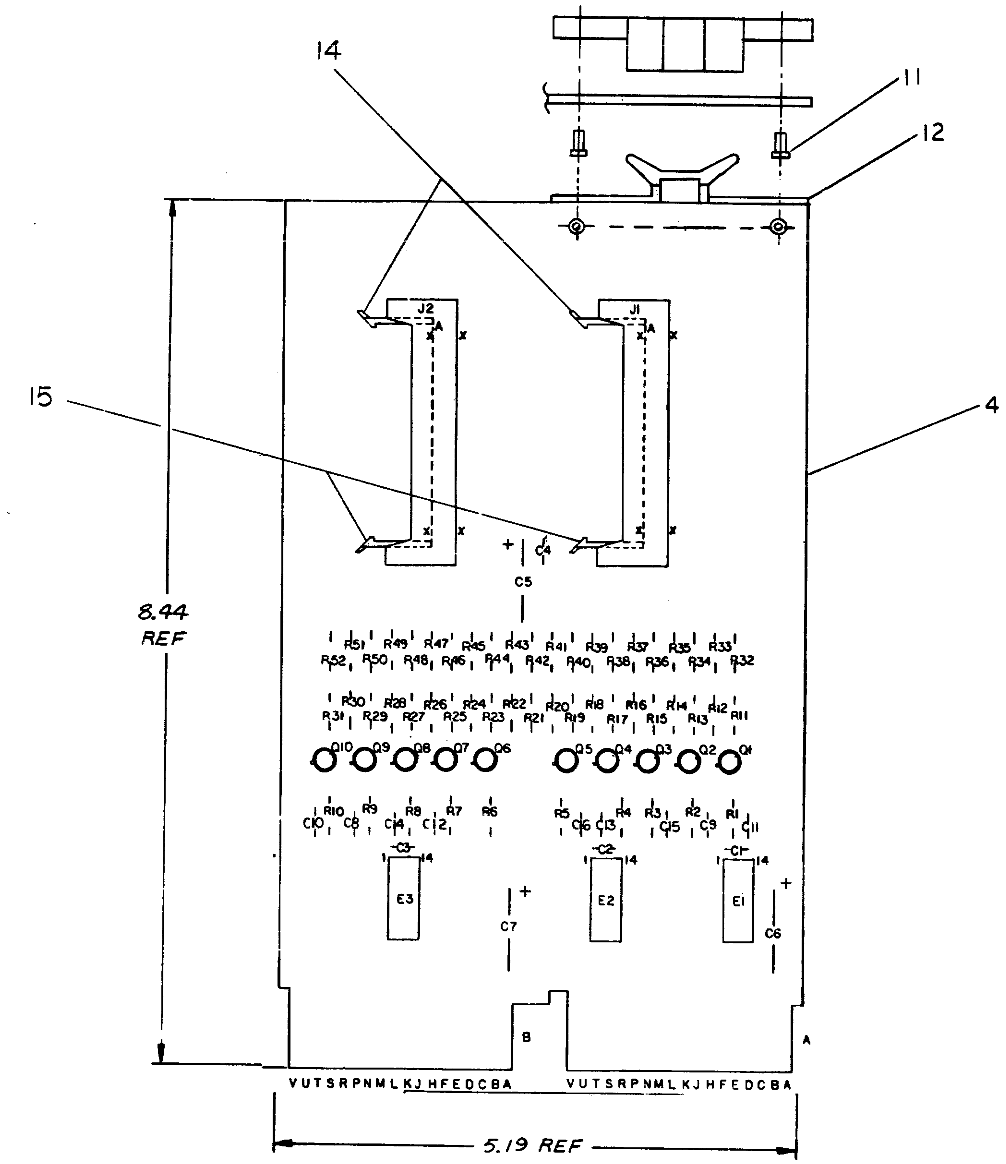
* NOTE: ALL SIGNALS DESIGNATED "SBUS" ORIGINATE IN TMØ2.

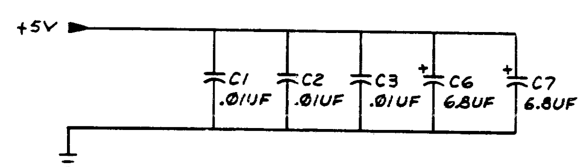
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE GEN. PURPOSE. CARD (E & F)	SIZE D	CODE CS	NUMBER M9001-YC-1 REV. C
SCALE	SHEET 2 OF 2		DIST.

DEC FORM NO. DRD 138

NOTES:





IC TYPE	GND	+ 5V

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY. EXCEPTIONS ARE STATED ABOVE

IC PIN LOCATIONS

REV	CHANGE NO.		
A	M8913-00001	H. DRAB	5/31/74
B	M8913-00002	J.HESS	5-22-75
C	M8913-00003	H.DRAB	17-FEB-76
D	M8913-00004	H.DRAB	6-22-76

REVISIONS

DEC NO.	EIA NO.	DEC NO.	EIA NO.

SEMICONDUCTOR CONVERSION CHART

FIRST USED ON OPTION MODEL: TU16

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
REF		X-Y COORDINATE HOLE LOCATION	K-CO-M8913-0-4	1
REF		ASSY/DRILLING HOLE LAYOUT	D-AH-M8913-0-5	2
REF		MODULE ECO HISTORY	B-MH-M8913-0-6	3
1		ETCHED CIRCUIT BOARD	5010980	4
2	J1, J2	CONN 40 PIN	1209941-2	5
4	C1 THRU C4	CAP .01UF 100V 20% DISK	1001610-01	6
3	C5, C6, C7	CAP 6.8UF 35V 10% TANT	1005306	7
3	E1, E2, E3	IC 7402	1909004	8
10	Q1 THRU Q10	TRANSISTOR 3009B	1503100	9
10	R1 THRU R10	RES 270 1/4W 5%	1301972	10
4		EYELET	9006732	11
2		HANDLE, FLIP-CHIP, MAGENTA	9008337-6	12
9	C8 THRU C16	CAP 100PF 100V 5% DM	1000016	13
2		CONNECTOR LATCH, LEFT	1209941-3	14
2		CONNECTOR LATCH, RIGHT	1209941-4	15

PARTS LIST

ETCH BOARD REV: B

DRN. DATE 3/1/74
CHK'D. DATE 3/6/74
ENG. DATE 3-6-74
PROJ. ENG. DATE 3-6-74
PROD. DATE

NEXT HIGHER ASSY

SCALE
SHEET 1 OF 2

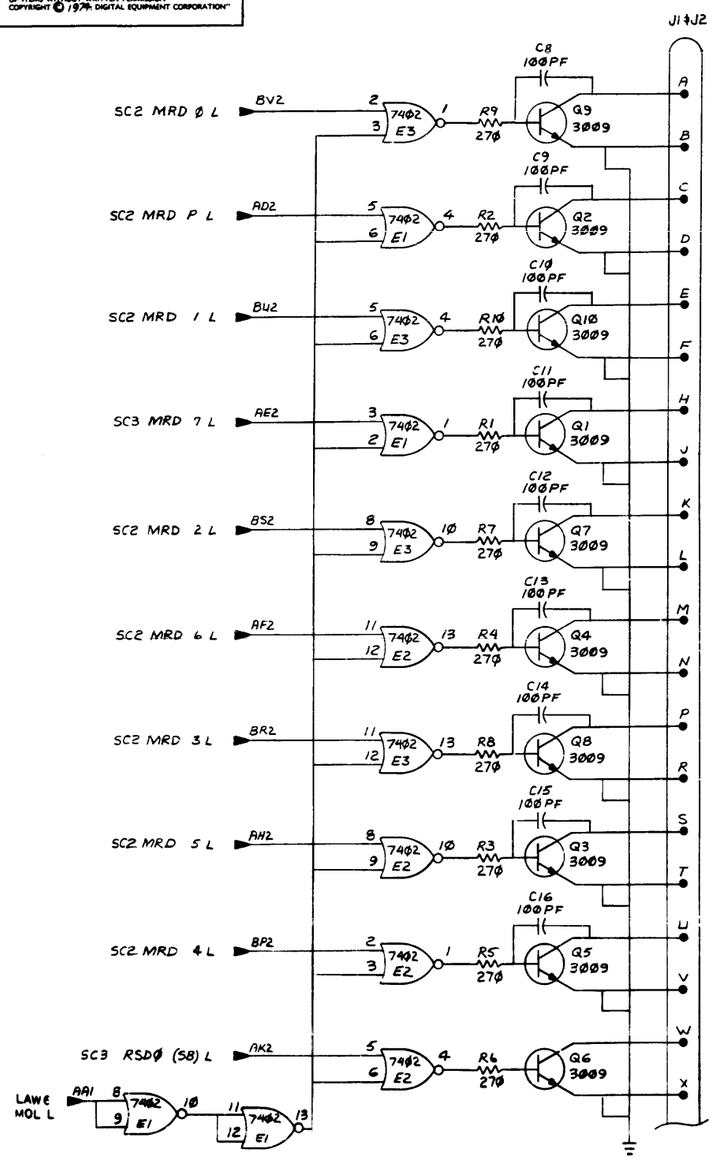
digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

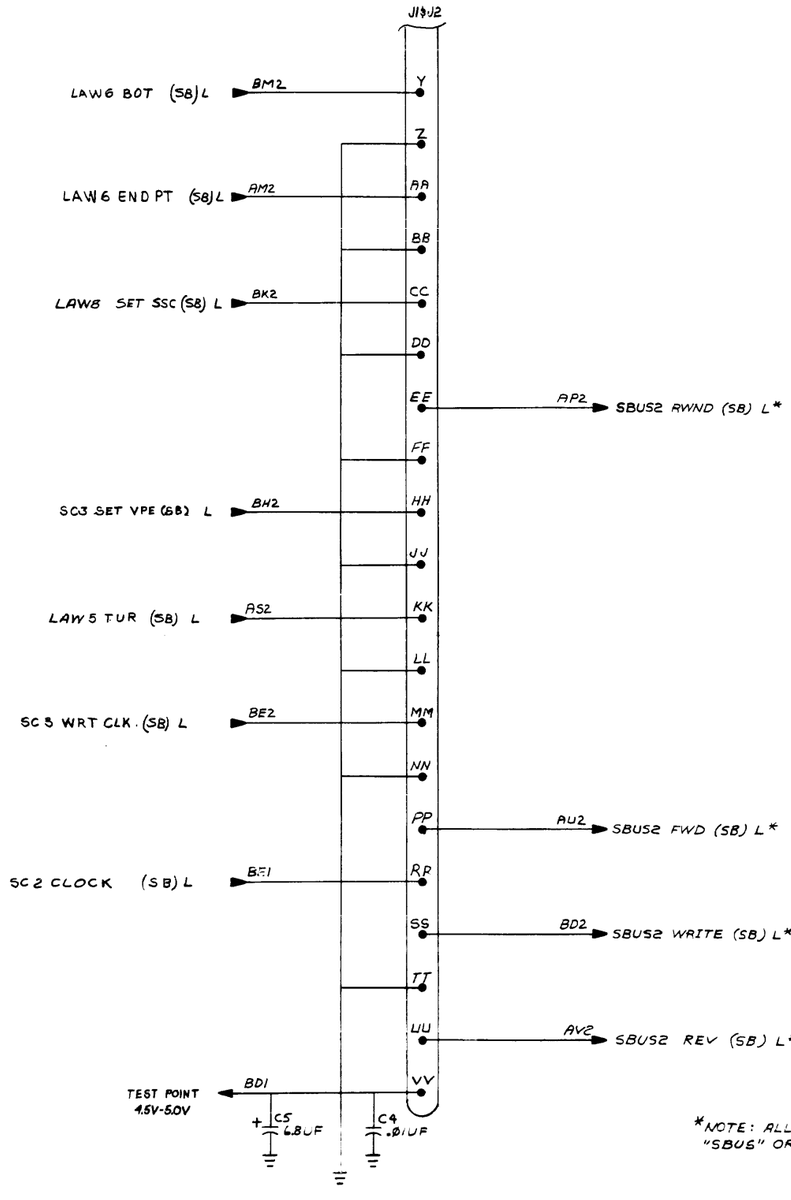
TITLE

DATA DRIVER (SLOT C/P)

SIZE	CODE	NUMBER	REV.
D	CS	M8913-0-1	D

DIST.



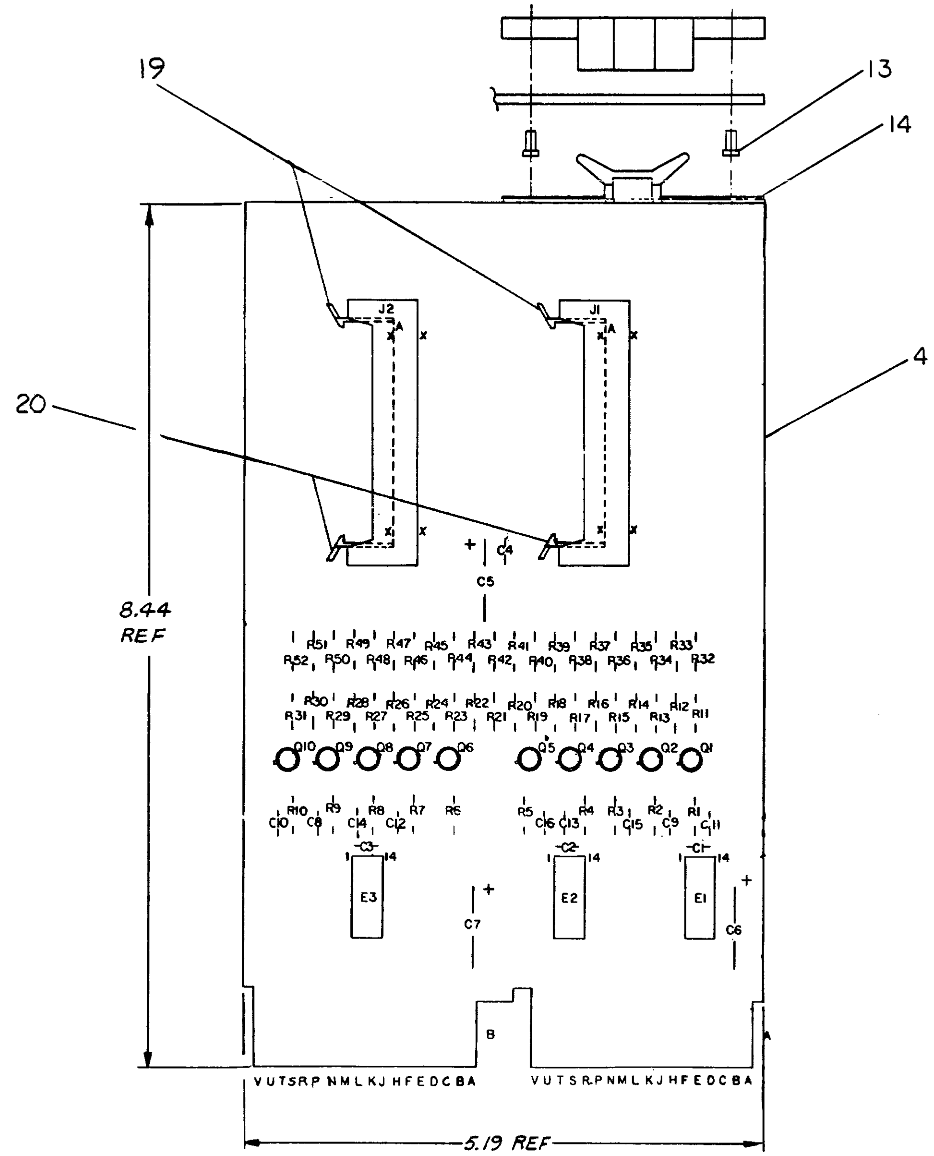


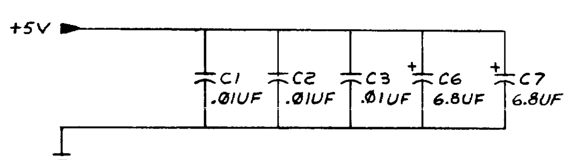
*NOTE: ALL SIGNALS DESIGNATED "SBUS" ORIGINATE IN TMØ2.

REVISIONS		
CHK	CHANGE NO	REV

TITLE	SBUS2 DATA DRIVER (SLOT C/P)	SIZE D	CODE CS	NUMBER M8913-Ø-1
SCALE	SHEET 2 OF 2	DIST		REV. D

NOTES:





IC TYPE	GND	+ 5V

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY EXCEPTIONS ARE STATED ABOVE

IC PIN LOCATIONS

PARTS LIST

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
REF		X-Y COORDINATE HOLE LOCATION	K-CO-M8913-Ø-4	1
REF		ASSY/DRILLING HOLE LAYOUT	D-AH-M8913-YA-5	2
REF		MODULE ECO HISTORY	B-MH-M8913-YA-6	3
1		ETCHED CIRCUIT BOARD	5010980	4
2	J1, J2	CONN 4Ø PIN	1209941-02	5
4	C1 THRU C4	CAP .ØIUF 1ØØV 2Ø% DISC	1001610-01	6
3	C5, C6, C7	CAP 6.8UF 35V 1Ø% TANT	1005306	7
3	E1, E2, E3	IC 74Ø2	1909004	8
10	Q1 THRU Q1Ø	TRANSISTOR 3ØØ9B	1503100	9
9	C8 THRU C16	CAP 1ØØPF 1ØØV 5% DM	1000016	10
21	R32 THRU R52	RES 22Ø 1/4W 5%	1300271	11
10	R1 THRU R1Ø	RES 27Ø 1/4W 5%	1301972	12
4		EYELET	9006732	13
2		HANDLE, FLIP-CHIP, MAGENTA	9008337-6	14
11	R12, R14, R16, R18, R2Ø, R21, R22, R24, R26, R28, R3Ø	RES 15Ø 1/4W 5%	1300250	15
10	R11, R13, R15, R17, R19, R23, R25, R27, R29, R31	RES 12Ø 1/4W 5%	1300247	16
				17
				18
2		CONNECTOR LATCH, LEFT	1209941-3	19
2		CONNECTOR LATCH, RIGHT	1209941-4	20

FIRST USED ON OPTION MODEL: TU16

ETCH BOARD REV: B

REV	CHANGE NO.	
C	M8913-YA-00003	H. DRAB 10-JUNE-76
B	M8913-00002	J. HESS
A	M8913-00001	H. DRAB 6-21-74

REVISIONS

DEC NO.	EIA NO.	DEC NO.	EIA NO.

SEMICONDUCTOR CONVERSION CHART

DRN. DATE 3/1/74
CHK'D. DATE 3/6/74
ENG. DATE 3-6-74
PROJ. ENG. DATE 3-6-74
PROD. DATE 3-7-74
NEXT HIGHER ASSY

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE DATA DRIVER SBUS 2 (SLOT C/P)

SIZE	CODE	NUMBER	REV.
D	CS	M8913-YA-1	C

SCALE —
SHEET 1 OF 2
DIST.

J1 & J2

SC2 MRD Ø L — BV2 — 7402 E3 (2,3,1) — R9 270Ø — C8 100PF — Q9 3009 — A — R29 120Ø — R50 220Ø

SC2 MRD P L — AD2 — 7402 E1 (5,6,4) — R2 270Ø — C9 100PF — Q2 3009 — C — R13 120Ø — R34 220Ø

SC2 MRD 1 L — BU2 — 7402 E3 (5,6,4) — R10 270Ø — C10 100PF — Q10 3009 — E — R31 120Ø — R52 220Ø

SC3 MRD 7 L — AE2 — 7402 E1 (3,2,1) — R1 270Ø — C11 100PF — Q1 3009 — H — R11 120Ø — R32 220Ø

SC2 MRD 2 L — BS2 — 7402 E3 (8,9,10) — R7 270Ø — C12 100PF — Q7 3009 — K — R25 120Ø — R46 220Ø

SC2 MRD 6 L — AF2 — 7402 E2 (11,12,13) — R4 270Ø — C13 100PF — Q4 3009 — M — R17 120Ø — R38 220Ø

SC2 MRD 3 L — BR2 — 7402 E3 (11,12,13) — R8 270Ø — C14 100PF — Q8 3009 — P — R27 120Ø — R48 220Ø

SC2 MRD 5 L — AH2 — 7402 E2 (8,9,10) — R3 270Ø — C15 100PF — Q3 3009 — S — R15 120Ø — R36 220Ø

SC2 MRD 4 L — BP2 — 7402 E2 (2,3,1) — R5 270Ø — C16 100PF — Q5 3009 — U — R19 120Ø — R40 220Ø

SC3 RSDØ L — AK2 — 7402 E2 (5,6,4) — R6 270Ø — Q6 3009 — W — R23 120Ø — R44 220Ø

LAW 6 MOL L — BA1 — 7402 E1 (8,9,10) → 7402 E1 (11,12,13)

J1 & J2

LAW 6 BOT (SB) L — BM2 — Y — R30 150Ø — R51 220Ø

LAW 6 END PT (SB) L — AM2 — AA — R12 150Ø — R33 220Ø

LAW 6 SET SCC (SB) L — BK2 — CC — R28 150Ø — R49 220Ø

DD — R14 150Ø — EE — R35 220Ø — AP2 — SBUS2 RWND (SB) L*

FF

SC3 SET VPE (SB) L — BN2 — HH — R26 150Ø — R47 220Ø

JJ

LAW 5 TUR (SB) L — AS2 — KK — R16 150Ø — R37 220Ø

LL

SC3 WRT CLK (SB) L — BE2 — MM — R24 150Ø — R45 220Ø

NN

PP — R18 150Ø — R39 220Ø — AU2 — SBUS2 FWD (SB) L*

SC2 CLOCK (SB) L — BE1 — RR — R21 150Ø — R42 220Ø

SS — R22 150Ø — R43 220Ø — BD2 — SBUS2 WRITE (SB) L*

TT

UU — R20 150Ø — R41 220Ø — AV2 — SBUS2 REV (SB) L*

VV

TEST POINT — BD1 — 4.5V-5.0V

C5 6.8 UF

C4 .01 UF

*NOTE: ALL SIGNALS DESIGNATED "SBUS" ORIGINATE IN TM02.

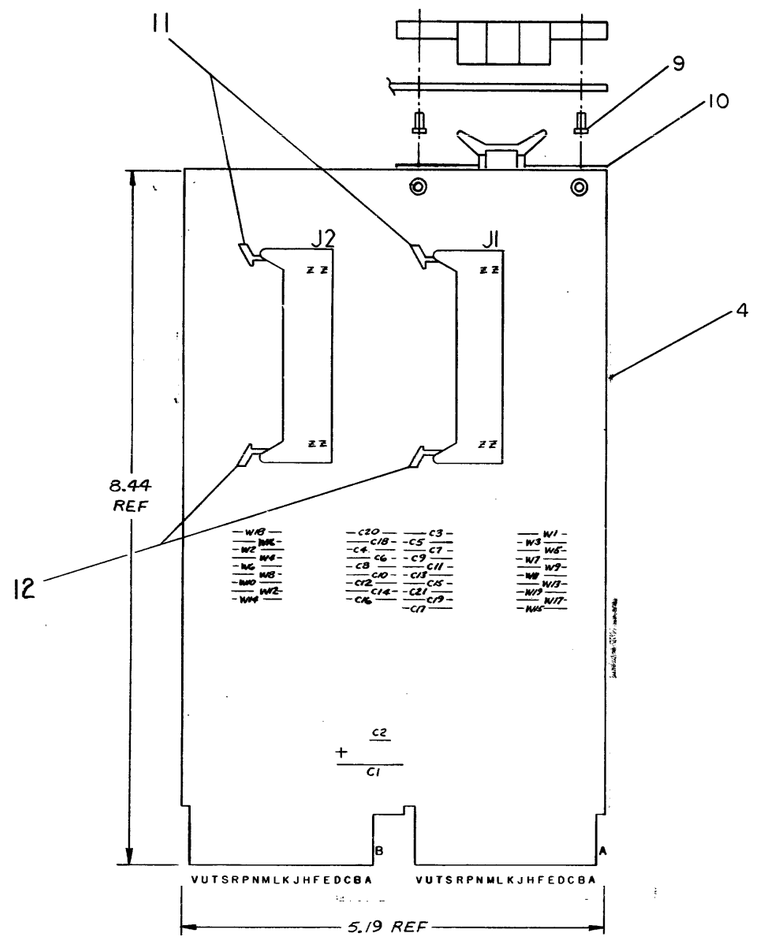
REVISIONS

CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
DATA DRIVER SBUS 2 (SLOT C/P)	D	CS	M8913-YA-1	C

SCALE — SHEET 2 OF 2 — DIST.

NOTES:



REF				
REF		X-Y COORDINATE HOLE LOCATION	K-CO-M9001-0-4	1
REF		ASSY/DRILLING HOLE LAYOUT	D-AH-M9001-0-5	2
REF		MODULE ECO HISTORY	B-MH-M9001-0-6	3
1		ETCHED CIRCUIT BOARD	5010465	4
20	C2 THRU C21	CAP .01UF 100V 20% AXIAL	1001610	5
1	C1	CAP 6.8UF 35V 10% TANT	1005306	6
19	W1 THRU W19	JUMPER, INSULATED WIRE	9009185	7
2	J1, J2	CONN, 40 PIN	1209941-2	8
4		EYELET	9006732	9
2		HANDLE, FLIP-CHIP, MAGENTA	9008337-6	10
2		LATCH, LEFT	1209941-3	11
2		LATCH, RIGHT	1209941-4	12

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.

PARTS LIST

IC TYPE	GND	+ 5V

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY EXCEPTIONS ARE STATED ABOVE

IC PIN LOCATIONS

DEC NO.	EIA NO.	DEC NO.	EIA NO.

SEMICONDUCTOR CONVERSION CHART

REV	CHANGE NO.	
C	M9001-00001	CHK

REVISIONS

H. DRAB 16-JAN-76

FIRST USED ON OPTION MODEL: TU16

ETCH BOARD REV: C

DRN. [signature] DATE 3/4/74
CHKD. [signature] DATE 3/5/74
ENG. [signature] DATE 3/5/74
PROJ. ENG. [signature] DATE 3-6-74
PROD. [signature] DATE 3-7-74

NEXT HIGHER ASSY

SCALE
SHEET 1 OF 2

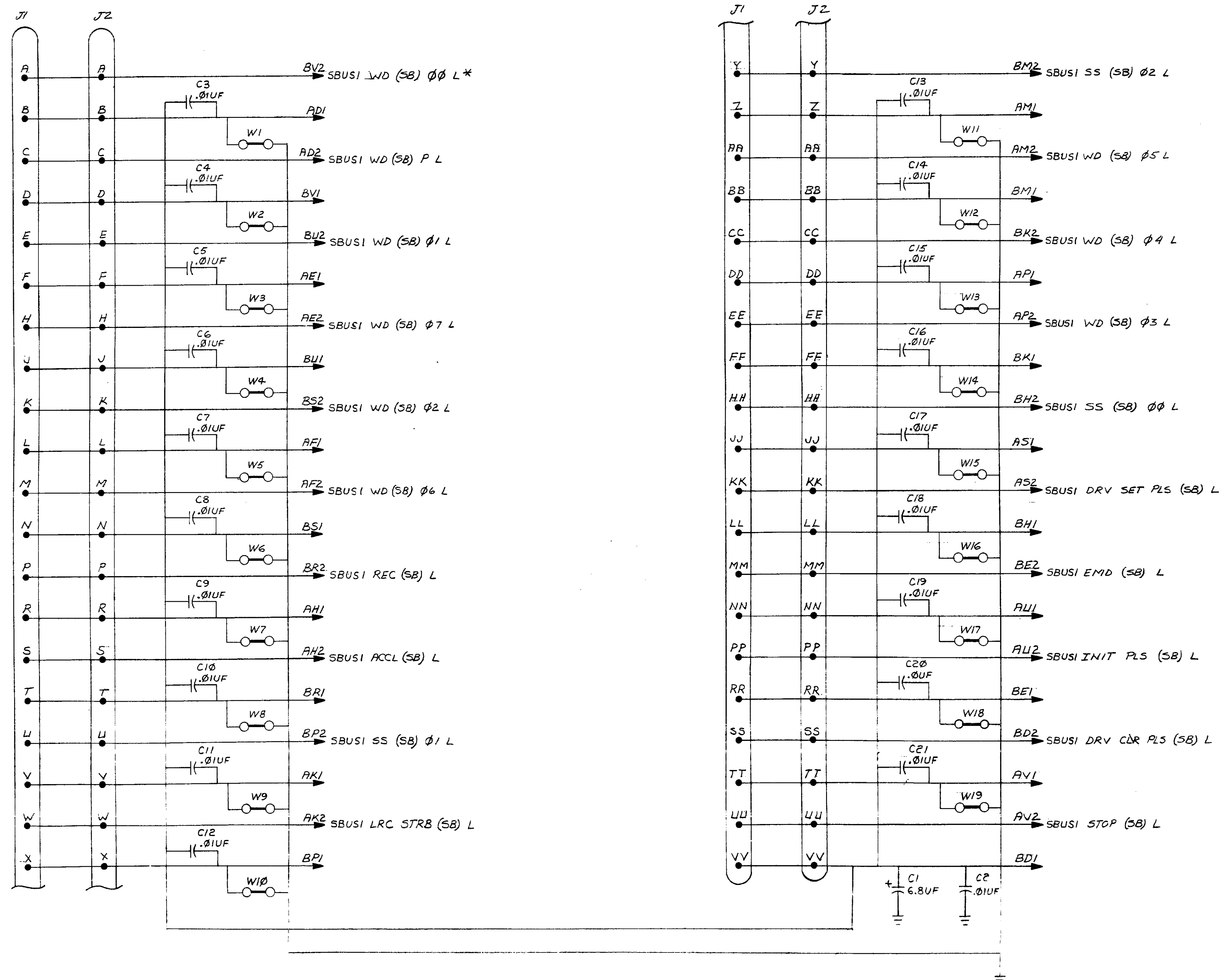
digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE: GEN PURPOSE CARD (A&B)

SIZE D | CODE CS | NUMBER M9001-0-1 | REV. C

DIST.

DEC FORM NO. DRD 1316



* NOTE: ALL SIGNALS ORIGINATE IN TM02.

REVISIONS		
CHK	CHANGE NO.	REV

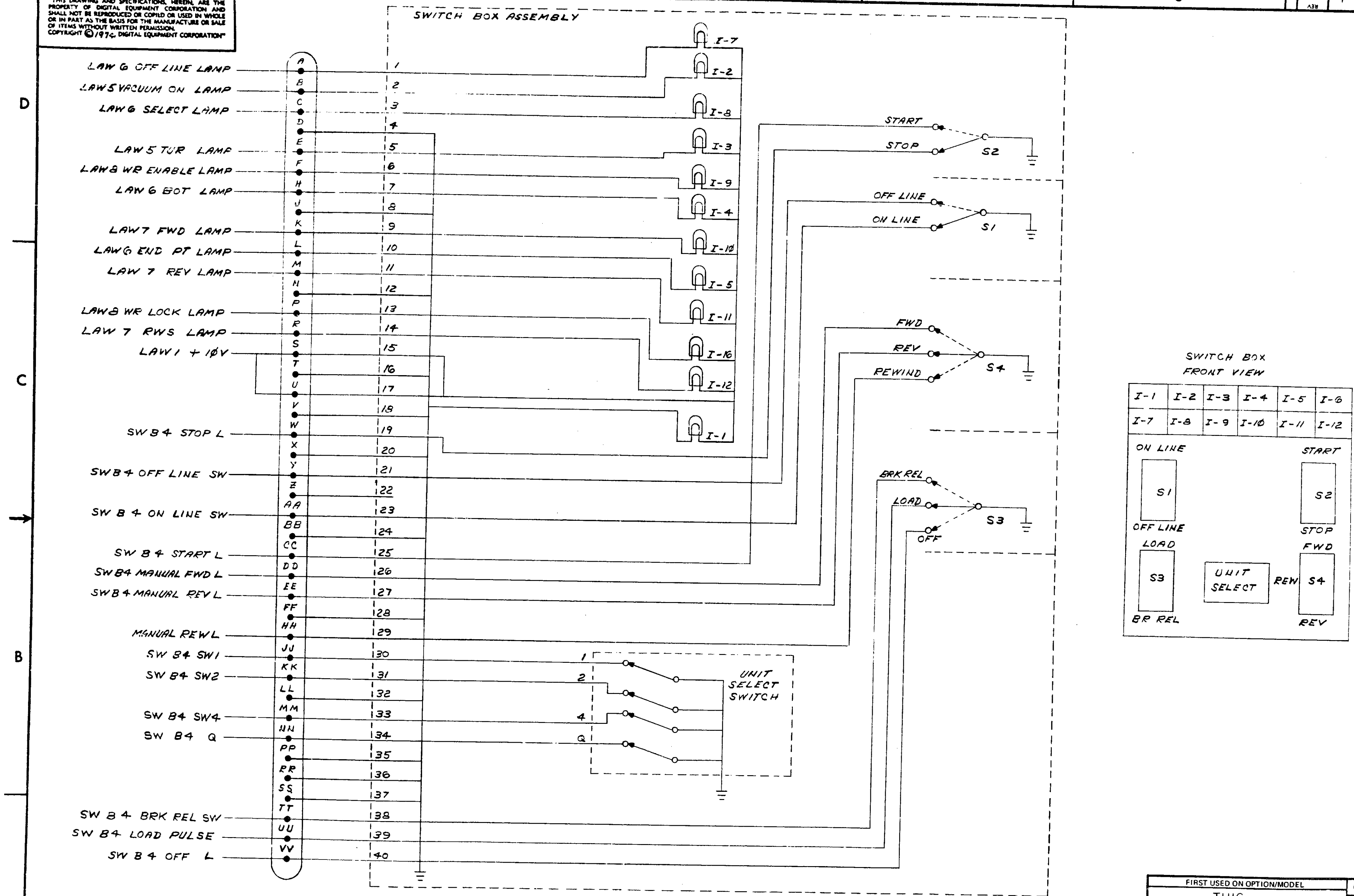
TITLE GEN PURPOSE CARD (A&B)

SIZE D CODE CS NUMBER M9001-0-1 REV. C

SCALE — SHEET 2 OF 2

DIST.

DEC FORM NO


SWITCH BOX ASSEMBLY
LAW 6 OFF LINE LAMP
LAW 5 VACUUM ON LAMP
LAW 6 SELECT LAMP
LAW 5 TUR LAMP
LAW 8 WR ENABLE LAMP
LAW 6 BOT LAMP
LAW 7 FWD LAMP
LAW 6 END PT LAMP
LAW 7 REV LAMP
LAW 8 WR LOCK LAMP
LAW 7 RWS LAMP
LAW 1 +10V
SW B4 STOP L
SW B4 OFF LINE SW
SW B4 ON LINE SW
SW B4 START L
SW B4 MANUAL FWD L
SW B4 MANUAL REV L
MANUAL REW L
SW B4 SW1
SW B4 SW2
SW B4 SW4
SW B4 Q
SW B4 BRK REL SW
SW B4 LOAD PULSE
SW B4 OFF L
I-7
I-2
I-8
I-3
I-9
I-4
I-10
I-5
I-11
I-16
I-12
I-1
START
STOP
S2
OFF LINE
ON LINE
S1
FWD
REV
REWIND
S4
BRK REL
LOAD
OFF
S3
UNIT SELECT SWITCH
SWITCH BOX FRONT VIEW
I-1 I-2 I-3 I-4 I-5 I-6
I-7 I-8 I-9 I-10 I-11 I-12
ON LINE
START
S1
S2
OFF LINE
STOP
LOAD
FWD
S3
UNIT SELECT
REW
S4
BR REL
REV

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
TU16		PARTS LIST		

DIMENSIONAL TOLERANCE
DIMENSIONS ARE MILLIMETERS / INCHES UNLESS OTHERWISE SPECIFIED

MILLIMETERS	INCHES	ANGLES
X.XX = ± 0.10 X.X = ± 0.5 X = ± 2.	.XXX = ± .005 .XX = ± .02 .X = ± .1	± 0° 30'

THIRD ANGLE PROJECTION — REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓
MATERIAL —
FINISH —

		DATE
DRN.	N. Reiner	6-25-74
CHK'D	D. Schmidt	6-28-74
ENG.		7-2-74
PROJ. ENG.		7-3-74
PROD.	D.S.	9/6/74

NEXT HIGHER ASSY. D-AD-7009637-0-0
SCALE —
SHEET 1 OF 1

digital

TITLE WIRING CONTROL BOX

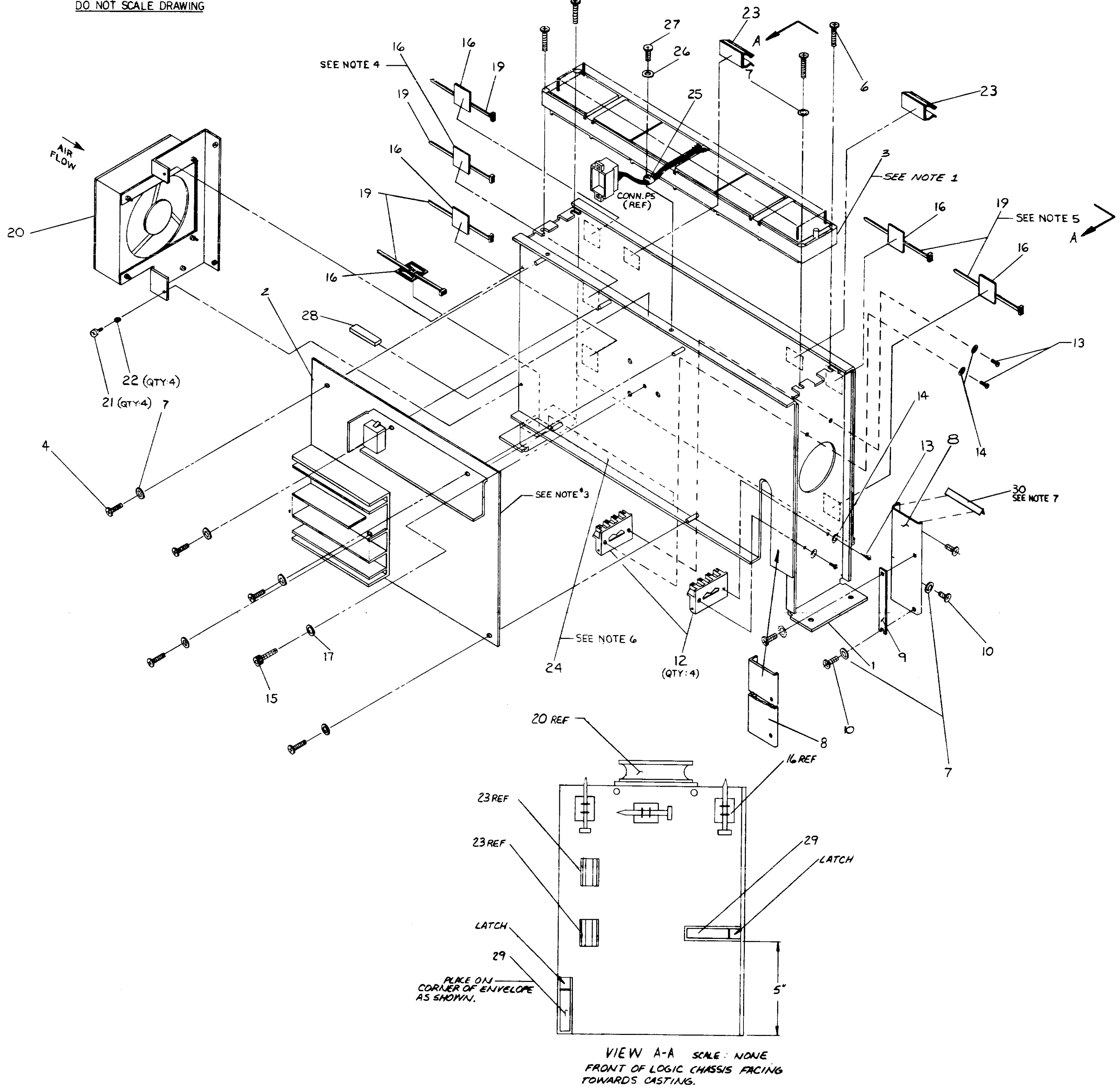
SIZE D CODE CS NUMBER 7009637-0-1 REV.

D CS 7009637-0-1

REVISIONS — REV. — CHANGE NO. — CHK

DEC FORM NO. DWG 101C

DO NOT SCALE DRAWING



NOTES:

1. ITEM 3 TO BE MOUNTED UNDER FLANGES.
2. WHEN INSERTING MODULES INTO LOGIC ASSEMBLY, CARD GUIDES (ITEM 12) WILL BE ADJUSTED BY SLIDING RIGHT OR LEFT SO AS TO PROPERLY ALIGN P.C. CARDS.
3. BEFORE ASSEMBLING ITEMS 1 AND 2, COAT MATING SURFACE OF DIODE HEAT SINK WITH THERMAL COMPOUND.
4. PLACE, ADHEISIVE BACK MOUNT, DIRECTLY IN MIDDLE OF ENVELOPE, FLUSH WITH TOP RIDGE.
5. DELETE THESE TWO MOUNTS ON TE16 DRIVES.
6. INSTALL ITEM 24 AS SHOWN ALONG EDGE OF FLANGE ON INSIDE PANEL SURFACE 1.875 IN. FROM TOP PANEL.
7. APPLY ADHESIVE (ITEM 31) TO TOP EDGE OF CABLE CLAMP BRACKET (ITEM 8) THEN AFFIX GROMMET (ITEM 30) TO EDGE.

QTY.	DESCRIPTION	PART NO.	ITEM NO.
A/R	HY BOND ADHESIVE	9007594	31
A/R	GROMMET, BLACK 1.25"	9008209	30
2	CLIP, FLATCABLE, ADHESIVE BACK	1213715-00	29
1	IND, ELAPSED TIME	1210721	28
1	SCR, PHL PAN HD 6-32 × .50 LG	9006024-01	27
1	WASHER, FLAT #6	9006656	26
1	CLAMP, CABLE .3/8 DIA.	9007083	25
A/R	TAPE, SCOTH 3/4 WIDE	9008845-00	24
2	CLIP, PVC HARNESS	9009771-02	23
4	WASHER, LOCK #4	9006688	22
4	SCR, PAN HD 4-40 × .43 LG	9006012-1	21
1	BRACKET, FAN ASSY	D-UA-7012911-0-0	20
6	TIE WRAP	9007032	19
A/R	THERMAL COMPOUND	9008268	18
1	WASHER, SPLIT LOCK, #8	9006690	17
6	MOUNT, ADHEISIVE BACK	9008264	16
1	SCREW, SOCKET HD 8-32 X 1/4	9009464-8	15
~~1~~	~~ELECTROSTATIC SHIELD~~	~~1700021~~	~~15~~
8	WASHER, INT. TOOTH LOCK #4	9006632	14
8	SCREW PAN HD PHL #4-40 X 5/16 LG	9006010-1	13
4	GUIDE, CARD & EXTRATER	1210699	12
~~4~~	~~NUT KEPS #6-32~~	~~9008185~~	~~11~~
4	SCREW PAN HD PHL #6-32 X 5/16 LG	9006021-1	10
1	PLATE, PRESSURE	C-MD-7009479-00	9
2	BRACKET, CABLE CLAMP	C-IA-7411535-0-0	8
13	WASHER, #6 INT LOCK	9006633	7
4	SCREW, PHL PAN HD. #6-32 X 3/8 LG	9006022-1	6
~~5~~	~~WASHER #6 NYLON~~	~~9006707~~	~~5~~
5	SCREW, PHL PAN HD, #6-32 X 7/8 LG	9006027-1	4
1	LOGIC HARNESS ASSEMBLY (TU16)	A-AH-7010130-0-0	3
1	P.C. CARD ASSEMBLY TU16 POWER SUPPLY	D-AH-5412242	2
1	LOGIC CHASSIS TU16	D-IA-7009630-0-0	1

PARTS LIST

FIRST USED ON OPTION/MODEL: TU16

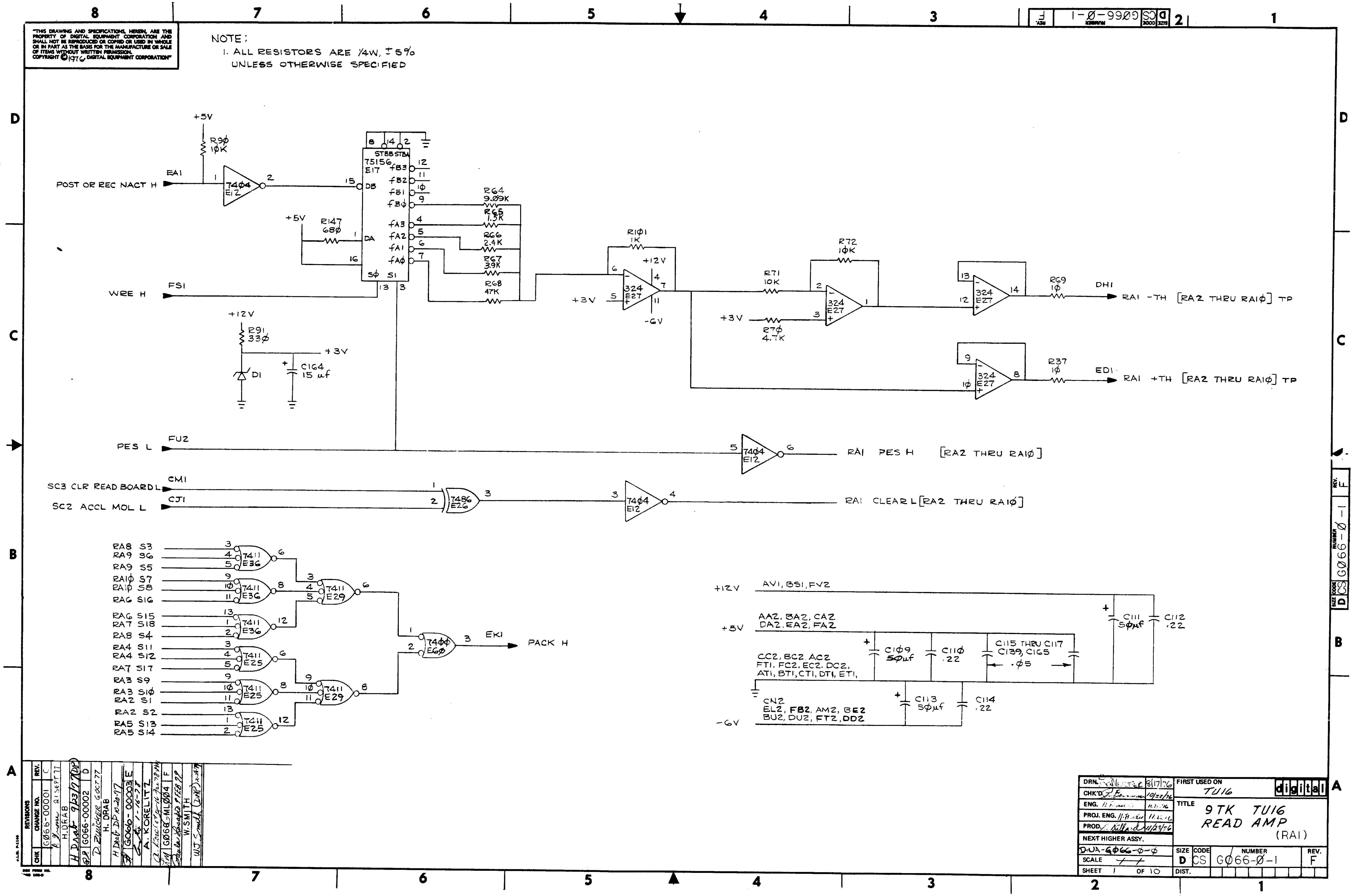
EQUIPMENT CORPORATION

LOGIC ASSEMBLY (TU16)

SEE PARTS LIST

E-AD-7009634-0-0

E AD 7009635-0-0 K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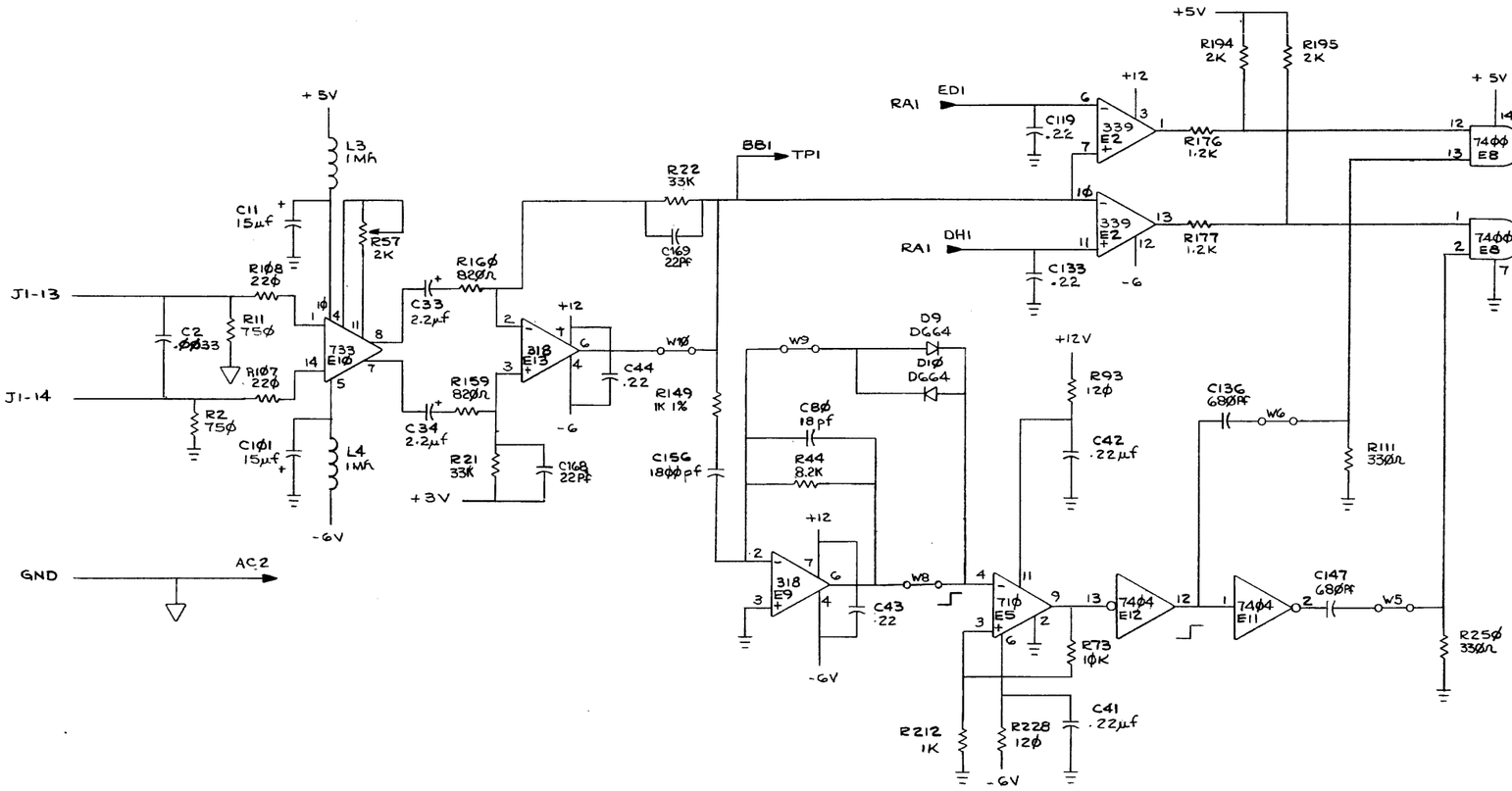
NOTE:
1. ALL RESISTORS ARE 1/4W, ±5% UNLESS OTHERWISE SPECIFIED
POST OR REC NACT H
EA1
7404 E12
75156 E17
R90 10K
+5V
R147 680
WRE H
FS1
R64 9.09K
R65 1.3K
R66 2.4K
R67 3.9K
R68 47K
R101 1K
324 E27
+12V
-6V
+3V
R71 10K
R72 10K
R70 4.7K
R69 10
R37 10
DH1
RA1 -TH [RA2 THRU RA10] TP
ED1
RA1 +TH [RA2 THRU RA10] TP
R91 330
D1
C164 15 uf
PES L
FU2
RA1 PES H [RA2 THRU RA10]
SC3 CLR READ BOARD L
CM1
SC2 ACCL MOL L
CJ1
7486 E26
RA1 CLEAR L [RA2 THRU RA10]
RA8 S3
RA9 S6
RA9 S5
RA10 S7
RA10 S8
RA6 S16
RA6 S15
RA7 S18
RA8 S4
RA4 S11
RA4 S12
RA7 S17
RA3 S9
RA3 S10
RA2 S1
RA2 S2
RA5 S13
RA5 S14
7411 E36
7411 E25
7411 E29
7400 E60
EK1
PACK H
AV1, BS1, FV2
AA2, BA2, CA2
DA2, EA2, FA2
CC2, BC2, AC2
FT1, FC2, EC2, DC2,
AT1, BT1, CT1, DT1, ET1,
CN2
EL2, FB2, AM2, BE2
BU2, DU2, FT2, DD2
C109 50uf
C110 .22
C115 THRU C117
C139, C165
.05
C111 50uf
C112 .22
C113 50uf
C114 .22
REVISIONS
G066-00001
G066-00002
G066-00003
G066-ML004
FIRST USED ON TU16
digital
TITLE 9TK TU16 READ AMP (RA1)
NEXT HIGHER ASSY. D-UA-G066-0-0
SIZE D CODE CS NUMBER G066-0-1 REV. F
SHEET 1 OF 10

+5V
L1 1MA
C10 15µf
R56 2K
R102 22Ø
J1-15
J1-16
C1 .ØØ33
R10 75Ø
R103 22Ø
R1 75Ø
C100 15µf
L2 1MA
-6V
GND
AC2
R157 82Ø
C35 2.2µf
R158 82Ø
C36 2.2µf
R19 33K
C166 22 PF
+3V
R20 33K
C167 22PF
AL1
TP1
W3
W2
C37 .22
R148 1.8K 1%
C155 1800pf
D5 D664
D6 D664
C81 18 pf
R245 8.2K
C38 .22
W1
R281 10K
R85 1K
R227 12Ø
C39 .22µf
+12V
R92 12Ø
C40 .22µf
C135 680PF
W4
R106 330Ω
R246 330Ω
C146 680PF
W7
RA1 EDI
DH1 RA1
C118 .22
C134 .22
R192 2K
R193 2K
R174 1.2K
R175 1.2K
POS.
NEG
RA2 S1 [RA1]
FUZ
SC3 PESL
RA1 PES H
RA1 CLEAR L
AB1
RA2,RD2(Ø)H(TBK)
AJ1
TP2
RA2 S2 [RA1]

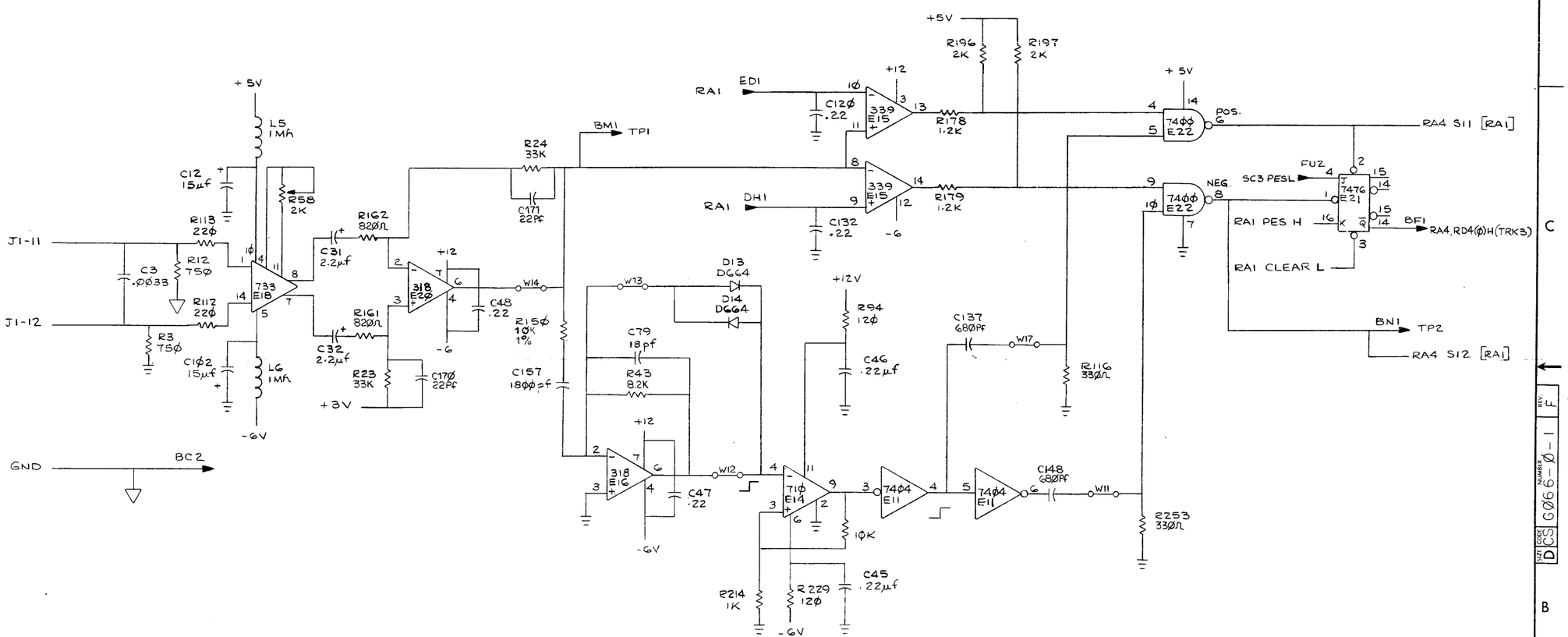
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
9TK TU16 READ AMP (RA2)	D	CS	GØ66-Ø-1	F
SCALE —	SHEET 2 OF 1Ø	DIST.		



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
9 TK TU16 READ AMP (RA3)	D	CS	GØ66-Ø-1	F
SCALE — SHEET 3 OF 1Ø	DIST.			



REVISIONS		
CHK	CHANGE NO.	REV.

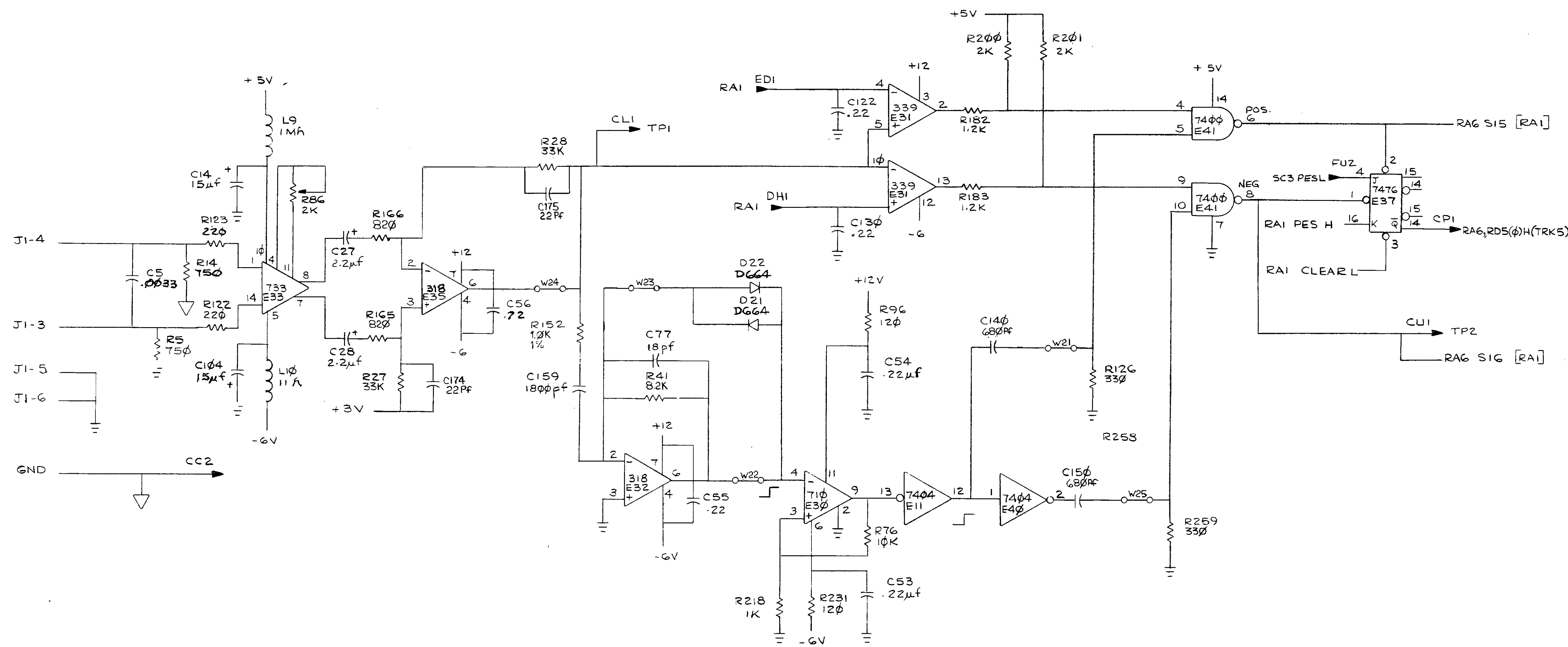
TITLE	SIZE	CODE	NUMBER	REV.
9 TK TU16 READ AMP (RA4)	D	CS	CØ66-Ø-1	F
SCALE —	SHEET 4 OF 1Ø	DIST.		

+5V
L7 1MH
C13 15µf
R59 2K
R118 22Ø
R13 75Ø
C4 .ØØ33
R117 22Ø
R4 75Ø
C1Ø3 15µf
L8 1MH
-6V
J1-2
J1-1
GND
CC2
+3V
R164 82Ø
C29 2.2µf
R163 82Ø
C3Ø 2.2µf
R26 33K
C172 22PF
+12
-6
R25 33K
C173 22PF
CK1
TP1
W2Ø
C49 .22
R151 1.ØK 1%
C158 18ØØpf
W19
D17 DGG4
D18 DGG4
C78 18pf
R42 8.2K
+12
C51 .22
-6V
W18
R95 12Ø
C52 .22µf
+12V
RA1
ED1
C121 .22
339 E15
R18Ø 1.2K
DH1
C131 .22
R181 1.2K
-6
R198 2K
R199 2K
+5V
C138 68ØPF
W16
R12Ø 33ØΩ
74ØØ E22
POS.
RA5 S13 [RA1]
NEG
SC3 PESL
FUZ
7476 E21
RA1 PES H
RA1 CLEAR L
BK1
RA5, RDP(Ø)H(TRK4)
BL1
TP2
RA5 S14 [RA1]
74Ø4 E11
C149 68ØPF
W15
R256 33ØΩ
T1Ø E19
R75 1ØK
R216 1K
R23Ø 12Ø
C5Ø .22µf

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
9TK TU16 READ AMP (RA5)	D	CS	GØ66-Ø-1	F
SCALE —	SHEET 5 OF 1Ø	DIST.		

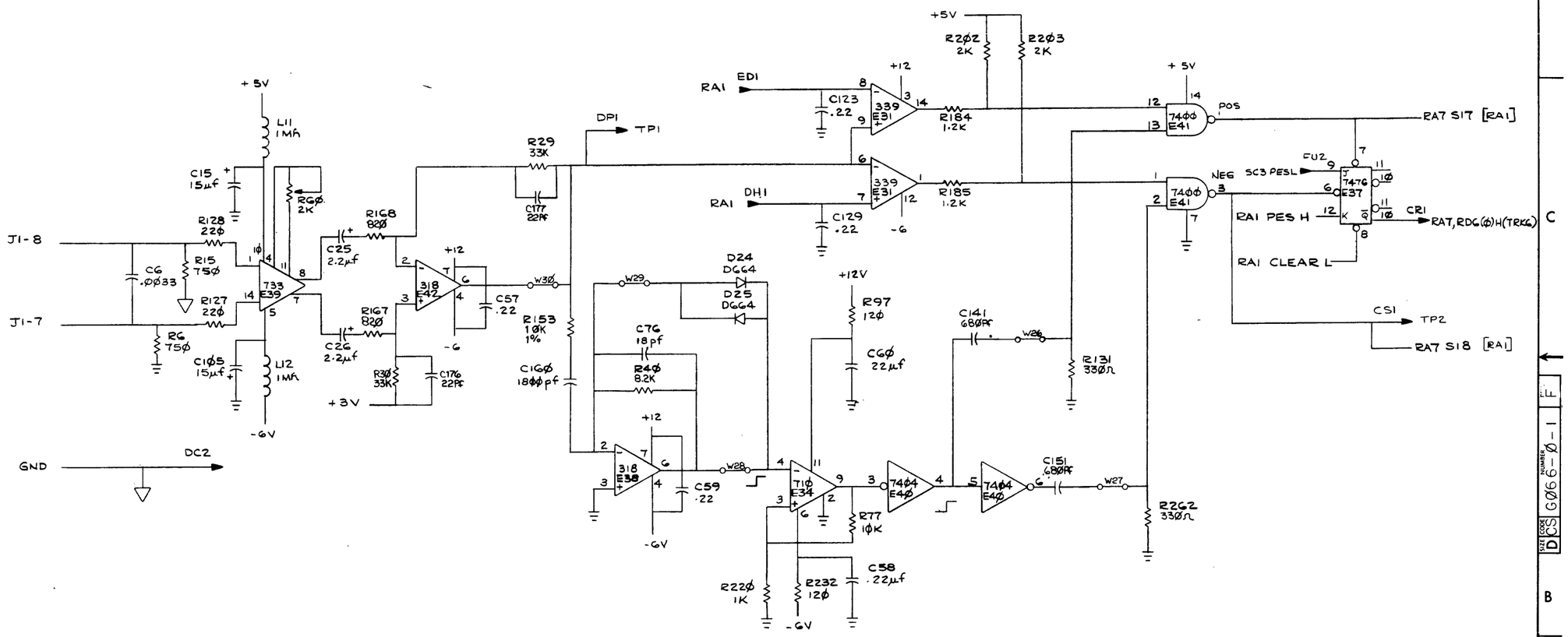
DEC FORM NO. MD 1Ø8


+5V
L9
1Mh
C14
15μf
R286
2K
R123
22Ø
R14
75Ø
C5
.ØØ33
R122
22Ø
R5
75Ø
J1-4
J1-3
J1-5
J1-6
GND
CC2
733
E33
C104
15μf
L1Ø
11
-6V
C27
2.2μf
C28
2.2μf
R166
82Ø
R165
82Ø
R27
33K
C174
22PF
+3V
318
E35
+12
-6
C56
.72
W24
R28
33K
C175
22PF
CL1
TP1
R152
1.ØK
1%
C159
18ØØpf
W23
D22
D664
D21
D664
C77
18pf
R41
82K
318
E32
+12
-6V
C55
.22
W22
71Ø
E30
R218
1K
R231
12Ø
-6V
C53
.22μf
R76
1ØK
7404
E11
7404
E4Ø
+12V
R96
12Ø
C54
.22μf
RA1
ED1
C122
.22
339
E31
DH1
C13Ø
.22
+12
-6
+5V
R2ØØ
2K
R2Ø1
2K
R182
1.2K
R183
1.2K
+5V
74ØØ
E41
POS.
NEG
C14Ø
68ØPF
W21
R126
33Ø
R258
C15Ø
68ØPF
W25
R259
33Ø
FU2
SC3 PESL
7476
E37
RA1 PES H
RA1 CLEAR L
RA6 S15 [RA1]
CP1
RA6,RD5(Ø)H(TRK5)
CU1
TP2
RA6 SIG [RA1]

REVISIONS		
CHK	CHANGE NO.	REV.

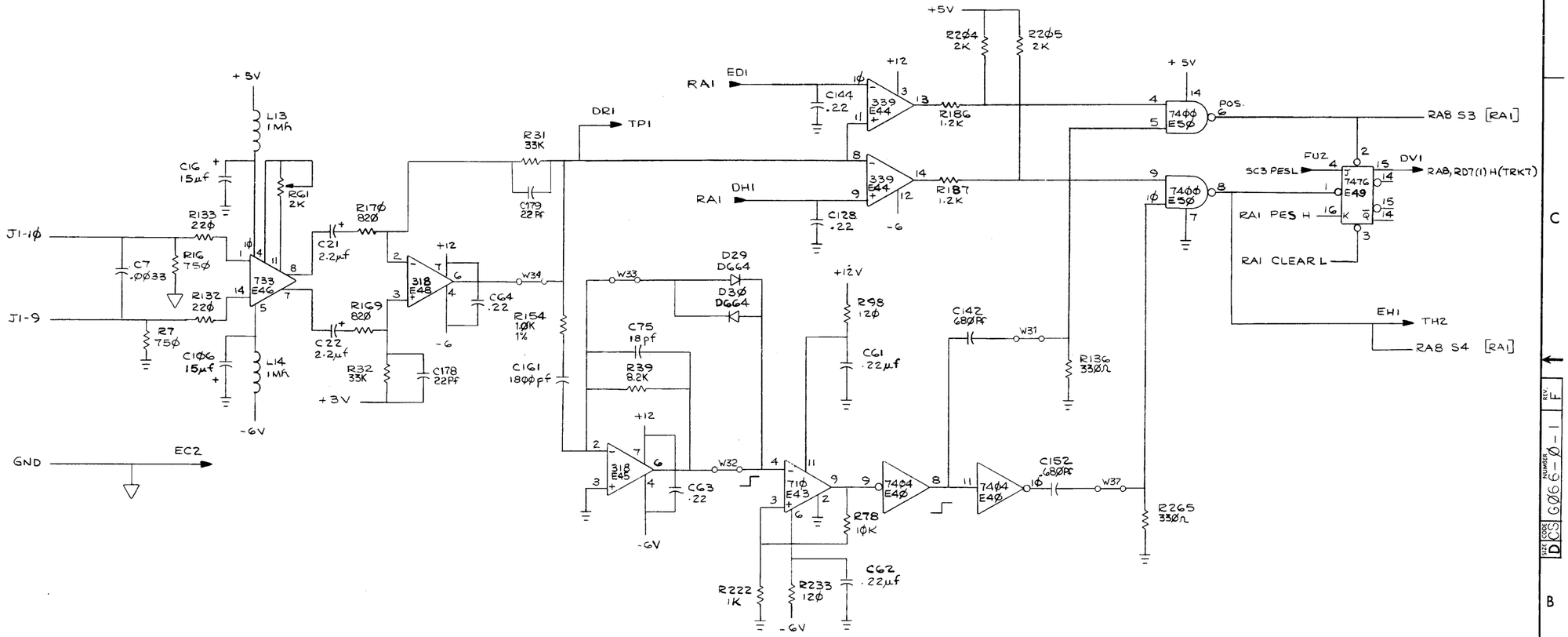
TITLE	9TK TU16 READ AMP (RA6)
SIZE	D
CODE	CS
NUMBER	GØ66-Ø-1
REV.	F
SCALE	—
SHEET	6 OF 1Ø

DEC FORM NO. DRD 138



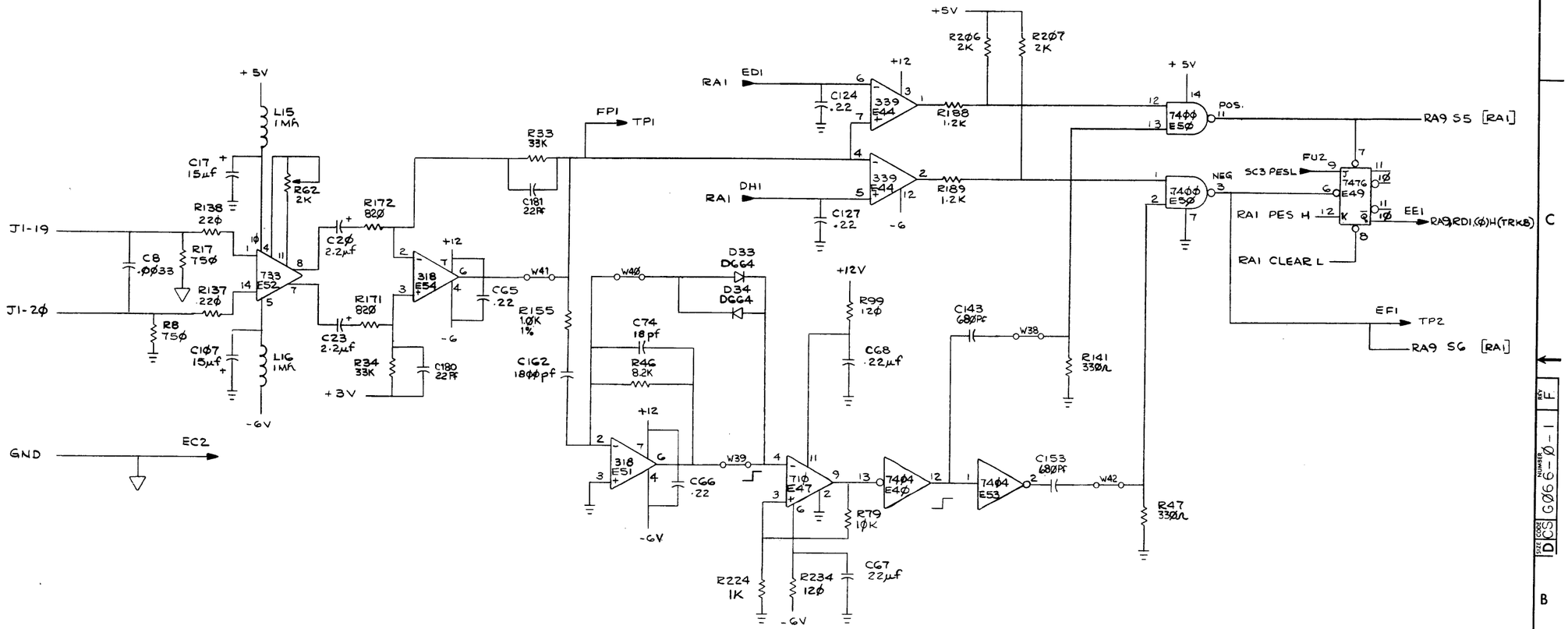
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
9TK TU16 READ AMP (RA7)	D	CS	GØ66-Ø-1	F
SCALE —	SHEET 7 OF 1Ø	DIST.		



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
9TK TU16 READ AMP (RA8)	D	CS	GØ66-Ø-1	F
SCALE —	SHEET 8 OF 1Ø	DIST.		



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
9 TK TU16 READ AMP (RA9)	D	CS	GØ66-Ø-1	F
SCALE —	SHEET 9 OF 1Ø	DIST.		

+5V
L17 1MA
C18 15µf
R143 22Ø
R63 2K
J1-17
J1-18
C9 .ØØ33
R18 75Ø
R142 22Ø
R9 75Ø
C1Ø8 15µf
L18 1MA
-6V
GND
FC2
R89 82Ø
C19 2.2µf
R173 82Ø
C24 2.2µf
R36 33K
+3V
C182 22PF
R35 33K
C183 22PF
FR1
TP1
W44
C69 .22
R156 1ØK 1%
C163 18ØØpf
W45
D37 DGG4
D2 DGG4
C73 18pf
R38 8.2K
+12V
R1ØØ 12Ø
C72 .22µf
C145 68ØPF
W35
R146 33ØΩ
RA1 ED1
C125 .22
R19Ø 1.2K
RA1 DH1
C126 .22
R191 1.2K
R2Ø8 2K.
R2Ø9 2K
POS.
RAIØ S7 [RA1]
SC3 PESL
FU2
NEG
RA1 PES H
RA1 CLEAR L
FK1
RAIØED3(Ø)H(TEK9)
FM1
TP2
RAIØ S8 [RA1]
W43
C7Ø 22
R8Ø 1ØK
R226 1K
R235 12Ø
C71 22µf
W36
C154 .68ØPF
R88 33ØΩ

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
9TK TU16 READ AMP (RAIO)	D	CS	GØ66-Ø-1	F
SCALE —	SHEET 1Ø OF 1Ø	DIST.		

SIZE	CODE	NUMBER	REV.
K	WL	TU16-Ø-WL	F

REVISIONS	CHK	CHANGE NO.	REV.
		TU16-00010	A
		TU16-00013	B
		TU16-00021	C
		TU16-00022	D
		TU16-00027	E
		TU16-00030	F

FIRST USED ON OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
TU16		PARTS LIST		

DRN. D. Schmidt	DATE 2/20/74	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
CHK'D. D. Schmidt	DATE 2/20/74	
ENG. J.R. Hess	DATE 2-20-74	TITLE
PROJ. ENG.	DATE 2-20-74	WIRE LIST (TU16)
PROD. D.A. Smith	DATE 5-31-74	
NEXT HIGHER ASSEMBLY D-AD-7009605-0-0		SIZE K · CODE WL · NUMBER TU16-Ø-WL · REV. F
SCALE —		
SHEET 1 OF 1		DIST.

DEC FORM NO.
DRB 109

RUN NAME	A/P	PIN NAME	ORDER PIN	BAY - ORDER	Q	DRAW OPT	RV	RG	Y	X	Z	REMARKS	NC FLAG	LENGTH	EXCEPTIONS	RUN NUMBER
+12V		.A04V													1-PIN RUN	1
+5V		B04A2		1-01 *							1		N	3-5/8		2
+5V		B02V1		1-02 *												2
+5V				1										3-5/8		2
-6V		A01A1		1-01 *							1		N	2-7/8		3
-6V		A04M2		1-02 *												3
-6V				1										2-7/8		3
1ST ONE SHOT L		A03S1		1-01 *							1		N	8-1/8		4
1ST ONE SHOT L		D02K1		1-02 *												4
1ST ONE SHOT L				1										8-1/8		4
3RD ONE SHOT H		B03B2		1-01 *							1		N	0-5/8		5
3RD ONE SHOT H		B03C1		1-02 *												5
3RD ONE SHOT H				1										0-5/8		5
4TH ONE SHOT H		A03U1		1-01 *							1		N	8-1/8		6
4TH ONE SHOT H		D02M1		1-02 *												6
4TH ONE SHOT H				1										8-1/8		6
4TH ONE SHOT L		B03F1		1-01 *							2		N	2-1/8		7
4TH ONE SHOT L		B03V2		1-02 *												7
4TH ONE SHOT L				1										2-1/8		7
7CH (SB) L		C03L2		1-01 *							1		N	5-7/8		8
7CH (SB) L		E01D2		1-02 *												8
7CH (SB) L				1										5-7/8		8
7TRK H		C03T1		1-01 *							1		N	0-4/8		9
7TRK H		C03T2		1-02 *												9
7TRK H				1										0-4/8		9
ACCL (SB) L		A01H2		1-01 *							1		N	7-3/8		10
ACCL (SB) L		C03P2		1-02 *												10
ACCL (SB) L				1										7-3/8		10
ACCL L		C04J1		1-01 *							1		N	2		11
ACCL L		C03U1		1-02 *												11
ACCL L				1										2-0/8		11
BOI (SB) L		D01M2		1-01 *							1		N	6-5/8		12
BOI (SB) L		B02H2		1-02 *												12
BOI (SB) L				1										6-5/8		12
BOT H		C02H1		1-01 *							1		N	3-5/8		13
BOT H		D03F1		1-02 *												13
BOT H				1										3-5/8		13
CLEAR READ BOARD L		C03V1		1-01 *							1		N	1-5/8		14
CLEAR READ BOARD L		C04M1		1-02 *												14
CLEAR READ BOARD L				1										1-5/8		14

RUN NAME	A/P	PIN NAME	ORDER PIN	BAY - ORDER	Q	DRAW OPT	RV	RG	Y	X	Z	REMARKS	NC FLAG	LENGTH	EXCEPTIONS	RUN NUMBER
CLK L		D01A1		1-01 *							2		N	1		15
CLK L		D02C1		1-02 *							1		N	1		15
CLK L		D03C1		1-03 *												15
CLK L				1										2-0/8		15
CLOCK (SB) L		D01E1		1-01 *							1		N	3-4/8		16
CLOCK (SB) L		C03M2		1-02 *												16
CLOCK (SB) L				1										3-4/8		16
DEN (SB) 00 H		C03J2		1-01 *							1		N	7-3/8		17
DEN (SB) 00 H		E01P2		1-02 *												17
DEN (SB) 00 H				1										7-3/8		17
DEN (SB) 01 H		D03E1		1-01 *							1		N	5-1/8		18
DEN (SB) 01 H		E01V2		1-02 *												18
DEN (SB) 01 H				1										5-1/8		18
DEN (SB) 02 H		C03U2		1-01 *							1		N	7-5/8		19
DEN (SB) 02 H		F01D2		1-02 *												19
DEN (SB) 02 H				1										7-5/8		19
DRV CLR PLS (SB) L		B01D2		1-01 *							1		N	7-7/8		20
DRV CLR PLS (SB) L		E02A1		1-02 *												20
DRV CLR PLS (SB) L				1										7-7/8		20
DRV SET PLS (SB) L		A01S2		1-01 *							1		N	1		21
DRV SET PLS (SB) L		A02S2		1-02 *												21
DRV SET PLS (SB) L				1										1-0/8		21
DT (SB) 00 L		F01H2		1-01 *							1		N	1-4/8		22
DT (SB) 00 L		F03H2		1-02 *												22
DT (SB) 00 L				1										1-4/8		22
DT (SB) 01 L		E01M2		1-01 *							1		N	1-6/8		23
DT (SB) 01 L		E03V1		1-02 *												23
DT (SB) 01 L				1										1-6/8		23
DT (SB) 02 L		F01P1		1-01 *							1		N	2-1/8		24
DT (SB) 02 L		F03K2		1-02 *												24
DT (SB) 02 L				1										2-1/8		24
DT L		F03A1		1-01 *							2		N	1-3/8		25
DT L		F03J1		1-02 *							1		N	1-4/8		25
DT L		F03T1		1-03 *												25
DT L				1										2-7/8		25
EMD (SB) L		B01E2		1-01 *							1		N	5-1/8		26
EMD (SB) L		C03S2		1-02 *												26
EMD (SB) L				1										5-1/8		26
END PT (SB) L		C01M2		1-01 *							1		N	5-7/8		27
END PT (SB) L		A02P2		1-02 *												27
END PT (SB) L				1										5-7/8		27

RUN NAME	A/P	PIN NAME	ORDER PIN	BAY - ORDER	Q	DRAW OPT	RV	RG	Y	X	Z	REMARKS	NC FLAG	LENGTH	EXCEPTIONS	RUN NUMBER
FWD (SB) L		A02U2		1-01 *							1		N	6-1/8		28
FWD (SB) L		C01U2		1-02 *												28
FWD (SB) L				1										6-1/8		28
FWD H		D03D1		1-01 *							1		N	4-3/8		29
FWD H		E02N1		1-02 *												29
FWD H				1										4-3/8		29
GND		F03C1		1-01 *							1		N	0-4/8		30
GND		F03C2		1-02 *							2		N	0-5/8		30
GND		F03F1		1-03 *												30
GND				1										1-1/8		30
INIT L		B03N2		1-01 *							1		N	8-7/8		31
INIT L		E02R2		1-02 *												31
INIT L				1										8-7/8		31
INIT PLS (SB) L		A01U2		1-01 *							1		N	9-7/8		32
INIT PLS (SB) L		E02F1		1-02 *												32
INIT PLS (SB) L				1										9-7/8		32
INTERCHG READ L		D03J1		1-01 *							1		N	2-3/8		33
INTERCHG READ L		E04A1		1-02 *							2		N	4-3/8		33
INTERCHG READ L		F04L1		1-03 *												33
INTERCHG READ L				1										6-6/8		33
IRD (SB) L		C03L1		1-01 *							1		N	7-3/8		34
IRD (SB) L		E01U2		1-02 *												34
IRD (SB) L				1										7-3/8		34
LOCAL H		D02H1		1-01 *							1		N	1		35
LOCAL H		D03H1		1-02 *												35
LOCAL H				1										1-0/8		35
LRC STRB (SB) L		A01K2		1-01 *							1		N	1		36
LRC STRB (SB) L		A02K2		1-02 *												36
LRC STRB (SB) L				1										1-0/8		36
MOL (SB) L		F01V2		1-01 *							1		N	1		37
MOL (SB) L		F02V2		1-02 *												37
MOL (SB) L				1										1-0/8		37
MOL H		C03P1		1-01 *							1		N	5-5/8		38
MOL H		E02M2		1-02 *												38
MOL H				1										5-5/8		38
MOL L		C02S1		1-01 *							1		N	2-5/8		39
MOL L		C01A1		1-02 *												39
MOL L				1										2-5/8		39
PACKET H		D03J2		1-01 *							1		N	3-1/8		40
PACKET H		E04K1		1-02 *												40
PACKET H				1										3-1/8		40

RUN NAME	A/P	PIN NAME	ORDER PIN	BAY - ORDER	Q	DRAW OPT	RV	RG	Y	X	Z	REMARKS	NC FLAG	LENGTH	EXCEPTIONS	RUN NUMBER
PCLR L		A03B2		1-01 *							1		N	14-7/8		41
PCLR L		F02E1		1-02 *							2		N	7-5/8		41
PCLR L		C01N2		1-03 *												41
PCLR L				1										22-4/8		41
PES L		C03B1		1-01 *							2		N	5-5/8		42
PES L		D02U1		1-02 *							1		N	6-7/8		42
PES L		F04U2		1-03 *												42
PES L				1										12-4/8		42
PESB (SB) L		C03R1		1-01 *							1		N	3-6/8		43
PESB (SB) L		D03V1		1-02 *							2		N	1-6/8		43
PESB (SB) L		E01D1		1-03 *												43
PESB (SB) L				1										5-4/8		43
RD (SB) 00 L		D01V2		1-01 *							1		N	1-4/8		44
RD (SB) 00 L		D03V2		1-02 *												44
RD (SB) 00 L				1										1-4/8		44
RD (SB) 01 L		D01U2		1-01 *							1		N	1-4/8		45
RD (SB) 01 L		D03U2		1-02 *												45
RD (SB) 01 L				1										1-4/8		45
RD (SB) 02 L		D01S2		1-01 *							1		N	1-4/8		46
RD (SB) 02 L		D03S2		1-02 *												46
RD (SB) 02 L				1										1-4/8		46
RD (SB) 03 L		D01R2		1-01 *							1		N	1-4/8		47
RD (SB) 03 L		D03R2		1-02 *												47
RD (SB) 03 L				1										1-4/8		47
RD (SB) 04 L		D01P2		1-01 *							1		N	1-4/8		48
RD (SB) 04 L		D03P2		1-02 *												48
RD (SB) 04 L				1										1-4/8		48
RD (SB) 05 L		C01H2		1-01 *							1		N	1-4/8		49
RD (SB) 05 L		C03H2		1-02 *												49
RD (SB) 05 L				1										1-4/8		49
RD (SB) 06 L		C01F2		1-01 *							1		N	1-4/8		50
RD (SB) 06 L		C03F2		1-02 *												50
RD (SB) 06 L				1										1-4/8		50
RD (SB) 07 L		C01E2		1-01 *							1		N	1-4/8		51
RD (SB) 07 L		C03E2		1-02 *												51
RD (SB) 07 L				1										1-4/8		51
RD (SB) P L		C01D2		1-01 *							1		N	1-2/8		52
RD (SB) P L		C03A1		1-02 *												52
RD (SB) P L				1										1-2/8		52
RD 00 L		A04F1		1-01 *							1		N	5-7/8		53
RD 00 L		C03D1		1-02 *												53
RD 00 L				1										5-7/8		53

RUN NAME	A/P	PIN NAME	ORDER PIN	BAY - ORDER	Q	DRAW OPT	RV	RG	Y	X	Z	REMARKS	NC FLAG	LENGTH	EXCEPTIONS	RUN NUMBER
RD 01 L		D03U1		1-01 *							1		N	1-7/8		54
RD 01 L		E04E1		1-02 *												54
RD 01 L				1										1-7/8		54
RD 02 L		A04B1		1-01 *							1		N	6-5/8		55
RD 02 L		C03E1		1-02 *												55
RD 02 L				1										6-5/8		55
RD 03 L		D03B1		1-01 *							1		N	6-7/8		56
RD 03 L		F04K1		1-02 *												56
RD 03 L				1										6-7/8		56
RD 04 L		B04F1		1-01 *							1		N	3-3/8		57
RD 04 L		C03F1		1-02 *												57
RD 04 L				1										3-3/8		57
RD 05 L		C03M1		1-01 *							1		N	1		58
RD 05 L		C04P1		1-02 *												58
RD 05 L				1										1-0/8		58
RD 06 L		C03N1		1-01 *							1		N	1		59
RD 06 L		C04R1		1-02 *												59
RD 06 L				1										1-0/8		59
RD 07 H		C03S1		1-01 *							1		N	4-1/8		60
RD 07 H		D04V1		1-02 *												60
RD 07 H				1										4-1/8		60
RD P L		B04K1		1-01 *							1		N	3-3/8		61
RD P L		C03K1		1-02 *												61
RD P L				1										3-3/8		61
REC (SB) L		B01R2		1-01 *							1		N	5-7/8		62
REC (SB) L		D03K2		1-02 *												62
REC (SB) L				1										5-7/8		62
RECORD PULSE L		B03D1		1-01 *							1		N	6-5/8		63
RECORD PULSE L		D03L2		1-02 *							2		N	1		63
RECORD PULSE L		D02L2		1-03 *												63
RECORD PULSE L				1										7-5/8		63
REV (SB) L		B02F1		1-01 *							1		N	4-5/8		64
REV (SB) L		C01V2		1-02 *												64
REV (SB) L				1										4-5/8		64
RSDO (SB) L		C01K2		1-01 *							1		N	1-4/8		65
RSDO (SB) L		C03K2		1-02 *												65
RSDO (SB) L				1										1-4/8		65
RUNNING H		D02R2													1-PIN RUN	66
RWND (SB) L		B02D2		1-01 *							1		N	4-5/8		67
RWND (SB) L		C01P2		1-02 *												67
RWND (SB) L				1										4-5/8		67

RUN NAME	A/P	PIN NAME	ORDER PIN	BAY - ORDER	Q	DRAW OPT	RV	RG	Y	X	Z	REMARKS	NC FLAG	LENGTH	EXCEPTIONS	RUN NUMBER
RWS (SB) L		B02M1		1-01 *							1		N	11-1/8		68
RWS (SB) L		F01M2		1-02 *												68
RWS (SB) L				1										11-1/8		68
SDWN (SB) L		A02M2		1-01 *							1		N	11-7/8		69
SDWN (SB) L		E01S2		1-02 *												69
SDWN (SB) L				1										11-7/8		69
SET SCC (SB) L		D01K2		1-01 *							1		N	7-1/8		70
SET SCC (SB) L		F02V1		1-02 *												70
SET SCC (SB) L				1										7-1/8		70
SET TEST WRE L		B03M2		1-01 *							1		N	6-3/8		71
SET TEST WRE L		D02N1		1-02 *												71
SET TEST WRE L				1										6-3/8		71
SET VPE (SB) L		D01H2		1-01 *							1		N	1-4/8		72
SET VPE (SB) L		D03H2		1-02 *												72
SET VPE (SB) L				1										1-4/8		72
SLA (SB) L		E02V1		1-01 *							1		N	1-7/8		73
SLA (SB) L		F01E2		1-02 *												73
SLA (SB) L				1										1-7/8		73
SLAVE BUS ENBL L		B01H1		1-01 *							1		N	1-2/8		74
SLAVE BUS ENBL L		B02D1		1-02 *												74
SLAVE BUS ENBL L				1										1-2/8		74
SLAVE PRESENT H		D02B1		1-01 *							1		N	4-5/8		75
SLAVE PRESENT H		E03M2		1-02 *												75
SLAVE PRESENT H				1										4-5/8		75
SN (SB) 00 L		E03D2		1-01 *							1		N	6-1/8		76
SN (SB) 00 L		F01V1		1-02 *												76
SN (SB) 00 L				1										6-1/8		76
SN (SB) 01 L		E03S2		1-01 *							1		N	4-1/8		77
SN (SB) 01 L		F01S2		1-02 *												77
SN (SB) 01 L				1										4-1/8		77
SN (SB) 02 L		F01U2		1-01 *							1		N	1-4/8		78
SN (SB) 02 L		F03U2		1-02 *												78
SN (SB) 02 L				1										1-4/8		78
SN (SB) 03 L		E01K2		1-01 *							1		N	1-4/8		79
SN (SB) 03 L		E03K2		1-02 *												79
SN (SB) 03 L				1										1-4/8		79
SN (SB) 04 L		E01E2		1-01 *							1		N	1-4/8		80
SN (SB) 04 L		E03E2		1-02 *												80
SN (SB) 04 L				1										1-4/8		80
SN (SB) 05 L		E01F1		1-01 *							1		N	2-1/8		81
SN (SB) 05 L		E03P2		1-02 *												81
SN (SB) 05 L				1										2-1/8		81

RUN NAME	A/P	PIN NAME	ORDER PIN	BAY - ORDER	Q	DRAW OPT	RV	RG	Y	X	Z	REMARKS	NC FLAG	LENGTH	EXCEPTIONS	RUN NUMBER
SN (SB) 06 L		F01U1		1-01 *							1		N	1-7/8		82
SN (SB) 06 L		F03S2		1-02 *												82
SN (SB) 06 L				1										1-7/8		82
SN (SB) 07 L		E01F1		1-01 *							1		N	2-4/8		83
SN (SB) 07 L		E03V2		1-02 *												83
SN (SB) 07 L				1										2-4/8		83
SN (SB) 08 L		E01F2		1-01 *							1		N	1-4/8		84
SN (SB) 08 L		E03F2		1-02 *												84
SN (SB) 08 L				1										1-4/8		84
SN (SB) 09 L		F01S1		1-01 *							1		N	2-1/8		85
SN (SB) 09 L		F03E1		1-02 *												85
SN (SB) 09 L				1										2-1/8		85
SN (SB) 10 L		F01R2		1-01 *							1		N	1-4/8		86
SN (SB) 10 L		F03R2		1-02 *												86
SN (SB) 10 L				1										1-4/8		86
SN (SB) 11 L		E01H1		1-01 *							1		N	4-1/8		87
SN (SB) 11 L		F03D2		1-02 *												87
SN (SB) 11 L				1										4-1/8		87
SN (SB) 12 L		E01H2		1-01 *							1		N	1-4/8		88
SN (SB) 12 L		E03H2		1-02 *												88
SN (SB) 12 L				1										1-4/8		88
SN (SB) 13 L		E03A1		1-01 *							1		N	5-5/8		89
SN (SB) 13 L		F01R1		1-02 *												89
SN (SB) 13 L				1										5-5/8		89
SN (SB) 14 L		F01P2		1-01 *							1		N	1-4/8		90
SN (SB) 14 L		F03P2		1-02 *												90
SN (SB) 14 L				1										1-4/8		90
SN (SB) 15 L		E01K1		1-01 *							1		N	1-7/8		91
SN (SB) 15 L		E03B1		1-02 *												91
SN (SB) 15 L				1										1-7/8		91
SPR (SB) L		D02A1		1-01 *							1		N	6-5/8		92
SPR (SB) L		F01E1		1-02 *												92
SPR (SB) L				1										6-5/8		92
SS (SB) 00 L		B01H2		1-01 *							1		N	4-5/8		93
SS (SB) 00 L		C02V1		1-02 *												93
SS (SB) 00 L				1										4-5/8		93
SS (SB) 01 L		B01P2		1-01 *							1		N	4-1/8		94
SS (SB) 01 L		C02V2		1-02 *												94
SS (SB) 01 L				1										4-1/8		94
SS (SB) 02 L		B01M2		1-01 *							1		N	5-1/8		95
SS (SB) 02 L		D02D1		1-02 *												95
SS (SB) 02 L				1										5-1/8		95

RUN NAME	A/P	PIN NAME	ORDER PIN	BAY - ORDER	Q	DRAW OPT	RV	RG	Y	X	Z	REMARKS	NC FLAG	LENGTH	EXCEPTIONS	RUN NUMBER
STOP (SB) L		A01V2		1-01 *							1		N	5-5/8		96
STOP (SB) L		C02S2		1-02 *												96
STOP (SB) L				1										5-5/8		96
TEST DATA -A		A03K1		1-01 *							2		N	1-3/8		97
TEST DATA -A		A02C1		1-02 *							1		N	0-4/8		97
TEST DATA -A		A02E1		1-03 *							2		N	0-1/8		97
TEST DATA -A		A02F1		1-04 *							1		N	0-4/8		97
TEST DATA -A		A02J1		1-05 *							2		N	3-1/8		97
TEST DATA -A		B02H1		1-06 *												97
TEST DATA -A				1										5-5/8		97
TEST DATA -B		A03J1		1-01 *							2		N	3-5/8		98
TEST DATA -B		B02J1		1-02 *							1		N	1-2/8		98
TEST DATA -B		B02R1		1-03 *							2		N	0-1/8		98
TEST DATA -B		B02P1		1-04 *							1		N	2-7/8		98
TEST DATA -B		C02M2		1-05 *												98
TEST DATA -B				1										7-7/8		98
TEST DATA A		A03L2													1-PIN RUN	99
TEST DATA B		A03H1													1-PIN RUN	100
TEST DEN H		A03T2		1-01 *							1		N	4-3/8		101
TEST DEN H		C03C1		1-02 *												101
TEST DEN H				1										4-3/8		101
TEST PE H		B03L2		1-01 *							1		N	2		102
TEST PE H		C03B2		1-02 *												102
TEST PE H				1										2-0/8		102
TESTER ENBL L		B03N1		1-01 *							1		N	4-7/8		103
TESTER ENBL L		D02D2		1-02 *												103
TESTER ENBL L				1										4-7/8		103
TESTER GND		B03M1		1-01 *							1		N	0-4/8		104
TESTER GND		B03P1		1-02 *							2		N	0-5/8		104
TESTER GND		B03T1		1-03 *							1		N	0-1/8		104
TESTER GND		B03U1		1-04 *							2		N	0-1/8		104
TESTER GND		B03V1		1-05 *												104
TESTER GND				1										1-3/8		104
TUR (SB) L		C01S2		1-01 *							1		N	4-1/8		105
TUR (SB) L		B02K2		1-02 *												105
TUR (SB) L				1										4-1/8		105
WD (SB) 00 L		B01V2		1-01 *							1		N	1		106
WD (SB) 00 L		B02V2		1-02 *												106
WD (SB) 00 L				1										1-0/8		106
WD (SB) 01 L		B01U2		1-01 *							1		N	1		107
WD (SB) 01 L		B02U2		1-02 *												107
WD (SB) 01 L				1										1-0/8		107

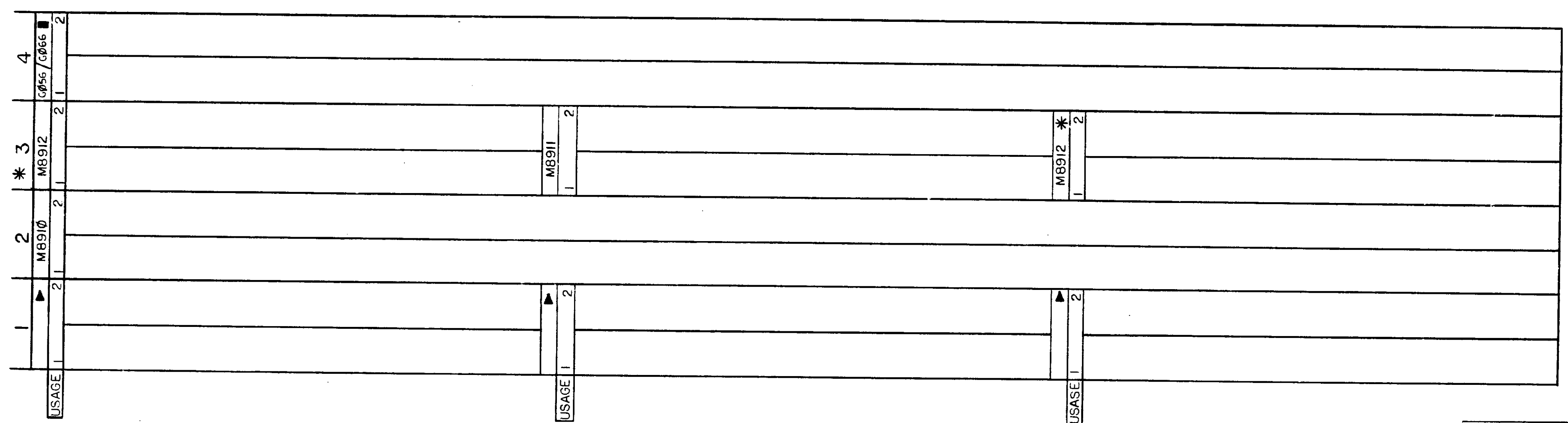
RUN NAME	A/P	PIN NAME	ORDER PIN	BAY - ORDER	Q	DRAW OPT	RV	RG	Y	X	Z	REMARKS	NC FLAG	LENGTH EXCEPTIONS	RUN NUMBER
WD (SB) 02 L		B01S2		1-01 *							1		N	1	108
WD (SB) 02 L		B02S2		1-02 *											108
WD (SB) 02 L				1										1-0/8	108
WD (SB) 03 L		A01P2		1-01 *							1		N	3-7/8	109
WD (SB) 03 L		B02R2		1-02 *											109
WD (SB) 03 L				1										3-7/8	109
WD (SB) 04 L		B01K2		1-01 *							1		N	1-1/8	110
WD (SB) 04 L		B02P2		1-02 *											110
WD (SB) 04 L				1										1-1/8	110
WD (SB) 05 L		A01M2		1-01 *							1		N	1-1/8	111
WD (SB) 05 L		A02H2		1-02 *											111
WD (SB) 05 L				1										1-1/8	111
WD (SB) 06 L		A01F2		1-01 *							1		N	1	112
WD (SB) 06 L		A02F2		1-02 *											112
WD (SB) 06 L				1										1-0/8	112
WD (SB) 07 L		A01E2		1-01 *							1		N	1	113
WD (SB) 07 L		A02E2		1-02 *											113
WD (SB) 07 L				1										1-0/8	113
WD (SB) P L		A01D2		1-01 *							1		N	1	114
WD (SB) P L		A02D2		1-02 *											114
WD (SB) P L				1										1-0/8	114
WRITE (SB) L		A02U1		1-01 *							1		N	6-7/8	115
WRITE (SB) L		D01D2		1-02 *											115
WRITE (SB) L				1										6-7/8	115
WRITE ENABLE H		D02S1		1-01 *							2		N	1	116
WRITE ENABLE H		D03S1		1-02 *							1		N	6-1/8	116
WRITE ENABLE H		F04S1		1-03 *											116
WRITE ENABLE H				1										7-1/8	116
WRL (SB) L		B02M2		1-01 *							1		N	11-1/8	117
WRL (SB) L		F01K2		1-02 *											117
WRL (SB) L				1										11-1/8	117
WRT CLK (SB) L		D03M2		1-01 *							1		N	1-6/8	118
WRT CLK (SB) L		D01E2		1-02 *											118
WRT CLK (SB) L				1										1-6/8	118
WRT CLK TEST ENB L		B03H1		1-01 *							1		N	5	119
WRT CLK TEST ENB L		D03A1		1-02 *											119
WRT CLK TEST ENB L				1										5-0/8	119

NOTES:

1. USE CABLE SLOTS AS FOLLOWS

	END-OF-BUS	MIDDLE-OF-BUS
A,B	M9001YB	M9001
C,D	M8913YA	M8913
E,F	M9001YC	M9001-YA

2. M8912 CAN BE USED AS A TEST FUNCTION GENERATOR IN SLOT 3 A/B. IT DRIVES SERIAL NO. AND DRIVE TYPE LINES IN SLOT 3 E/F. <u>THE TU16 CAN NOT OPERATE ON-LINE WITH M8912 IN SLOT 3 A/B.</u>
3. ELECTROSTATIC SHIELD IS POSITIONED BETWEEN THE GØ56 MODULE AND THE M8911/M8912 MODULES.
4. GØ66 REPLACES GØ56. GØ66 BOARD AND GØ66 READ CABLE MUST BE ORDERED TOGETHER. CABLE ISN'T ATTACHED TO BOARD.



▲ SEE NOTE #1
* SEE NOTE #2
■ SEE NOTE #4

PARTS LIST

QTY.	DESCRIPTION	PART NO.	ITEM NO.
1	GØ66 READ CABLE	7012844	9
1	ELECTROSTATIC SHIELD	1700021	8
A/R	GEN PURPOSE CARD (E&F)	M9ØØ1-YA	7
1	CLK & TEST LOGIC	M8911	6
A/R	DATA DRIVER	M8913	5
1	READ AMP (RAI)	GØ56/GØ66	4
2	SLAVE TEST FUNCT GEN	M8912	3
1	LOGIC & WRITE BOARD	M891Ø	2
A/R	GEN PURPOSE CARD (A&B)	M9ØØ1	1

REVISIONS

CHK	CHANGE NO.	REV.
	TU16-00005 J. HESS	A
	TU16-00007 J. HESS 4-8-75	B
	TU16-00031 H. DRAB 7 April 77, 29 APR 77	C

FIRST USED ON OPTION/MODEL: TU16

DIMENSIONAL TOLERANCE
DIMENSIONS ARE MILLIMETERS / INCHES UNLESS OTHERWISE SPECIFIED

MILLIMETERS	INCHES	ANGLES
X.XX = ±0,10 X.X = ±0,5 X = ±2,	.XXX = ±.005 .XX = ±.02 .X = ±.1	±0° 30'

THIRD ANGLE PROJECTION
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓
MATERIAL
FINISH

DRN. M. P. Duggan DATE 7 AUG 74
CHK'D DATE 9/5/74
ENG. DATE 9-5-74
PROJ. ENG. DATE 9-5-74
PROD. D.S. DATE 9/20/74

NEXT HIGHER ASSY. D-UA-TU16-Ø-Ø
SCALE
SHEET OF

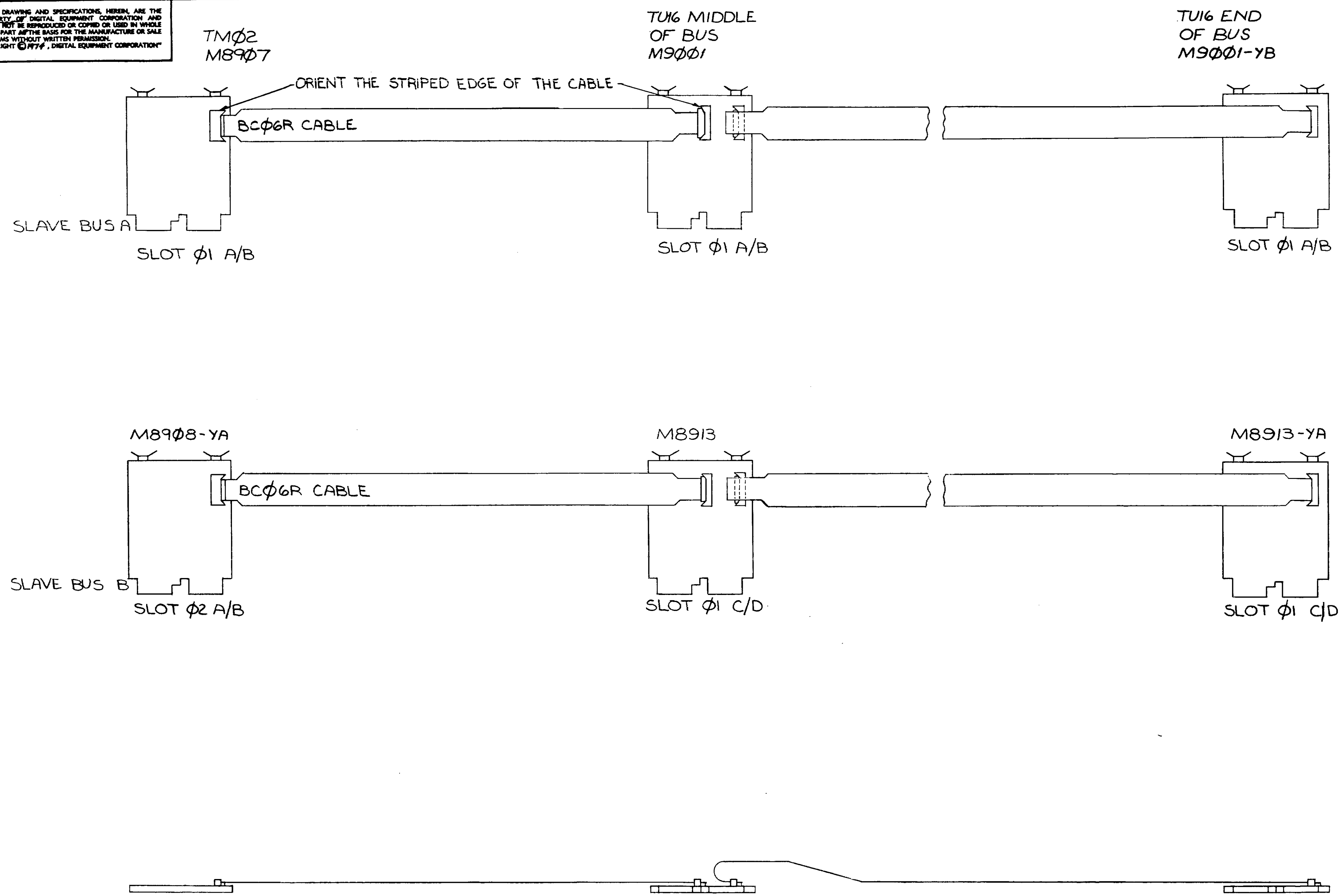
digital

TITLE
MODULE UTILIZATION

SIZE	CODE	NUMBER	REV.
D	MU	TU16-Ø-MU	C

DIST.

DEC FORM NO. DRD 102-C



FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
TU16		PARTS LIST		

DIMENSIONAL TOLERANCE

DIMENSIONS ARE [redacted] INCHES UNLESS OTHERWISE SPECIFIED

MILLIMETERS	INCHES	ANGLES
X.XX = ± 0.10 X.X = ± 0.5 X = ± 2	.XXX = ± .005 .XX = ± .02 .X = ± .1	±0° 30'

THIRD ANGLE PROJECTION

REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓

MATERIAL

FINISH

DRN. [signature]	DATE 9-27-74
CHK'D. [signature]	DATE 10/1/74
ENG. [signature]	DATE 10/1/74
PROJ. ENG. [signature]	DATE 10/1/74
PROD. [signature]	DATE 10-1-74
NEXT HIGHER ASSY. B-DD-TU16-Ø	
SCALE —	
SHEET 1 OF 2	

digital

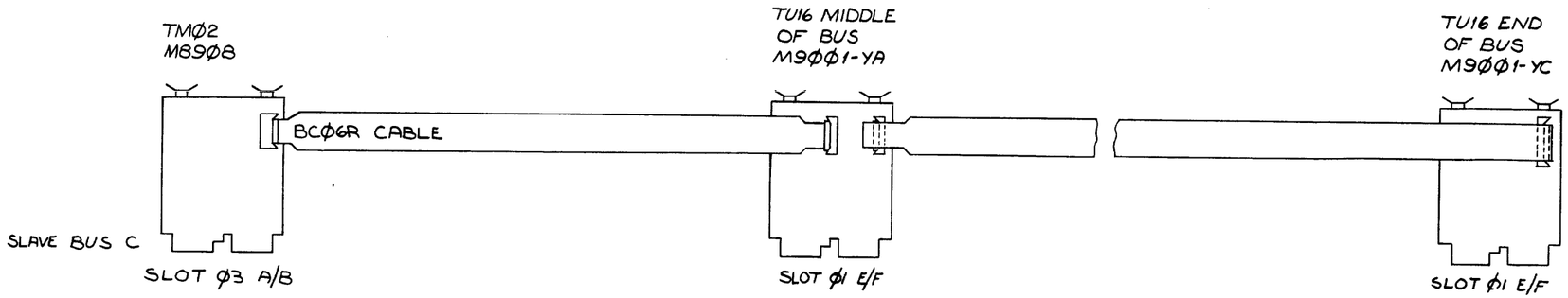
TITLE MASSBUS TRANSCIEVER (TU16)

SIZE	CODE	NUMBER	REV.
D	BS	TU16-Ø-2	

DIST.

REVISIONS: REV. | CHANGE NO. | CHK

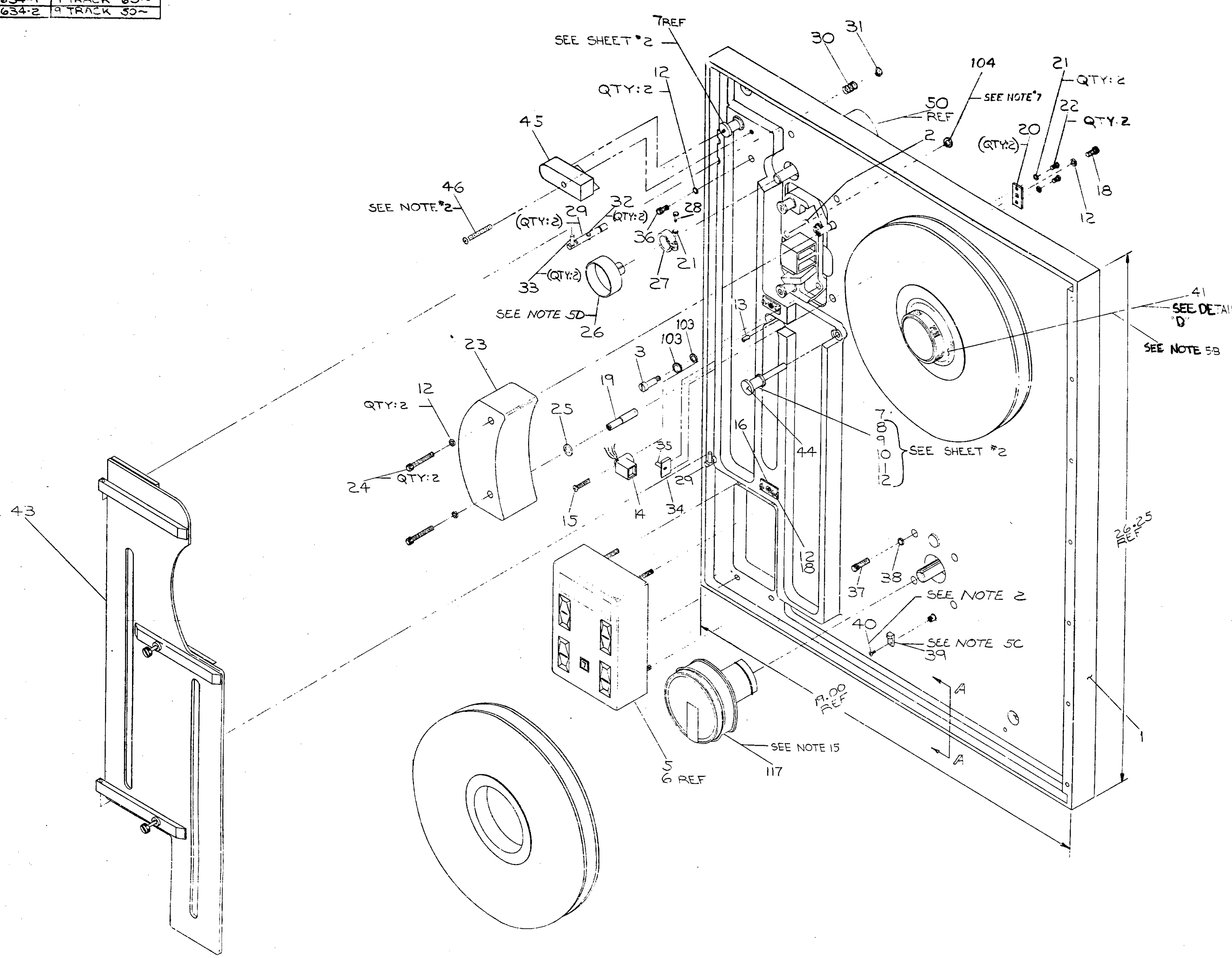
D BS TU16-Ø-2



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV
MASSBUS TRANSCIEVER (TU16)	D	BS	TU16-Ø-2	
SCALE —ff— SHEET 2 OF 2	DIST.			

LEGEND	
NUMBER	VARIATION
7009634-1	9 TRACK 65~
7009634-2	9 TRACK 35~



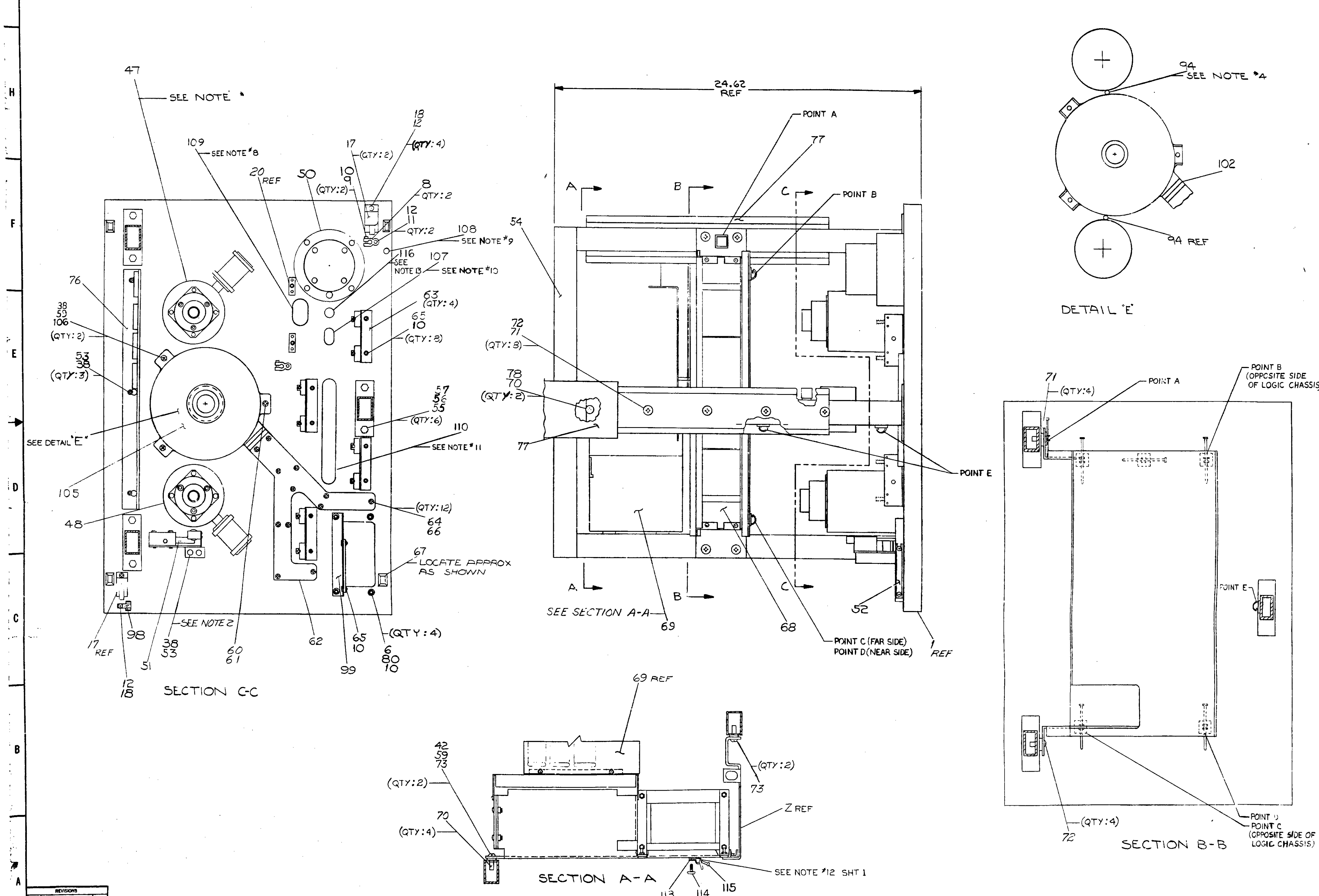
NOTES:

1. FOR HARNESS CONNECTIONS & GENERAL WIRING REFER TO SHEET #3.
2. THESE ITEMS TO BE COATED WITH LOCKTITE AT ASSY.
3. THESE ITEMS TO HAVE THREADS COATED WITH TEFLON PLUMBERS TAPE.
4. THESE ITEMS TO BE CEMENTED IN PLACE AT ASSY USING HYBOND ADHESIVE.
5. GAGES REQUIRED:
   - A. ROLLER GUIDE GAGE: #9605460
   - B. HUB GAGE: #9605461
   - C. READ WRITE REEL GAGE #9605493
   - D. CAPSTAN GAGE #9605606
6. REELS (ITEMS 1 & 2) ARE SUPPLIED AT UNIT ASSY.
7. PRECISION SPACERS (3 REQ) THICKNESS PER SPEC. A-SP-TU16-0-4
8. INSTALL FOAM FILTER, MEDIUM.
9. INSTALL PLUG FILTER.
10. INSTALL FOAM FILTER, SMALL.
11. INSTALL FOAM FILTER, LARGE.
12. USE UNTAPPED HOLE APPROXIMATELY 3-1/4 IN. FROM SURFACE MARKED Z.
13. INSTALL HEAD PLUG FILTER.
14. PUT #6 EXT. STAR WASHER ON BOTH SIDES OF GROUND STRAP.
15. QUICK LATCH HUB WILL NOT FIT ON ALL CASTINGS DUE TO THE SMALLER HOLE DIAMETER. THIS HOLE CAN BE FILLED WITH A COARSE HALF ROUND BASTARD FILE TO ACCOMODATE THE QUICK LATCH HUB ASSY. FOR FIELD RETROFIT.

FIRST USED ON OPTION/MODEL: TU16	QTY. / DESCRIPTION / PART NO. / ITEM NO. — PARTS LIST		
DIMENSIONAL TOLERANCE: DIMENSIONS ARE INCHES UNLESS OTHERWISE SPECIFIED	DRN. D.F. SCHMIDT	DATE	digital
INCHES: .XXX ±.005, .XX ±.02, .X ±.1; ANGLES ±0° 30'	CHK'D	DATE	TITLE: TAPE TRANSPORT ASSY
THIRD ANGLE PROJECTION	ENG. / PROJ. ENG. / PROD.	DATE	
REMOVE BURRS AND BREAK SHARP CORNERS; SURFACE QUALITY ✓	NEXT HIGHER ASSY. D-UA-TU16-0-0		SIZE E, CODE AD, NUMBER 7009634-0-0, REV. S
MATERIAL: SEE PARTS LIST; FINISH: —	SCALE 1/2; SHEET OF 4		DIST.

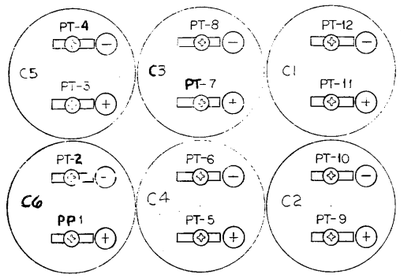
WIRE TABLE

WIRE NO	WIRE ITEM NO	DESCRIPTION AWG	DESCRIPTION COLOR	WIRE LENGTH	STRIP LENGTH 'X'	STRIP LENGTH 'Y'	TERM 'X' ITEM NO	TERM 'Y' ITEM NO	FROM CONN 'X'	TO CONN 'Y'	REMARKS	FUNCTION
1	47	14	BLK	12.0		.16		PIN	M-1	P8-1	M-MOTOR	
2	47	14	RED	12.0		.16		PIN	M-2	P8-2		
3	47	18	BLU	12.0		.16		PIN	B-1	P8-3	B-BRAKE	
4	47	18	BLU	12.0		.16		PIN	B-2	P8-4		

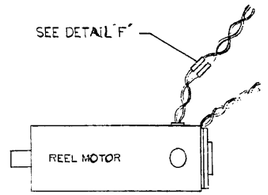


REVISIONS		
CHK	CHANGE NO.	REV.

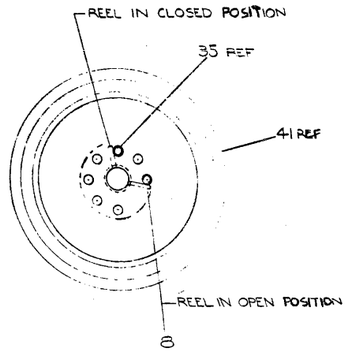
TITLE	SIZE	CODE	NUMBER	REV.
TAPE TRANSPORT ASSY	E	AD	7009634-0-0	S
SCALE 1/2	SHEET 2 OF 4	DIST.		



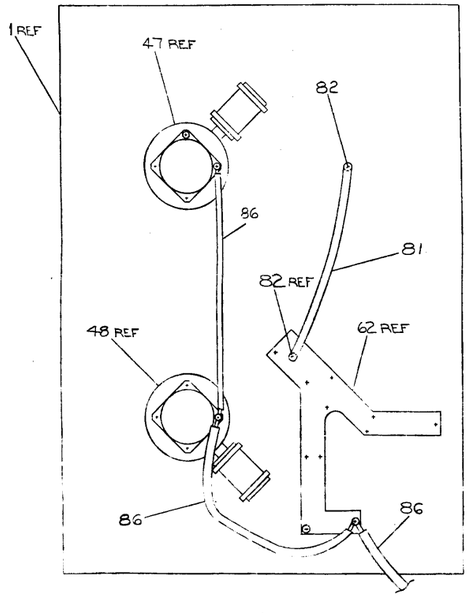
TOP VIEW F-F
SHOWN WITH "CAPACITOR GUARD" REMOVED

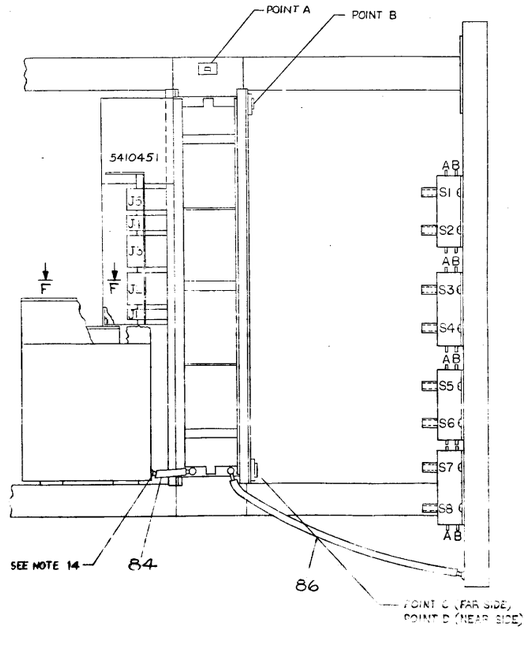


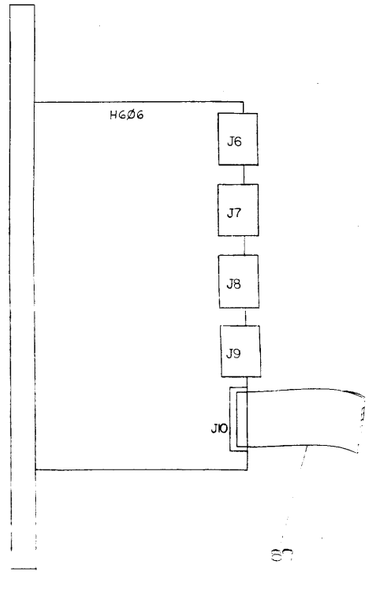
DETAIL 'F'
COVER WITH SHRINK TUBING 2-1/4 IN. LG.+ SHRINK OVER TUBE.



DETAIL "D"







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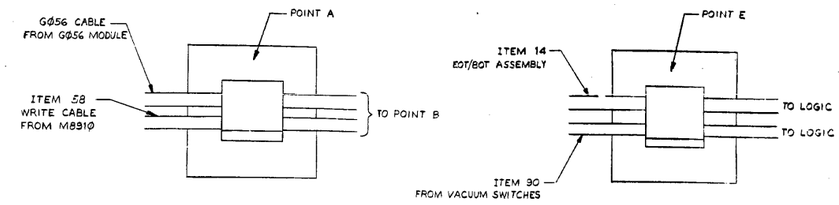
REVISIONS		
CNR	CHANGE NO.	REV.

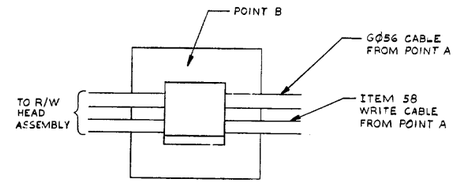
TITLE	TAPE TRANSPORT ASSY	SIZE/CODE	NUMBER	REV
		E	AD 7009834-00	S
SCALE	1:2	SHEET	3 OF 4	UNIT	

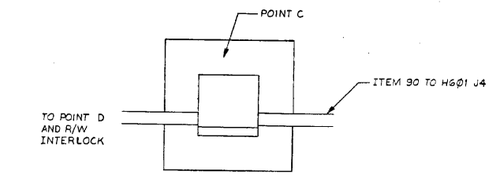
7009834-0-0

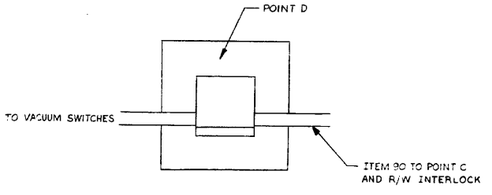
INTERCONNECTION TABLE

ITEM NO	DESCRIPTION AWG	COLOR	FROM CONNECTION	WITH	TO CONNECTION	WITH	TIE DOWN POINT (SEE NOTE 8)	REMARKS
90	22	WHT/YEL	VAC SW HARN- TB-1	—	VAC SW S1-A	—	B	
	18	BLK	-TB-2	—	S1-B	—		
	22	WHT/GRY	-TB-3	—	S2-A	—	D	
	18	BLK	-TB-4	—	S2-B	—		
	22	WHT/YEL	-PT-10	—	LOGIC C02U1	—	B	
	22	GRN	-PT-9	—	LOGIC C02U2	—	B	
	22	WHT/YEL	-TB-5	—	VAC SW S3-A	—	B	
	18	BLK	-TB-6	—	S3-B	—		
	22	WHT/BLU	-TB-7	—	S4-A	—	D	
	18	BLK	-TB-8	—	S4-B	—		
	22	WHT/BRN	-TB-9	—	S5-A	—	D	
	18	BLK	-TB-10	—	S5-B	—		
	22	GRY	-TB-11	—	S6-A	—		
	22	GRN	-TB-12	—	S6-B	—		
	22	WHT/ORN	-TB-13	—	S7-A	—	D	
	18	BLK	-TB-14	—	S7-B	—		
	22	GRN	-TB-15	—	S8-A	—		
	18	BLK	-TB-16	—	S8-B	—		
	18	BLK	-E-17	—	ITEM 62 DEC PLATE - GND	105		
	—	—	-P13	—	R/W INTERLOCK - J13	—	C	
	—	—	VAC SW HARN - P4	—	HG06 J9	—	C	
91	14	BLU	CAP. HARN - TB-1	—	CAPACITOR BANK PT-11	—		
		BLK	TB-2	—	PT-12	—		
		WHT	TB-3	—	PT-8	—		
		BLK	TB-4	—	PT-7	—		
		BLK	TB-5	—	PT-4	—		
		BRN	TB-6	—	PT-3	—		
		BLK	TB-7	—	PT-2	—		
		RED	TB-8	—	PT-1	—		
		BLK	TB-9	—	PT-6	—		
		VIO	TB-10	—	PT-5	—		
		BLK	TB-11	—	PT-10	—		
	14	YEL	TB-12	—	PT-9	—		
	—	—	CAP. HARN - P3	—	54-12242 J3	—		
5	—	—	CONT BOX CABLE	—	M8910 - J1	—		
68	—	—	LOGIC ASSY - P5	—	54-12242 J5	—		
69	—	—	TRANSFORMER - P2	—	54-12242 J2	—		
89	—	—	BC05L	—	HG06 J10	—		
	—	—	BC05L	—	M8910 J2	—		
92	—	—	SERVO BD HARN - P4	—	54-12242 J4	—		
	—	—	SERVO BD HARN - P7	—	HG06 J7	—		
14	—	RED	EOT/BOT ASSEMBLY	—	LOGIC	—	E	
	—	ORN	EOT/BOT ASSEMBLY	—	LOGIC	—	E	
	—	YEL	EOT/BOT ASSEMBLY	—	LOGIC	—	E	
	—	BRN	EOT/BOT ASSEMBLY	—	LOGIC	—	E	
—	—	—	G056 CABLE - G056	—	R/W HEAD ASSEMBLY	—	A,B	
—	—	—	WRITE CABLE	—	M8910 J3	—	A	
—	—	—	WRITE CABLE	—	R/W HEAD ASSEMBLY	—	B	



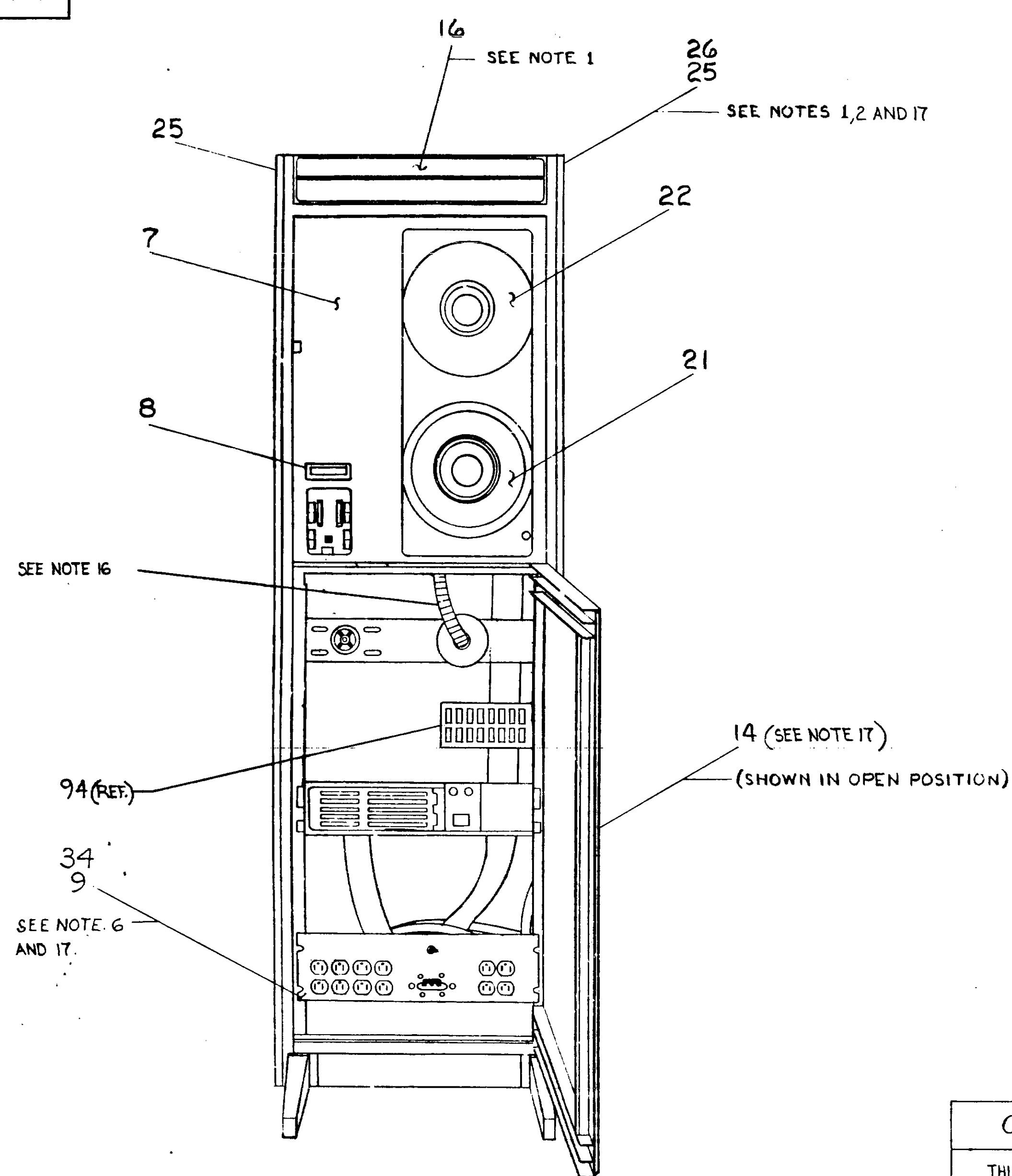






REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
TAPE TRANSPORT ASSY	E	AD	7009634-00	S
SCALE	SHEET 4 OF 4		DIST.	



FRONT VIEW

LEGEND

NUMBER	VARIATION	
	DESRIPTION	VOLTAGE
TU16-EE	MAG TAPE SLAVE UNIT 45 IPS 9 TRACK PE/NRZI	115V, 60HZ
TU16-EF	MAG TAPE SLAVE UNIT 45 IPS 9 TRACK PE/NRZI	230V, 60HZ
TU16-EH	MAG TAPE SLAVE UNIT 45 IPS 9 TRACK PE/NRZI	115V, 50HZ
TU16-EJ	MAG TAPE SLAVE UNIT 45 IPS 9 TRACK PE/NRZI	230V, 50HZ
TU16-EA	TU16-EE & TMØ2-FA	115V, 60HZ
TU16-EB	TU16-EF & TMØ2-FB	230V, 60HZ
TU16-EC	TU16-EH & TMØ2-FA	115V, 50HZ
TU16-ED	TU16-EJ & TMØ2-FB	230V, 50HZ
TU16-EK	TU16-EE & TMØ2-FC	115V, 60HZ
TU16-EL	TU16-EF & TMØ2-FD	230V, 60HZ
TU16-EM	TU16-EH & TMØ2-FC	115V, 50HZ
TU16-EN	TU16-EJ & TMØ2-FD	230V, 50HZ
TU16-AA THROUGH-AJ	TU16 IN H95ØØ SERIES CAB (CORP. CAB) SEE SHEETS 5 & 6	

NOTES:

1. THE CORRECT DEC PART NUMBER VARIATION FOR ITEMS #16 & 25 SHOULD BE DETERMINED BY THE SYSTEM THAT THE TU16 IS TO BE INCLUDED WITH.
2. THE QUANTITY REQUIRED FOR THE H952-A END PANEL ASSY' (ITEM #25) AND THE "H952-GA FILLER STRIP ASSY' (ITEM #26-NOT SHOWN) IS DETERMINED BY WHETHER THE TU16 IS INCLUDED IN A SYSTEM OR WHETHER IT STANDS ALONE.
3. INFORMATION FOR CONNECTING THE CABLES (ITEM #17) TO TAPE TRANSPORT (ITEM #6, #35) REFER TO DWG NO. D-MU-TU16-Ø-MU.
4. PHANTOM LINES REPRESENT TRANSPORT ASSY' IN CLOSED POSITION TO SHOW LOCATION OF SHIPPING BRACKETS (ITEM #38).
5. TO CONVERT FROM 120 TO 240-VAC OPERATION, CUT MALE END FROM TU16'S POWER CORD, AND CONNECT END OF CORD TO 240 VAC MALE CONNECTOR, ITEM #43 (NOT SHOWN).
6. POWER CORD ROUTING: 861-CABLE CLAMP (ITEM #42-NOT SHOWN) TINNERMAN NUT, SCREW, AND WASHER MOUNT ON RIGHT SIDE REAR HOLE #10 ROUTE CORD THROUGH CLAMP AND OUT BOTTOM OF CABINET. TU16-ROUTE CORD THRU CABLE CLAMP (ITEM 54 NOT SHOWN) LOCATED IN HOLE #67 ON LEFT FRONT SIDE OF CABINET OUTSIDE OF CHASSIS SLIDE AND INTO PLUG ON 861. USE TWO FLAT WASHERS (1 (ONE) PER CLAMP).
7. ITEMS 57 AND 56 ARE USED AS A POSITIVE STOP TO PREVENT PULLING. THE TRANSPORT OUT OF THE CABINET THEY MUST BE INSTALLED WHEN TRANSPORT ASSY IS MOUNTED TO CAB.
8. USE BLACK TUBING TO COVER 36 IN. GROUND STRAP USE 2 TIE WRAPS (ITEM #52) TO SECURE TUBING TO STRAP
9. USE ONE TIE WRAP TO BIND EXTRA ITEM #51 TO ITEM #45.
10. INSERT 5 ITEM #49'S (NOT SHOWN) IN LEFT SIDE, FRONT HOLES NUMBERS 68, 76, 90, 100, AND 106. USE 5 TIE WRAPS (ITEM #52, NOT SHOWN) TO SECURE HARNESS TO CAB. ROUTE CAB FAN HARNESS THRU 861 POWER CONTROL, FAN BOX AND INTO SWITCHED PLUG ON 861 BOX.
11. FASTEN TWO ITEM #50'S TO UNDER SIDE OF CAB ROOF AND CAPTIVATE POWER WIRES FROM FAN.
12. GROUND STRAP, JUMPER FROM TMØ2 ~~LOGIC BOX TO BE CONNECTED TO~~ POWER SUPPLY TRANS-CAP ASSY.
13. FASTEN (ITEM #50) WHERE SHOWN AND SECURE VACUUM MOTOR HARNESS (ITEM #66) USING TIE WRAP (ITEM #52) SECURE HARNESS TO VACUUM HOSE USING TIE WRAPS (ITEM #67) AND CONNECT TO J1 ON POWER BOARD.
14. FASTEN (ITEM #50) TO FRONT OF LOGIC ASSY. CHASSIS AND SECURE VACUUM SYSTEM HOSE. HOSE SHOULD NOT COME IN CONTACT WITH COMPONENTS ON REAR OF DECK PLATE.
15. USE ONLY ON REAR CHASSIS TRACKS QTY. 4 PER TRACK.
16. WITH TRANSPORT FULLY IN CAB LOOSEN CLAMP AT VACUUM ASSY., TWIST HOSE UNTIL HOSE FORMS A SERVICE LOOP ABOVE OR IN PARALLEL WITH VACUUM SYSTEM.
17. THIS ITEM MUST BE CONNECTED TO A MAIN VERTICAL UPRIGHT GROUND STAND OFF.

CAUTION

THIS SHEET IS FOR THE TU16 IN THE H95Ø SERIES CAB.

DESCRIPTION	DWG./PART NO.	ITEM NO.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

CLASS OF ACCURACY (CHECK ONE)	OVER 0 TO 0.2	OVER 0.2 TO 1.2	OVER 1.2 TO 4.0	OVER 4.0 TO 12.0	OVER 12.0 TO 40.0	OVER 40.0 TO 80.0
MEDIUM	±.004	±.008	±.012	±.016	±.024	±.04
PREFERRED	±.012	±.016	±.025	±.04	±.063	±0.1

ANGLES ±0° 30'
SURFACE QUALITY IN MICROINCHES
QUANTITY & VARIATION
THIRD ANGLE PROJECTION
REMOVE BURRS AND BREAK SHARP CORNERS
DO NOT SCALE DWG
MATERIAL —
FINISH —

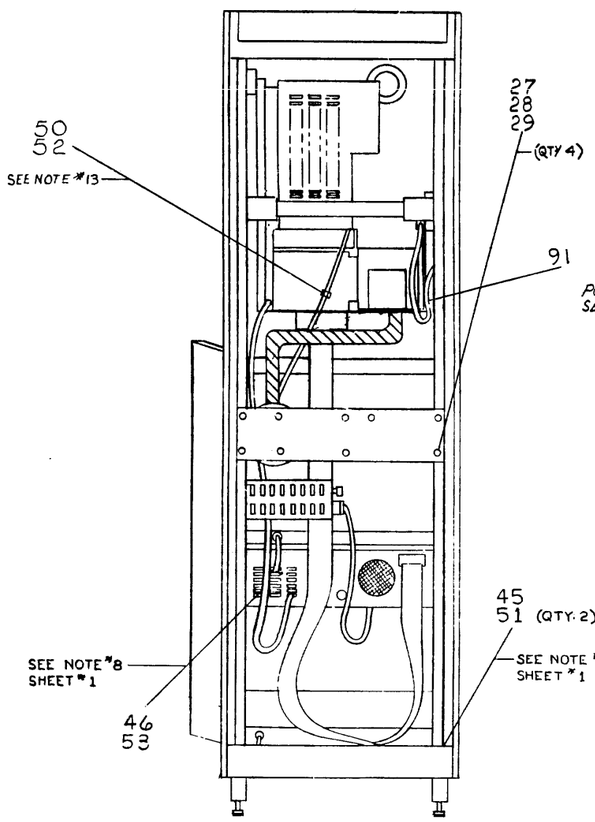
DRN.	M. DUGGAN	8-21-74
CHK'D	D. SCHMIDT	9-24-74
ENG	J. BARDONE	9-24-74
PROJ. ENG.	BARDONE	9-24-74
PROD.	R. GUGUEN	10-2-74

NEXT HIGHER ASSY. B-DD-TU16-Ø
SCALE —
SHEET OF 7
FIRST USED ON TU16

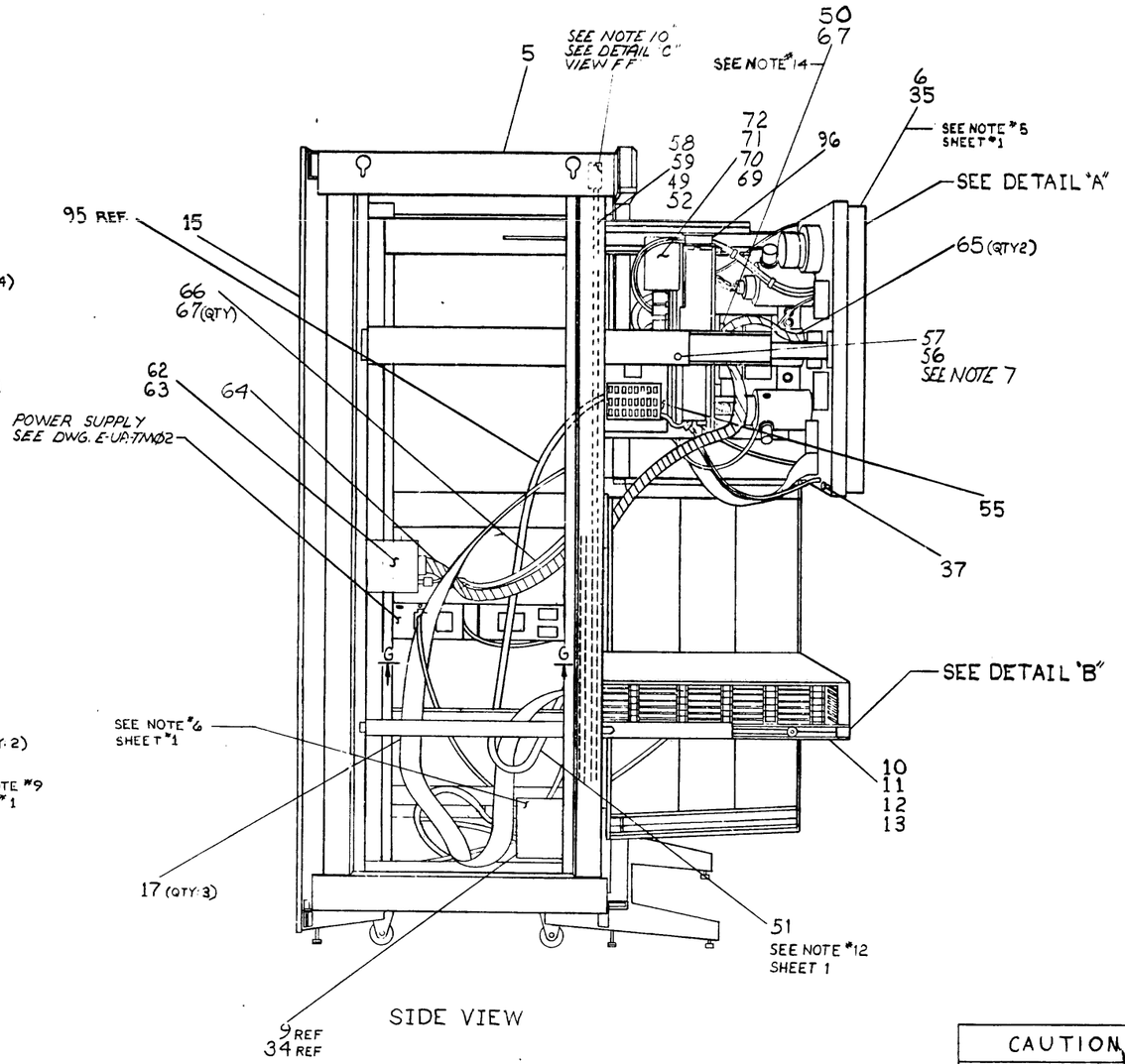
digital

TITLE: MAG TAPE DRIVE (TU16)

SIZE D | CODE UA | NUMBER TU16-Ø-Ø | REV. P
DIST.



REAR VIEW



SIDE VIEW

CAUTION
THIS SHEET IS FOR THE TU16 IN THE H95Ø SERIES CAB

REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE	CODE	NUMBER	REV.
MAG TAPE DRIVE (TU16)	D	UA	TU16-Ø-Ø	R
SCALE —	SHEET 2 OF 7		DIST.	

CABLE CHART

ITEM NO	DESCRIPTION COLOR	AWG	FROM CONN	FROM WITH	TO CONN	TO WITH	REMARKS
59	—	—	BC1 POWER BOX	PLUG			
58	—	—			T1-B	PT-2	
	—	—			T1-D	PT-1	
5	—	—	FAN-1	—	T1-A	ITEM 36	
	—	—	FAN-2	—	T1-C	ITEM 36	
18	—	—	READ BOARD		HEAD-READ SIDE		SEE DETAIL "D"
20	—	—	WRITE BOARD		HEAD-WRITE SIDE		

LOCATION OF "TINNERMAN NUTS" (ITEM #27)

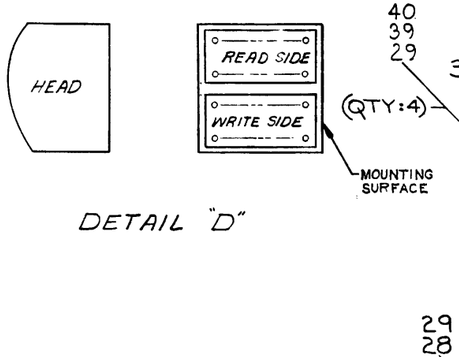
LOCATE ALL NUTS BY COUNTING HOLES UP FROM BOTTOM OF CABINET UPRIGHT

FRONT HOLE NUMBERS	REAR HOLE NUMBERS
RIGHT SIDE: 9,13, 32*,33*, 103, 104, 105, 106	RIGHT SIDE: 32*,33* 53, 60
LEFT SIDE: 9,13, 32*,33*, 84, 85, 86, 87	LEFT SIDE: 32*,33* 53, 60

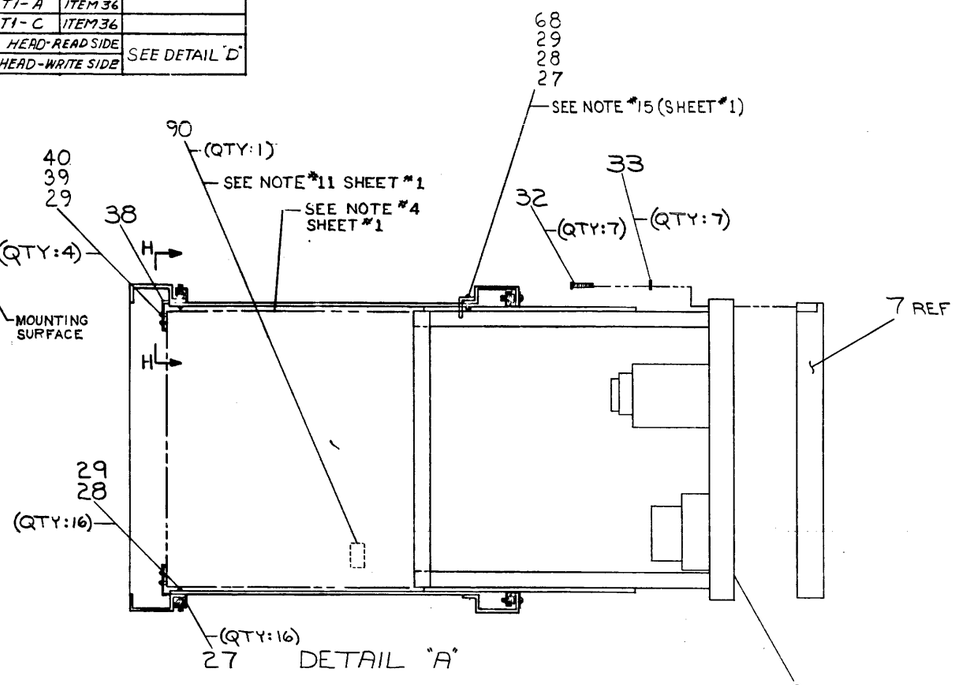
LEFT SIDE HOLE NUMBERS	RIGHT SIDE HOLE NUMBERS
FRONT: 67	FRONT:
REAR: 84, 85, 86, 87	REAR: 7, 103, 104, 105, 106

NOTE:

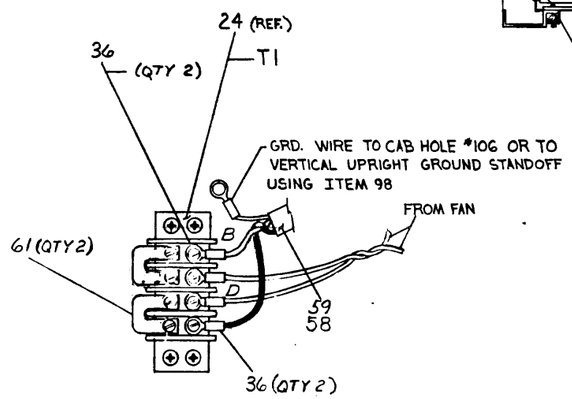
* NUMBERS WITH ASTERISKS USED ONLY WHEN TMØ2 IS USED.



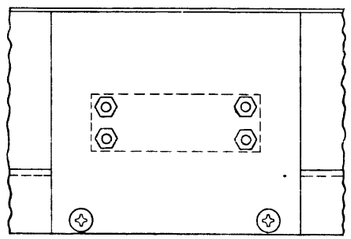
DETAIL "D"

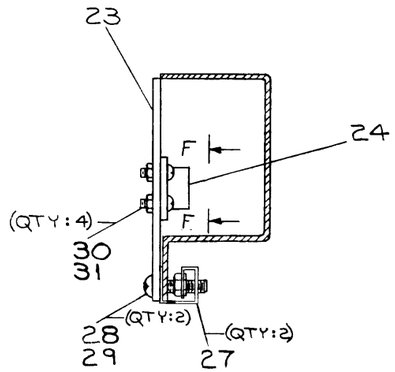


DETAIL "A"

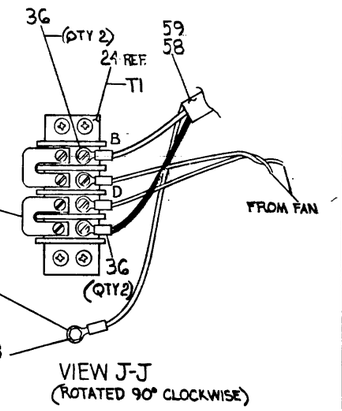


VIEW F-F
(ROTATED 90° CLOCKWISE)





DETAIL "C"



VIEW J-J
(ROTATED 90° CLOCKWISE)

CAUTION

THIS SHEET IS FOR THE TU16 IN THE H950 SERIES CAB

REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE	CODE	NUMBER	REV.
MAG TAPE DRIVE (TU16)	D	UA	TU16-Ø-Ø	P
SCALE —	SHEET 3 OF 7	DIST.		

CABLE CHART

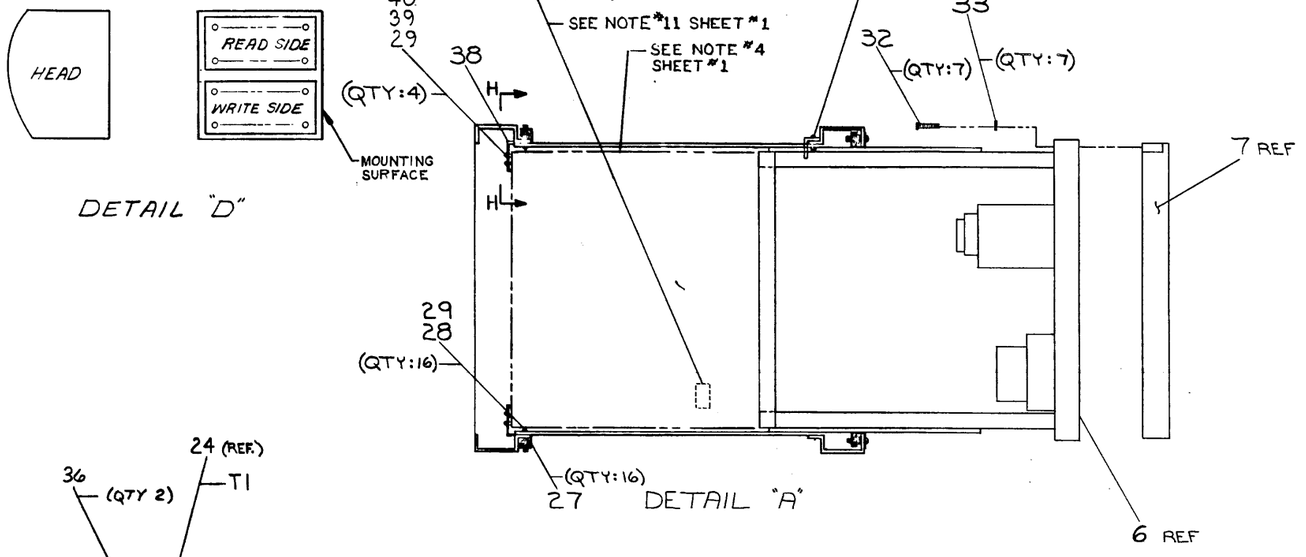
ITEM NO	DESCRIPTION COLOR	AWG	FROM CONN	FROM WITH	TO CONN	TO WITH	REMARKS
59	—	—	BC1 POWER BOX	PLUG			
58	—	—			T1-B	PT-2	
	—	—			T1-D	PT-1	
5	—	—	FAN-1	—	T1-A	ITEM 36	
	—	—	FAN-2	—	T1-C	ITEM 36	
18	—	—	READ BOARD		HEAD-READ SIDE		SEE DETAIL "D"
20	—	—	WRITE BOARD		HEAD-WRITE SIDE		

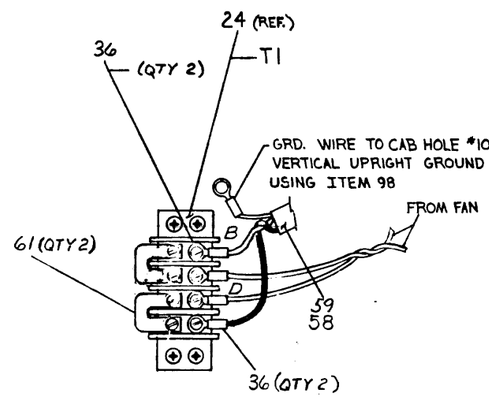
LOCATION OF "TINNERMAN NUTS" (ITEM #27)

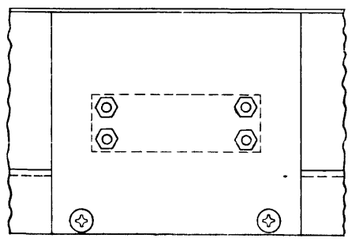
LOCATE ALL NUTS BY COUNTING HOLES UP FROM BOTTOM OF CABINET UPRIGHT

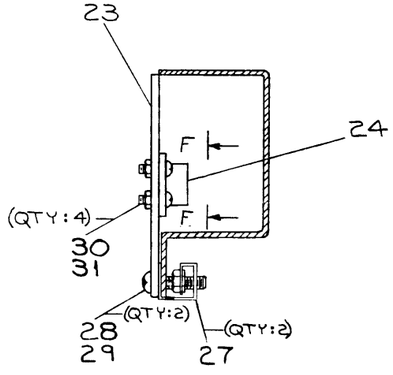
FRONT HOLE NUMBERS	REAR HOLE NUMBERS
RIGHT SIDE: 9,13, 32*,33*, 103, 104, 105, 106	RIGHT SIDE: 32*, 33* 53, 60
LEFT SIDE: 9,13, 32*,33*, 84, 85, 86, 87	LEFT SIDE: 32*, 33* 53, 60
LEFT SIDE HOLE NUMBERS FRONT: 67	RIGHT SIDE HOLE NUMBERS FRONT:
REAR: 84, 85, 86, 87	REAR: 7, 103, 104, 105, 106

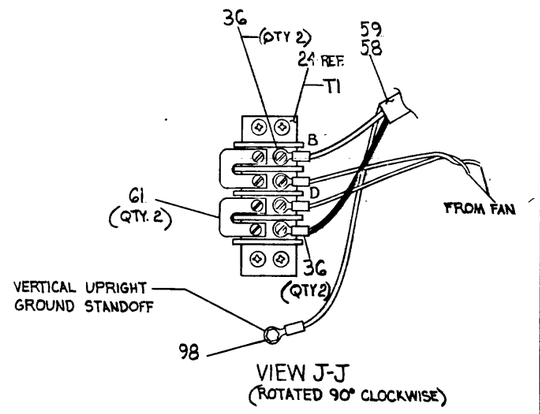
NOTE:
* NUMBERS WITH ASTERISKS USED ONLY WHEN TM02 IS USED.









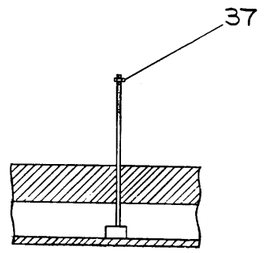


CAUTION

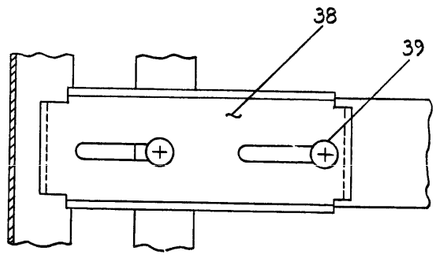
THIS SHEET IS FOR THE TU16 IN THE H950 SERIES CAB

REVISIONS		
CHK	CHANGE NO.	REV

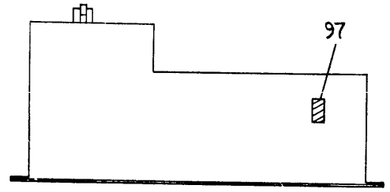
TITLE	SIZE	CODE	NUMBER	REV.
MAG TAPE DRIVE (TU16)	D	UA	TU16-0-0	F
SCALE —	SHEET 3 OF 7	DIST		



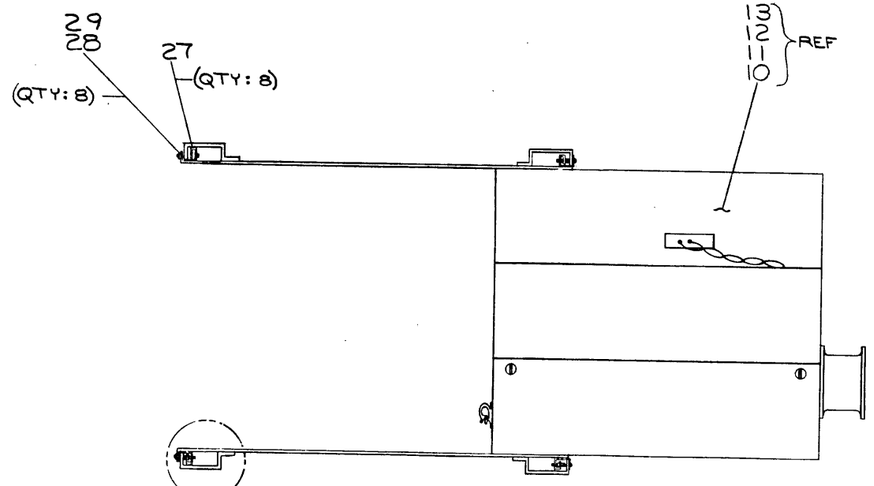
SECTION E-E

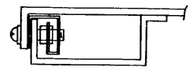


SECTION H-H



VIEW G-G
SCALE: NONE





DETAIL G

DETAIL "B"
(SHOWN EXTENDED)

SEE DETAIL G

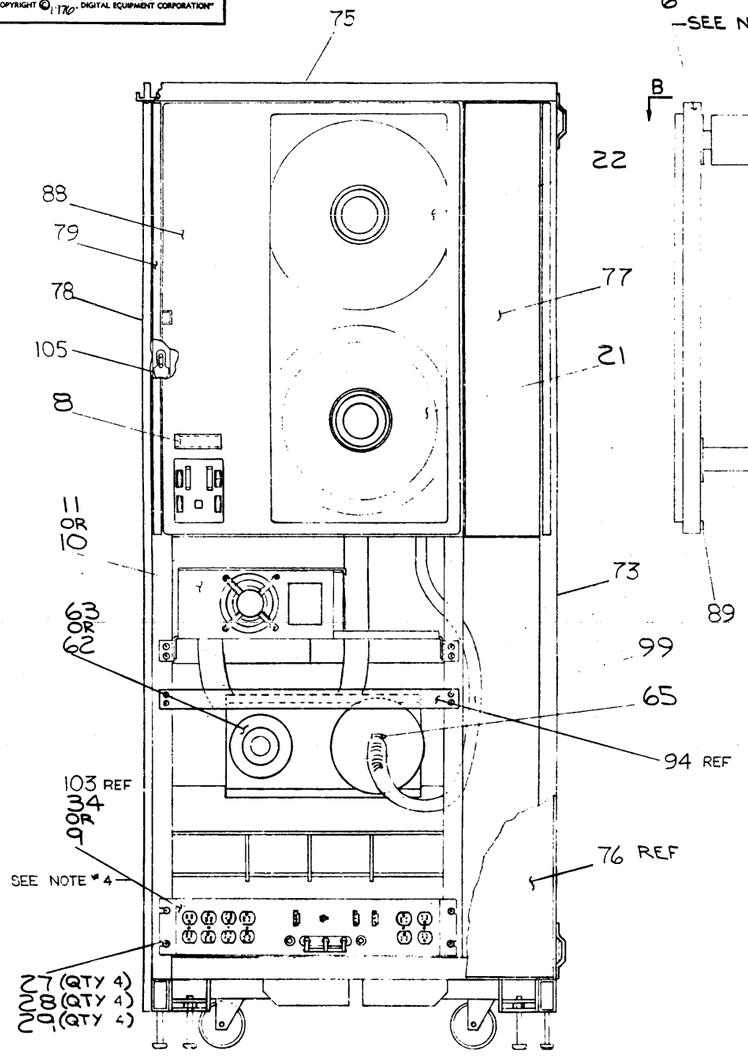
CAUTION

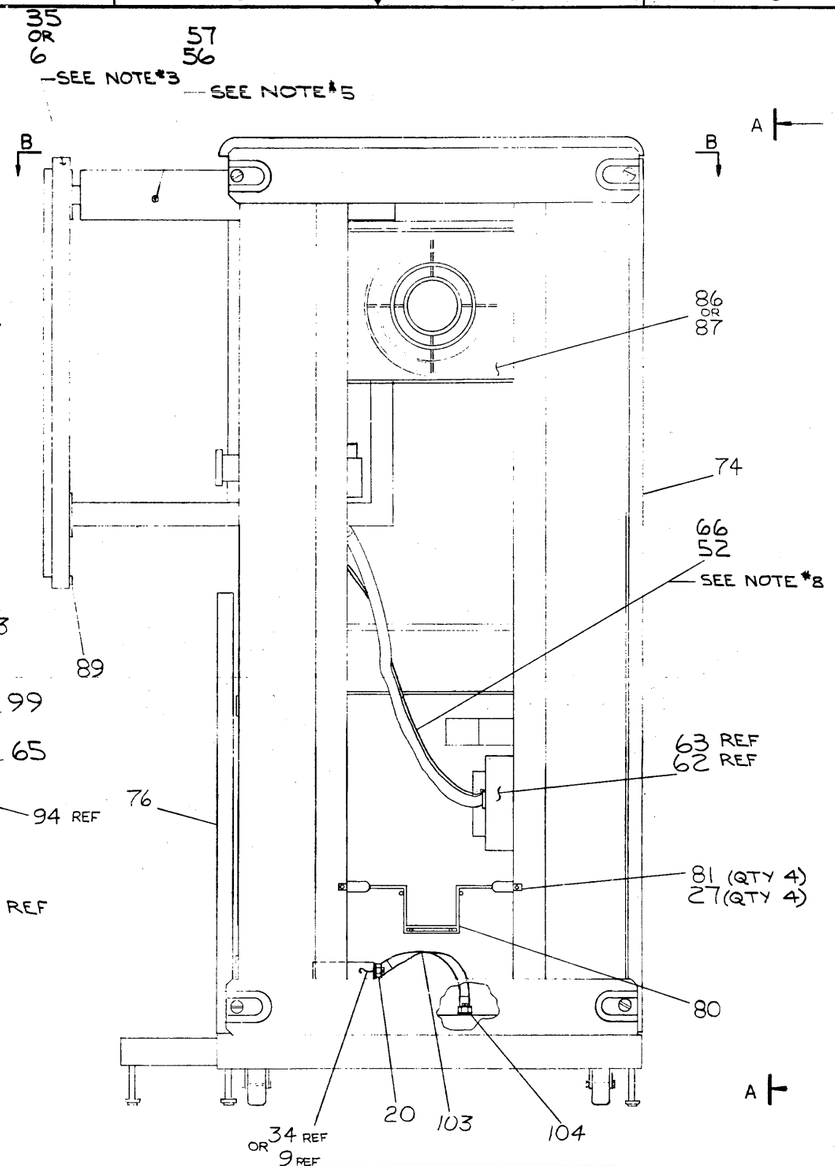
THIS SHEET IS FOR THE TU16
IN THE H950 SERIES CAB

REVISIONS		
CHK	CHANGE NO	REV

TITLE: MAG TAPE DRIVE (TU16)		SIZE: D	CODE: UA	NUMBER: TU16-Ø-Ø
SCALE: H	SHEET: 4 OF 7	DIST.		REV: P

DEC FORM NO. DRD 137





NOTES:

1. FOR INFORMATION ON CONNECTING THE "BC06R I/O CABLE" (ITEM *17) TO THE TAPE TRANSPORT ASSY (ITEMS *6, *35) REFER TO D-MU-TU16-0-MU.
2. PHANTOM LINES REPRESENT "TAPE TRANSPORT ASSY (ITEMS *6, *35) IN CLOSED POSITION TO SHOW LOCATION OF "SHIPPING BRACKETS" (ITEM *38)
3. TO CONVERT FROM 120 TO 240 VAC OPERATION, CUT MALE END FROM TU16'S POWER CORD, THEN CONNECT THE CORD TO "240 VAC MALE CONN" (ITEM *43, NOT SHOWN).
4. POWER CORD ROUTING FOR:
   B61 POWER CONTROL - "CABLE CLAMP" (ITEM *42, NOT SHOWN), "TINNERMAN NUT" (ITEM *27) "PHL TRUSS HD SCREW" (ITEM *28) AND "KEP NUT" (ITEM *29) TO MOUNT ON RIGHT SIDE REAR HOLE *10, ROUT CORD THRU CABLE CLAP AND OUT THE BOTTOM OF CABINET.
   TU16 - ROUTE CORD THRU "CABLE CLAMP" (ITEM *54, NOT SHOWN) SECURED WITH THE ABOVE HARDWARE, LOCATE ON THE LEFT SIDE FRONT HOLE *67, OUTSIDE OF CHASSIS SLIDE AND INTO PLUG ON B61.
5. "HEX HED SCREW" (ITEM *54) AND "KEP NUT" (ITEM *5) ARE USED AS A POSITIVE STOP TO PREVENT PULLING THE "TAPE TRANSPORT ASSY (ITEMS *6, *35) OUT OF THE CAB AND MUST BE INSTALLED WHEN THE "TAPE TRANSPORT" IS MOUNTED TO CAB.
6. USE "BLK EXTRUDED TUBING" (ITEM *53) TO COVER "38 IN GROUND STRAP" (ITEM *46) AND USE 2 "CABLE TIES" (ITEM *52, NOT SHOWN) TO TO SECURE TUBING TO STRAP.
7. GROUND STRAP JUMPER FROM TM02 LOGIC BOX TO BE CONNECTED TO GROUND LUG AT BOTTOM OF BASE CAB.
8. SECURE "VACUUM MOTOR HARNESS" (ITEM *66) TO "HOSE" (ITEM *99) AND CONNECT HARNESS TO J1 ON THE POWER BOARD.
9. INSTALL "TINNERMAN NUT" (ITEM *27) INTO HOLES *76 & *77 ON THE RIGHT FRONT SIDE OF CAB AND MOUNT "STOP BRACKET" (ITEM *62) AS SHOWN.
10. REMOVE HEX HD. CAP SCREW IN FRAME ASSY. (ITEM *73) TO ASSEMBLE COUNTERWEIGHT LEAD, (ITEM *100) & BRK'T COUNTERWEIGHT (ITEM *101) TO FRAME ASSY.

CAUTION

THIS SHEET IS FOR THE TU16 IN THE H95Ø0 SERIES CAB

REV.	REVISIONS	CHANGE NO.
P		

DESCRIPTION	DWG./PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		

ANGLES ±0° 30'	CLASS OF ACCURACY (CHECK ONE)	NOMINAL DIMENSION RANGE IN INCHES					
		0 TO 0.3	0.3 TO 1.2	1.2 TO 4.0	4.0 TO 12.0	12.0 TO 40.0	40.0 TO 80.0
SURFACE QUALITY IN MICROINCHES	MEDIUM ☐	±.004	±.008	±.012	±.016	±.024	±.04
	PREFERRED ☐	±.012	±.018	±.025	±.04	±.063	±0.1

QUANTITY & VARIATION

THIRD ANGLE PROJECTION

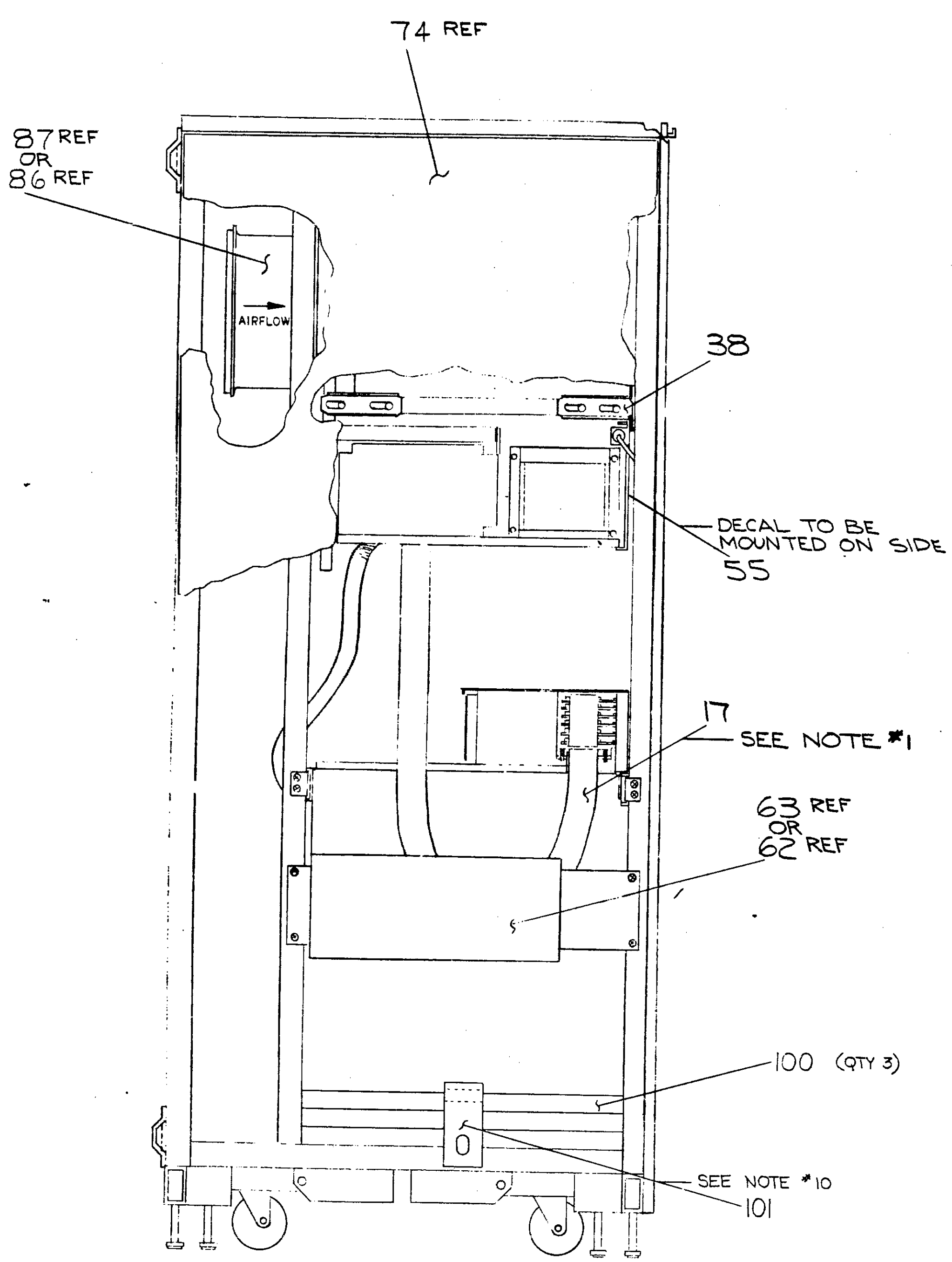
REMOVE BURRS AND BREAK SHARP CORNERS

DO NOT SCALE DWG

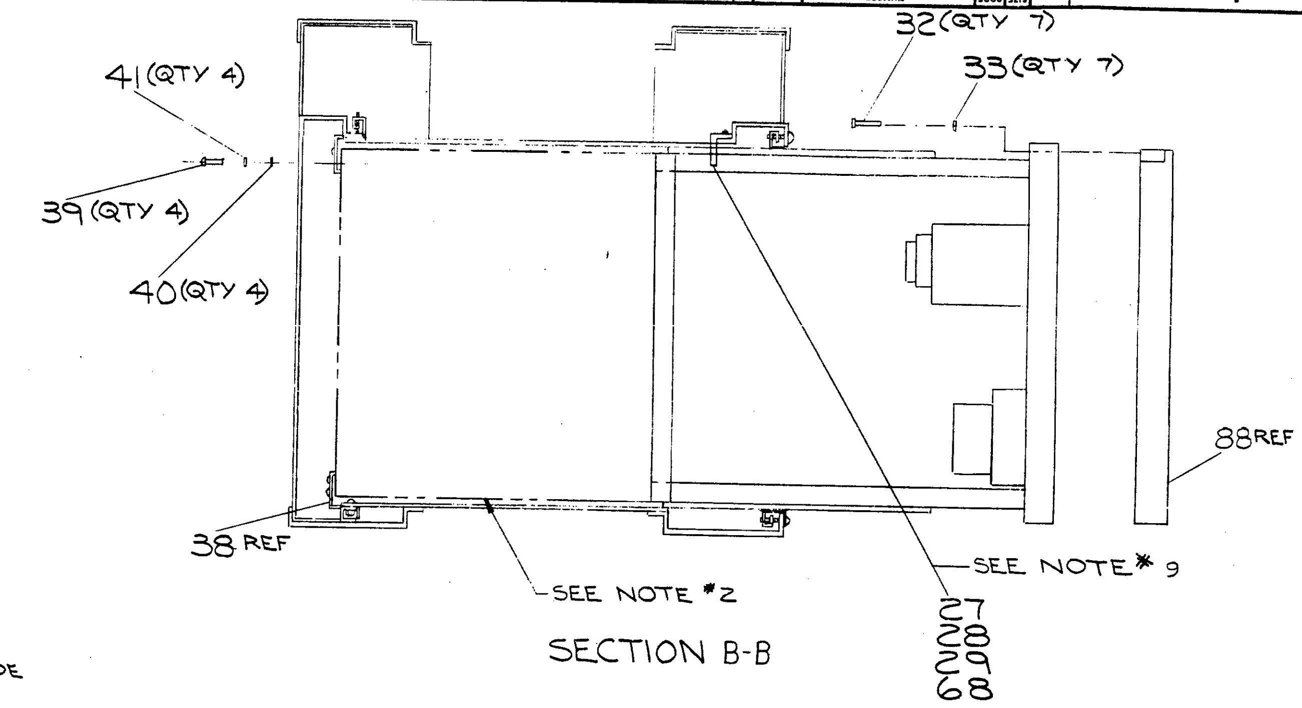
MATERIAL —"—

FINISH —"—

DRN M. DOUGLAN	8-21-74	FIRST USED ON TU16
CHK'D D. S. HEMLT	9-23-74	
ENG. P. HARDUNE	9-24-74	TITLE MAG TAPE DRIVE (TU16)
PROJ. ENG. EARLDON	9-24-74	
PROD. F. COGUEN	10-2-74	
NEXT HIGHER ASSY	B-DD-TU16-Ø	
SCALE NONE	SIZE D	CODE UA
SHEET 5 OF 7	DIST.	NUMBER TU16-Ø-Ø
		REV. P



VIEW-A-A



SECTION B-B

NUMBER	VARIATION DESCRIPTION	VOLTAGE
TU16-AA	TU16-AE & TMØ2-FA	115V, 6Ø HZ
TU16-AB	TU16-AF & TMØ2-FB	23ØV, 6Ø HZ
TU16-AC	TU16-AH & TMØ2-FA	115V, 5Ø HZ
TU16-AD	TU16-AJ & TMØ2-FB	23ØV, 5Ø HZ
TU16-AE	MAG TAPE SLAVE UNIT 45 IPS 9 TRACK PE / NRZI	115V, 6Ø HZ
TU16-AF	MAG TAPE SLAVE UNIT 45 IPS 9 TRACK PE / NRZI	23ØV, 6Ø HZ
TU16-AH	MAG TAPE SLAVE UNIT 45 IPS 9 TRACK PE / NRZI	115V, 5Ø HZ
TU16-AJ	MAG TAPE SLAVE UNIT 45 IPS 9 TRACK PE / NRZI	23ØV, 5Ø HZ

LEGEND (CONT. FROM SHEET 1)

LOCATION OF "TINNERMAN NUTS" (ITEM #27)

LOCATE ALL NUTS BY COUNTING HOLES UP FROM BOTTOM OF CABINETS UPRIGHT.

FRONT HOLE NUMBERS	REAR HOLE NUMBERS
RIGHT SIDE: 3, 7, 25, 28, 31, 32, 85, 86, 87, 88	RIGHT SIDE: 16, 23, 31, 32.
LEFT SIDE: 3, 7, 25, 28, 31, 32, 66, 67, 68, 69	LEFT SIDE: 16, 23, 31, 32.

RIGHT SIDE HOLE NUMBERS	LEFT SIDE HOLE NUMBERS
FRONT: 17, 66, 79	FRONT: 17
REAR: 17, 66, 79, 85, 86, 87, 88	REAR: 17, 66, 67, 68, 69

CAUTION

THIS SHEET IS FOR THE TU16 IN THE H95ØØ SERIES CAB

DESCRIPTION	DWG./PART NO.	ITEM NO.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

ANGLES ±0° 30'

SURFACE QUALITY IN MICROINCHES

CLASS OF ACCURACY (CHECK ONE)	OVER 0 TO 0.2	OVER 0.2 TO 1.2	OVER 1.2 TO 4.0	OVER 4.0 TO 12.0	OVER 12.0 TO 40.0	OVER 40.0 TO 80.0
MEDIUM	±.004	±.008	±.012	±.016	±.024	±.04
PREFERRED	±.012	±.016	±.025	±.04	±.063	±0.1

QUANTITY & VARIATION

THIRD ANGLE PROJECTION

REMOVE BURRS AND BREAK SHARP CORNERS

DO NOT SCALE DWG

MATERIAL —//—

FINISH —//—

DRN.	M. DUGGAN	8-21-74
CHK'D.	D. SCHMIDT	9-24-74
ENG.	J. BARDONE	9-24-74
PROJ. ENG	BARDONE	9-24-74
PROD.	R. GOGUEN	10-2-74

NEXT HIGHER ASSY. B-DD-TU16-Ø

SCALE NONE

SHEET 6 OF 7

FIRST USED ON TU16

digital

TITLE MAG TAPE DRIVE (TU16)

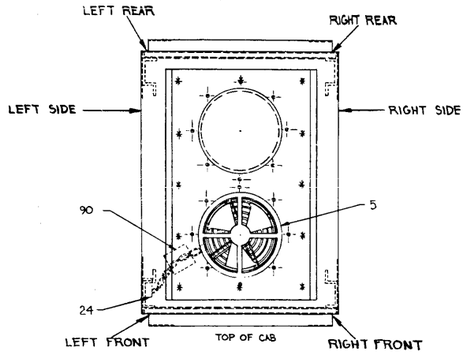
SIZE	CODE	NUMBER	REV.
D	UA	TU16-Ø-Ø	P

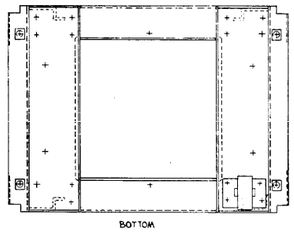
DIST.

REVISIONS | CHANGE NO. | REV. | CHK

DEC FORM NO. DRD 100-C

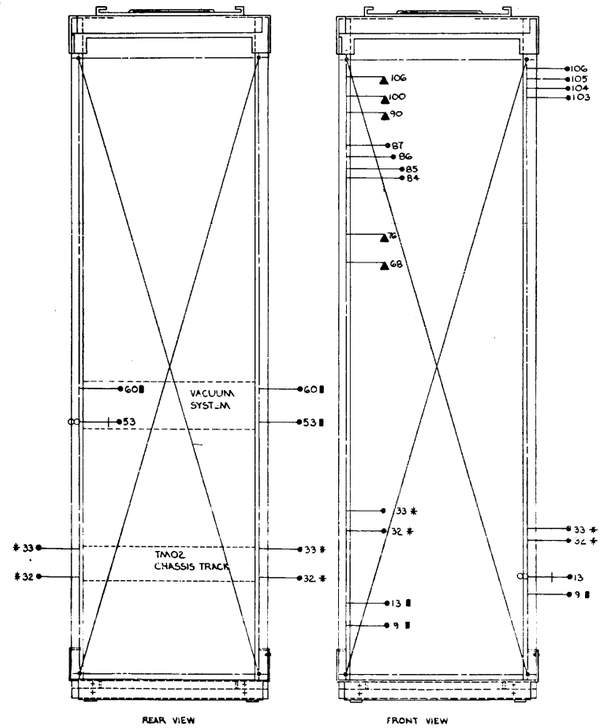
HARDWARE AID PRINT





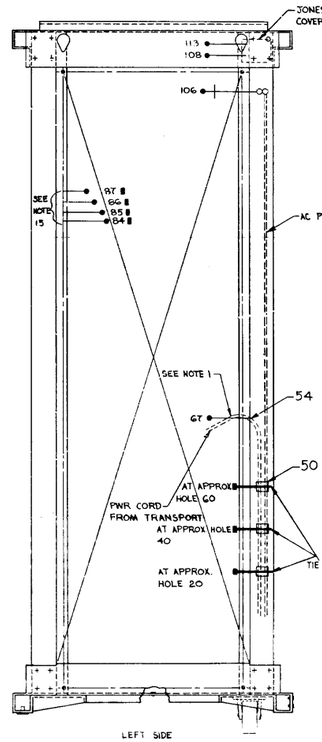
VIEW J
SCALE NONE

NOTES:
1. USE .375 CLAMP FOR POWER CORD FROM TRANSPORT 907083, USE FLAT WASHER.
2. USE .625 CLAMP FOR BG1 POWER CORD, USE FLAT WASHER.
- THIS SIGN INDICATES WHERE TINNERMAN CLIP SHOULD BE, COUNTING FROM BOTTOM OF CAB
- INDICATES USE OF SCREW & KEP-NUT FOR GROUNDING PURPOSES.
- INDICATES CABLE TIE MOUNT 9078G7 FOR TIE WRAP.
* THIS SIGN INDICATES USE ONLY WHEN INSTALLING A TM02
▮ USE FLAT WASHER #10
∞ USE KEP-NUT 10-32

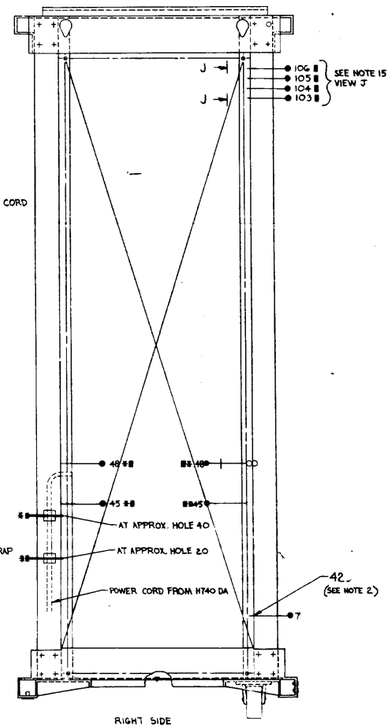


REAR VIEW

FRONT VIEW



LEFT SIDE



RIGHT SIDE

REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE	CODE	NUMBER	REV
MAG TAPE DRIVE (TU16)	D	UA	TU16-Ø-Ø	D
SCALE	SHEET 7 OF 7	DIST.		

DEC FORM NO. DRD 137