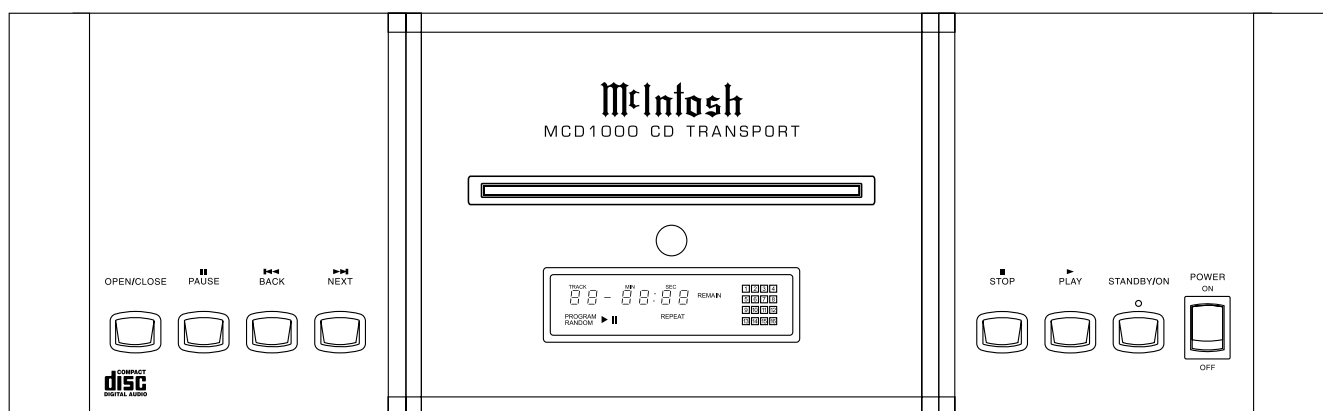




MCD1000

CD TRANSPORT



CONTENTS

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McIntosh®

SERVICE MANUAL

PERFORMANCE SPECIFICATIONS

Digital Audio Format

IEC958, S/PDIF

Digital Outputs

Optical: -15 ~ -20dBm

Coaxial: 0.5V p-p @ 75ohms

XRL: 5V p-p @ 110ohms (AES/EBU)

Transport

Pickup: Optical 3-beam laser

Objective Lens Drive System: 2-Dimensional parallel

Laser Type: GaAIAs semiconductor

Laser Beam Wavelength: 780nm

Digital Signal Format

Sampling Frequency: 44.1kHz

Quantization Bit: 16-bit linear/channel

Modulation Code: Eight to Fourteen Modulation

Error Correction: Cross Interleave Reed Solomon

Power Requirements

100 Volts, 50/60Hz at 20 watts

110 Volts, 50/60Hz at 20 watts

120 Volts, 50/60Hz at 20 watts

220 Volts, 50/60Hz at 20 watts

230 Volts, 50/60Hz at 20 watts

240 Volts, 50/60Hz at 20 watts

Note Refer to the rear panel of the MCD1000 for the correct voltage.


Dimensions

Front Panel: 17-1/2 inches (44.5cm) wide, 6 inches (15.24cm) high (including feet). Depth is 16-1/8 inches (40.96cm) including the Front Panel and knobs.

Weight

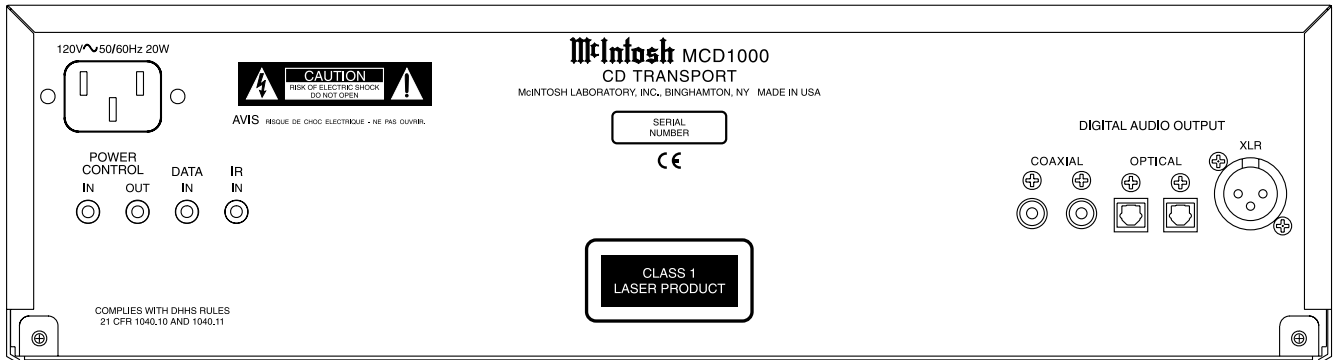
27.5 pounds (12.47g) net, 41.5 pounds (18.83kg) in shipping carton

NOTES

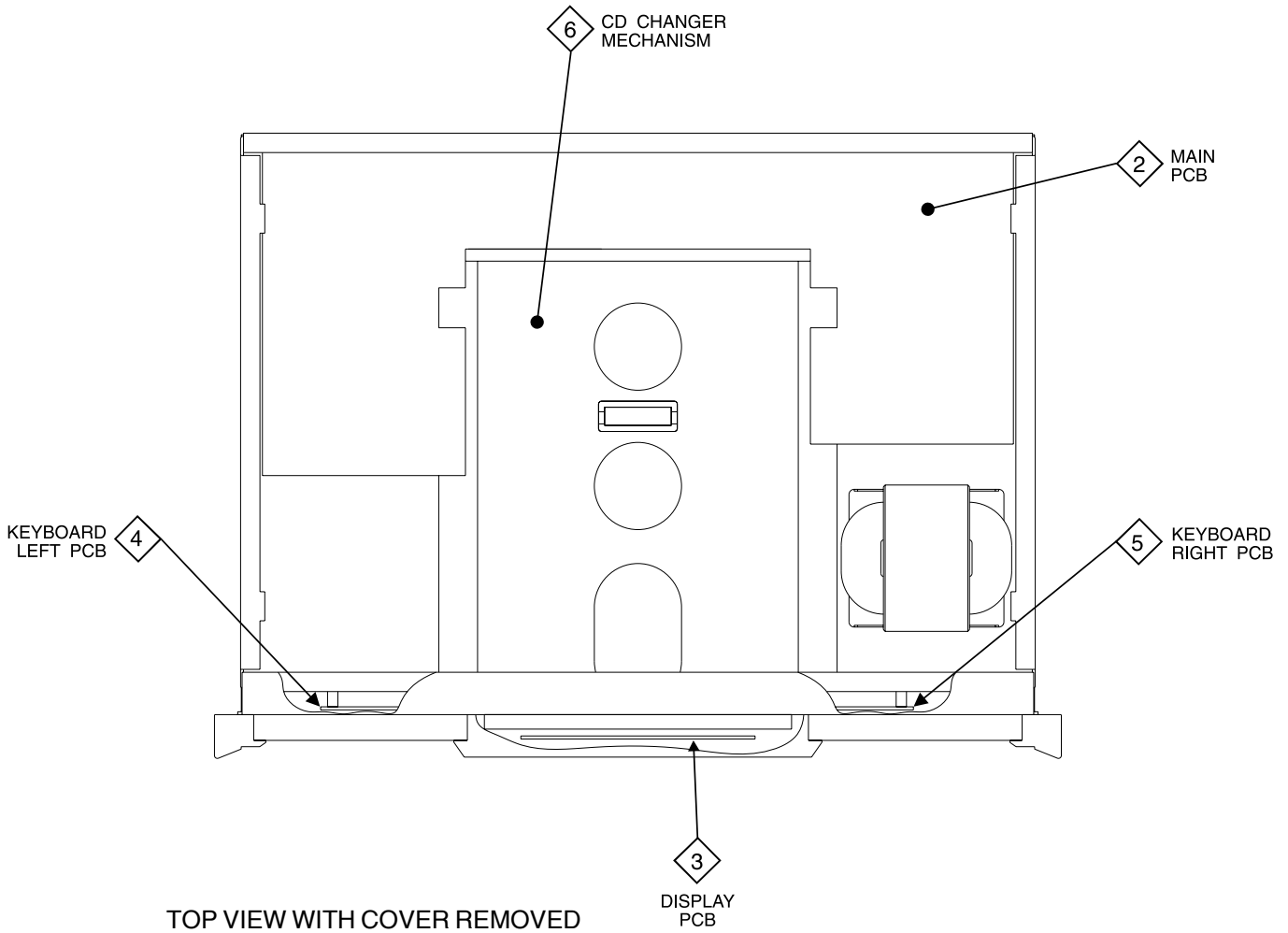
1. The heavy notes on the schematic denote the primary signal path.
2. Unless otherwise noted, all voltages indicated on the schematics are measured under the following conditions:
 - a. AC input at 120 volts, 50/60Hz.
 - b. All voltages are +/-10% with respect to ground. A high impedance (10 megaohm) voltmeter must be used.
3. Unless otherwise specified:
 - a. Resistor values are in ohms.
 - b. Capacitor values are microfarads (uF).
 - c. Inductor values are in microhenries (uH).
4. On PC board drawings, Square pad indicates:
 - a. Polarized Capacitors - Positive
 - b. Diodes - Cathode
 - c. Others - Pin 1
5. **WARNING**
Parts marked with the symbol  have critical characteristics. Use only replacement parts recommended by the manufacturer.

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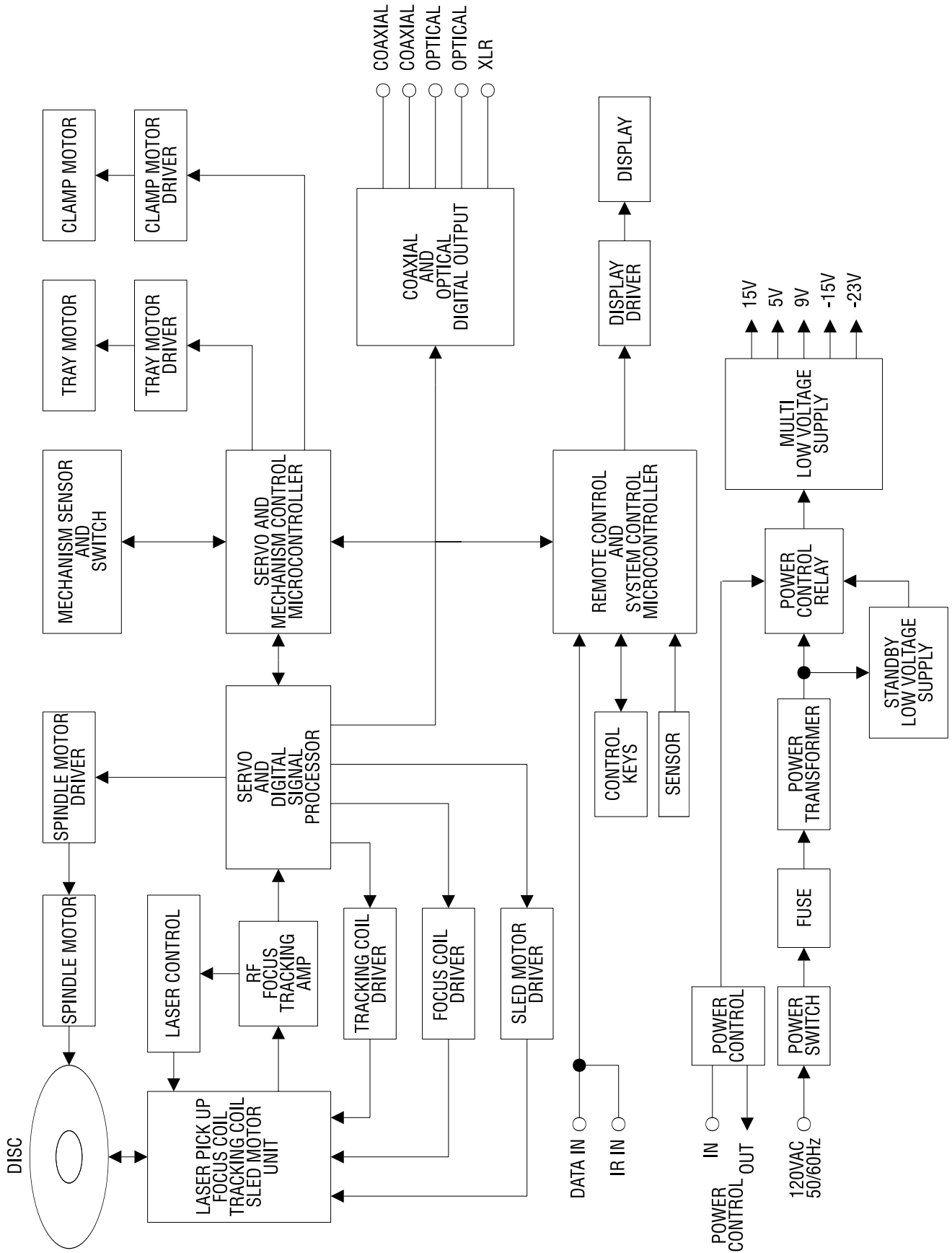
REAR VIEW



SECTION LOCATION

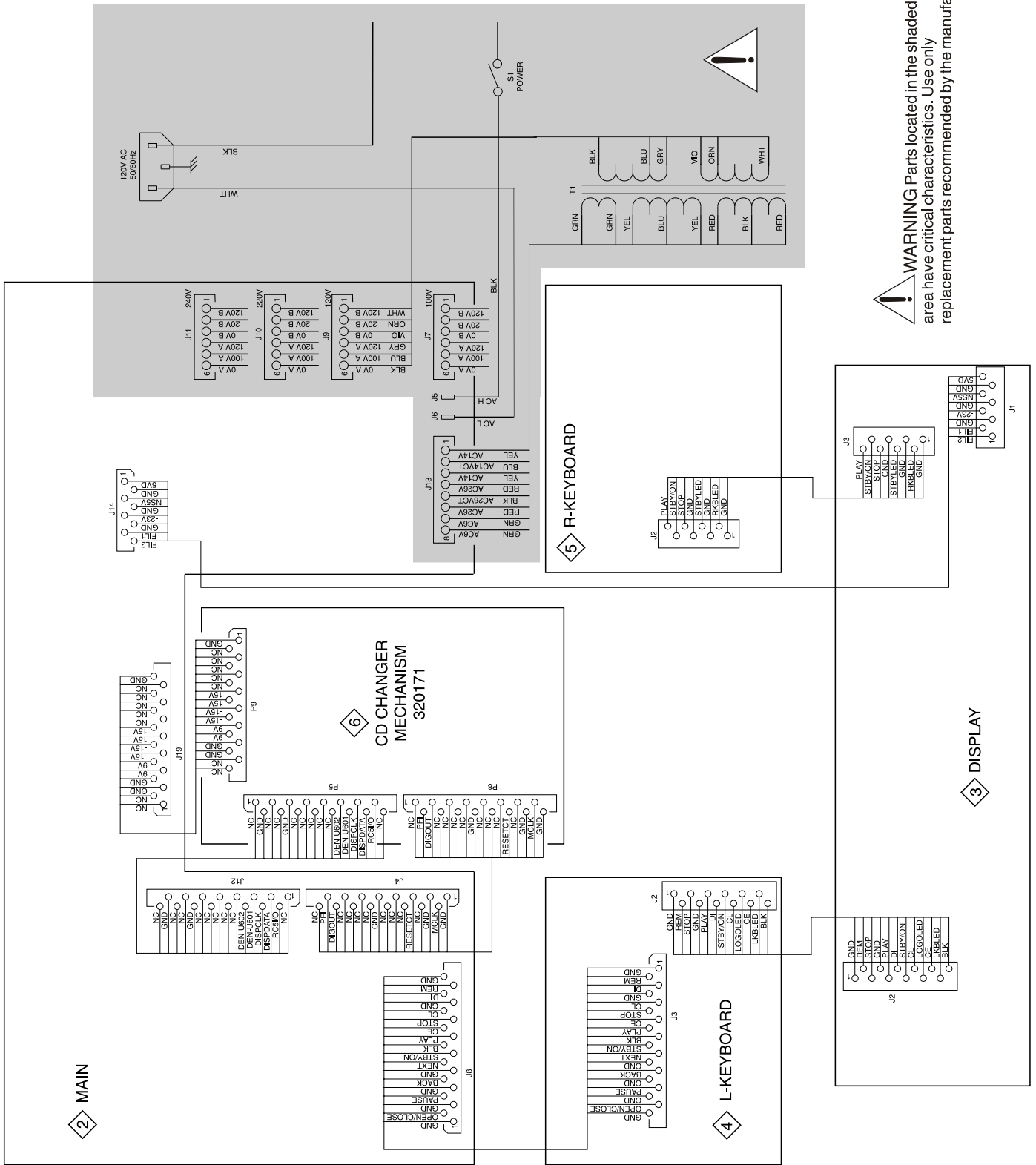


BLOCK DIAGRAM



1

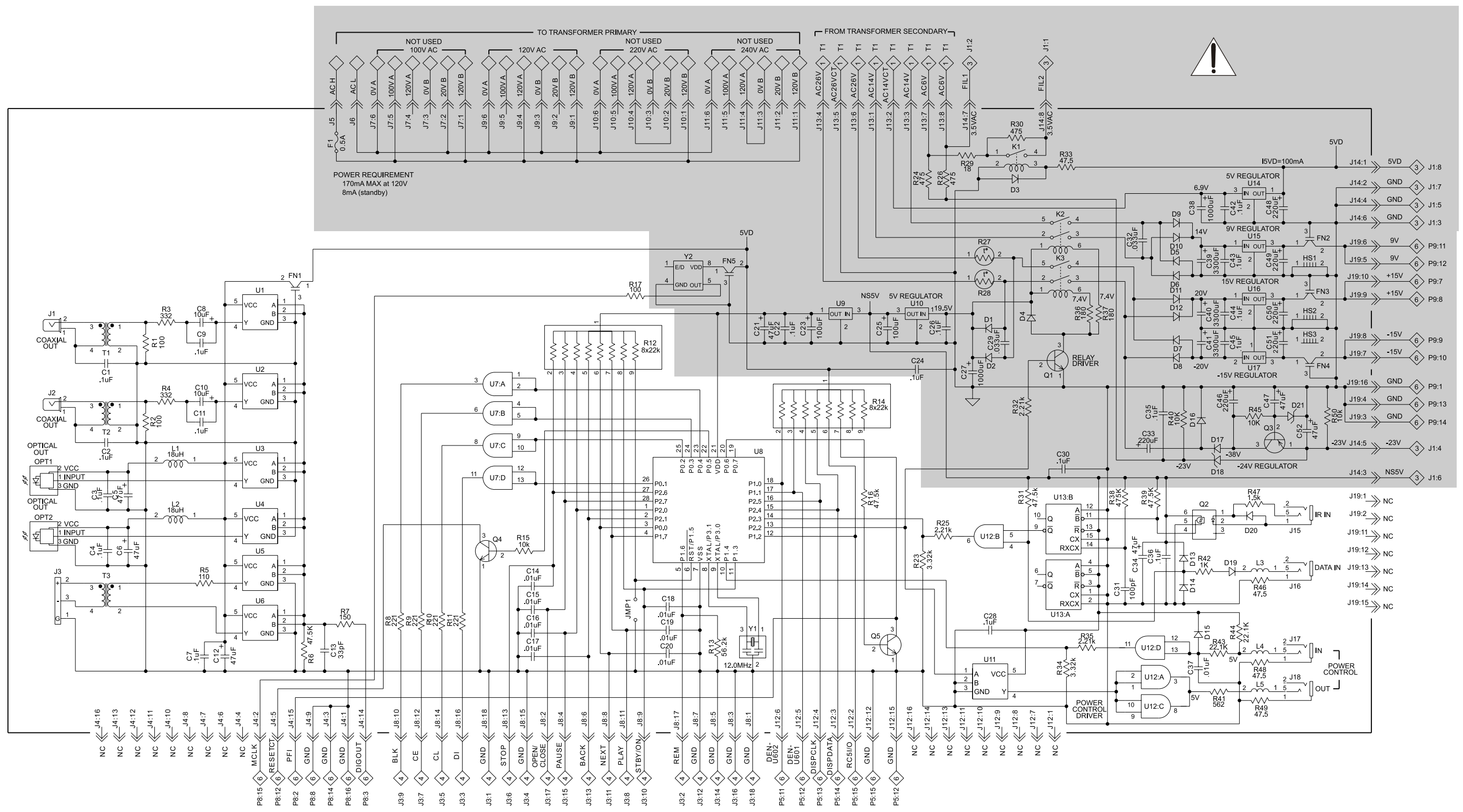
INTERCONNECT



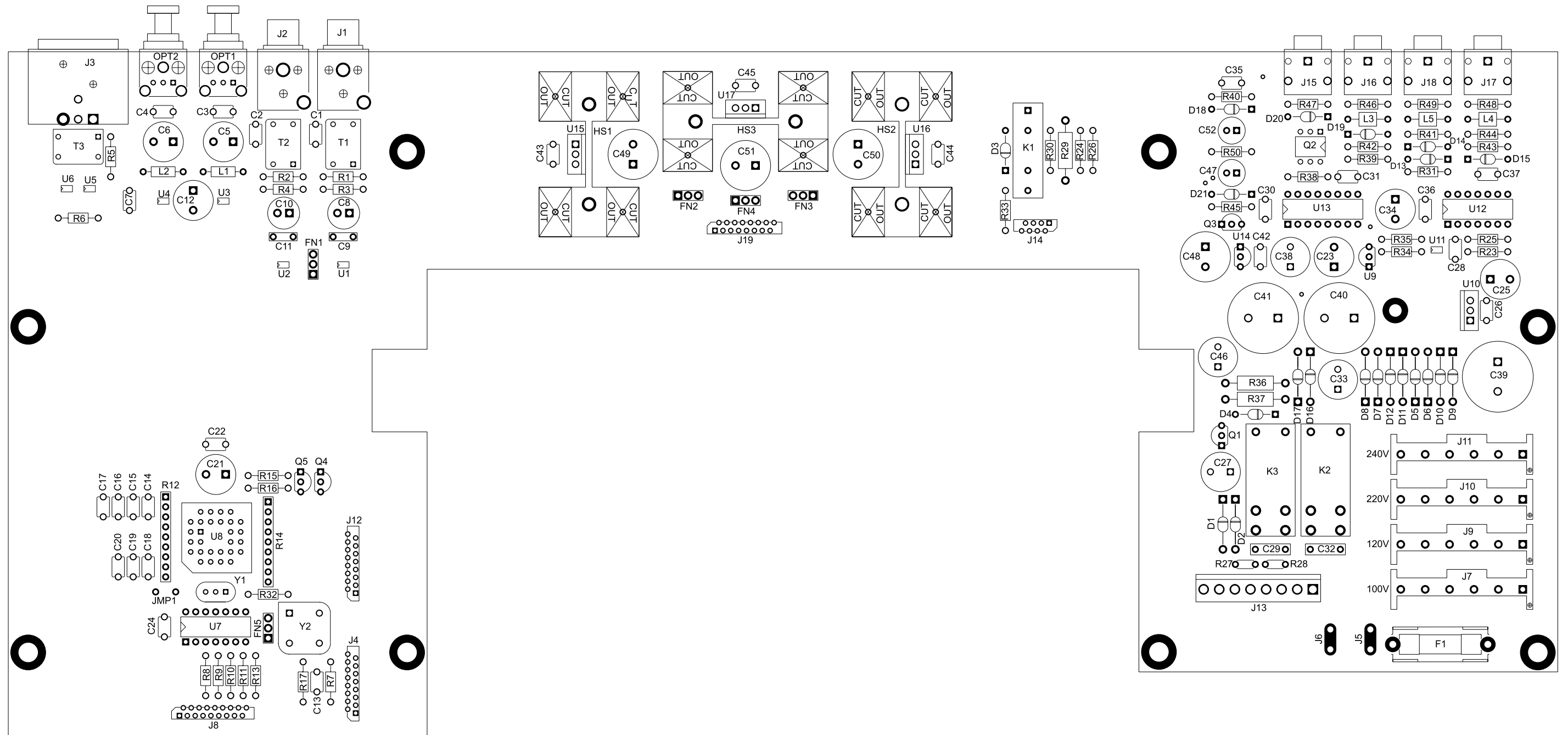
WARNING Parts located in the shaded area have critical characteristics. Use only replacement parts recommended by the manufacturer.

NOTES

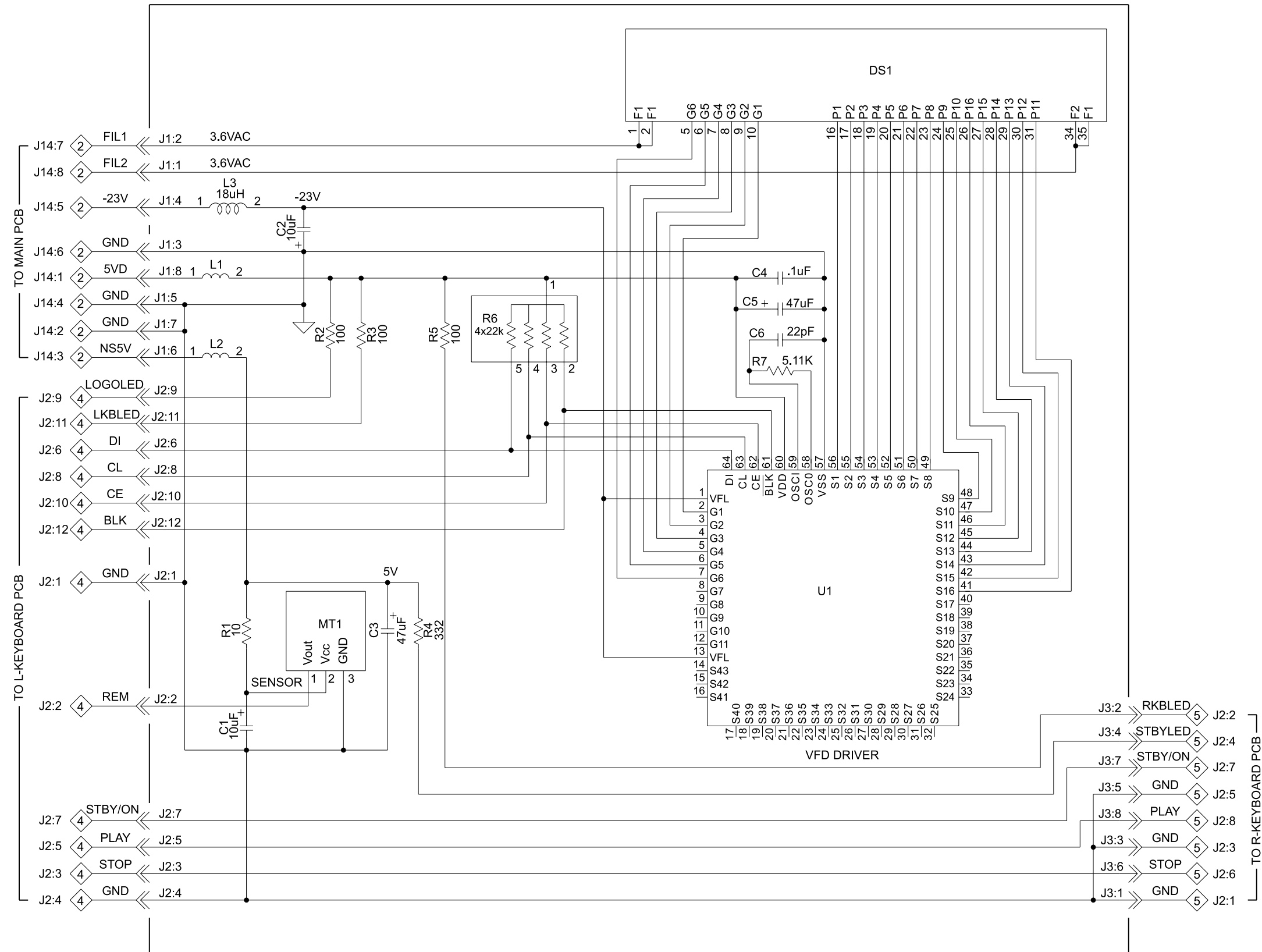
WARNING Parts located in the shaded area have critical characteristics. Use only replacement parts recommended by the manufacturer.



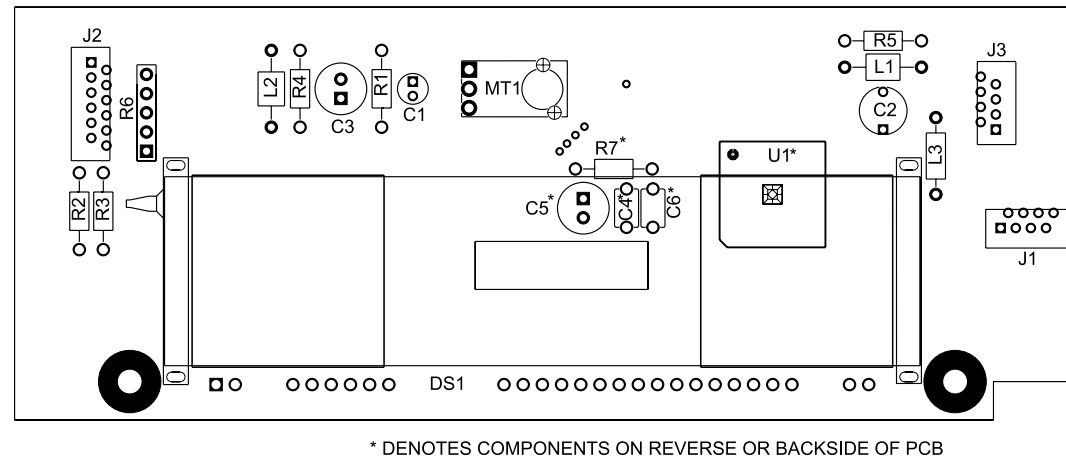
2 MAIN 050017



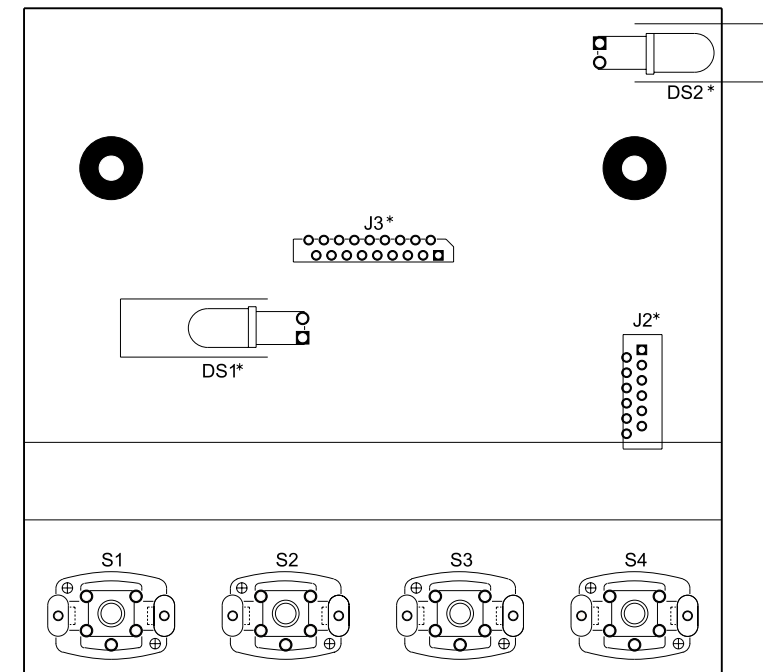
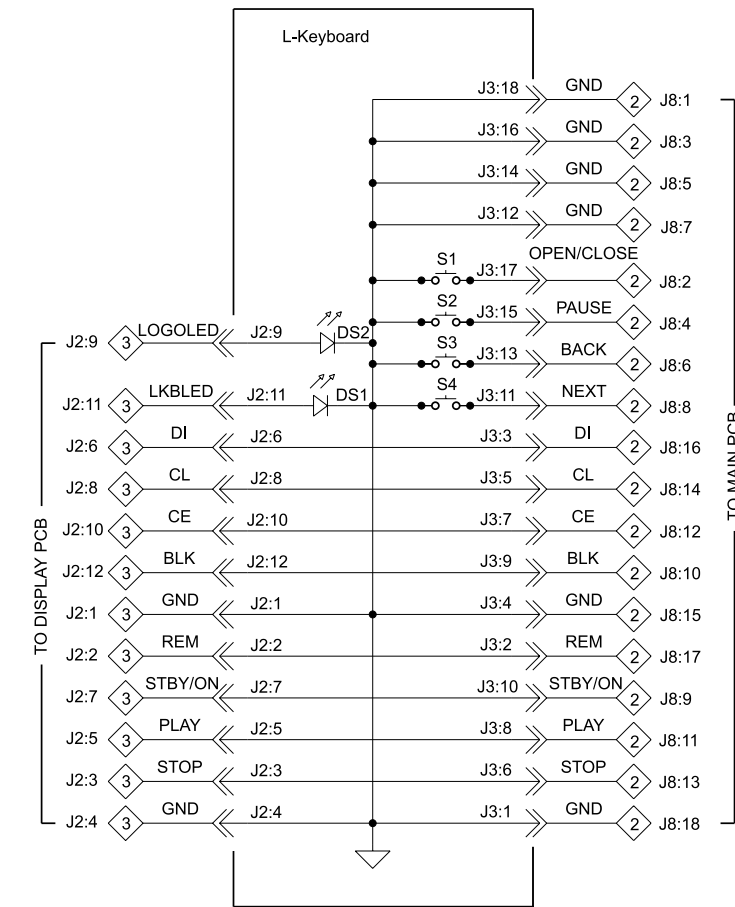
3 DISPLAY 050018



3 DISPLAY 050018



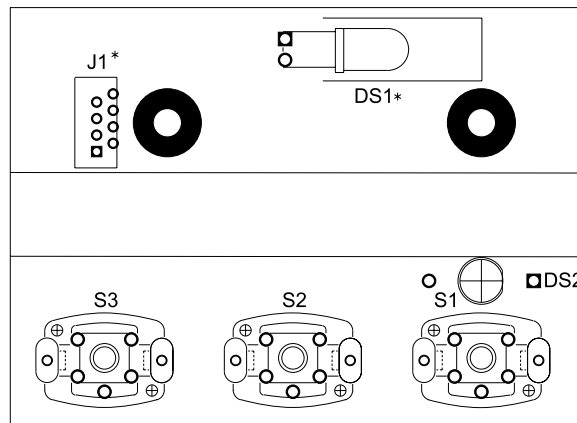
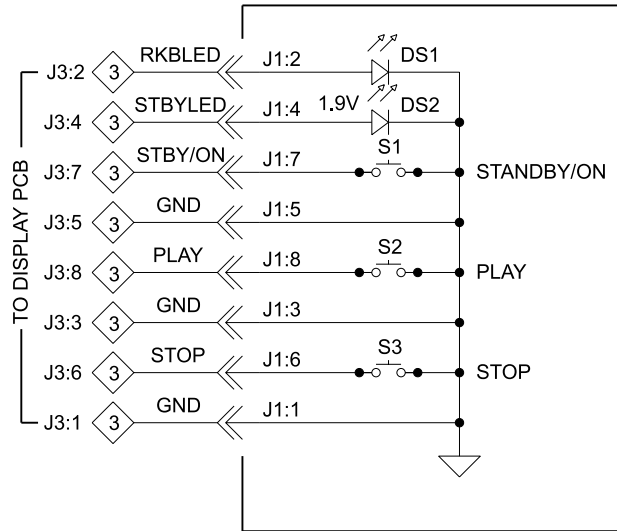
4 L-KEYBOARD 050019



5

R-KEYBOARD 050020

R-Keyboard



* DENOTES COMPONENTS ON BACK OR FAR SIDE OF PCB

NOTES

PARTS LIST

Ref. No. Description Part No.

① **050017 MAIN PCB**

C1	CAP MONO .1uF 50V 20% Z5U	061305
C2	CAP MONO .1uF 50V 20% Z5U	061305
C3	CAP MONO .1uF 50V 20% Z5U	061305
C4	CAP MONO .1uF 50V 20% Z5U	061305
C5	CAP ELECT 47UF 25V	066413
C6	CAP ELECT 47UF 25V	066413
C7	CAP MONO .1uF 50V 20% Z5U	061305
C8	CAP ELECT 10UF 100VDC	066411
C9	CAP MPF 0.1UF 5% 63VDC	064325
C10	CAP ELECT 10UF 100VDC	066411
C11	CAP MPF 0.1UF 5% 63VDC	064325
C12	CAP ELECT 47UF 25V	066413
C13	CAP MONO 33PF 200V 5%NPO T&R	061307
C14	CAP MONO .01UF 50V 20% X7R	061304
C15	CAP MONO .01UF 50V 20% X7R	061304
C16	CAP MONO .01UF 50V 20% X7R	061304
C17	CAP MONO .01UF 50V 20% X7R	061304
C18	CAP MONO .01UF 50V 20% X7R	061304
C19	CAP MONO .01UF 50V 20% X7R	061304
C20	CAP MONO .01UF 50V 20% X7R	061304
C21	CAP ELECT 47UF 25V	066413
C22	CAP MONO .1uF 50V 20% Z5U	061305
C23	CAP ELECT 100UF 25V	066412
C24	CAP MONO .1uF 50V 20% Z5U	061305
C25	CAP ELECT 100UF 25V	066412
C26	CAP MONO .1uF 50V 20% Z5U	061305
C27	CAP ELECT 1000UF 25V	066513
C28	CAP MONO .1uF 50V 20% Z5U	061305
C29	CAP MPF 0.033UF 100V 10%	064427
C30	CAP MONO .1uF 50V 20% Z5U	061305
C31	CAP MONO 100PF 100V 10% NPO	061300
C32	CAP MPF 0.033UF 100V 10%	064427
C33	CAP ELECT 220UF 50V 20%	066254
C34	CAP ELECT 47UF 25V	066413
C35	CAP MONO .1uF 50V 20% Z5U	061305
C36	CAP MONO .1uF 50V 20% Z5U	061305
C37	CAP MONO .01UF 50V 20% X7R	061304
C38	CAP ELECT 1000UF 25V	066513
C39	CAP ELECT 3300UF 35V	066509
C40	CAP ELECT 3300UF 35V	066509
C41	CAP ELECT 3300UF 35V	066509
C42	CAP MONO .1uF 50V 20% Z5U	061305
C43	CAP MONO .1uF 50V 20% Z5U	061305
C44	CAP MONO .1uF 50V 20% Z5U	061305
C45	CAP MONO .1uF 50V 20% Z5U	061305
C46	CAP ELECT 220UF 50V 20%	066254
C47	CAP ELECT 47UF 50V	066215
C48	CAP ELECT 220UF 25V AUDIO	066414
C49	CAP ELECT 220UF 25V AUDIO	066414
C50	CAP ELECT 220UF 25V AUDIO	066414
C51	CAP ELECT 220UF 25V AUDIO	066414
C52	CAP ELECT 47UF 50V	066215
D1	DIODE RECTIFIER	070131

D2	DIODE RECTIFIER	070131
D3	DIODE SILICON	070047
D4	DIODE SILICON	070047
D5	DIODE RECTIFIER	070131
D6	DIODE RECTIFIER	070131
D7	DIODE RECTIFIER	070131
D8	DIODE RECTIFIER	070131
D9	DIODE RECTIFIER	070131
D10	DIODE RECTIFIER	070131
D11	DIODE RECTIFIER	070131
D12	DIODE RECTIFIER	070131
D13	DIODE SILICON	070047
D14	DIODE SILICON	070047
D15	DIODE SILICON	070047
D16	DIODE RECTIFIER	070131
D17	DIODE RECTIFIER	070131
D18	DIODE ZENER 6.2V 5% 500MW	070085
D19	DIODE SILICON	070047
D20	DIODE SILICON	070047
D21	DIODE ZENER 24V	070091
F1	0.5A 5x20 fuse IEC	089092
FN1	FILTER EMI	180057
FN2	FILTER EMI	180057
FN3	FILTER EMI	180057
FN4	FILTER EMI	180057
FN5	FILTER EMI	180057
HS1	HEATSINK TO-220	080017
HS2	HEATSINK TO-220	080017
HS3	HEATSINK TO-220	080017
J1	JACK RCA ORANGE WITH GOLD	117798
J2	JACK RCA ORANGE WITH GOLD	117798
J3	RECEPTACLE XLR MALE	117686
J4	FFC CONNECTOR 16PIN	117839
J5	BLADE FASTON W/FEET	117708
J6	BLADE FASTON W/FEET	117708
J7	CONN PCB MOUNT POWER RED	117719
J8	CONN FFC 18PIN	117765
J9	CONN PCB MOUNT POWER RED	117719
J10	CONN PCB MOUNT POWER RED	117719
J11	CONN PCB MOUNT POWER RED	117719
J12	FFC CONNECTOR 16PIN	117839
J13	HEADER 8 PIN MTA-156	117717
J14	FFC CONNECTOR 8PIN	117842
J15	JACK HEADPHONE STEREO 1/8IN	117759
J16	JACK HEADPHONE STEREO 1/8IN	117759
J17	JACK HEADPHONE STEREO 1/8IN	117759
J18	JACK HEADPHONE STEREO 1/8IN	117759
J19	FFC CONNECTOR 16PIN	117839
K1	RELAY REED FORM 1A 5V 500 OHMS	087050
K2	RELAY DPST 12VDC	087059
K3	RELAY DPST 12VDC	087059
L1	CHOKE 18uH 5%-10%	122224
L2	CHOKE 18uH 5%-10%	122224
L3	BEADS FERRITE LEADED	076019
L4	BEADS FERRITE LEADED	076019
L5	BEADS FERRITE LEADED	076019
OPT1	TRANSMITTER FIBER OPTIC	058157
OPT2	TRANSMITTER FIBER OPTIC	058157
Q1	TRANSISTOR NPN SILICON	132171

Q2	COUPLER OPTICAL SCHMITT OUTPUT	131023
Q3	TRANSISTOR PNP SILICON	132172
Q4	TRANSISTOR NPN	132223
Q5	TRANSISTOR NPN	132223
R1	RES MF 100 OHM 1% 1/4W	144196
R2	RES MF 100 OHM 1% 1/4W	144196
R3	RES MF 332 OHM 1% 1/4W	144446
R4	RES MF 332 OHM 1% 1/4W	144446
R5	RES MF 110 OHM 1% 1/4W	144489
R6	RES MF 47.5K 1% 1/4W	144108
R7	RES MF 150 OHM 1% 1/4W	144122
R8	RES MF 221 OHM 1% 1/4W	144172
R9	RES MF 221 OHM 1% 1/4W	144172
R10	RES MF 221 OHM 1% 1/4W	144172
R11	RES MF 221 OHM 1% 1/4W	144172
R12	RES NETWORK 9X-1-223	144238
R13	RES MF 56.2K 1% 1/4W	144402
R14	RES NETWORK 9X-1-223	144238
R15	RES MF 10K 1% 1/4W	144053
R16	RES MF 47.5K 1% 1/4W	144108
R17	RES MF 100 OHM 1% 1/4W	144196
R23	RES MF 3.32K 1% 1/4W	144095
R24	RES MF 475 OHM 1% 1/4W	144086
R25	RES MF 2.21K 1% 1/4W	144298
R26	RES MF 475 OHM 1% 1/4W	144086
R27	PTC RESETTABLE FUSE	144488
R28	PTC RESETTABLE FUSE	144488
R29	RES CF 18 OHM 5% 1/2W	141206
R30	RES MF 475 OHM 1% 1/4W	144086
R31	RES MF 47.5K 1% 1/4W	144108
R32	RES MF 2.21K 1% 1/4W	144298
R33	RES MF 47.5 OHM 1% 1/4W	144442
R34	RES MF 3.32K 1% 1/4W	144095
R35	RES MF 2.21K 1% 1/4W	144298
R36	RES CF 180 OHM 5% 1/2W	141173
R37	RES CF 180 OHM 5% 1/2W	141173
R38	RES MF 475K 1% 1/4W	144364
R39	RES MF 47.5K 1% 1/4W	144108
R40	RES MF 10K 1% 1/4W	144053
R41	RES MF 562 OHM 1% 1/4W	144408
R42	RES MF 1K 1% 1/4W	144090
R43	RES MF 22.1K 1% 1/4W	144187
R44	RES MF 22.1K 1% 1/4W	144187
R45	RES MF 10K 1% 1/4W	144053
R46	RES MF 47.5 OHM 1% 1/4W	144442
R47	RES MF 1.5K 1% 1/4W	144128
R48	RES MF 47.5 OHM 1% 1/4W	144442
R49	RES MF 47.5 OHM 1% 1/4W	144442
R50	RES MF 10K 1% 1/4W	144053
T1	TRANSFORMER DIGITAL INTERFACE	159285
T2	TRANSFORMER DIGITAL INTERFACE	159285
T3	TRANSFORMER DIGITAL INTERFACE	159285
U1	SINGLE 2-INPUT AND GATE	133502
U2	SINGLE 2-INPUT AND GATE	133502
U3	SINGLE 2-INPUT AND GATE	133502
U4	SINGLE 2-INPUT AND GATE	133502
U5	SINGLE 2-INPUT AND GATE	133502
U6	SINGLE 2-INPUT NAND GATE	133501
U7	IC QUAD AND GATE	133372

U8	PROGRAMMED VERSION OF 133495	133520
U9	REGULATOR 3.3V LOW DROP	133464
U10	IC REGULATOR 5V	133250
U11	SINGLE 2-INPUT OR GATE	133516
U12	IC AND 2 INPUT X 4	133175
U13	IC MONOSTB MULTIVIB X 2	133182
U14	REGULATOR 5V LOW DROP	133452
U15	REGULATOR VOLTAGE 9V 1.5A	133340
U16	15V LOW DROPOUT REGULATOR	133515
U17	-15V LOW DROPOUT REGULATOR	133514
Y1	RESONATOR CERAM 12.0MHZ W/CAP	180059
Y2	CRYSTAL OSCILLATOR 16.9344MHZ	180063

③ **050018 DISPLAY PCB**

C1	CAP ELECT 10UF 16V 4X5 CASE	066382
C2	CAP ELECT 10UF 50V LOW ESR	066437
C3	CAP ELECT 47UF 16V 6.3X5 CASE	066380
C4	CAP MONO .1uF 50V 20% Z5U	061305
C5	CAP ELECT 47UF 16V 6.3X5 CASE	066380
C6	CAP MONO 22PF 200V 10% NPO	061298
DS1	VACUUM FLUORESCENT DISPLAY	058160
J1	FFC CONNECTOR 8PIN RA	117837
J2	FFC CONNECTOR 12PIN RA	117838
J3	FFC CONNECTOR 8PIN RA	117837
L1	BEADS FERRITE LEADED	076019
L2	BEADS FERRITE LEADED	076019
L3	CHOKE 18uH 5%-10%	122224
MT1	SENSOR IR 38KHZ	121046
R1	RES MF 10 OHM 1% 1/4W	144157
R2	RES MF 100 OHM 1% 1/4W	144196
R3	RES MF 100 OHM 1% 1/4W	144196
R4	RES MF 332 OHM 1% 1/4W	144446
R5	RES MF 100 OHM 1% 1/4W	144196
R6	RES NETWORK 4 X 22K BUS	144234
R7	RES MF 5.11K 1% 1/4W	144083
U1	VFD DRIVER	133442

④ **050019 L-KEYBOARD PCB**

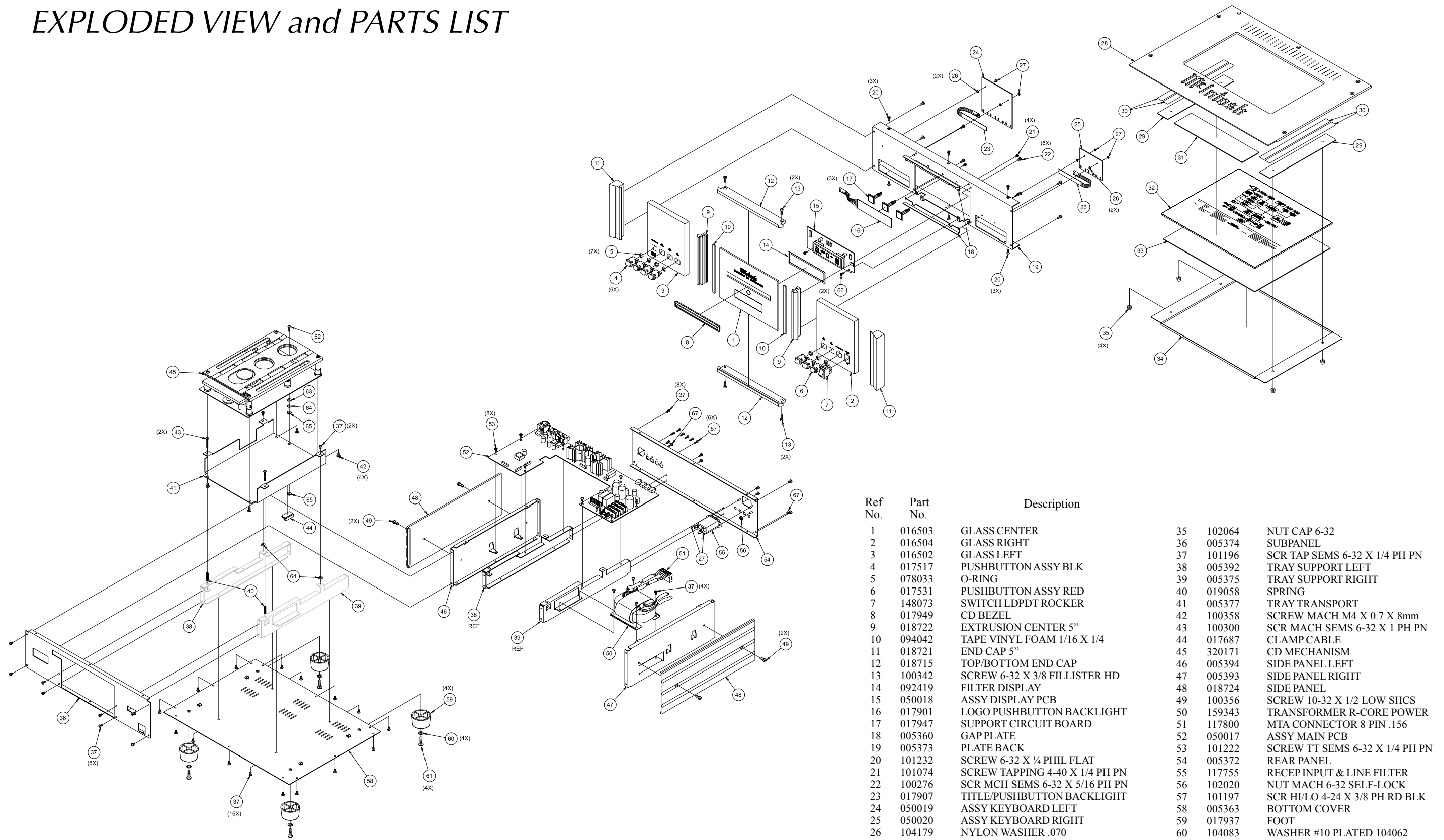
DS1	LED GREEN 5MM HI-INT VF[V] 3.5	058165
DS2	LED GREEN 5MM HI-INT VF[V] 3.5	058165
J2	FFC CONNECTOR 12PIN RA	117838
J3	CONN FFC 18PIN	117765
S1	SWITCH PB TACT	150058
S2	SWITCH PB TACT	150058
S3	SWITCH PB TACT	150058
S4	SWITCH PB TACT	150058

⑤ **050020 R-KEYBOARD PCB**

DS1	LED GREEN 5MM HI-INT VF[V] 3.5	058165
DS2	LED RED HIGH EFFICIENCY	058148
J1	FFC CONNECTOR 8PIN RA	117837
S1	SWITCH PB TACT	150058
S2	SWITCH PB TACT	150058
S3	SWITCH PB TACT	150058

⑥ **320171 CD MECHANISM MODULE**

EXPLODED VIEW and PARTS LIST



Ref No.	Part No.	Description
1	016503	GLASS CENTER
2	016504	GLASS RIGHT
3	016502	GLASS LEFT
4	017517	PUSHBUTTON ASSY BLK
5	078033	O-RING
6	017531	PUSHBUTTON ASSY RED
7	148073	SWITCH LDPDT ROCKER
8	017949	CD BEZEL
9	018722	EXTRUSION CENTER 5"
10	094042	TAPE VINYL FOAM 1/16 X 1/4
11	018721	END CAP 5"
12	018715	TOP/BOTTOM END CAP
13	100342	SCREW 6-32 X 3/8 FILLISTER HD
14	092419	FILTER DISPLAY
15	050018	ASSY DISPLAY PCB
16	017901	LOGO PUSHBUTTON BACKLIGHT
17	017947	SUPPORT CIRCUIT BOARD
18	005360	GAP PLATE
19	005373	PLATE BACK
20	101232	SCREW 6-32 X 1/4 PHIL FLAT
21	101074	SCREW TAPPING 4-40 X 1/4 PH PN
22	100276	SCR MCH SEMS 6-32 X 5/16 PH PN
23	017907	TITLE/PUSHBUTTON BACKLIGHT
24	050019	ASSY KEYBOARD LEFT
25	050020	ASSY KEYBOARD RIGHT
26	104179	NYLON WASHER .070
27	102001	NUT KEP 4-40 CADMIUM PLATE
28	018723	TOP PANEL
29	005364	TOP STRIP
30	094192	TAPE DOUBLE SIDED 1/2"
31	005396	GOLD STRIP
32	016505	GLASS TOP COVER
33	094442	FOAM PAD
34	005365	TRAY
35	102064	NUT CAP 6-32
36	005374	SUBPANEL
37	101196	SCR TAP SEMS 6-32 X 1/4 PH PN
38	005392	TRAY SUPPORT LEFT
39	005375	TRAY SUPPORT RIGHT
40	019058	SPRING
41	005377	TRAY TRANSPORT
42	100358	SCREW MACH M4 X 0.7 X 8mm
43	100300	SCR MACH SEMS 6-32 X 1 PH PN
44	017687	CLAMP CABLE
45	320171	CD MECHANISM
46	005394	SIDE PANEL LEFT
47	005393	SIDE PANEL RIGHT
48	018724	SIDE PANEL
49	100356	SCREW 10-32 X 1/2 LOW SHCS
50	159343	TRANSFORMER R-CORE POWER
51	117800	MTA CONNECTOR 8 PIN .156
52	050017	ASSY MAIN PCB
53	101222	SCREW TT SEMS 6-32 X 1/4 PH PN
54	005372	REAR PANEL
55	117755	RECEP INPUT & LINE FILTER
56	102020	NUT MACH 6-32 SELF-LOCK
57	101197	SCR HI/LO 4-24 X 3/8 PH RD BLK
58	005363	BOTTOM COVER
59	017937	FOOT
60	104083	WASHER #10 PLATED 104062
61	100159	SCR MCH 10-32 X 3/4 PH PN BLK
62	100304	SCR MCH SEMS 6-32 X 1/2 PH PN
63	104009	WASH FIBRE FLAT 6 X 3/8 X 3/64
64	104005	WASH FLAT STEEL 6 X 3/8 X .032
65	102003	NUT MACH 6-32 W/LOCK
66	101057	SCREW 4-40 X 1/4 PH PN
67	101109	SCREW 6-32 X 5/16 PH PN

REPACKING INSTRUCTION

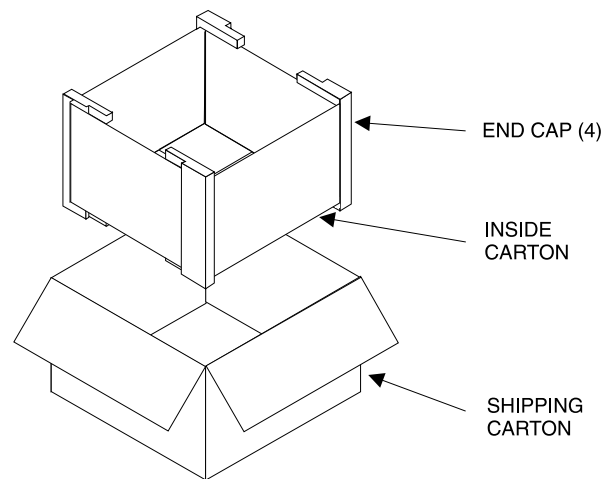
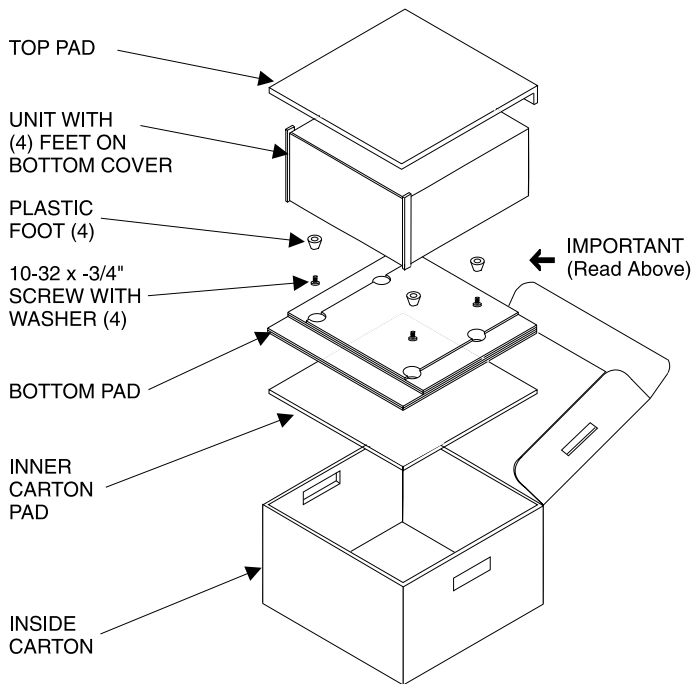
In the event it is necessary to repack the unit for shipment, the unit must be packed exactly as shown below.

IMPORTANT - The four plastic feet must be attached to the bottom of the unit so they will locate in the four holes of the bottom pad. Failure to do this will result in shipping damage.

If a shipping carton or any of the interior parts is needed, please call or write the Customer Service Department of McIntosh Laboratory. Order parts from the accompanying list by part number.

Use the original shipping carton and interior parts only if they are in good serviceable condition.

Qty.	Part No.	Description
1	034075	Shipping carton only
4	033837	Foam end cap
1	034076	Inside carton only
1	033726	Top pad
1	034255	Bottom pad
1	034077	Inner carton pad
4	017937	Plastic foot
4	100159	#10-32 x 3/4" Machine screw
4	104083	#10 x 7/16" Flat washer
1	049270	Shipping carton complete with all the above parts.



MCD1000

CD TRANSPORT SERVICE MANUAL



The continuous improvement of its products is the policy of McIntosh Laboratory Incorporated, who reserve the right to improve design without notice. Because of the constant upgrading of McIntosh products' circuitry and components, the Company cannot insure, and does not warrant, the accuracy of the within schematic material, which is intended for information only.