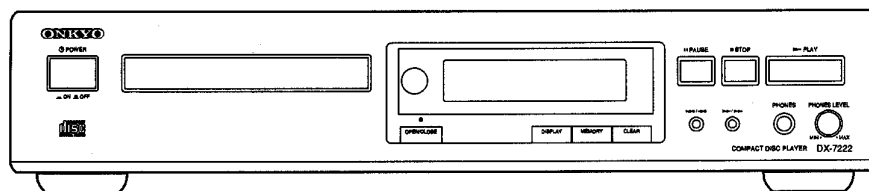


ONKYO® SERVICE MANUAL

COMPACT DISC PLAYER

MODEL DX-7222



Black, Silver and Golden models

SMP, BMP, BMPT, GMPT	230V AC, 50Hz
BMWT, GMWT	220-230V/120V AC, 50/60Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK Δ ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PARTS NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

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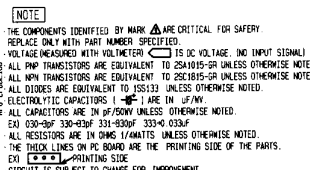
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ONKYO®
AUDIO COMPONENTS

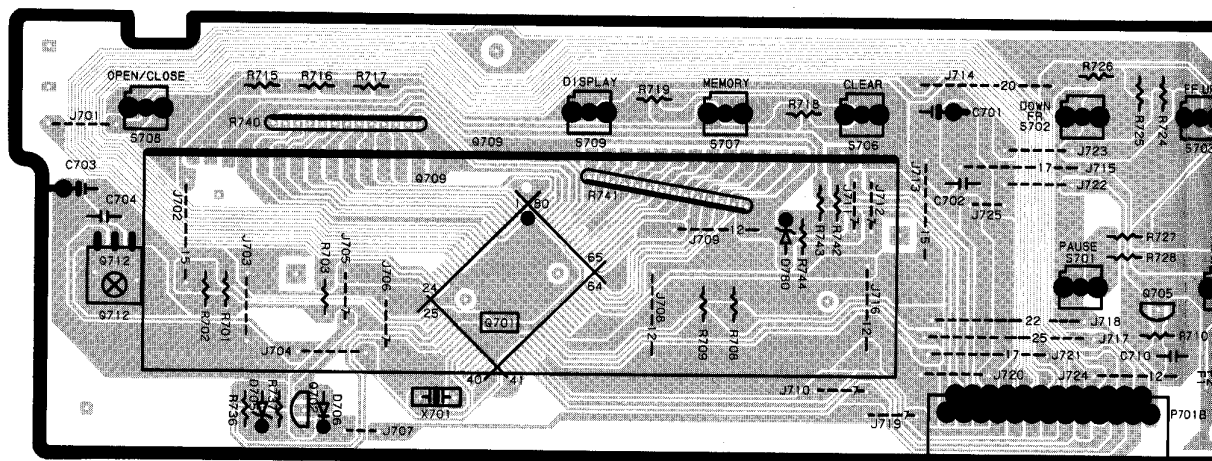
MICROPROCESSOR TERMINAL DESCRIPTION

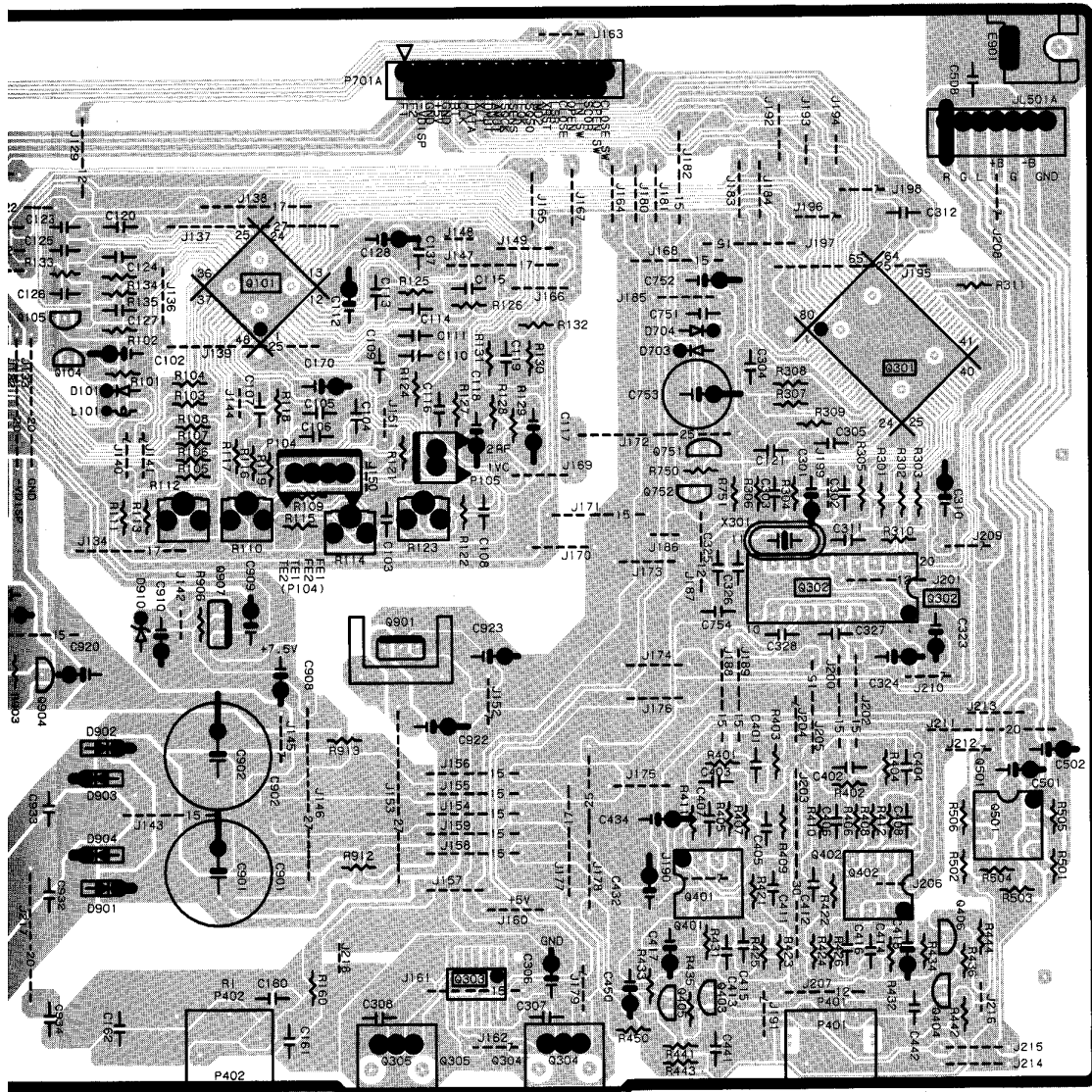
Pin No.	Function	I/O	Logic	Description
1	3G	O	H	Grid output pins of FL tube.
2	4G	O	H	
3	5G	O	H	
4	6G	O	H	
5	7G	O	H	Power source pin(+5V).
6	8G	O	H	
7	9G	O	H	
8	VDD	I		
9	CLK	O	CLK	Command transfer clock output pin to signal processing IC.
10	DATA	O	H	Command transfer data output pin to signal processing IC.
11	XLT	O	L	Command transfer latch output pin to signal processing IC.
12	DMUT	O	H	Digital muting control output pin to signal processing IC.
13	AMUT	O	H	Muting output pin to analog circuit.
14	SOCK	O	CLK	Subcode reading clock output pin to signal processing IC.
15	MD2	O	H	Enable signal output pin of optical output to signal processing IC.
16	SQSO	I	H	Subcode data input pin from signal processing IC.
17	RESET	I	L	Reset signal input pin.
18	GND	I	L	No used: (Connect to GND)
19	GND	I	L	No used: (Connect to GND)
20	AVSS	I	L	Power supply for A/D converter.(Ground)
21	NC	I	H	No used.
22	LSR	O	H	Laser control output pin.
23	SSTOP	I	L	Pickup innermost position detection switch input pin.
24	RIOUTPUT	O	L	System signal output pin.
25	AD3	I		Operation key connection pin 3.
26	AD2	I		Operation key connection pin 2.
27	AD1	I		Operation key connection pin 1.
28	AD0	I		Operation key connection pin 0.
29	AVDD	I	H	Power supply for A/D converter.(+5V)
30	AVREF	I	H	Reference Power supply for A/D converter.(+5V)
31	RIINPUT	I	H	System signal input pin.
32	NC	O		No used.
33	VSS	I	L	Ground pin.
34	X1	I	CLK	System clock oscillation circuit input pin.
35	X2	O	CLK	System clock oscillation circuit output pin.
36	NC	O		No used.
37	NC	O		
38	NC	O		
39	NC	O		
40	NC	O		

Pin No.	Function	I/O	Logic	Description
41	NC	O		No used.
42	NC	O		
43	NC	O		
44	OPEN	O	L	Tray control output pin.
45	CLOSE	O	L	Tray control output pin.
46	SCOR	I	H	Subcode frame detection signal input pin from signal processing IC.
47	RMCN	I	L	Remote control signal input pin.
48	GND	I	L	Ground pin.
49	SENS	I	H/L	Sense signal input pin from signal processing IC.
50	OUTSW	I	L	Tray open switch input pin.
51	INSW	I	L	Tray input switch input pin.
52	VDD	I	H	Power supply pin.(+5V)
53	FOK	I	H	Focus OK signal input pin.
54	NC	O		No used.
55	NC	O		
56	NC	O		
57	NC	O		
58	NC	O		
59	NC	O		
60	NC	O		
61	P1	O	H	Segment output pins.
62	P2	O	H	
63	P3	O	H	
64	P4	O	H	
65	P5	O	H	
66	P6	O	H	
67	P7	O	H	
68	P8	O	H	
69	P9	O	H	
70	P10	O	H	
71	-VDISP	I		Negative power supply pin of FL tube.
72	P11	O	H	Segment output pins.
73	P12	O	H	
74	P13	O	H	
75	P14	O	H	
76	P15	O	H	
77	P16	O	H	
78	NC	O		No used.
79	1G	O	H	Segment output pins.
80	2G	O	H	

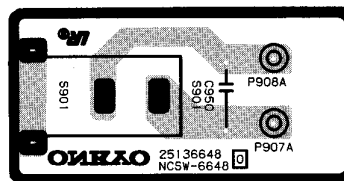
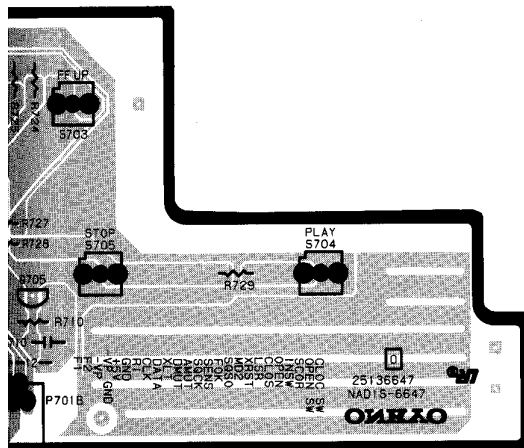


MAIN CIRCUIT PC BOARD (NAAR-6646)

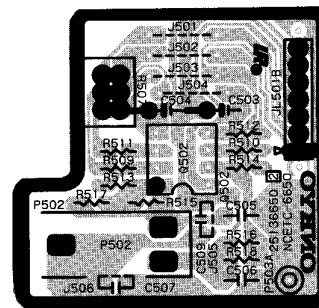




**POWER SWITCH PC BOARD
(NASW-6648)**

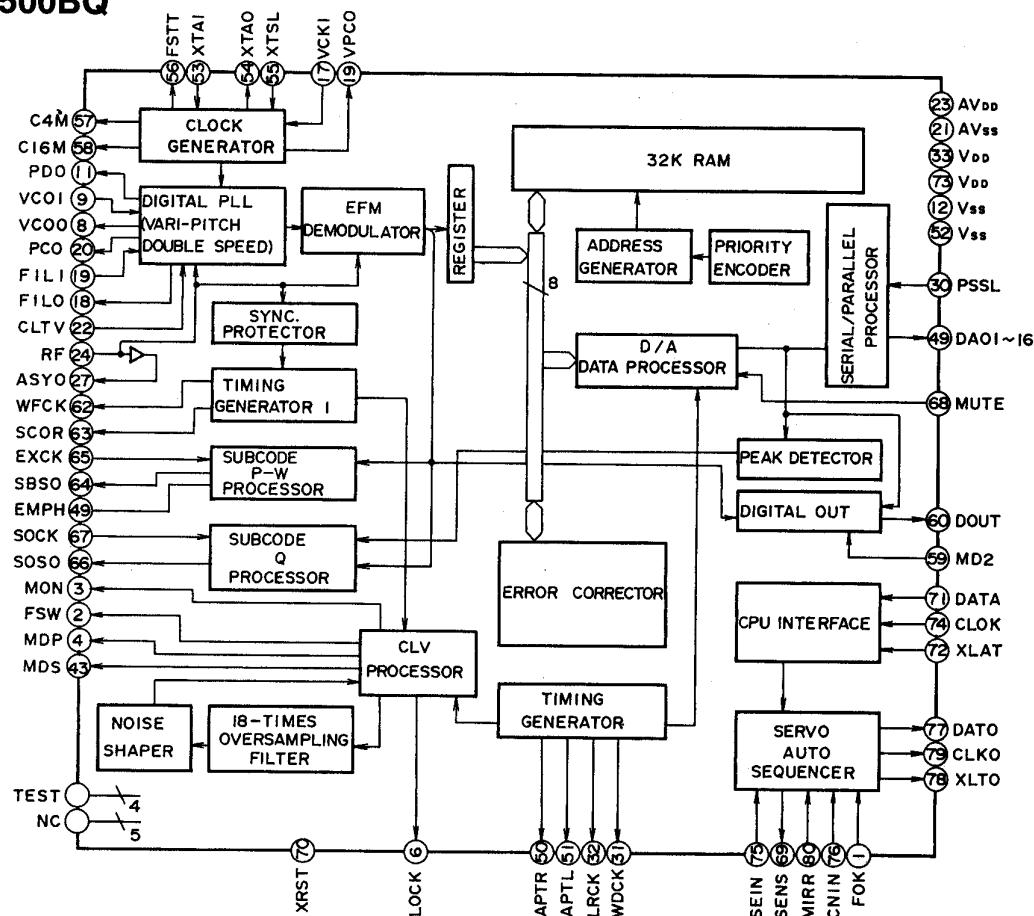


**VOLUME PC BOARD
(NAETC-6650)**

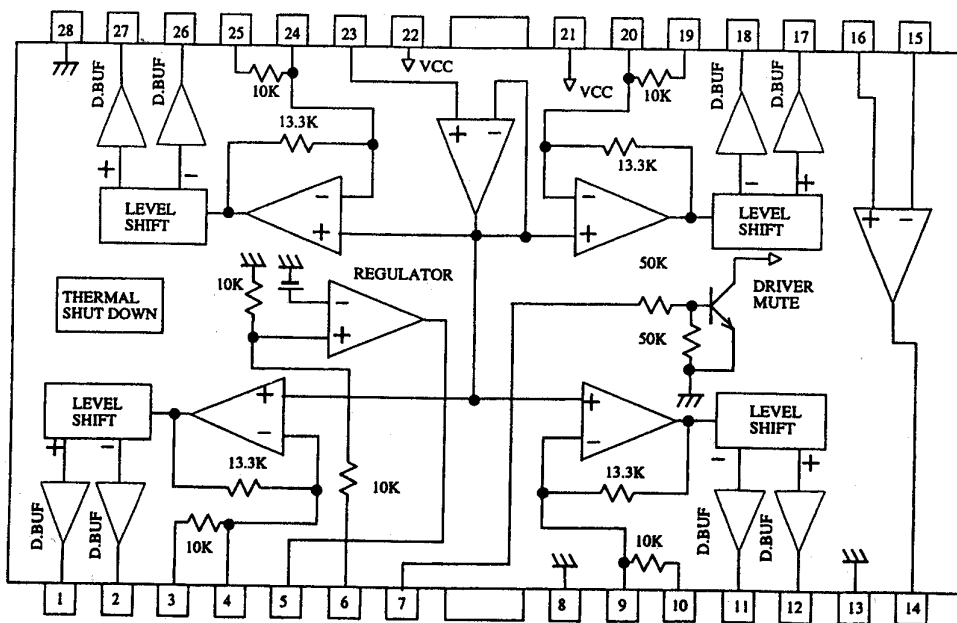


IC BLOCK DIAGRAMS AND DESCRIPTIONS

CXD2500BQ



BA6398EP

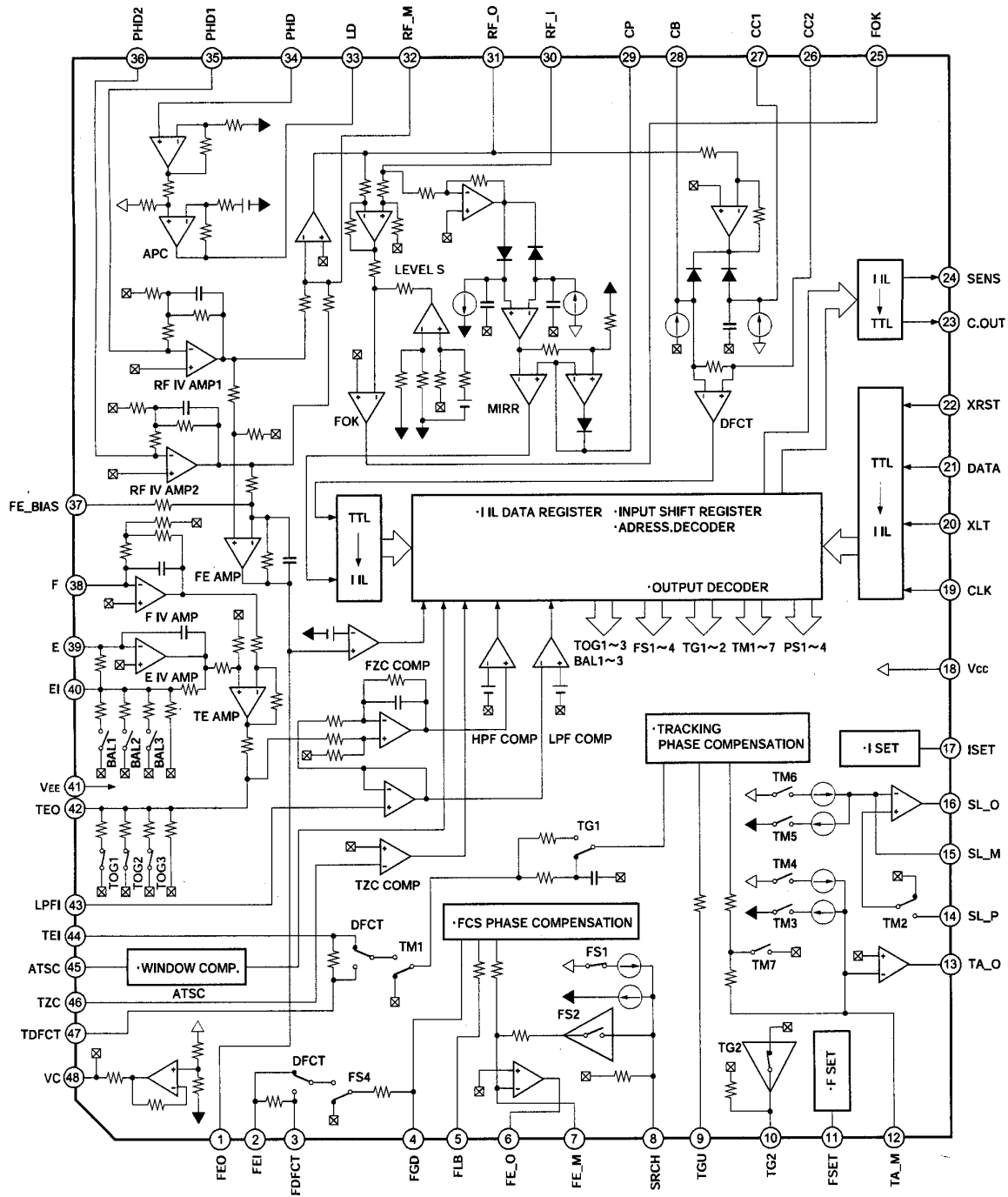


CXD2500BQ

NO.	SYMBOL	I/O	DESCRIPTION	NO.	SYMBOL	I/O	DESCRIPTION
1	FOK	I	Focus OK input	42	DA08	O	DA08 GFS output
2	FSW	O	Output filter changeover output of spindle motor	43	DA07	O	DA07 RFCK output
3	MON	O	Spindle motor control output	44	DA06	O	DA06 C2P0 output
4	MDP	O	Spindle motor servo control	45	DA05	O	DA05 XRAOF output
5	MDS	O	Spindle motor servo control	46	DA04	O	DA04 MNT3 output
6	LOCK	O	H when GFS is high	47	DA03	O	DA03 MNT2 output
7	NC			48	DA02	O	DA02 MNT1 output
8	VCOO	O	Oscillation circuit output for analog FEM PLL	49	DA01	O	DA01 MNT0 output
9	VCOI	I	Oscillation circuit input for analog EFM PLL (8.6436MHz)	50	APTR	O	Control output for aperture correction. H when Rch.
10	TEST	I	Test terminal	51	APTL	O	Control output for aperture correction. H when Lch.
11	PDO	O	Charge pump output for analog EFM PLL	52	Vss		Ground
12	Vss		Ground terminal	53	XTAI	I	Crystal oscillation circuit input of 16.9344MHz or 33.8688MHz input
13-15	NC			54	XTAO	O	Crystal oscillation circuit output of 16.9344MHz
16	VPCO	O	PLL charge pump output for variable pitch	55	XTSL	I	Crystal selection input terminal. L when 16.9344MHz. H when 33.8688MHz.
17	VCKI	I	Clock input for variable pitch from VCO (16.934MHz)	56	FSTT	O	2/3 divided output of pins 53 & 54
18	FILO	O	Filter output for master PLL	57	C4M	O	4.2336MHz output
19	FILI	I	Filter input for master PLL	58	C16M	O	16.9344MHz output
20	PCO	O	Charge pump output for master PLL	59	MD2	I	Digital output control input. On at H & Off at L.
21	AVss		Analog ground	60	DOUT	O	Digital output
22	CLTV	I	VCO control voltage input for master	61	EMPH	O	Emphasis control output. Active H.
23	AVDD		Analog section power supply (+5V)	62	WFCK	O	Write frame clock output
24	RF	I	EFM signal input	63	SCOR	O	Sub-code detection output. H when is detected S0 or S1.
25	TEST2	I	Connect to the ground.	64	SBSO	O	Serial output of sub code (P~W)
26	TEST3	I	Connect to the ground.	65	EXCK	I	Clock input for read out SBSO
27	ASYO	O	EFM full swing output	66	SQSO	O	Sub Q 80 bits, PCM peak, and level data 16 bits output
28	TEST4	I	Connect to the ground.	67	SQCK	I	Clock input for read out SQSO
29	NC			68	MUTE	O	Muting control output. Active H.
30	PSSL	I	Audio data output mode changeover input. Serial data at L and parallel data at H.	69	SENS	-	Sens output. Output to microprocessor
31	WDCK	O	D/A interface for 48 bits slot. Word clock f=2Fs.	70	XRST	I	System reset. Rest at low level.
32	LRCK	O	D/A interface for 48 bits slot. LR clock f=Fs.	70	DATA	I	Serial data input from microprocessor
33	VDD		Power supply terminal (+5V)	72	XLTA	I	Latch input from microprocessor. Latch the serial data at trailing.
34-49			Data output terminals	73	VDD		Power supply
			PSSL=1 PSSL=0	74	CLOCK	I	Serial data transfer clock input from microprocessor
34	DA16	O	DA16 Serial data of 48 bits slot	75	SEIN	I	Sens input from SSP
35	DA15	O	DA15 Bit clock of 48 bits slot	76	CNCI	I	Track jump numbers count signal input
36	DA14	O	DA14 Serial data of 64 bits slot	77	DATO	O	Serial data output to SSP
37	DA13	O	DA13 Bit clock of 68 bits slot	78	XLTO	O	Serial data latch output to SSP. Latch at trailing.
38	DA12	O	DA12 LR clock of 68 bits slot	79	CLKO	O	Serial data transfer clock output to SSP
39	DA11	O	DA11 GTOP output	80	MIRR	I	Mirror signal input
40	DA10	O	DA10 XUGF output				
41	DA09	O	DA09 XPLCK output				

BA6398EP

NO.	SYMBOL	DESCRIPTION	NO.	SYMBOL	DESCRIPTION
1	ch1-OUT A	Driver channel 1 negative output	15	OP IN (-)	Operational amplifier negative input
2	ch1-OUT B	Driver channel 1 positive output	16	OP IN (+)	Operational amplifier positive input
3	ch1-IN A	Driver channel 1 input	17	ch3-OUT A	Driver channel 3 negative output
4	ch1-IN B	Driver channel 1 gain adjustment pin	18	ch3-OUT B	Driver channel 3 positive output
5	Tr-B	Connect to external transistor base	19	ch3-IN A	Driver channel 3 input
6	Vreg OUT	Constant voltage output (connect to external transistor collector)	20	ch3-IN B	Driver channel 3 gain adjustment pin
7	MUTE	Mute control pin	21	Vcc	Power supply
8	GND	Ground	22	Vcc	Power supply
9	ch2-IN B	Driver channel 2 gain adjustment pin	23	BIAS IN	Bias amplifier input pin
10	ch2-IN A	Driver channel 2 input	24	ch4-IN B	Driver channel 4 gain adjustment pin
11	ch2-OUT B	Driver channel 2 positive output	25	ch4-IN A	Driver channel 4 input
12	ch2-OUT A	Driver channel 2 negative output	26	ch4-OUT B	Driver channel 4 positive output
13	GND	Substrate ground	27	ch4-OUT A	Driver channel 4 negative output
14	OP OUT	Operational amplifier output	28	GND	Substrate ground



CXA1782BQ

Pin No.	Symbol	I/O	Description
1	FEO	O	Output pin for focusing error amplifier
2	FEI	I	Input pin of focusing error
3	FDFCT	I	Capacitor connection pin for time constant when defect
4	FGD	I	Capacitor connection pin for high frequency gain Down of focusing servo
5	FLB	I	Time constant circuit connection pin for low frequency gain up of focusing servo
6	FE_O	O	Focusing drive output pin
7	FE_M	I	Inverted input pin of focusing amplifier
8	SRCH	I	Time constant circuit connection pin for focusing search waveform
9	TGU	I	Time constant circuit connection pin for tracking high frequency gain changeover
10	TG2	I	Time constant circuit connection pin for tracking high frequency gain changeover
11	FSET	I	Peak setting pin of phase compensation of focusing tracking
12	TA_M	I	Non-inverted input pin of tracking amplifier
13	TA_O	O	Inverted input pin of tracking amplifier
14	SL_P	I	Non-inverted input pin of sled amplifier
15	SL_M	I	Inverted input pin of sled amplifier
16	SL_O	O	Sled drive output pin
17	ISSET	I	Input pin to decide focusing search, tracking jump, and height of sled kick.
18	VCC	-	Power supply pin (+5V)
19	CLK	I	Serial data transfer clock input pin from microprocessor
20	XLT	I	Latch input pin from microprocessor
21	DATA	I	Serial data input pin from microprocessor
22	XRST	I	Reset input pin
23	C.OUT	O	Signal output pin to count the track numbers.
24	SENS	O	FZC, DFCT, TZC etc. signal output pin from command of microprocessor
25	FOK	O	Comparator output pins of focus OK.
26	CC2	I	Defect bottom hold input pin
27	CC1	O	Defect bottom hold output pin
28	CB	I	Capacitor connection pin for defect bottom hold
29	CP	I	Mirror hold capacitor connection pin
30	RF_I	I	RF summing amplifier input pin
31	RF_O	O	RF summing amplifier output pin
32	RF_M	I	RF summing inverted amplifier output pin
33	LD	O	APC amplifier output pin
34	PHD	I	APC amplifier input pin
35	PHD1	I	Inverted input pin of RF I-V amplifier
36	PHD2	I	Inverted input pin of RF I-V amplifier
37	FE_BIAS	I	Bias adjustment pin of focusing error amplifier
38	F	I	Inverted input pin of I-V amplifier of F
39	E	I	Inverted input pin of I-V amplifier of E
40	EI	-	Gain adjustment of I-V amplifier E
41	VEE	-	Ground
42	TEO	O	Tracking error amplifier output pin
43	LPFI	I	Comparator input pin for balance adjustment
44	TEI	I	Tracking error input pin
45	ATSC	I	Window comparator input pin for ATSC detector
46	TZC	I	Tracking zero-cross comparator input pin.
47	TDFCT	I	Capacitor connection pin for time constant when defect
48	VC	O	DC voltage output pin of $(VCC+VEE)/2$

PRINTED CIRCUIT BOARD PARTS LIST

MAIN CIRCUIT PC BOARD (NAAR-6646-1A/1B)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Photo coupler	
Q304	24120031	TOTX178A
	ICs	
Q101	22241093	CXA1782BQ
Q102	22241066	BA6398FP
Q103	22240239	TA7291S
Q301	22240487A	CXD2500BQ
Q302	22240792	TC9268P
Q401, Q402, Q501	22240191	NJM4565D-D
Q901	222780055JRC or 222780055MAT	78M05(NJM78M05FA) or 78M05(AN78M05F)
	Transistors	
Q104, Q904	2211504	2SA950-Y
Q105, Q702	2212600 or 2213580 or 2215780	DTA124ES or RN2203 or KRA103M
Q403, Q404	2213631 or 2213632	RN1241-A or RN1241-B
Q751	221281 or 2213570	DTC114YS or RN1207
Q752	2211455	2SA1015-GR
Q907	2202705 or 2202706	2SD2394-E or 2SD2394-F
	Diodes	
D101, D703, D704	223205 or 223163	1SS270A or 1SS133
D706	223205 or 223163	1SS270A or 1SS133
D901-D905	22380260 or 22380035	RL1N4003 or GP104003E
D906	224472004	MTZJ20D
D910	224470753	MTZJ7.5C
	Transformer	
T901	2301409 2301427	△ NPT-1369P, Power transformer<P,PT> △ NPT-1369DG, Power transformer<WT>
	Coil	
L101	233454K100	NCH-1452 100K
	Oscillator	
X301	3010308	HC-49/U0316.9344M
	Capacitors	
C101, C102, C306	354721019	100 μ F, 6.3V, Elect.
C104, C105, C115	374721034	0.01 μ F $\pm$ 5%, 50V, Plastic
C106, C109	374724744	0.47 μ F $\pm$ 5%, 50V, Plastic
C107, C124	374722224	2200pF $\pm$ 5%, 50V, Plastic
C108, C751	374721024	1000pF $\pm$ 5%, 50V, Plastic
C110, C111, C113	374721044	0.1 μ F $\pm$ 5%, 50V, Plastic
C117	354763309	33 μ F, 35V, Elect.
C118	354780339	3.3 μ F, 50V, Elect.
C120	374723334	0.033 μ F $\pm$ 5%, 50V, Plastic
C121, C123, C125	374721034	0.01 μ F $\pm$ 5%, 50V, Plastic
C128, C310	354722219	220 μ F, 6.3V, Elect.
C129, C302	374721034	0.01 μ F $\pm$ 5%, 50V, Plastic
C136, C910	354744709	47 μ F, 16V, Elect.
C138, C432	354742219	220 μ F, 16V, Elect.
C170	354780109	1 μ F, 50V, Elect.
C301, C450	354784799	0.47 μ F, 50V, Elect.
C304	374724734	0.047 μ F $\pm$ 5%, 50V, Plastic
C305	374721524	1500pF $\pm$ 5%, 50V, Plastic
C323, C324, C923	354722219	220 μ F, 6.3V, Elect.
C327, C328	374721044	0.1 μ F $\pm$ 5%, 50V, Plastic
C411, C412	374721824	1800pF $\pm$ 5%, 50V, Plastic
C413, C414	374726824	6800pF $\pm$ 5%, 50V, Plastic
C417, C418	354782209	22 μ F, 50V, Elect.
C434, C922	354742219	220 μ F, 16V, Elect.
C501, C502	354744709	47 μ F, 16V, Elect.
C752, C112	354780479	4.7 μ F, 50V, Elect.
C753	354721029	1000 μ F, 6.3V, Elect.
C901, C902	393343327S	3300 μ F, 16V, Elect.
C906	354781019	100 μ F, 50V, Elect.
C907, C920	354764709	47 μ F, 35V, Elect.
C908, C909	354741019	100 μ F, 16V, Elect.
C951	3500077	△ DE7150F-472M
	Resistors	
R112, R123	5210263	N06HR20KBC, Trimming

NOTE : <P> : European model only
 <PT> : Asian model only
 <WT> : Taiwanese model only

CIRCUIT NO.	PART NO.	DESCRIPTION
	Sockets	
JL501a	25050271	NSCT-7P99
P101	25051974	NSCT-16P1761
P102a	2006341015UL	NSAS-10P0181
P103a	2006341210UL	NSAS-12P0232
P701a	25051832 or 25051291 or 25052034 or 25052221 or 25052071 or 25052258	NSCT-25P1619 or NSCT-25P1080 or NSCT-25P1821 or NSCT-25P2118 or NSCT-25P1858 or NSCT-25P2155
	Plugs	
P104	25055045	NPLG-4P33
P105	25055038	NPLG-2P29
P903a	25055675 or 25056003	NPLG-2P631 or NPLG-2P954
	Terminals	
P401	25045371	NPJ-2PDWR214
P402	25045601	NPJ-2PDB409
	Switch	
S902	25065437	△ NSS-22157P <WT>
	Radiator	
Q901a	27160145-1	RAD-51
	Holder	
E701	27190990	Holder FL
	Cover	
C951a	27301216	△ SB1925A

DISPLAY CIRCUIT PC BOARD (NADIS-6647-1A/1B)

CIRCUIT NO.	PART NO.	DESCRIPTION
	FL tube	
Q709	212109	8-BT-125GK
	Remote sensor	
Q712	241330	PIC-26043TE2
	ICs	
Q701	22241378R3	MPD78042FGF-107
Q705	22241210	BMR-0101D
	Transistor	
Q702	2212600	DTA124ES
	Diodes	
D705	224470562	MTZJ5.6B
D780	224470512	MTZJ5.1B
	Oscillator	
X701	3010229	CE-LOCK EFOEC004A4
	Capacitors	
C701, C703	353721019	100 μ F, 6.3V, Elect.
	Switches	
S701-S709	25035652 or 25035704	NPS-111-S604 or NPS-111-S667
	Socket	
P701b	25051329 or 25051869	NSCT-25P1118 or NSCT-25P1656

POWER SWITCH PC BOARD (NASW-6648-1A/1B)

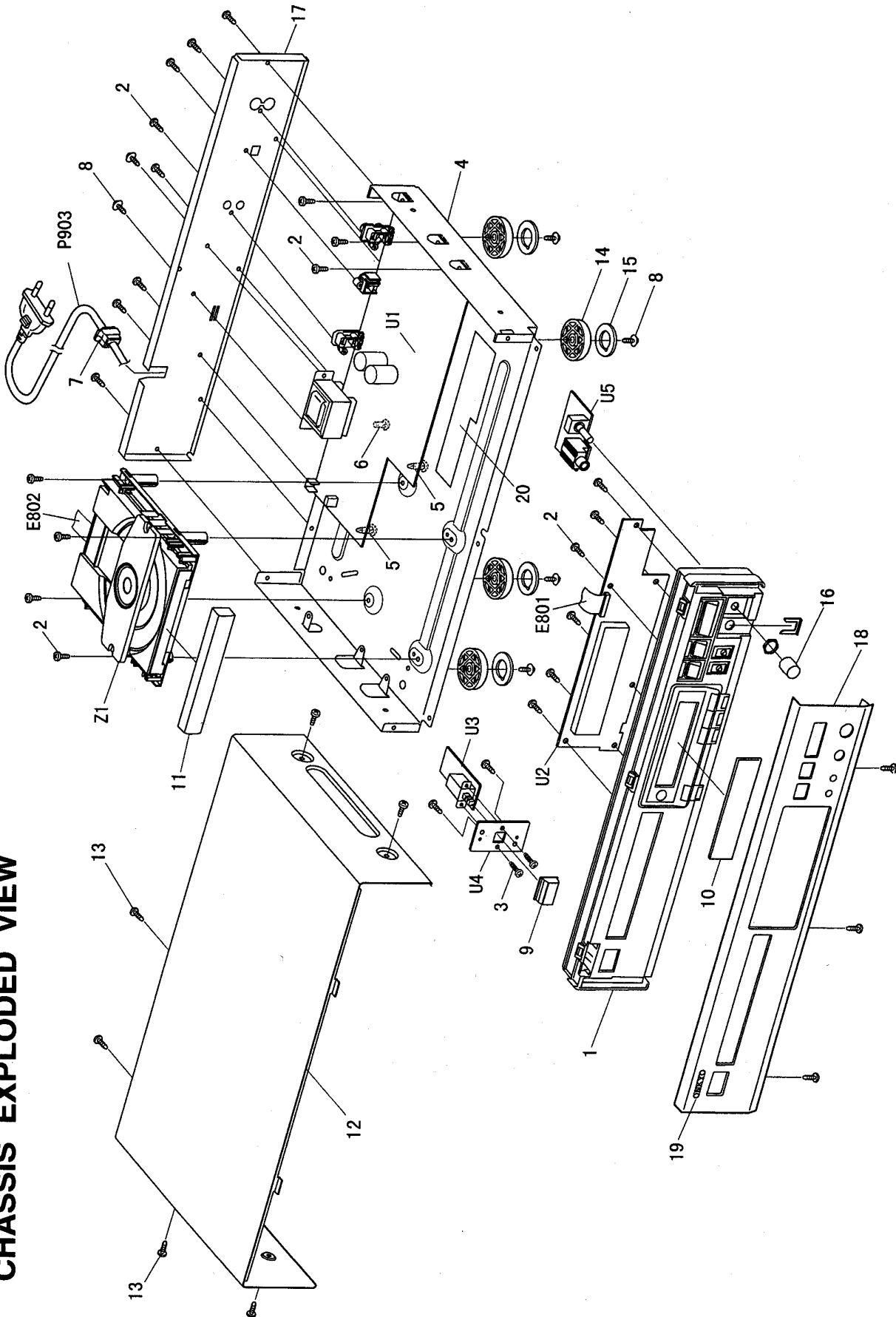
CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitor	
C950	3500196S	△ RE275V-103M
	Switch	
S901	25035703	△ NPS-111-L666P, Power switch

VOLUME PC BOARD (NAETC-6650-1A/1B)

CIRCUIT NO.	PART NO.	DESCRIPTION
	IC	
Q502	22240191	NJM4565D-D
	Capacitors	
C503, C504	354744709	47 μ F, 16V, Elect.
	Resistor	
R507	5112463	N09RGL20KB20M, Phones level
	Terminal	
P502	25045255	YKB26-5009
	Socket	
JL501b	25051111	NSCT-7P898

NOTE : THE COMPONENTS IDENTIFIED BY THE MARK
 △ ARE CRITICAL FOR RISK OF FIRE AND
 Elect. RISK SHOCK. REPLACE ONLY WITH PART
 NUMBER SPECIFIED.

CHASSIS EXPLODED VIEW



CHASSIS EXPLODED VIEW PARTS LIST

REF.NO. PART NO.	DESCRIPTION	REF.NO. PART NO.	DESCRIPTION
1 27111118	Front bracket 	17 27122597B	Rear panel <P>
27111119	Front bracket <S>	27122624B	Rear panel <PT>
27111120	Front bracket <G>	27122625B	Rear panel <WT>
2 838130088	3TTB+8B,Self tapping screw	18 27212105	Front panel
3 82143010	3P+10FN(BC),Self tapping screw	27212106	Front panel <S>
4 27100374	Chassis	27212122	Front panel <G>
5 27190657-1	LSR-18R,Holder	28135244	Badge
6 27190926-1	LSR-18p,Holder	28135245	Badge <S>
7 27300750	△ Bushing,cord	29361957	Label
8 831430088	3TTW+8B(BC),Self tapping screw	E801 2047251512	NCFC7-251512,Flexible cable
9 28325465	Knob,POW 	E802 2042161012	NCFC2-161012,Flexible cable
28325466	Knob,POW <S>	E805 260208	Wire tie
28325516Y	Knob,POW <G>	P903 253195MAR or	△ AS CEE,power supply cord or
10 28191852	Clear plate 	253193HIT	△ AS-CEE,power supply cord
28191853	Clear plate <S,G>	U1 1H404546-1A	NAAR-6646-1A,Main circuit PC board ass'y <P,PT>
11 28148415	Door,CD 	1H404546-1B	NAAR-6646-1B,Main circuit PC board ass'y <WT>
28148405A	Door,CD <S>	U2 1H404547-1A	NADIS-6647-1A,Display circuit PC board ass'y <P,PT>
28148416	Door,CD <G>	1H404547-1B	NADIS-6647-1B,Display circuit PC board ass'y <WT>
12 28184670-1	Top cover 	U3 1H404548-1A	NASW-6648-1A,Power switch PC board ass'y <P,PT>
28184671-1	Top cover <S>	1H404548-1B	NASW-6648-1B,Power switch PC board ass'y <WT>
28184687-1	Top cover <G>	U4 1H404549-1A	NAETC-6649-1A, PC board for holder
13 838430088	3TTB+8B(BC),Self tapping screw 	U5 1H404550-1A	NAETC-6650-1A, Volume PC board ass'y <P,PT>
838930088	3TTB+8B(UN),Self tapping screw <S,G>	1H404550-1B	NAETC-6650-1B, Volume PC board ass'y <WT>
14 27175316B	Leg	Z1 24800018A	NCD-170S,CD mechanism
15 28141332	Cushion		
16 28325452	Knob,MIC 		
28325515	Knob,MIC <S>		
28325495	Knob,MIC <G>		

NOTE : <P> : European model only

<PT> : Asian model only

<WT> : Taiwanese model only

<S> : Silver model only

 : Black model only

<G> : Golden model only

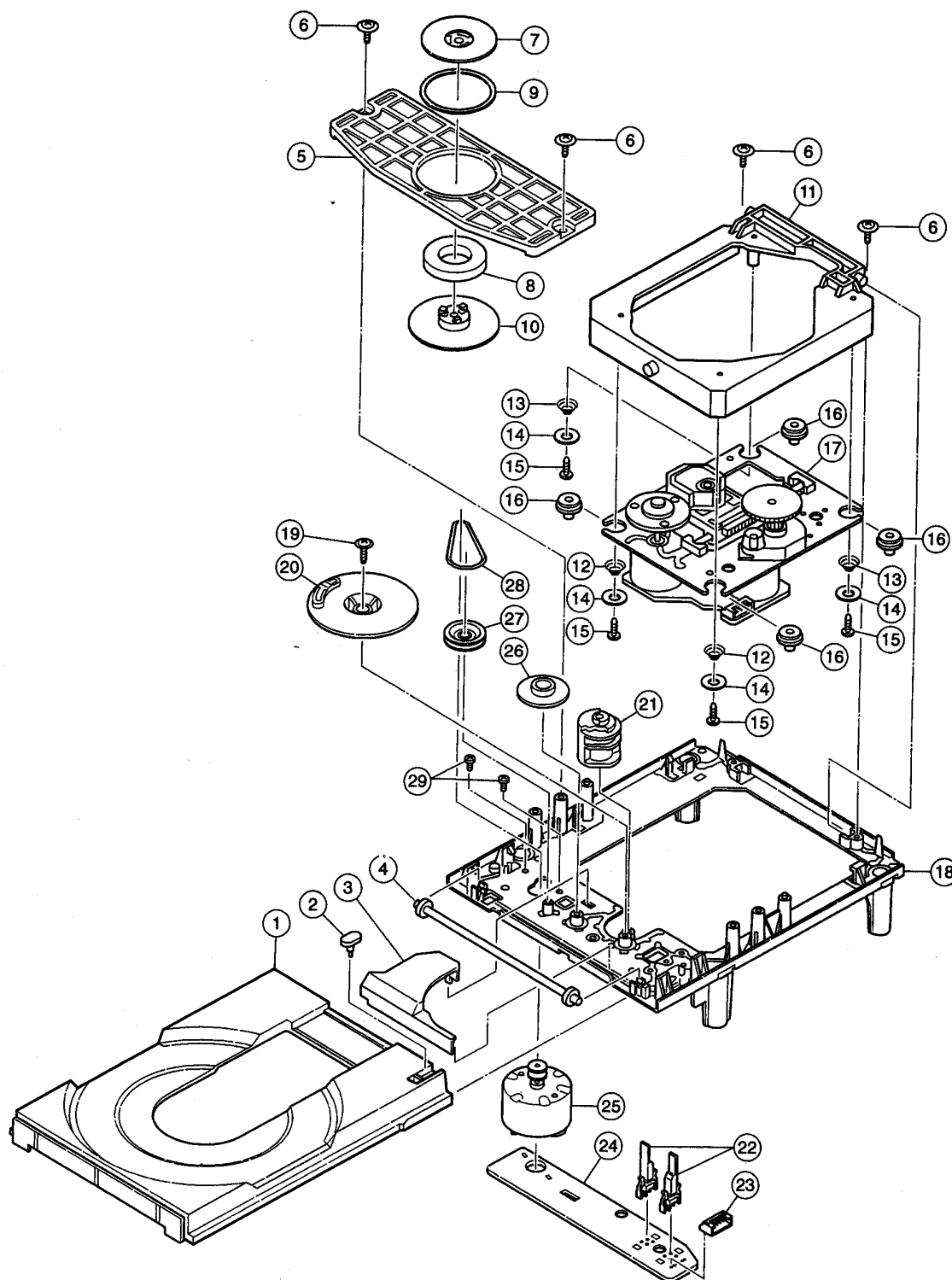
NOTE : THE COMPONENTS IDENTIFIED BY THE MARK

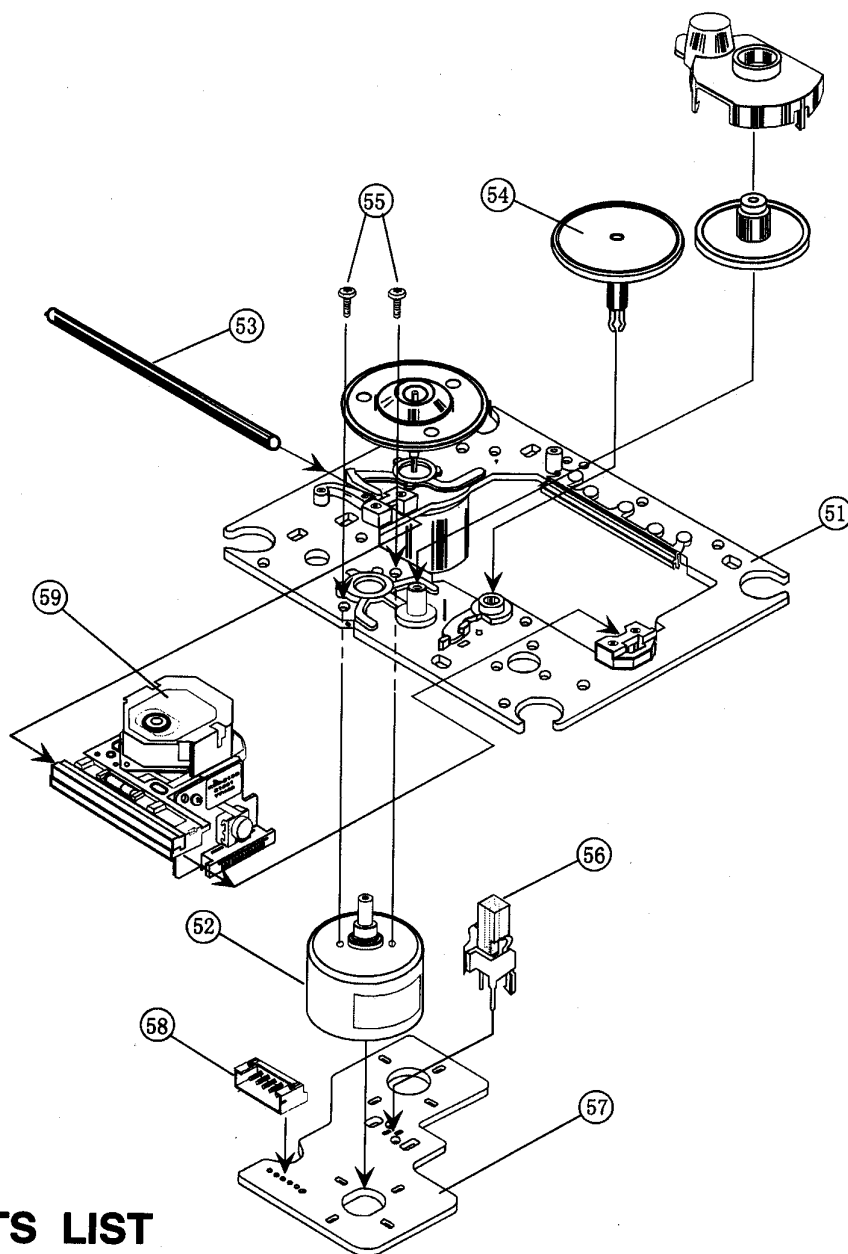
△ ARE CRITICAL FOR RISK OF FIRE AND

ELECTRIC SHOCK. REPLACE ONLY WITH PART

NUMBER SPECIFIED.

CD MECHANISM EXPLODED VIEW





PARTS LIST

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
1	2646-290-01	Tray	16	2627-234-01	Insulator	51	X2625-877-1	Motor chassis ass'y
2		Stopper	17		KSM-213CCM, Pickup drive unit	52	X2625-769-1	Motor gear ass'y
3	2625-544-01	Gear cover	18	2625-552-06	Main chassis	53	2626-908-01	Sled shaft
4	2625-535-01	Tray gear	19	3319-501-51	PTPWH2.6x16, Screw	54	2626-907-01	Gear
5	2625-546-01	Chucking plate	20	2625-547-01	Drive Gear	55		P2x3, Screw
6		PTPWH2.6x7, Screw	21	2625-545-04	Control cam	56	1572-085-11	Leaf switch
7	2625-537-01	Chucking yoke	22	1692-667-11	Leaf switch	57	1639-678-12	Motor PC board
8	1452-493-21	Magnet	23	1564-721-11	Socket	58	1564-722-11	Socket
9	2625-541-02	Damper	24	1640-523-11	Loading PC board	59	8848-483-05	KSS-213C, Pickup
10	2646-291-01	Chucking pulley	25	X2625-117-1	Loading motor ass'y			
11	2646-288-01	Sub chassis	26	2625-274-02	Midway gear			
12	2627-236-01	Coil spring (front)	27	2625-536-02	Loading pulley			
13	2627-235-01	Coil spring (back)	28	3653-387-00	LM belt			
14	2646-289-01	Washer	29		B2.6x2.5, Screw			
15		P2.6x10, Screw						

BLOCK DIAGRAM

