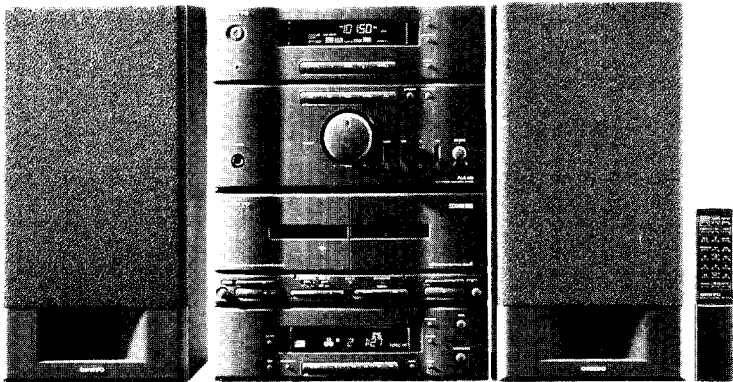


ONKYO® SERVICE MANUAL

PERSONAL COMPONENT SYSTEM

PCS-103



Black models

UP	230V AC, 50Hz
UD	120 AC, 60Hz

SAFETY-RELATED COMPONENT WARNING!!
 COMPONENTS IDENTIFIED BY MARK \triangle 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 PART 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.



TABLE OF CONTENTS

TABLE OF CONTENTS	2
CAUTION ON REPLACEMENT OF OPTICAL PICKUP	3
PROTECTION OF EYES FROM LASER BEAM DURING SERVICING	
LASER WARNING LABELS	4
SERVICE PROCEDURE-TUNER/POWER	
IC BLOCK DIAGRAM - TUNER	5,6
IC BLOCK DIAGRAM - CASSETTE	7,8
IC BLOCK DIAGRAM - CD	9,10
P.C.B. - U1 TUNER, U2 POWER (COMPONENT SIDE)	11,12
P.C.B. - U1 TUNER, U2 POWER (SOLDER SIDE)	13,14
P.C.B. - U3 FRONT, U4 H/P, U5 VR, U6 LED, U8 CASSETTE SOCKET (COMPONENT SIDE)	15,16
P.C.B. - U3 FRONT, U4 H/P, U5 VR, U6 LED, U8 CASSETTE SOCKET (SOLDER SIDE)	17,18
P.C.B. - U7 CASSETTE (COMPONENT SIDE)	19,20
P.C.B. - U7 CASSETTE (SOLDER SIDE)	21,22
P.C.B. - U10 CD DECORDER , U11 CD CONTROL (COMPONENT SIDE)	23,24
P.C.B. - U10 CD DECORDER , U11 CD CONTROL (SOLDER SIDE)	25,26
P.C.B. PARTS LIST - TUNER/POWER	27,28
P.C.B. PARTS LIST - CASSETTE/CD	29,30
SCHEMATIC DIAGRAM - TUNER/POWER	31,32
SCHEMATIC DIAGRAM - DIGITAL TUNING SYSTEM	33,34
SCHEMATIC DIAGRAM - CASSETTE	35,36,37,38
SCHEMATIC DIAGRAM - CD	39,40
EXPLODED VIEW - TUNER/POWER	41,42
PARTS LIST - TUNER/POWER	43
PARTS LIST - CASSETTE	44
EXPLODED VIEW - CASSETTE	45,46
EXPLODED VIEW - CD	47,48
PARTS LIST - CD	49
BLOCK DIAGRAM - TUNER/POWER	50
BLOCK DIAGRAM - CASSETTE	51
BLOCK DIAGRAM - CD	52
ALIGNMENT PROCEDURE - TUNER	53,54,55,56
ALIGNMENT PROCEDURE - CASSETTE	57,58
ALIGNMENT PROCEDURE - CD	59,60
PACKING VIEW	61
SPECIFICATIONS	62

SERVICE PROCEDURES

1. Safety-check out

After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Connect the insulating-resistance tester between the plug of power supply cord and chassis.

Specifications: More than 10 Mohm at 500V.

2.Replacing the fuses

For continued protection against fire hazard, replace only with same type and same rating fuse.

Circuit No.	Part No.	Description
F601	5266300020	T3A/125V, UL/CSA
	5267315L62	T3.15AL250V
F602	5266250020	T2.5A/125V, UL/CSA
	5267250L62	T2.5AL250V
F603	5266200020	T2A/125V, UL/CSA
	5267100L62	T1AL250V

CAUTION ON REPLACEMENT OF OPTICAL PICKUP

The laser diode in the optical pickup block is so sensitive to static electricity, surge current and ect, than the components are leable to be broken down or its reliability remarkably deteriorated.

During repair, carefulley take the following precautions.
(The following precautions are included in the service parts.)

PRECAUTIONS

1. Ground for the work-desk.

Place a conductive sheet such as a sheet of copper (with inpedance lower than 10Mohm) on the work-desk and place the set on the conductive sheet so that the chassis.

2. Grounding for the test equipment and tools.

Test equipments and toolings should be grounded in order that their ground level is the same the ground of the power source.

3. Grounding for the human body.

Be sure to put on a wrist-strap for grounding whose other end is grounded.

Be particularly careful when the workers wear synthetic fiber clothes, or air is dry.

4. Select a soldering iron that permits no leakage and have the tip of the iron well-grounded.

5. Do not check the laser diode terminals with the probe of a circuit or oscilloscope.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMMISION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.

Laser Diode Properties

- Material:GaAIAs
- Wavelength:760~800nm
- Emission Duration:continuous
- Laser output:max. 0.5mW*

*This output is the value measured at a distance about 1.8mm from the objective lens surface on the Optical Pick-up Block.

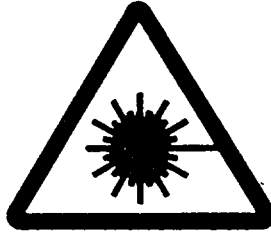
LASER WARNING LABELS

The label shown below are affixed.

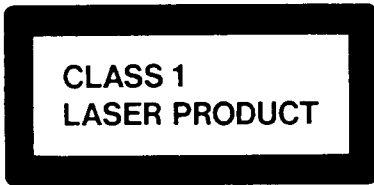
CD CAUTION LABEL (B)

CAUTION
INVISIBLE LASER RADIATION WHEN
OPEN. DO NOT STARE INTO BEAM.

ATTENTION!
RADIATION INVISIBLE DU LASER
QUAND OUVERT. NE PAS REGARDER
FIXEMENT LE RAYON.



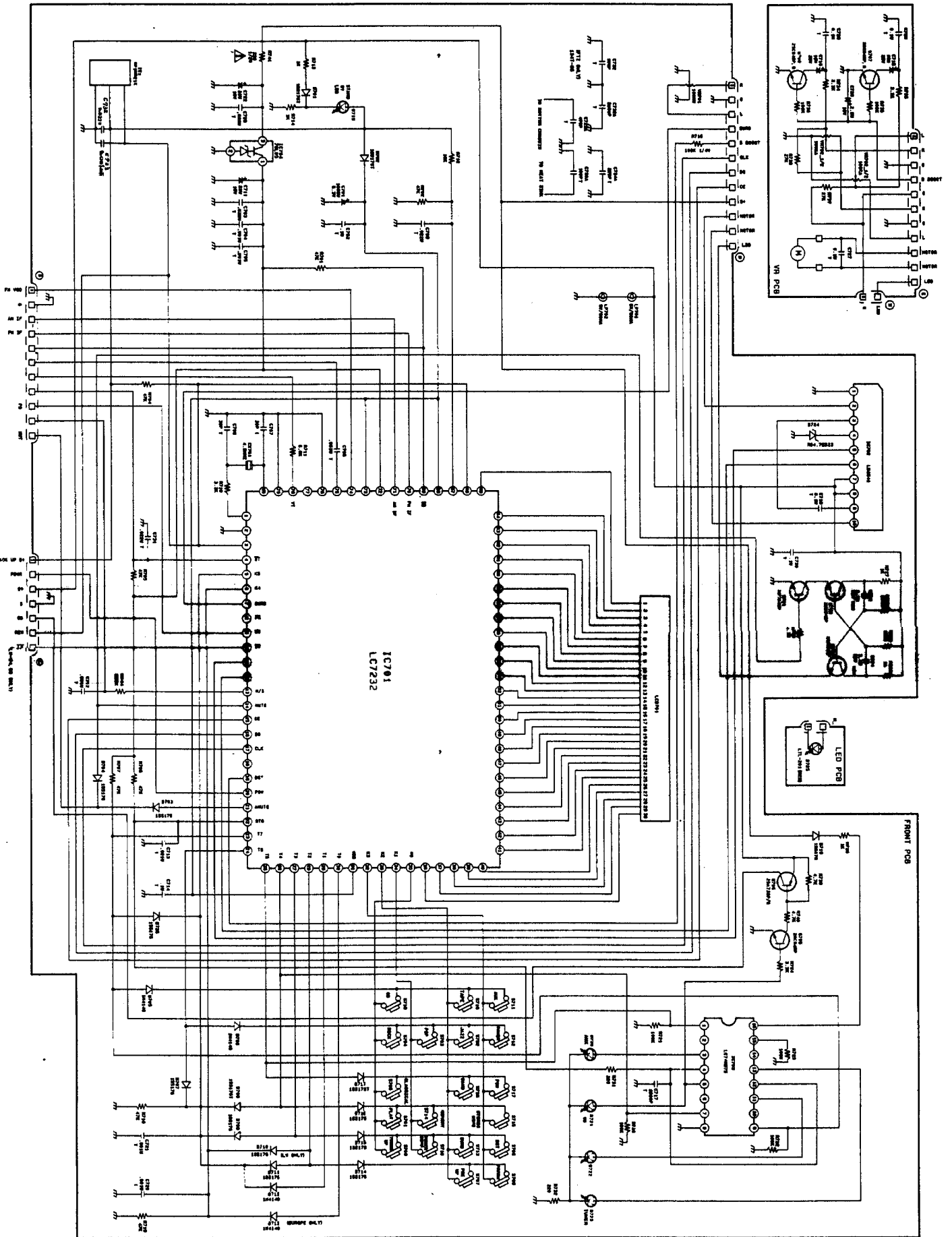
CD CAUTION LABEL (C)

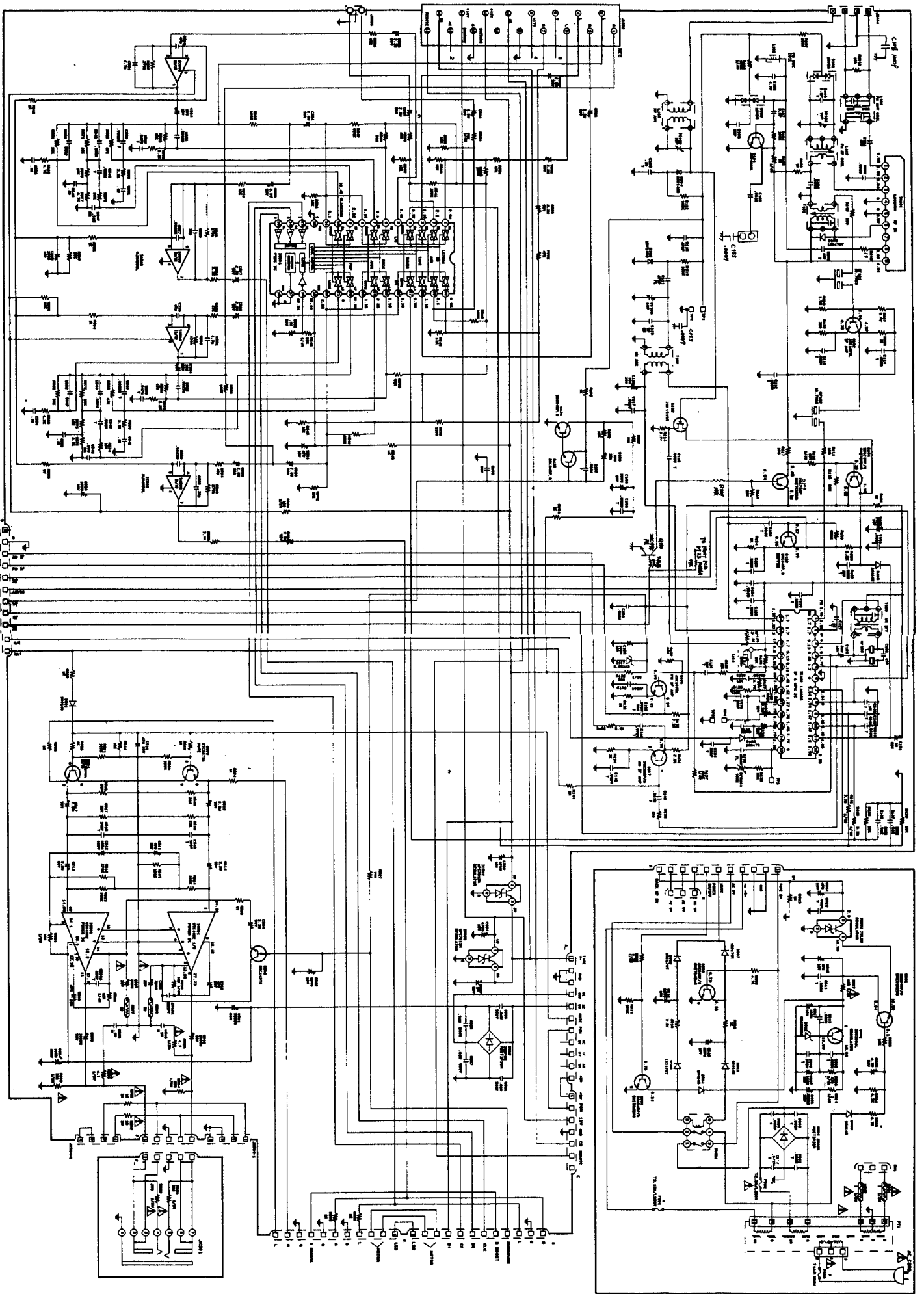


CD CAUTION LABEL (B12)

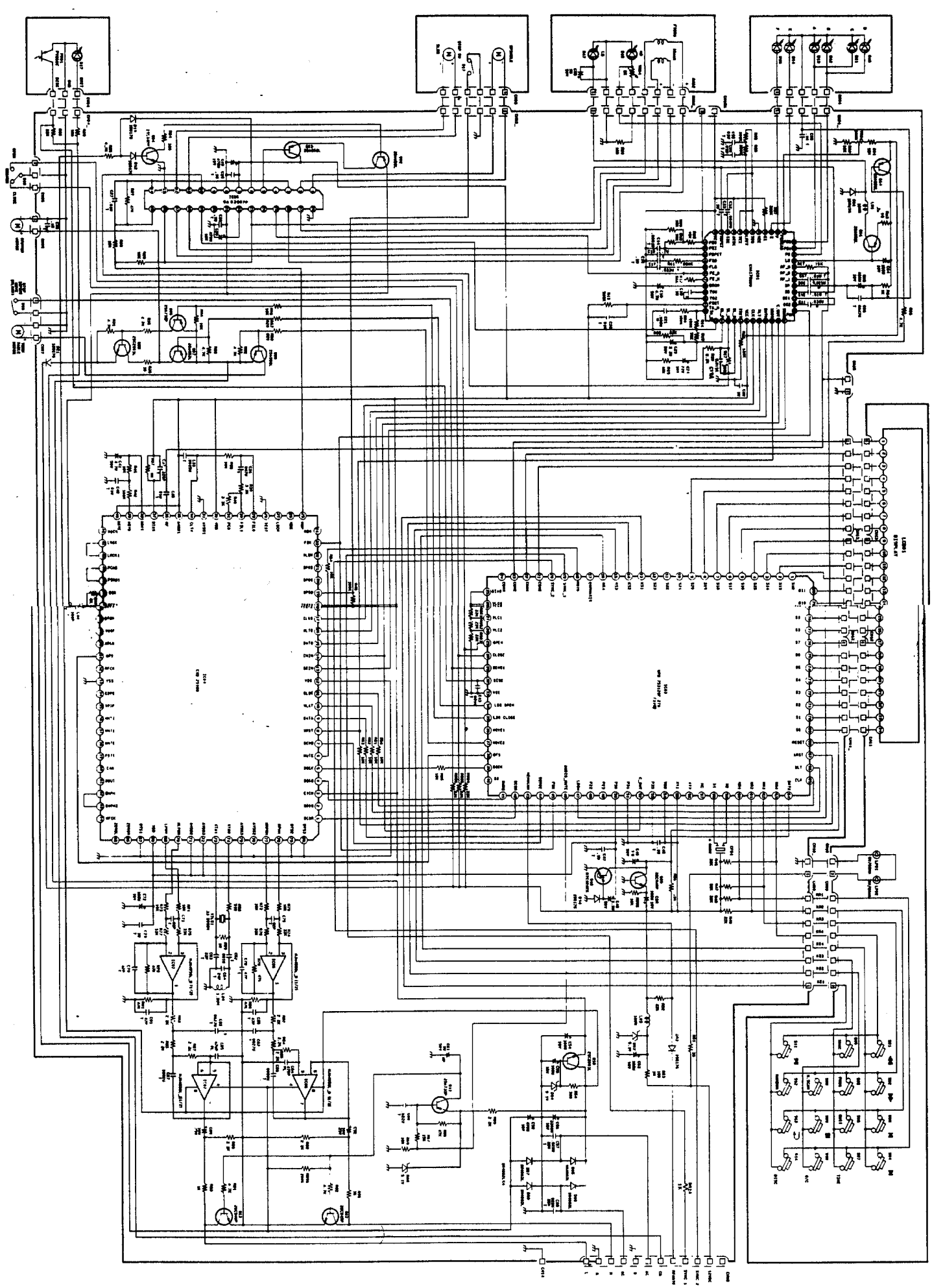
<p>WARNING! INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. DO NOT STARE INTO BEAM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS</p>
<p>WARNUNG! UNSICHTBARE LASERSTRAHLEN IN GEOFFNETEM ZUSTAND UND BEI AUSSER KRAFT GEGSETZTER VERRIEGELUNG VORHANDEN! NICHT IN DEN STRAHL BLICKEN BZW. DIREKT MIT OPTIKINSTRUMENTEN ANSEHEN.</p>
<p>ADVARSEL - VED ÅBNING ER DER USYNLIGE LASERSTRALER OG OVERLAGRET SPÆRREKREDS. STIR IKKE PÅ STRALEN ELLER KIG DIREKTE MED OPTISKE INSTRUMENTER.</p>
<p>FORSIKTIG! USYNLIG LASERSTRALER NÅR DEN ER ÅPEN OG FØRRINGLINGEN ER OMSTOTT. SE IKKE INN I STRALEN ELLER DIREKTE MOT STRALEN VED HJELP AV OPTISKE INSTRUMENTER</p>
<p>VARNING - OSYNLIG LASERSTRÅLNING SPRIDS NÅR MASKINEN ÅR ÖPPEN OCH SPÄRRARNA FRANKOPPLADE. TITTA EJ PÅ STRALEN ELLER STUDERA DEN MED OPTISKA INSTRUMENT.</p>
<p>VAROITUS - NÄKYMATONTA LASERSATEILYA ESINTYY, KUN LAITE ON AVOINNA JA SISÄINEN LUKITUS ON OHITETTU. ÄLÄ KATSO SUORAAN VALOKEILAAN PALJAIN SILMIN TAI OPTISILLA LAITTEILLA.</p>

SCHEMATIC DIAGRAM-DIGITAL TUNER SYSTEM

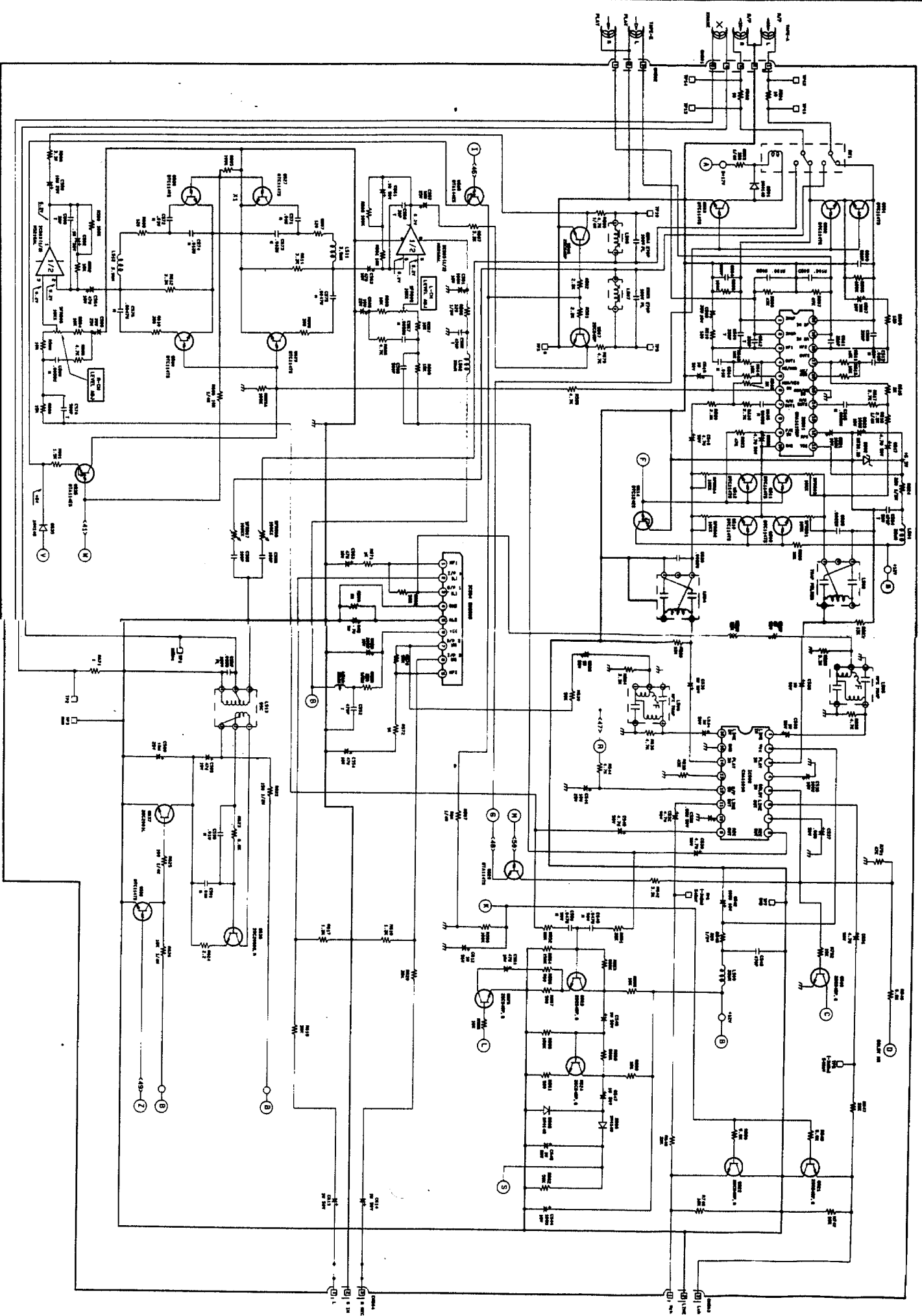




A B C D E F G H I J



SCHEMATIC DIAGRAM-CASSETTE



SCHEMATIC DIAGRAM-CASSETTE

A B C D E F G H I J

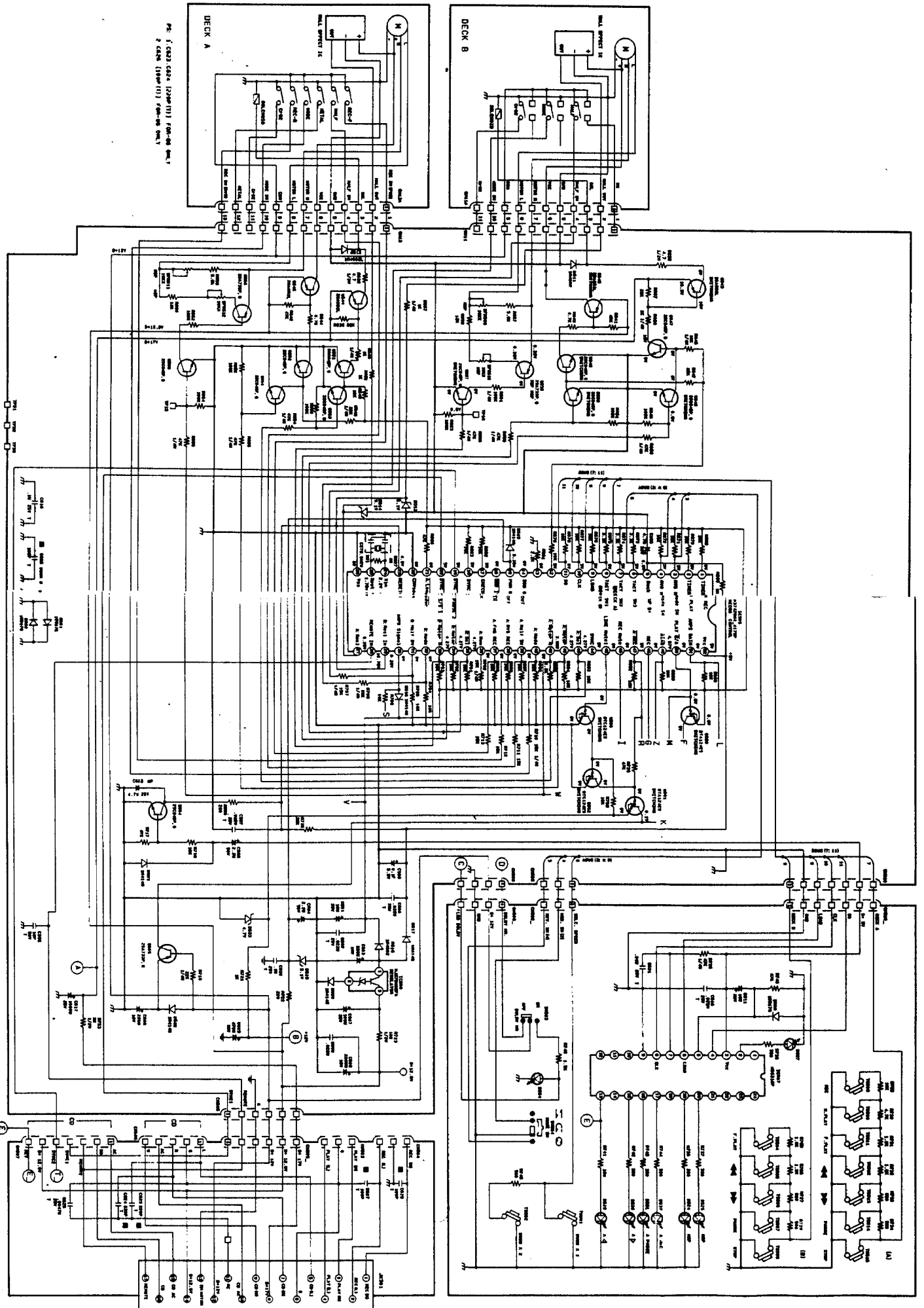


FIG. 2 (CONT.) CASSETTE DECK (11) FROM-98 (REV. 1)
2 CASE (1000(11)) FROM-98 (REV. 1)

TUNER/AMP. PC BOARD PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
TUNER PCB ASS'Y (C14A230815)			R501,502	4172018055	18ohm,2W(J),METAL(NON-FRAME)
ICs			R511,593	4270210155	100ohm,1/2W(J),METAL
IC101	415201186N	LA1186N	SFR101	5226103177	10KX EVNDXAA03, SEMI-FIXED R.
IC102	4152018050	LA1805	Capacitors		
IC501	4152044320	STK4432	TC101,102	5010100045	10P-VCT51C532A, TRIMMER CAP.
IC502	415178112H	UPC7812H	TC103	5010100045	10P-VCT51C532A, TRIMMER CAP.,<D>
IC503	222780122 or 415978M12A	UPC78M12H or NJM78M12A	C101,152,	7306947055	47pF/50V,MULTI-LAYER C.C. (J)
IC504	22240280	LC7821N	C529,530		
IC505,506	22240293	NJM4558LD	C102,124,126,	7306510215	0.001μ F/50V,MULTI-LAYER C.C. (K)
Transistors			C132,136,138,		
Q102,106	2210823	2SC1675-L	C139,140,		
Q103,107,	2210746 or	2SC945-P or	C143-145,		
I10,121,122	2210747	2SC945-Q	C150,569,570		
Q104,109	2210803 or	2SA733-P or	C103,107	7306933915	3.3pF/50V,MULTI-LAYER C.C. (K)
	2210804	2SA733-Q	C104,110,	7308622345	0.022μ F/25V,MULTI-LAYER C.C. (Z)
Q108	4101501617	2SK161GR	C112-114,116,		
Q503	410921143TS	DTC143-TS	C117,121-123,		
Q501,502	410522878A	2SC2878-A	C125,136,142,		
Diodes			C154,156,157,		
D101,102	223125 or	1SV55 or	C543-546		
	223154	1SV103	C105	7306918055	18pF/50V,MULTI-LAYER C.C. (J)
D104,105	412020149B	1SV149B	C106,531,532	7306947915	4.7pF/50V,MULTI-LAYER C.C. (K)
D106	4121901760	ISS176	C108,159	7306956055	56pF/50V,MULTI-LAYER C.C. (J)
D107	2239472	RD5.6E-B2, ZENER	C109,127,146,	7306610445	0.1μ F/50V,MULTI-LAYER C.C. (Z)
D108,501	4121141480	1N4148	C541,542,549,		
D502	4130200021	2KBP02M	C550,553,554		
Ceramic Filters			C111	5091471513	470pF/100V(J), POLYPROPYLENE CAP.
CF101	416022044	SFE10.7MS3GYM RED,<D>	C115	7306547115	470pF/50V,MULTI-LAYER C.C. (K)
	4160200252	SFE10.7MJ-A RED,<P>	C118,533,534	5153100225	10μ F/25V
CF102	3010122	SFE10.7MA5H-D	C120,158,	5153101216	100μ F/16V
	4160200252	SFE10.7MJ-A RED,<P>	C555,556		
CF103	3010123	SFZ450JL	C128	5153220216	22μ F/16V
Coils			C129,559,560	7306930055	30pF/50V,MULTI-LAYER C.C. (J)
T101	4340200920	TWS-358-412, FM IFT,<D>	C130	7307839215	0.0039μ F/16V,MULTI-LAYER C.C. (K)
T102	4330102020	TWS-358-751,MW OSCILLAROR	C131,515,516	7306510115	100pF/50V,MULTI-LAYER C.C. (K)
T103	4340101240	R22-E792,AM IFT	C133,137	5153339250	3.3μ F/50V
T104	4340201340	R22-E-788,FM DETECTOR	C134	7306522115	220pF/50V,MULTI-LAYER C.C. (K)
T105	4160700077	10FE01,L.P.FILTER,<P>	C135	5091152513	0.0015μ F/100V(J), PP
L101	4300400720	TWS-358-599, FM ANTENNA	C147,148	5105183132	0.018μ F/25V(K), CEMI-CONDUCTOR
L102	4330400820	R22-F036X, FM OSCILLATOR,<D>	C151	5153109250	1μ F/50V, ELECT.
L103	4300103110	TWS-358-676, AM ANTENNA	C153	5153101210	100μ F/10V
L107	4310400820	PC8323, FM RF,<D>	C160	5153478250	0.47μ F/50V, ELECT.
L202,203	4329247311	473K,<P>	C501	5155332280	3300μ F/80V,ELECT.TSW
FM FrontEnd			C502,503	5154102250 or	1000μ F/50V,ELECT. or
U1	716131A086	FE415-G11A,<P>		5158102250	1000μ F/50V,ELECT. (V)
Jacks,Terminals			C504,512	5154101201	100μ F/100V,ELECT.
JK101	4500800275	CJ-9002-040, 4P ANTENNA,<D>	C505,506	5116104550	0.1μ F/50V(J), MYLER CAP.
	4560002065	2P ANT TERMINAL,<P>	C507,508	5153221225	220μ F/25V
JK502	4491700290	MALE CONNECTOR FTW 17P	C509-511,519	5153470225	47μ F/25V
JK503	4500800243	0502000A, 2P RCA	C509A,510A	7306522115	220pF/50V,MULTI-LAYER C.C. (K)
JK504	4560008059	CJ-9001-080,8P SPEAKER	C513,514,	5153229250	2.2μ F/50V
Resistors			C517,518,		
R507,508	4180482057	82 ohm,1/4W,FUSE	C520,521,		
R505,506	4170247955	4.7ohm,1/2W(J),METAL(NON-FRAME)	C523-528,		
			C588-591,		
			C594-596		

CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
C531,C532	7306915055	15pF/50V,MULTI-LAYER C.C. (J)	D701-704,	4121901760	ISS176
C535,536	7307833215	0.0033μF/16V,MULTI-LAYER C.C. (K)	D707-709,711,		
C537,538	7306647345	0.047μF/50V,MULTI-LAYER C.C. (Z)	D714-718,726		
C551,552	7306556115	560pF/50V,MULTI-LAYER C.C. (K)	D705,706,	4121141480	1N4148
C522	5153221210	220μF/10V	D712,713		
C547,548	5105103312	0.01μF/25V(K), CEMI-CONDUCTOR	D719	4121622N31	LTL-4222N-031A, RED, LED
C561	5153470216	47μF/16V	D720-723	412164232G	LTL-4232N-021A, GRN, LED
C562	5153108250	0.1μF/50V, ELECT.	D724	4121530475	RD4.7EB3, ZENER
C563,564	5154471216	470μF/16V,ELECT.		Resonator	
C587	515W109T50	1μF/50V	CX701	410090450M	X'TAL 4.5MHZ
C539,540,	7307822215	0.0022μF/16V,MULTI-LAYER C.C. (K)		Fuse	
C557,558,			LP701,702	4700400025	FUSE LAMP 6V/60MA
C571,571A				Capacitors	
POWER P.C.B. ASS'Y (C14A230823)			C701	5158102206	1000MF/6.3V,V,ELECT.
IC,Transistors			C724,725	5163339250	3.3μF/50V (M), BP-TYPE ELECT.
IC601	222780053	NJM78L05A	C711,722	5153220216	22μF/16V (M), ELECT.
Q601,603,604	2210746 or	2SC945-P or	C707,708	7306930055	30pF/50V (J), MULTI-LAYER C.C.
	2210747	2SC945-Q	C704-706,	7306510215	0.001μF/50V (K), MULTI-LAYER C.C.
Q602	2211654	2SC2235-Y	C712,713,		
Diodes			C720,721		
D601	22380061	2W02G,DIODE	C717,732A	7307822215	0.0022μF/16V (K), MULTI-LAYER C.C.
D602	2239652	RD13E-B2	C703,709,	7308622345	0.022μF/25V (Z), MULTI-LAYER C.C.
D605-607	4121901760	ISS176	C723,731		
D603,604,608	4121141480	1N4148	C702,719,730	7306610445	0.1μF/50V (Z), MULTI-LAYER C.C.
Resistors				Others	
R601,602	4180210957	1Ω,1/2W,S,FUSE R.	VR701	5020154253	VR 100KW RK16K1130301
R607	4050222159	220Ω,1/2W	LCD701	4110440210	HLC8384-012210, LCD DISP.
R615,616	4050215554	1.5MΩ,1/2W	S701-719	4400000156	SKHVBH3520-CP, TACT SW.
Capacitrs			H/P PCB ASS'Y (C04A230840)		
C605	5153479250	4.7μF/50V	JK501	4500500237	HJT-064-06A, HEADPHONE JACK
C606	5154332225	3300μF/25V,ELECT.	R529,530	4050233159	330 OHM,1/2W (J), CARBON R.
C601-604,	7308622345	0.022μF/25V(Z),MULTI-LAYER C.C.	VR PCB ASS'Y (C14A230850)		
C608-612			VR702	5025215256	100KAX2, K162FMG021, VR
C607,617	5153101216	100VμF/16V	Q707,708	2212285	2SC2878-A
C613,614	5153470216	47μF/16V	C726	5153229250	2.2μF/50V (M), ELECT.
C615	5153221216	220μF/16V	C715,716	5153100225	10μF/25V (M), ELECT.
C616	5153331216	330μF/16V	C727-729	736610445	0.1μF/50V (Z), MULTI-LAYER C.C.
Others			LED PCB ASS'Y (C04A230862)		
RY601	4390000013	OMI-SS-212D.RELAY		4120642325	LTL-4232, GRN, LED
F601-603	4692000034	PFC5000-0202,FUSE HOLDER			
FRONT PCB ASS'Y (C14A230838)					
ICs					
IC1	7140924438	LTM-9244-38. REMOTE RECEIVER			
IC701	4152723211	LC7232N-8811			
IC702	4152016410	LB1641			
IC703	415374H375	TC74HC375AP			
IC704	222780053	NJM78L05A	NOTE : <D> 120V type		
Transistors			: <P> 230V type		
Q701,703-705	2210746 or	2SC945-P or			
	2210747	2SC945-Q			
Q706	2210803 or	2SA733-P or			
	SS10804	2SA733-Q			
Diodes					

P.C.B. PARTS LIST-CASSETTE
P.C.B. PARTS LIST-CD

CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
CASSETTE P.C.BOARD ASS'Y (C141234002)			CD DECODER P.C.BOARD ASS'Y (C144241010)		
	ICs			ICs	
IC501	415C011152 or 4152032460	CXA1115BP or LA3246	R524,545, R568,586	4270222155	220 Ω, 1/2W(J),Metal
IC502	415C01101M	CXA1101M	R622	4270215155 or 4170215155	150 Ω, 1/2W(J),Metal or 150 Ω, 1/2W(J),Metal
IC503	22240368	M5218AL	R723	4270210155	100 Ω, 1/2W(J),Metal
IC504	4159033080	BA3308	R753	4270222055	22 Ω, 1/2W(J),Metal
IC505	4159374207	M37420M4-417SP	Capacitors		
IC506	222780052 or 222780055JRC	UPC78M05 or NJM78M05FA	C503,504	7306582115	820pF/50V,(K),Multi-Layer
Transistors			C505,506	7306510215	0.001μ F/50V,(K),Multi-Layer
Q501-503,509, 221299		DTC114TS	C509-512	7306533115	330pF/50V,(K),Multi-Layer
Q510-512, Q527-530,538			C524,543, C552,582	7306547115	470pF/50V,(K),Multi-Layer
Q506,507,518, 2210746 or		2SC945-P or	C525,526	7307822215	0.0022μ F/16V,(K),Multi-Layer
Q520,535	2215240	DTA114TS	C559,560	7306930055	30pF/50V,(J),Multi-Layer
Q514,560,562	2213160	DTC124ES	C569,570	7306556115	560pF/50V,(K),Multi-Layer
Q521-525, Q547-554, Q557,558,564	2210747	2SC945-Q	C583,584	5091271513	270pF/100V,(J),PP
Q536	2212683 or 410522060R	2SC2060-Q or 2SC2060-R	C585,586	7306510115	100pF/50V,(K),Multi-Layer
Q537	2211772	2SC2001-L	C587	5091123513	0.012μ F/100V,(J),PP
Q543-546	410500952L	2SA952L	C596	7306910055	10pF/50V,(J),Multi-Layer
Q555,556,565	2210803 or 2210804	2SA733P or 2SA733-Q	C597,600, C602,608	7308622345	0.022μ F/25V,(Z),Multi-Layer
Q559,561	2212600	DTA124ES	C599	3000058	FYD 5.5V 1F,Super C.
Q526	2213750	DTA144ES	C609	5154222216	2200μ F/16V,(M),Elect.
Diodes			C617	5154102225	1000μ F/25V,(M),Elect.
D501,505,506, 4121141480		1N4148	C618	7306610445	0.1μ F/50V,(Z),Multi-Layer
D515,516,517					
D520-522,535					
D502	224450623	MTZ6.2C, Zener			
D511,512,518	4138104002	1N4002L			
D513,514,519	224450512	MTZ5.1B, Zener			
D533	224350472	MTZ4.7B, Zener			
D601.602	4121901760	ISS176			
Coils					
L501,502, L509,510	4325022092	220K,Peaking			
L503,504	4166890231	TWS-358-739,Trap Filter			
L505,506	4360400720	TWS-358-682,MPX Trap			
L507,508	4360900520	TWS-358-533,BIAS Trap			
L511,512	4329239211	RC-875-392K,Inductance			
L513	4330801190	TWS-358-693,Bias Oscillator			
Resonator					
X01	416090800M	CST 8.0MTW			
Relay					
RY-1	4390000046	OVR-SH212L			
Resistors					
SFR501-506, SFR509-512	5226103177	Semi-Fixed, 10KX EVNDXAA03			
SFR507,508	5226104177	Semi-Fixed, 100KX			
			IC01	415C017822	CXA1782BQ
			IC03	415175312X or 415112GF82	UPD75312GF-270 or UPD75312GF-282
			IC04	415C02518Q	CXD2518Q
			IC05	4159063986	BA6398FP
			IC06,07	22240293	NJM4558LD
			Transistors		
			Q01-03,05,07,14	410500952L	2SA952L
			Q04,09,12,13	2210746 or 2210747	2SC945-P or 2SC945-Q
			Q06,11	2210803 or 2210804	2SA733-P or 2SA733-Q
			Q08,10	2211772 or 41052201M	2SC2001-L or 2SC2001M
			Q18	2213160	DTC124ES
			Resonators		
			XTL01	410090338M	X-TAL. 33.8688MHz
			CF01	416090400G	CST 4.0MGW
			Diodes		
			D01,02,12-14,21	4121901760	ISS176
			D03,09	224450512	MTZ5.1B,Zener
			D04	224450912	MTZ9.1B,Zener
			D05-08	4138104002	1N4002L
			Coils		
			L01,03	4325010093	100K,Peaking

CIRCUIT NO.	PART NO.	DESCRIPTION
L04	4325012993	129K,Peaking
	Resistors	
VR01	5226503177	50KX,Semi-Fixed
R53	4171018155	180Ω,1W,(J),Metal
	Capacitors	
C06.12	7307847215	0.0047μ F/16V,(K),Multi-Layer
C07,10,20,27, C36,4295,96	7307110315	0.01μ F/16V,(K),Multi-Layer
C09,13,15,16, C18,22,26,28, C32,45,47,73	7306610445	0.1μ F/50V,(Z),Multi-Layer
C14	7307822215	0.0022μ F/16V,(K),Multi-Layer
C31	7306647345	0.047μ F/50V,(Z),Multi-Layer
C33	7307815215	0.0015μ F/16V,(K),Multi-Layer
C37	7306522115	220pF/50V,(K),Multi-Layer
C43,62	7306510215	0.001μ F/50V,(K),Multi-Layer
C44	7306510115	100pF/50V,(K),Multi-Layer
C56	5154222216	2200μ F/16V,(M),Elect.
C57,58,60	7308622345	0.022μ F/25V,(Z),Multi-Layer
C63	7306922055	22pF/50V,(J),Multi-Layer
C64	7306924055	24pF/50V,(J),Multi-Layer
C70,71	7306582015	82pF/50V,(K),Multi-Layer
C78-81	7306947055	47pF/50V,(J),Multi-Layer
C82,83	7307827215	0.0027μ F/16V,(K),Multi-Layer
C84,85	5091471513	470pF/100V,(J),PP
C86,87	7307182215	0.0082μ F/16V,(K),Multi-Layer

CD CONTROL P.C.BOARD ASS'Y (C144241020)

LP01,02	4700400025	6V/60mA,Fuse Lamp
LCD01	4110440199	HLC8132-012312,LCD Display
S01,03-15	4400000156	SKHVBH3520-CP,Tact Switch
S02	4400000167	SKHVBH3920-CP,Tact Switch
	200107134J	Display Holder
	100307131J	Filter Plate

CD SENSOR P.C.BOARD ASS'Y (C044241030)

PH01	4120ST8LR2 or 41200ST7LD or 412000ST8L	ST-8LR2,Photo Transistor or ST-7L,Diode or ST-8L,Photo Transistor
D17	41200EL7LD or 412000EL8L	EL-7L,Diode or EL-8L,Infrared Emit Diode
	206607131J	2 LED Holder

CASSETTE CONTROL P.C.BOARD ASS'Y (C147232411)

IC507	415966310P	M66310P.IC
D524,525, D527,532	41206264IT	3Q 264IT,LED Diode (RED)
D528	4121901760	1SS176,Diode
D529-531,534	41206264GT	3Q 264GT,LED Diode (GRN)
TS501,502, TS504-506 TS508-515	4400000156	SKHVBH4520-CP,Tact Switch
SW503	4410102176	SSS91,Slide Switch

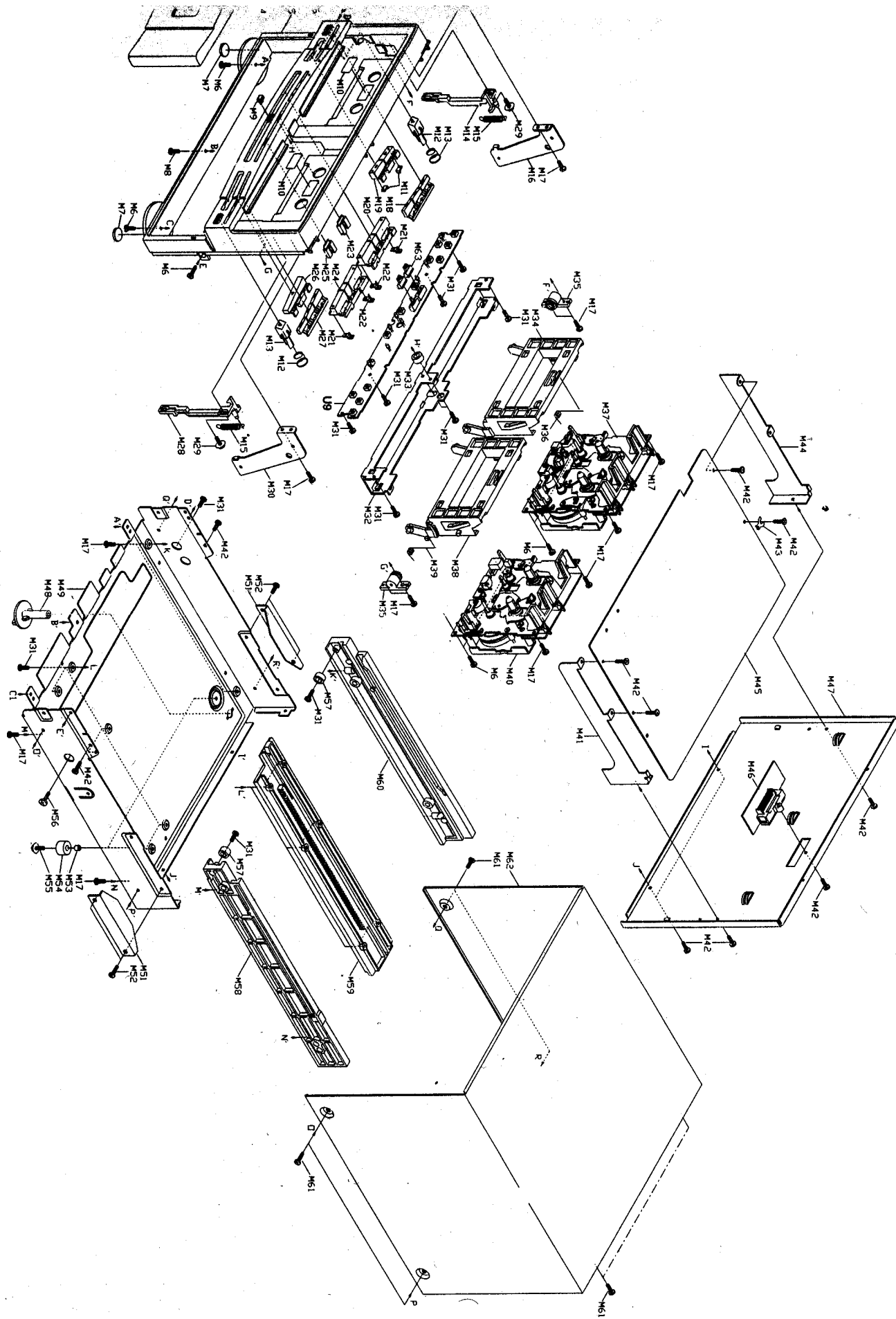
CIRCUIT NO.	PART NO.	DESCRIPTION
SW504	4410103165	SSSS413PB1,Slide Switch
C610	7308622345	0.022μ F/25V,(Z),Multi-Layer
C621	7307110315	0.01μ F/16V,(K),Multi-Layer

CASSETTE SOCKET P.C.BOARD (C14A2308A1)

7307847215	0.047μ F/16V,(K),Multi-Layer
------------	------------------------------

NOTE : <D> 120V type
: <P> 230V type

NOTE : <D> 120V type
: <P> 230V type



CHASSIS EXPLODED - PARTS LIST

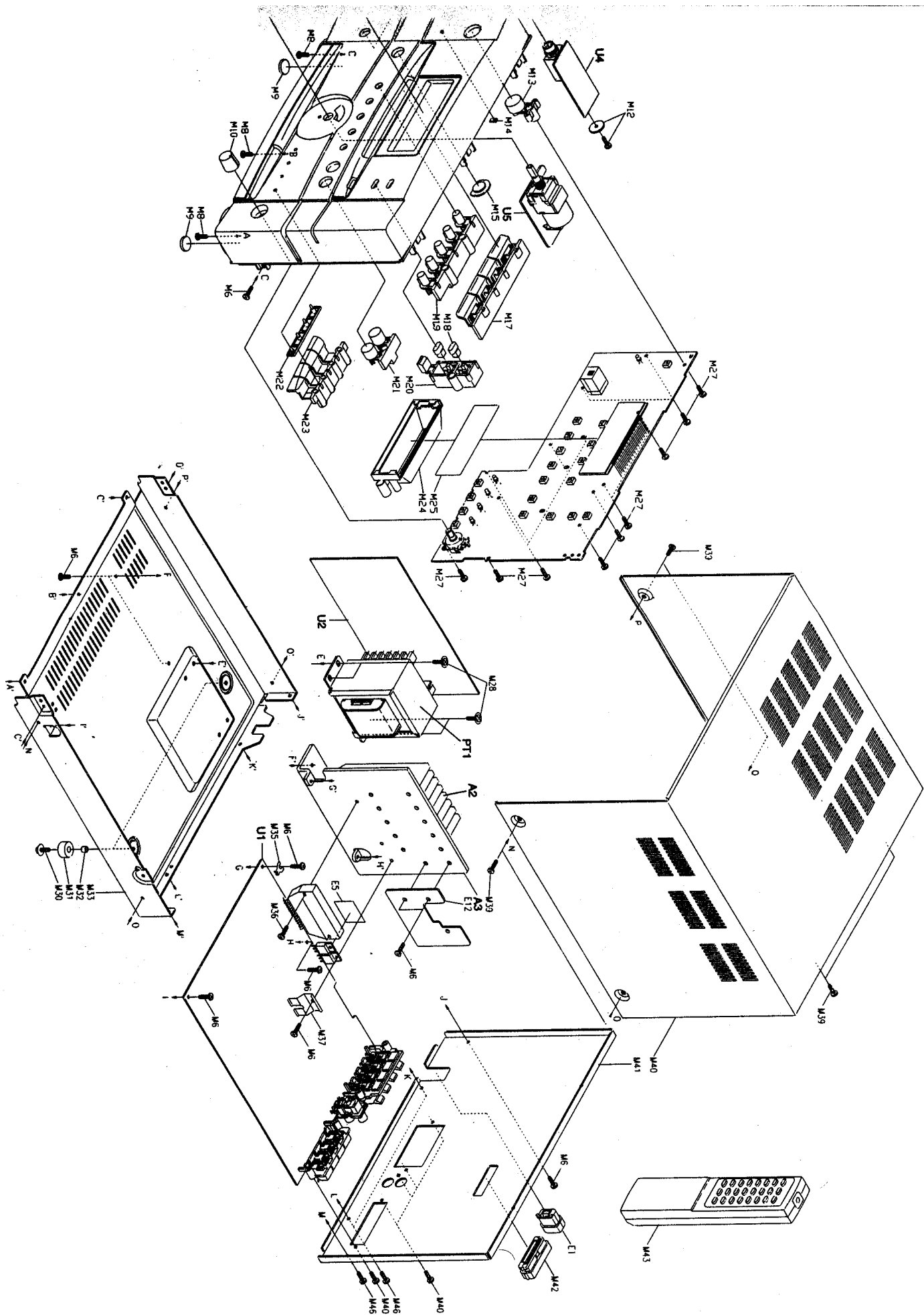
REF. NO.	PART NO.	DESCRIPTION
M1	100307134T	Volume Knob
M2	100407134T	Volume Lens
M5	100507134T	Display Window
M7	100117134T	Front Panel
M9	2MA131J001	Foot Rubber
M10	100207134T	Balance Knob
M11	101407134T	Logo Badge
M13	101017134T	Power Knob
M14	102007134T	Power Led Lens
M15	101907134T	Sensor Lens
M17	101207134T	Tuning Knob
M19	100707134T	Eq Preset Knob
M20	100907134T	Memory Knob
M21	101107134T	Surround Knob
M22	101307134T	Function Lens
M23	100807134T	Function Knob
M24	200107141T	Lcd Holder
M25	200407141T	Display Plate
M31	201207141T	Leg
M32	201107141T	Holder (Rubber)
M33	200617141T	Bottom Chassis
M37	2012076076	Spring Transistor (B)
M40	102107134T	Top Cover
M41	101607134T	Rear Panel, <D>
M41	101707134T	Rear Panel, <P>
M42	200107131A	Wire Cord Holder
M43	715134T081	Rc-276S, Remote Transmitter Ass'y
A2	200307134T	Heat Sink
A3	200407134T	Heat Sink Base
E1	4580000024	2104,Cord Bushing
E2	463137L070	7FT Blk Spt2, AC Cord, UL/CSA,<D>
	4632212070	VDE 7F Blk-2, AC Cord, <P>
E5	2000000908	TO-3P,insulator Sil
E12	414A2308C5	Heat Sink P.C.B.
PT1	420B671145	EI-67(T),Power Transformer,<D>
	420C674128	EI-67(T),Power Transformer,<P>
F601	5266300020	T3A/125V, UL/CSA,<D>
	5267315L62	T3.15A/250V,<P>
F602	5266250020	T2.5A/125V, UL/CSA,<D>
	5267250L62	T2.5A/250V,<P>
F603	5266200020	T2A/125V, UL/CSA,<D>
	5267100L62	T1A/250V,<P>
	C488171373	17P Plug Ass'y 700mm
U1	C14A230815	Tuner Pcb Ass'y
U2	C14A230823	Power Pcb Ass'y
U3	C14A230838	Front Pcb Ass'y
U4	C04A230840	Headphone Pcb Ass'y
U5	C14A230850	VR. Pcb Ass'y
U6	C04A230862	LED Pcb Ass'y

NOTE : <D> 120V type
: <P> 230V type

CHASSIS EXPLODED - PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
M1	100507134J	Cassette Window (L)		2M22550060	Pvc Sheet 6X10
M2	100607134J	Cassette Window (R)		2MCOMM0050	Washer (9.5Dx4@X0.5t)
M3	101607134J	Cassette Door Cover (L)		2MJD3D0010	Sponge (5.5X7)
M4	100207134J	Cassette Door Cover (R)		2MJD3N0050	Poly Washer
M5	100107134J	Front Panel		3025921304	Poly Washer
M7	2MA131J001	Foot Rubber (Front Panel)	U7	C141234002	Cassette P.C.Board Ass'y
M10	1M12340010	Mirror	U8	C14A2308A1	Cassette Socket P.C.Board Ass'y
M11	101907134J	Led Lens (C)	U9	C147232411	Cassette Control P.C.Board Ass'y
M12	101407134J	Eject Knob			
M13	203207131J	Eject Knob Spring			
M14	2M130J0011	Eject Lever (R)			
M15	204007131J	Eject Lever Spring			
M18	101207134J	Cassette Button (L)			
M19	100907134J	Cassette Play Knob (L)			
M20	102307134J	Record/Mute Knob			
M21	101807134J	Led Lens (B)			
M22	101707134J	Led Lens (A)			
M23	102107134J	Dolby Nr Lens			
M24	102407134J	Normal/High Knob			
M25	102207134J	Cd Sync Record Lens			
M26	100807134J	Cassette Play Knob (R)			
M27	101307134J	Cassette Button (R)			
M28	2M130J0021	Eject Lever (L)			
M32	2M130J0030	Deck Bracket			
M33	206707131J	Boss Collar			
M34	205007131J	Cassette Door (L)			
M35	2000001265	Gear Damper			
M36	2M130J0050	Eject Spring (L)			
M37	4380404620	Cassette Deck (Crf-433) R/P			
M38	205107131J	Cassette Door (R)			
M39	2M130J0040	Eject Spring (R)			
M40	4380504610	Cassette Deck (Crf-410) Play			
M41	200904146J	Cassette Pcb Bracket (R)			
M44	200804146J	Cassette Pcb Bracket (L)			
M47	102507134J	Rear Panel <D>			
M47	102607134J	Rear Panel <P>			
M48	100204J3D	Lock Lever			
M49	200177131J	Bottom Chassis			
M51	2M131J0010	Cd Side Bracket			
M53	201107141T	Holder (Rubber)			
M54	201207141T	Leg			
M57	202807131J	Pully (Side)			
M58	202317131J	Side Rail (R)			
M59	202517131J	Guide Pin Plate			
M60	202217131J	Side Rail (L)			
M62	102807134J	Top Cover			
M63	101107134J	Rev/Mode Knob			
M66	100407134J	Cd Display Window			
M67	100307134J	Cd Panel			
	101407134T	Logo Badge			
	102007134J	Led Lens (D)			
	102707134J	Dolby Nr. Knob			
	207007131J	Cushion Plate			
	2M134J0100	Spacer			

NOTE : <D> 120V type
: <P> 230V type

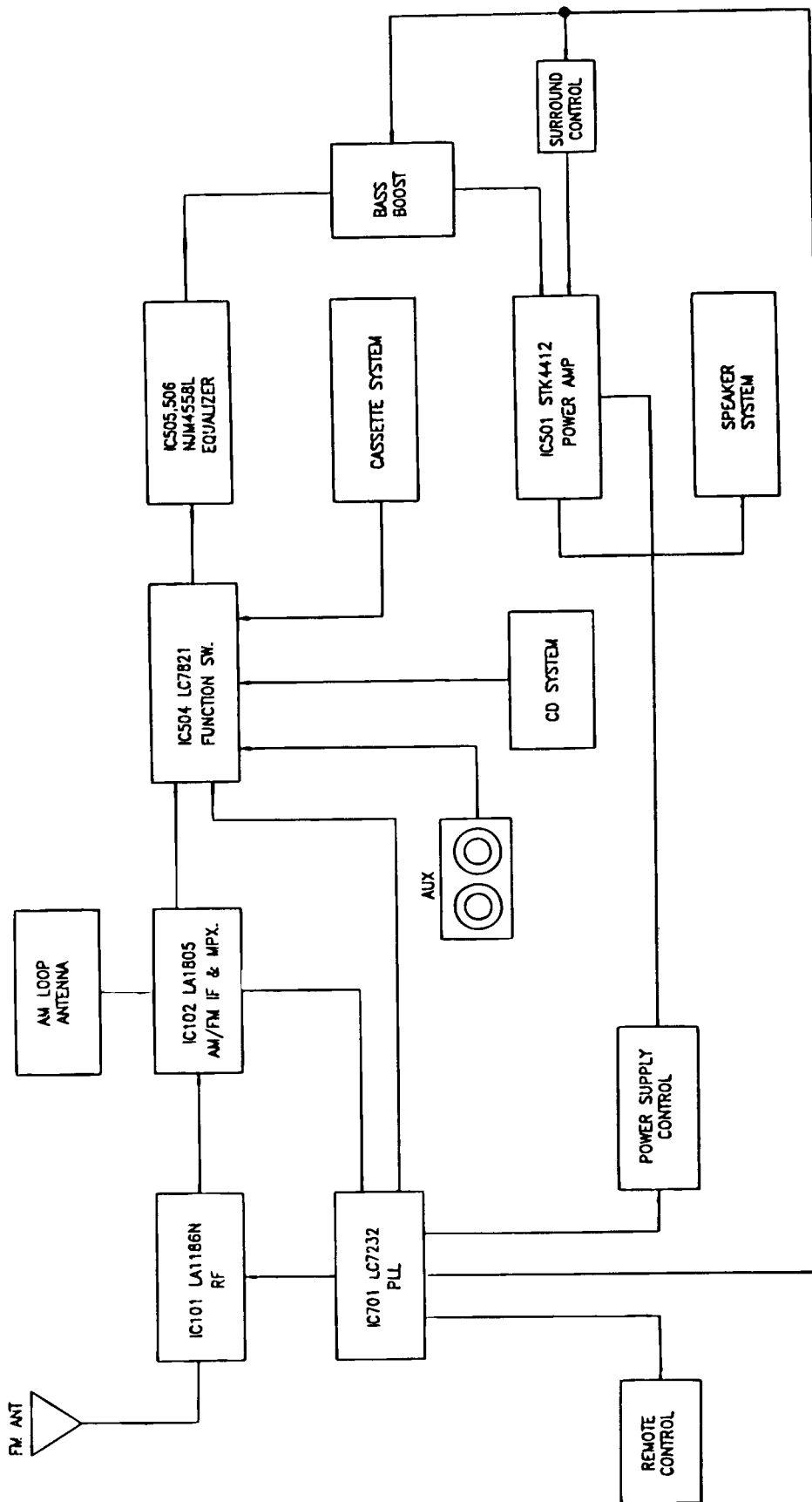


CHASSIS EXPLODED - PARTS LIST

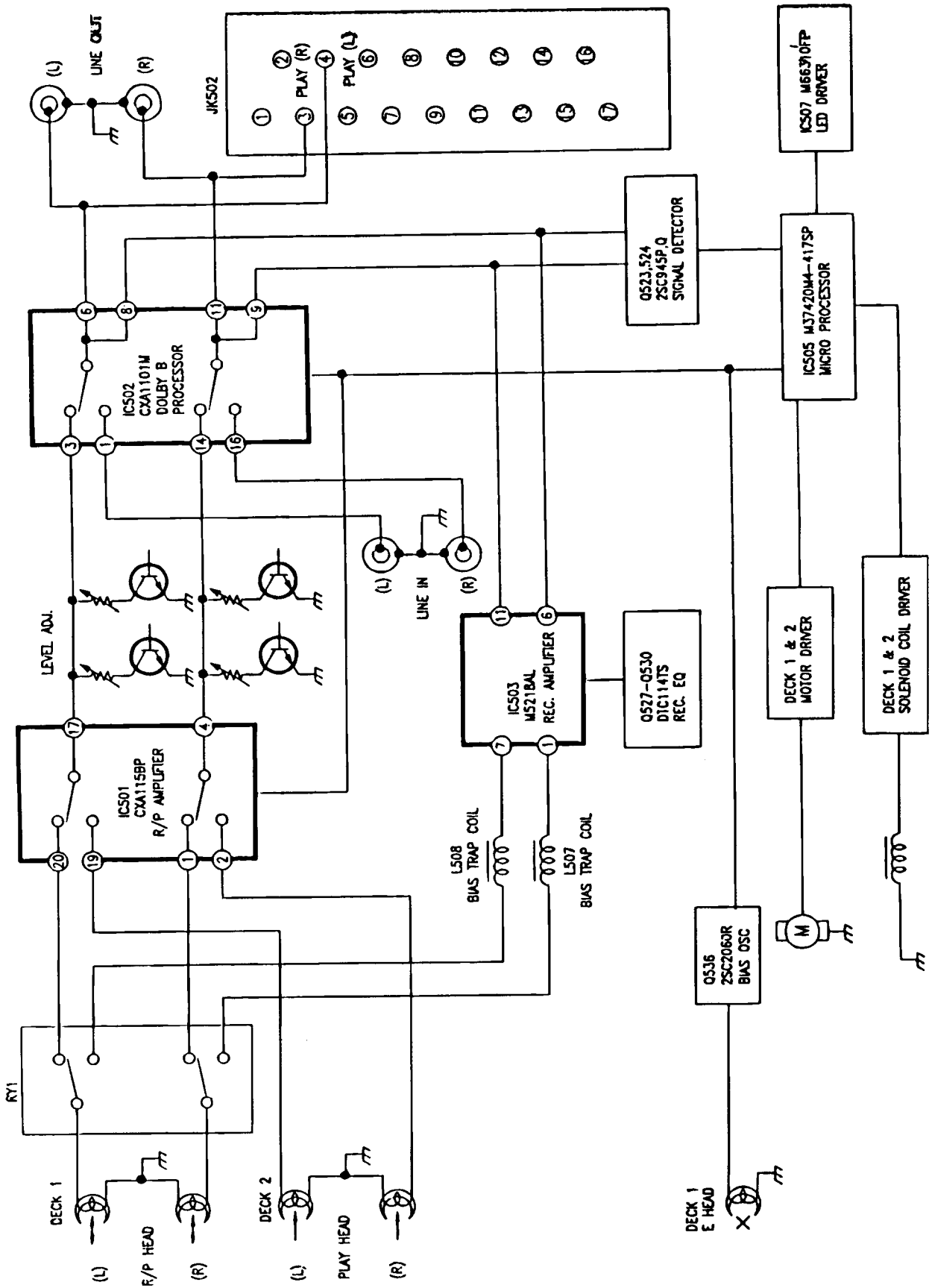
REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
M100	207117131J	Clutch Spring	M79	2MCOMM0030	Fiber Washer (0.25)
M101	210007131J	Poly Washer (13.8Qx18Q)	M84	208207131J	Earth Plate (B)
M102	200427131J	Cam Gear	M85	2M131J0060	Cd Peb Cover
M105	C486040404	CD Mechanism CDK90V1HYN	M89	201207131J	Belt 60 X 1.6 ✓
M106	204717131J	CD Plate	M90	200507131J	Motor Pulley
M107	205417131J	CDK90 Cushion	M92	201007131J	Wheel
M108	205917131J	Spring (White Color)	M93	3130000025	E-Ring 2.5Q
M109	203807131J	CDK90 Holder	M94	000514JD3D	Mounting Plate Ass'y
M110	208007131J	Rubber Cushion	M95	201117131J	Switch Box
M111	205817131J	Spring (Black Color)	M96	201307131J	Switch Pin
M112	206307131J	Guide Plate	M97	200807131J	Center Spindle
M117	204317131J	Lever Plate	M98	3130000080	E-Ring 8Q
M119	207907131J	Belt 58 X 1.6 ✓	M99	202407131J	Washer
M120	3130000020	E-Ring 2.0Q		4400000121	Lsc-1223-31,Leaf Switch
M121	203317131J	Gear Wheel		4400000168	MLS-1,Leaf Switch
M122	206407131J	Earth Plate	A5	9000002311	CD Caution Label (B), <Up>
M123	000317131J	Motor Mounting Ass'y	A5	9000002970	CD Caution Label (B), <Up>
M124	204117131J	Shaft (Lever Switch)	A5	9000002910	CD Caution Label (C), <Up>
M126	202007131J	Sleeve Spring	A5	9000003630	CD Caution Label (B12), <Up>
M128	201907131J	Sleeve	A7	9120004270	CD Lock Sheet (D6)
M129	1M131J0011	Changer Base	E1	4020100190	MMN-6E0D1,Turtable Motor
M130	203407131J	Main Base Cover	E2	4020100191	MEN-7E9T2,Drawer Motor
M132	100117131J	Turntable	U10	C144241010	CD Decoder P.C.Board Ass'y
M133	202127131J	Transit Lock	U11	C144241020	CD Control P.C.Board Ass'y
M135	210104JD3N	Magnetic Holder			
M136	2105039115	Magnetic 30x18x5			
M137	2M131J0041	Arm Ass'y			
M138	201617131J	Magnetic Cover			
M16	206107131J	Side Bracket (L)			
M30	206007131J	Side Bracket (R)			
M69	203907131J	Panel Bracket			
M70	101507134J	CD Time Knob			
M72	101007134J	CD Control Knob			
M74	100707134J	CD Knob			

NOTE : <D> 120V type
: <P> 230V type

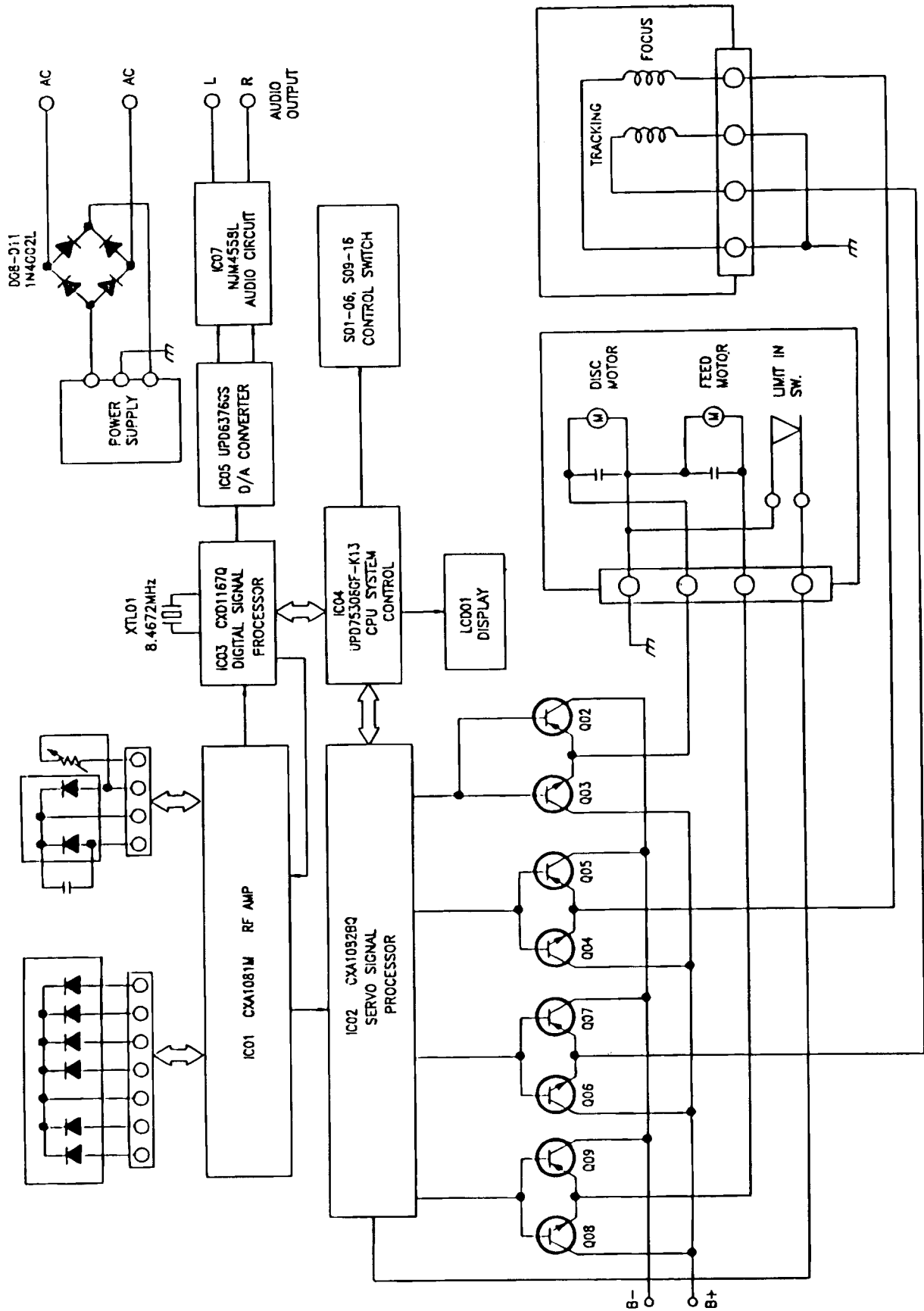
BLOCK DIAGRAM-TUNER/POWER



BLOCK DIAGRAM-CASSETTE



BLOCK DIAGRAM-CD



ALIGNMENT PROCEDURE-TUNER

Instruments Required

Signal Source:

1. AM Signal Generator
2. FM Signal Generator
3. Sweep Generator (10.7 MHz for FM)

Output Indicator:

4. VTVM
5. Oscilloscope

General Preparation

1. Check source voltage.
2. Set function switch to band being aligned.
3. Volume control should be turned to minimum (unless noted otherwise).
4. Connect low side of signal source and output indicator to chassis ground unless otherwise specified. Ground connection should be kept close to high side connection.
5. Signal input should be kept as low as possible to avoid AGC and AFC action. (Set output indicator to high sensitivity.)
6. Standard modulation is 400 Hz at 30% amplitude for AM 1 kHz at 22.5 kHz deviation for FM.

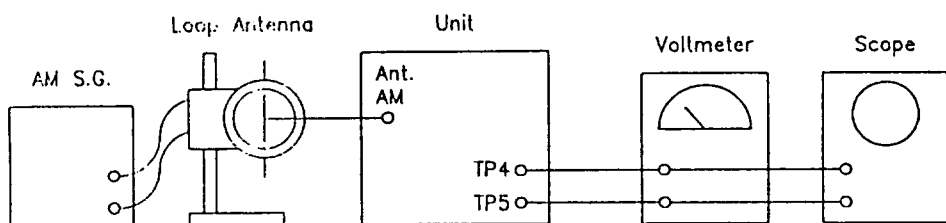


Figure 1

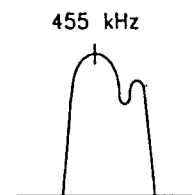


Figure 2

AM IF Alignment

No.	Signal Source Connect To	Set Signal To	Alignment Indicator Connect To	Set Radio To	Adjust	Adjust for	Remark.
AM RF Gen.		Oscilloscope or VTVM					
1	A standard radiation loop (See Fig. 3)	450 kHz	TP1 & TP2	Quiet Point	T103	Maximum output (See Fig. 2)	Volume control min-position
2	Repeat for max. out.						

AM RF Alignment

No.	Signal Source Connect To	Set Signal To	Alignment Indicator Connect To	Set Radio To	Adjust	Adjust for	Remark
AM Signal Gen							
1	A standard radiation loop ant. (See Fig. 1)	530 kHz (modulated)	DC meter across TP4, TP5 VTVM across speaker load	530 kHz (Low end)	T102 (osc. coil)	VT = 1.2V ± 0.05V	Volume control " max-position
2		1720 kHz (modulated)		1720 kHz (High end)	TC103 (osc. coil)	VT = 8.3V ± 0.05V	
3		600 kHz (modulated)		600 kHz	L103 (ant. coil)	Maximum	
4		1400 kHz (modulated)		1400 kHz	TC102 (ant. coil)	Maximum	
5	Repeat steps 3 and 4 as necessary to minimize tracking error and also steps 1 and 2 if necessary.						

ALIGNMENT PROCEDURE-TUNER

FM IF Alignment

No.	Alignment	Frequency Signal Generator	Tuning Setting	Adjust	Adjust For
1	Calibration of IF (See Fig. 3)	10.7 MHz	Low End	T101 & T104	Maximum Output (See Fig. 4)

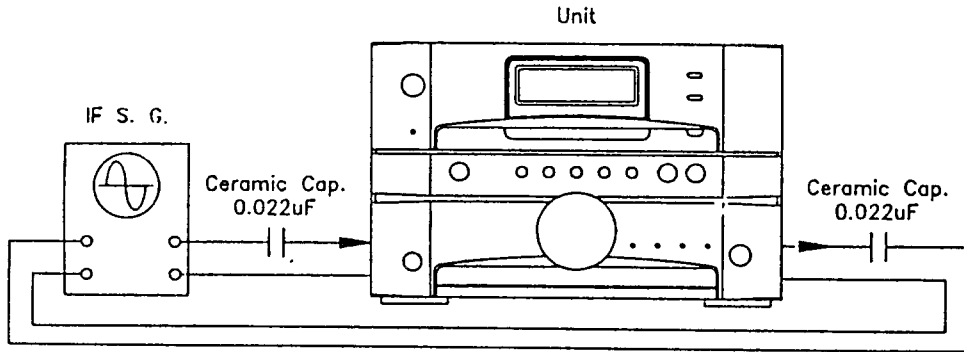


Figure 3

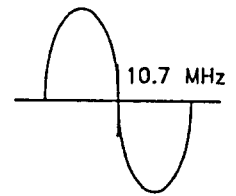


Figure 4

FM RF Alignment

No.	Signal Source Connect To	Set Signal To	Alignment Indicator Connect To	Set Radio To	Adjust	Adjust for	Remark
FM Signal Gen.							
1	FM Antenna Terminal (JK101) (See Fig. 5)	87.9 MHz	DC meter across TP4, TP5 VTVM across speaker load	87.9 MHz	L102	VT = 1.4V ± 0.05V	Volume control max-position
2		107.9 MHz		107.9 MHz	-	VT = Over 9V	
3		90.1 MHz		90.1 MHz	L107	Maximum	
4		106.1 MHz		106.1 MHz	TC101	Maximum	
5	Repeat the above adjustment to minimize tracking error.						

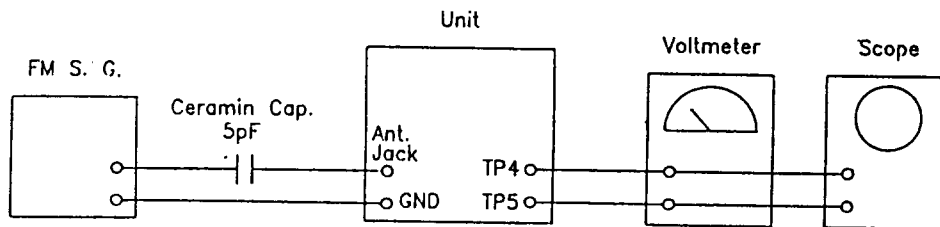


Figure 5

ALIGNMENT PROCEDURE-TUNER

FM Stereo Alignment

Equipment Required:

1. Stereo Modulator Connect Stereo Modulator to EXT. terminal of FM Signal Generator.
Modulation Level of 76 kHz Pilot Signal ---- 8-10%
2. FM Signal Generator Output Level ---- 1mV
Frequency ----- Approximately 98 MHz
Deviation ----- 75 kHz, 100% modulation of composite signal.
3. Frequency Counter

Notes: * See P.C.B. illustration for alignment/test points.
* Set FM Mode Switch to OFF position.

Multiplex Alignment

No.	Signal Generator Coupling	Stereo Modulation	Indicator	Adjust	Remarks
1	Connect to FM Ant. terminal thru FM dummy antenna (300 ohm) (See Fig. 6)	98.1 MHz, Mod. OFF, o/p= 60 dB	Frequency counter connect (See Fig. 7)	SFR101 (10 KX) Semi-fixed V.R.	1. Set stereo (L+R) modulation to zero. 2. Measure pilot signal only and adjust to 76kHz ±200Hz.

FM Stereo Alignment Set-up

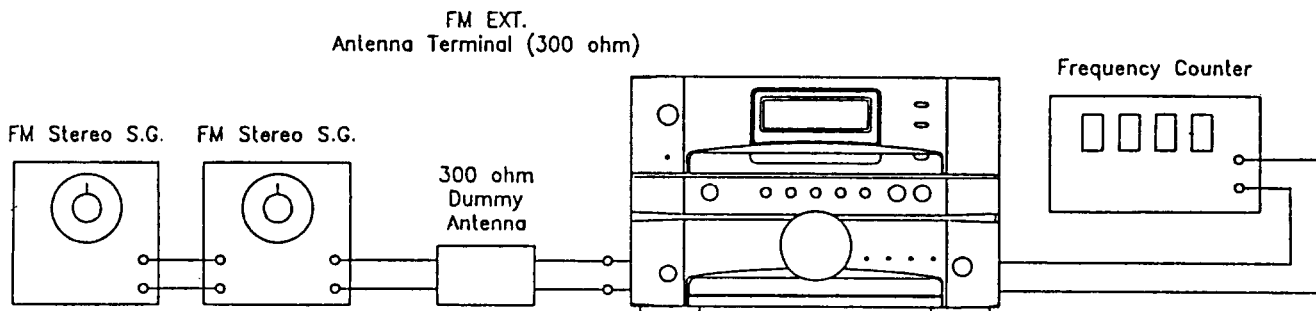


Figure 6

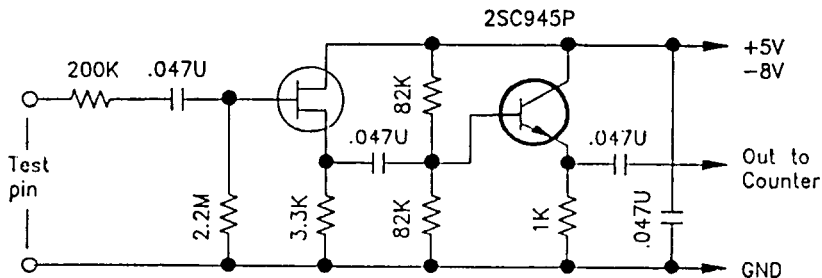


Figure 7

ALIGNMENT PROCEDURE-TUNER

TUNER PCB ASS'Y

- TP5 (GND)
- TP4 (VT)

SFR101



- TP3 (76KHz)
- TP2 (GND)
- TP1 (IF)



T105



T104



T103



T101

T102



TC103



TC101



L107



TC102



L101



L103

ALIGNMENT PROCEDURE-CASSETTE

Cassette Deck Azimuth Adjustment

1. Insert Test tape MTT-257K into deck 1, in forward play mode.
2. VTVM connect to TP6 (R) & TP5 (L) & GND.
3. Adjust the left side screw for the maximum output.
4. In reverse play mode.
5. Adjust the left side screw for the maximum output.
6. Insert test tape MTT-257K into deck 2, in play mode.
7. Adjust the right side screw for the maximum output.

Cassette Speed Adjustment

1. Insert test tape MTT-111 into deck 1, in high speed dubbing mode.
2. TP15 & GND shorted.
3. Digital counter connect to TP6 (R) & TP5 (L) & GND.
4. Adjust SFR511, and let counter reading as 5340kHz-5490kHz.
5. Open TP15 & GND, in normal speed mode.
6. Adjust SFR512, and let counter reading as 2940Hz-3090Hz.
7. Insert test tape MTT-111 into deck 2, in high speed dubbing mode.
8. TP16 & GND shorted.
9. Adjust SFR509, and let counter reading as 5340Hz-5490Hz.
10. Open TP16 & GND, in normal speed mode.

Oscillator Frequency Adjustment

1. Digital counter to TP1 (+) & TP3 (GND).
2. AC-224 Mtest tape into deck 1, beck switch OFF, in record and play mode.
3. Adjust L513. let counter reading as 85kHz \pm 4kHz.

Tape Adjustment

1. Insert test tape MTT-5521 into deck 1, MTT-118 into deck 2.
2. Deck 1 in record mode, deck 2 in play mode, normal dubbing.
3. Scope (mono) connect to TP5 & TP7.
4. Adjust L503 (L-CH) for the minimum output.
5. Scop (mono) connect to TP6 & TP7.
6. Adjust L504 (R-CH) for the minimum output.

Dolby Output Level Adjustment

1. Insert test tape MTT-150 into deck 1, in play mode.
2. VTVM connect to TP6 (R) & TP5 (L) & GND.
3. Adjust SFR501 (L) & SFR502 (R) let R/L output level 548mV \pm 1dB.
4. Insert test tape MTT-150 into deck 2, in play mode.
5. Adjust SFR503 (L) & SFR504 (R), let R/L output level 548mV \pm 1dB.

Bias Leakage Adjustment

1. Scope (mono) connect to TP10 (+) & TP3 (GND).
2. AC-224 test tape into deck 1, in record and play mode.
3. Adjust L508 (R-CH) for the minimum output.
4. Scope (mono) connect to TP9 (+) & TP3 (GND).
5. Adjust L507 (L-CH) for the minimum output.

Bias Current Adjustment

1. VTVM connect to TP13 (+) & TP14 (-).
2. AC-224 test tape into deck 1, in record and play mode.
3. Adjust SFR508 (R-CH), let output indicated as 8mV \pm 0.2mV.
4. VTVM connect to TP11 (+) & TP12 (-).
5. Adjust SFR507 (L-CH), let output indicated as 8mV \pm 0.2mV.

ALIGNMENT PROCEDURE-CASSETTE

MPX Filter Adjustment

1. $f=19\text{kHz}$; 200mV signal input from AUX in .
2. Test tape AC-224 into deck 1, in record mode.
3. Scope (mono) connect to TP6 & TP5 & TP7.
4. Adjust L505 (L) & L506 (R), let the output to minimum.

R/P Level Adjustment

1. Insert test tape MTT-5521 into deck 1, in record mode.
2. $f=1\text{kHz}$; 12.5kHz level=200mV input from AUX in.
3. Scope (mono) connect to TP6 & TP5 & GND.
4. Deck in play mode, adjust SFR505 (L) & SFR506 (R), let the output level (1 kHz)=200mV.
5. Deck in play mode, adjust SFR507 (L) & SFR508 (R), let the output level (12.5 kHz)=200mV.

CD Electrical Adjustment

The following steps should performed before adjustment procedure.

- a. Remove the turntable by sliding the guide plate outward. (See Fig. 9)
- b. Disassembly the base by removing 2 screws. (See Fig. 9)

CAUTION

Laser beam may always active when the turntable removed.

Use of controls for adjustments or performance of procedures other than those Specified herein may result in hazardous radiation exposure.

The compact disc player should not be adjusted or repaired by anyone except pEE.

1. VCO Adjustment

- a. CN07 connected to power supply, CD test disc sony YED-18 place on the spindle and fastened with the magnetic holder.
- b. Power ON & CD ON, push S06 switch in stop mode.
- c. VCO test pin to CN14, and adjust VR05 for a counter reading of 4.35MHz +/- 20kHz. (See Fig. 10)
- d. Disconnect the test pin after above procedure.

2. RF Adjustment

- a. CD in play mode, digital volt-meter connected to IC01 pin 19 & GND. (See Fig. 11)
- b. Adjust let the meter reading as $0 \pm 20\text{mV}$.

3. Track OFF Set Adjustment

- a. Track off set test pin connected to CN08. (See Fig. 11)
- b. Adjust VR01, let the waveform shown as A1=A2. (See Fig. 12)

ALIGNMENT PROCEDURE-CD

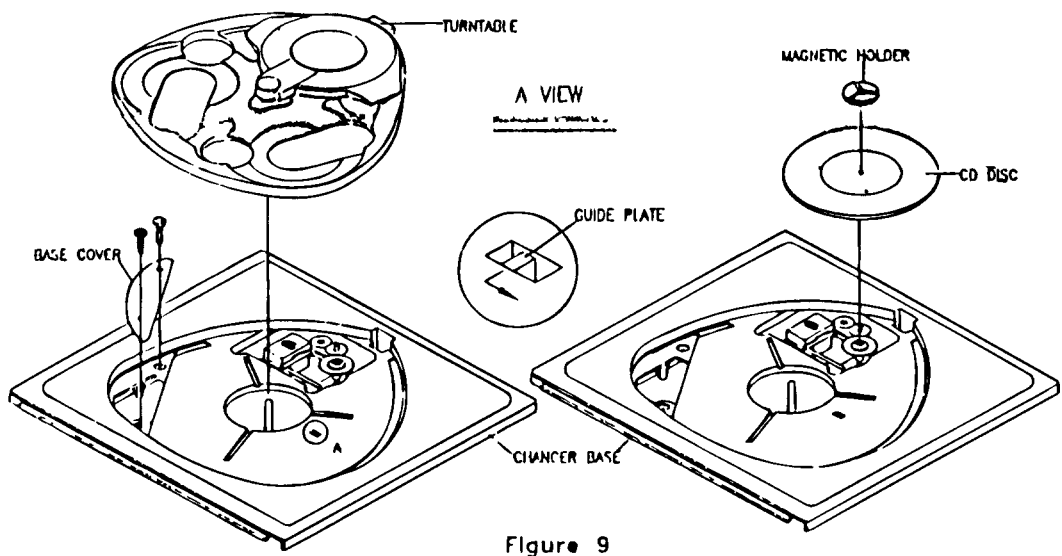


Figure 9

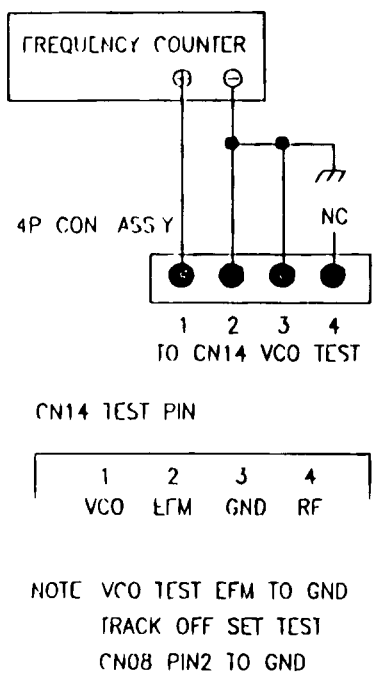


Figure 10

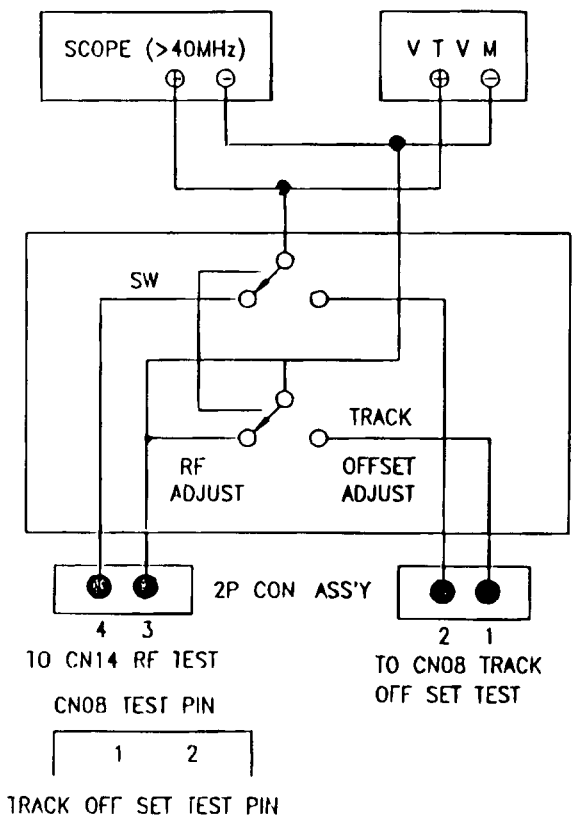


Figure 11

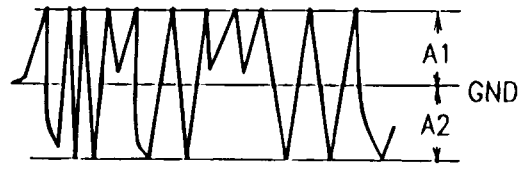
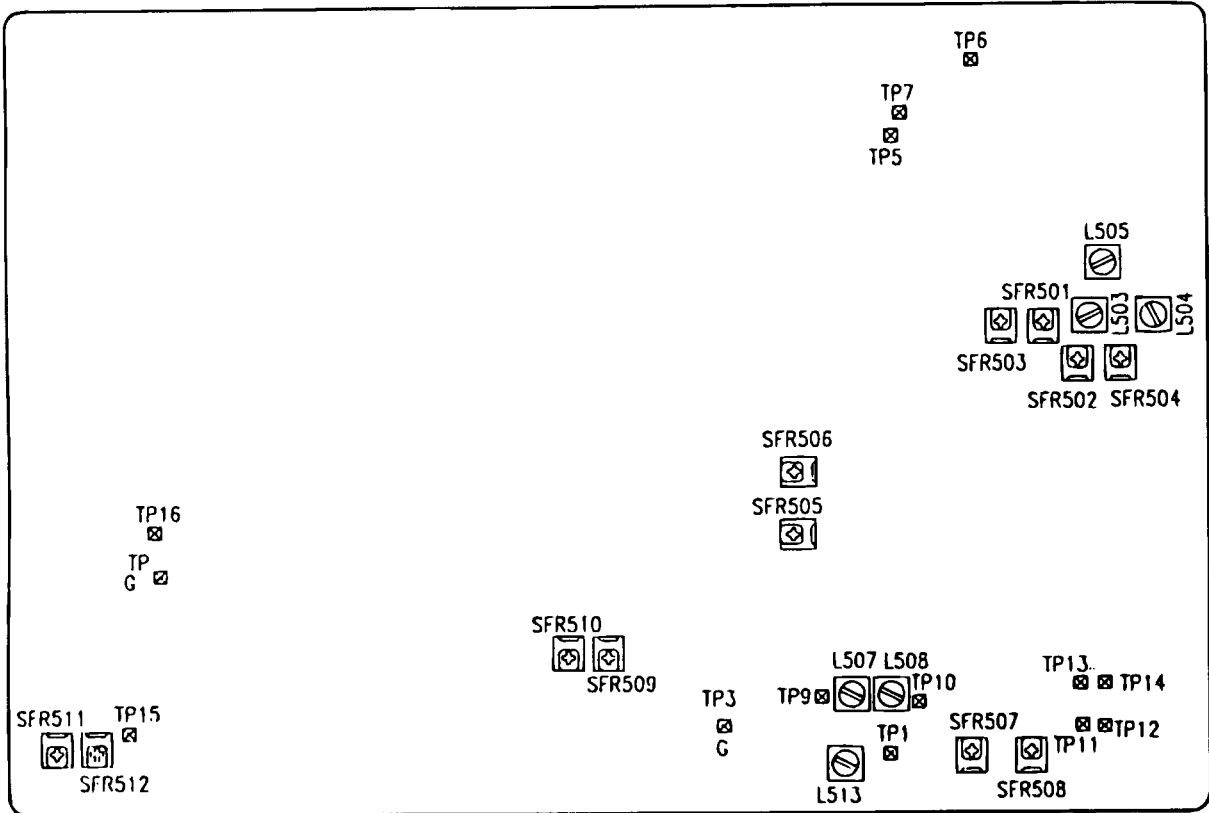


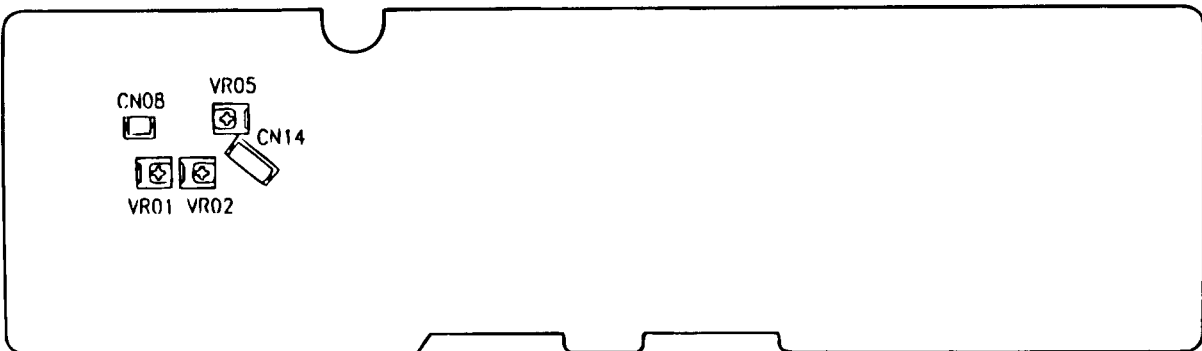
Figure 12

ALIGNMENT PROCEDURE-CD

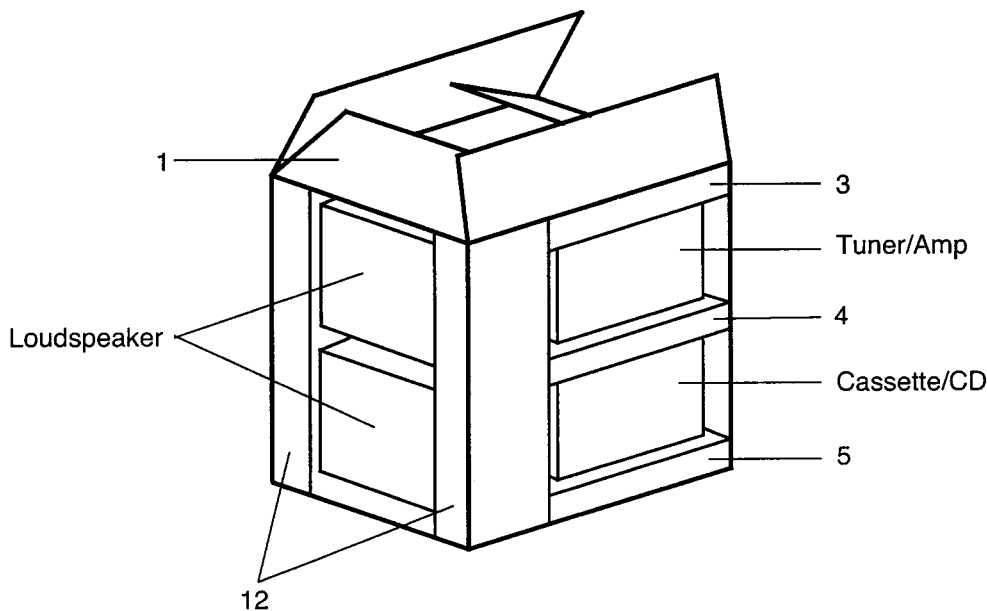
CASSETTE PCB ASS'Y



CS DECODER PCB ASS'Y



PACKING ASS'Y



PACKING ASS'Y

1	900507134T	Master Carton,<D>
	900607134T	Master Carton, <P>
2	900807134T	Side Plate (475x425)
3	900307134T	Top Snow Box
4	900207134T	Center Snow Box
5	900107134T	Bottom Snow Box
6	9010006760	Serial No. Label (34x6)
7	9100019310	Bar Code Label,UPC
8	9M141T0010	Soft Sheet (1200x600)
9	900707146T	Soft Sheet (320x70mm)
10	9M130J0020	Soft Sheet (25x90x1mm)
11	9120004270	CD Lock Sheet (D6)

ACCESSORY ASS'Y (IB134T8601)

4300103140	LA-75, Am Loop Antenna
4591200191	WHT-1.2M, Fm Line Antenna
715134T081	RC-276S, Remote Transmitter Ass'y
9030006750	Warranty Card, <D>
9030006740	Warranty Card, <V>
9080021430	Instruction Book (3L), <D, P>
9080021440	Instruction Book (4L), <P, V>
9120004750	Service Sheet, <D>
9120004740	DBP Sheet, <V>
9902304041	Poly Bag, 230X400

LOUDSPEAKER ASS'Y

000407134T	Speaker Box Ass'y (1 PAIR) <D>
000307134T	Speaker Box Ass'y (1 PAIR) <P, V>
12	900407134T Snow Box

SPECIFICATIONS

Amplifier/TUNER

UNIT SIZE :280(W) × 190(h) × 310(D) (mm)

Amplifier

Power Output :2 × 20watts(0.9% THD 1KHz 8ohms)

Equalizers :5 Preset EQ curve(5 Bands Spect.)
JAZZ,POP,ROCK,CLASSIC,FLAT
4 User Presetable EQ curve
USER 1,2,3,4

Sound Effect :SURROUND,NORMAL

Input Selector :CD,TUNER,TAPE,LINE

Head Phones :6.25 mm (SPEAKERS Switch)

Display :LCD Display

SUPER BASS :8.0 dB at 100Hz

S/N Ratio :65 dB (IHF-A)

Power Source :120V 60Hz (US Type)

230V 50Hz (EURO Type)

TUNER

FM Tuning Range :87.9-107.9 MHz (50KHz Step)

AM Tuning Range :531-1602 KHz (9KHz Step)

US Type :FM 100KHz Step,AM 10KHz Step

Preset Station :FM-16 /AM-8 Station Memories

SPEAKER BOX

Size :185(W) × 380(H) × 215(D) (mm)

Type :2 Way Bass Reflex

Speakers

Woofer :12.5 cm Corn Type

Squawker :5.0 cm Corn Type

Impedance :8 ohm

CD player/TAPE-DECK

UNIT SIZE :280(W) × 190(h) × 310(D) (mm)

CD player

Reading Rotation :About 200-500 r.p.m.(CLV)

D/A Conveter :1 bit MASH

Freq. Response :40Hz-20KHz (+2/-3 dB)

Program :32 Tracks Memory

Tray :Single Drawer For 3 Discs

Repeat Mode :REPEAT,1,ALL,RANDOM,INTRO

Scanning Method :Non-contact Optical Scanner

Error Correction :Cross Interleave,
Reedsolomon Code

Channel :2 Channel

TAPE-DECK

Deck A :Rec/Play Auto Revers (Normal)

Deck B :Play One Way (Normal)

Play Mode :DECK A , , , Revers Mode Play

DECK B→A Continous Play

Dubbing :NORMAL,HIGH Speed Dubbing

CD SYNCHRO ,EDIT Recording

FF/REW Time :110 Sec (C-60)

Noise Reduction :DOLBY B NR

Wow Flutter :0.2 % (WRMS)

Input Volume :ALC

REMOTE CONTROL (With 24 Key)

Control Distance :15 Feet

Control Angle :±15 Degree

POWER,TUNER PRESET,INPUT SEL TUNER,TAPE,

CD,LINE,DISC,CD STOP,PLAY/PAUSE,MEMORY,

SKIP-F,SKIP-B,

DECK A

F/PLAY,R/PLAY,STOP,REC/AUTO SPACE, PAUSE

DECK B

FF,REW,PLAY,STOP, MUT,VOLUME UP,DOWN

ONKYO CORPORATION

Sales Planning & Promotion Dept. : 2-1, Nisshin-cho, Neyagawa-shi, OSAKA 572, JAPAN

Tel: 0720-31-8111 Fax: 0720-33-5222

ONKYO U.S.A CORPORATION

200 Williams Drive, Ramsey, N.J. 07446, U.S.A.

Tel: 201-825-7950 Fax: 201-825-8150

ONKYO DEUTSCHLAND GMBH ELECTRONICS

Industriestrasse 18-20, 82110 Germering, GERMANY

Tel: 089 84 20 Fax: 089 84 93 226

ONKYO FRANCE

Immeuble Le Diamant, Domaine Technologique de Saclay, 4 Rue Rene Razel,

91892 SACLAY, FRANCE Tel: (1) 69 33 1400 Fax: (1) 69 41 35 84