

Service Manual

ORDER NO.
RRV1286

CASSETTE TAPE DECK

CT-S440S

• Refer to the service manual RRV1123 for CT-S430S/HBXJ.

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	The voltage can be converted by the following method.
	CT-S440S		
HBWXJ	○	AC230 – 240V	AC220 – 230V, *
HEMXJ	○	AC220 – 230V	AC230 – 240V, *
HEWMXJ	○	AC220 – 230V	AC230 – 240V, *
HLXJ	○	AC220 – 230V	AC230 – 240V, *
SDXJ	○	AC110V/120 – 127V/220V/240V	With the voltage selector

* : Alter the wiring of the Power-supply block at the primary winding Power-transformer referring to the "Line Voltage Selection" described in Service Manual.

CONTENTS

1.	CONTRAST OF MISCELLANEOUS PARTS	2
2.	SCHEMATIC DIAGRAM	4
3.	PCB DIAGRAM	9
4.	IC INFORMATION	11
5.	FL INFORMATION	12

1. CONTRAST OF MISCELLANEOUS PARTS

NOTES:

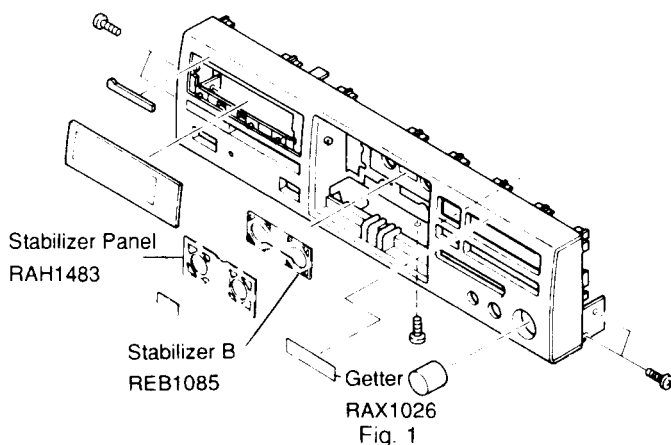
- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

■ CONTRAST OF CT-S440S/HBWXJ, HEMXJ, HEWMXJ, HLXJ, SDXJ AND CT-S430S HBXJ

CT-S440S/HBWXJ, HEMXJ, HEWMXJ, HLXJ, SDXJ and CT-S430S/HBXJ have the same construction except for the following :

Mark	Symbol & Description	Part No.						Remarks
		CT-S430S/ HBXJ	CT-S440S/ HBWXJ	CT-S440S/ HEMXJ	CT-S440S/ HEWMXJ	CT-S440S/ HLXJ	CT-S440S/ SDXJ	
Δ	Power Transformer (AC220 – 230V/230 – 240V)	RTT1254	RTT1254	RTT1254	RTT1254	RTT1254	Not Used	Refer to Fig.3
Δ	Power Transformer (AC110V/120 – 127V /220V/240V)	Not Used	Not Used	Not Used	Not Used	Not Used	RTT1255	
Δ	AC Power Cord	PDG1055	PDG1055	PDG1003	PDG1003	PDG1003	PDG1013	
Δ	Fuse (T5A)	PEK1003	PEK1003	Not Used	Not Used	Not Used	Not Used	
	FL Lens	RAH2413	RAH2413	RAH2413	RAM2413	RAH2414	RAH2414	
	Rear Panel	RNA1818	RNA1925	RNA1924	RNA1924	RNA1927	RNA1926	Refer to Fig.2
	Pin Cap	VEC1616	VEC1616	Not Used	Not Used	Not Used	Not Used	
Δ	Voltage Selector	Not Used	Not Used	Not Used	Not Used	Not Used	PSB1002	
	Front Panel	RAH2533	RAH2537	RAH2537	RAH2537	RAH2537	RAH2537	
	Door Pocket	RAH2443	RAH2539	RAH2539	RAH2539	RAH2539	RAH2539	
	Stabilizer Panel	Not Used	RAH1483	RAH1483	RAH1483	RAH1483	RAH1483	Refer to Fig.1
	Stabilizer B	Not Used	REB1085	REB1085	REB1085	REB1085	REB1085	
	Getter	Not Used	RAX1026	RAX1026	RAX1026	RAX1026	RAX1026	
	Operating Instructions (English)	RRB1146	RRB1157	Not Used	Not Used	Not Used	Not Used	
	Operating Instructions (English/French/German/Italian/Dutch/ Swedish/Spanish/Portuguese)	Not Used	Not Used	RRE1114	Not Used	Not Used	Not Used	
	Operating Instructions (German)	Not Used	Not Used	Not Used	RRD1157	Not Used	Not Used	
	Operating Instructions (English/Spanish/Chinese)	Not Used	Not Used	Not Used	Not Used	RRE1115	RRE1115	
	Packing Case	RHG1572	RHG1652	RHG1651	RHG1651	RHG1653	RHG1653	
	Pad Spacer A	RHC1039	RHC1039	Not Used	Not Used	Not Used	Not Used	
	Pad Spacer B	RHC1041	RHC1041	Not Used	Not Used	Not Used	Not Used	
NSP	Mother Unit	RWM1697	RWM1794	RWM1793	RWM1793	RWM1793	RWM1975	
	└ Main Unit	RWZ3208	RWZ3462	RWZ3462	RWZ3462	RWZ3462	RWZ3462	
	└└ Dolby S Unit	RWX1101	RWX1109	RWX1109	RWX1109	RWX1109	RWX1109	
	└ OPSW Unit	RWZ3211	RWZ3463	RWZ3463	RWZ3463	RWZ3463	RWZ3463	
	└ FL Unit	RWZ3214	RWZ3464	RWZ3464	RWZ3464	RWZ3464	RWZ3464	
NSP	└ TR1 Unit	RWZ3298	RWZ3466	RWZ3465	RWZ3465	RWZ3465	RWZ3467	
NSP	└ TR2 Unit	RWZ3220	RWZ3468	Not Used	Not Used	Not Used	Not Used	

● EXPLODED VIEWS





RWZ3462 and RWZ3208 have the same construction except for the following:

Note * : Refer to "2. SCHEMATIC DIAGRAM".

RWZ3463 and RWZ3211 have the same construction except for the following:

RWZ3464 and RWZ3214 have the same construction except for the following:

RWZ3466 and RWZ3465, RWZ3467 and RWZ3298 have the same construction except for the following:

Note * : Refer to "2. SCHEMATIC DIAGRAM".

Although RWZ3220 and RWZ3468 different in part number, consist of the same components.

DOLBY S UNIT

2. SCHEMATIC DIAGRAM

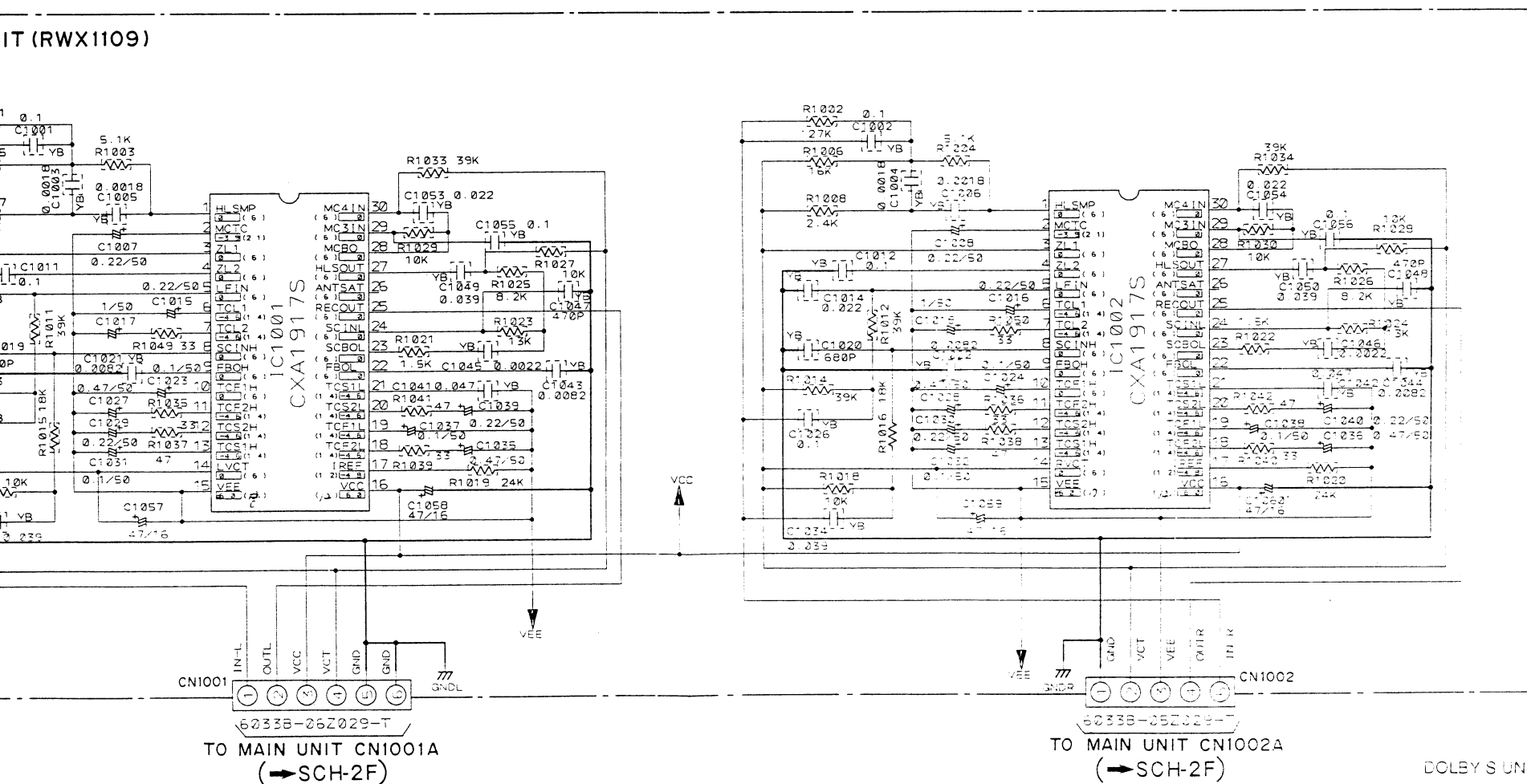
1. DOLBY S UNIT

Part No.	Mark	No.	Description	Part No.
		C1019. C1020		CKSQYB681K50
		C1021. C1022. C1043. C1044		CKSQYB822K50
1917S				
			RESISTORS	
		All Resistors		RS1/10S□□□J
010M50				
470M16				
R10M50			OTHERS	
R10M50		CN1002	CONNECTOR	6033B-05Z029
		CN1001	CONNECTOR	6033B-06Z029

NOTE FOR SCHEMATIC DIAGRAMS
(Type 6A)

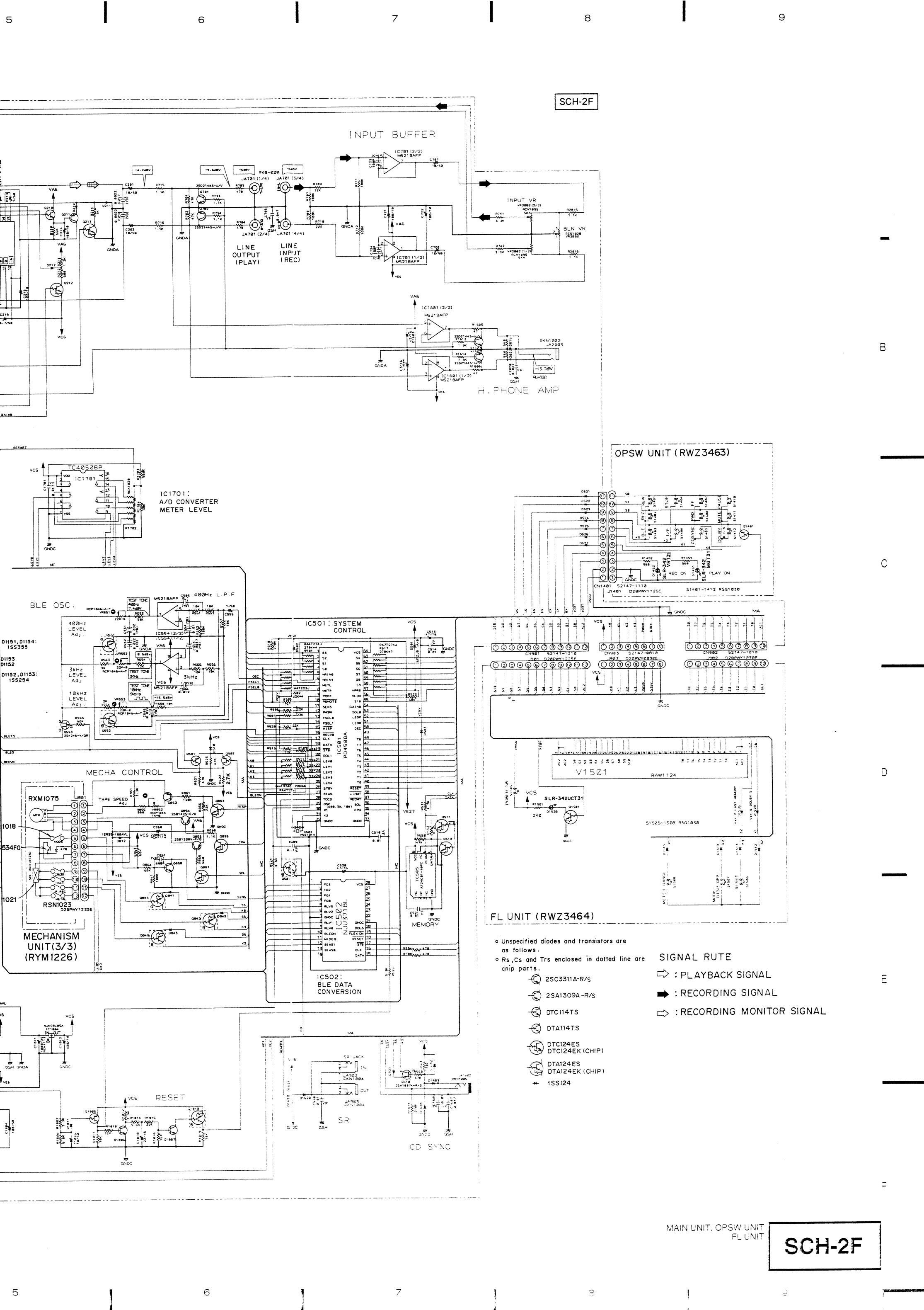
1. When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".

2. **Values of some components may be changed for improvement.**
 3. **RESISTORS:**
Unit: k:K Ω , M:M Ω , or Ω unless otherwise noted.
Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
Tolerance: (F): $\pm 1\%$, (G): $\pm 2\%$, (K): $\pm 10\%$, (M): $\pm 20\%$ or $\pm 5\%$ unless otherwise noted.
Unit: p: pF or μ F unless otherwise noted.
Ratings: capacitor (μ F)/ voltage (V) unless otherwise noted.
4. **CAPACITORS:**
Unit: p: pF or μ F unless otherwise noted.
Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
Unit: m: mH or μ H unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
 or $-V$:
DC voltage (V) in STOP mode unless otherwise noted.
 mA or $-mA$:
DC current in STOP mode unless otherwise noted.
7. **OTHERS:**
 -  or  : Adjusting point.
 - The  mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
 8. **SCH— ON THE SCHEMATIC DIAGRAM:**
 -  indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)



DOLEBY S UNIT

SCH-1F



3. PCB CONNECTION DIAGRAM • This diagram is viewed from the mounted parts side.

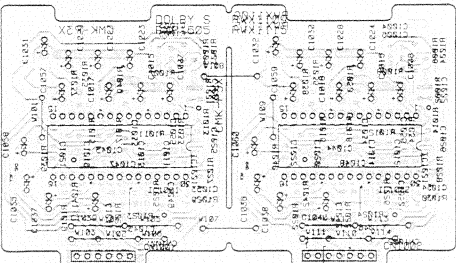
NOTE FOR PCB DIAGRAMS:

- 1. Part numbers in PCB diagrams match those in the schematic diagrams.
- 2. A comparison between the main parts of PCB and schematic diagrams is shown below.

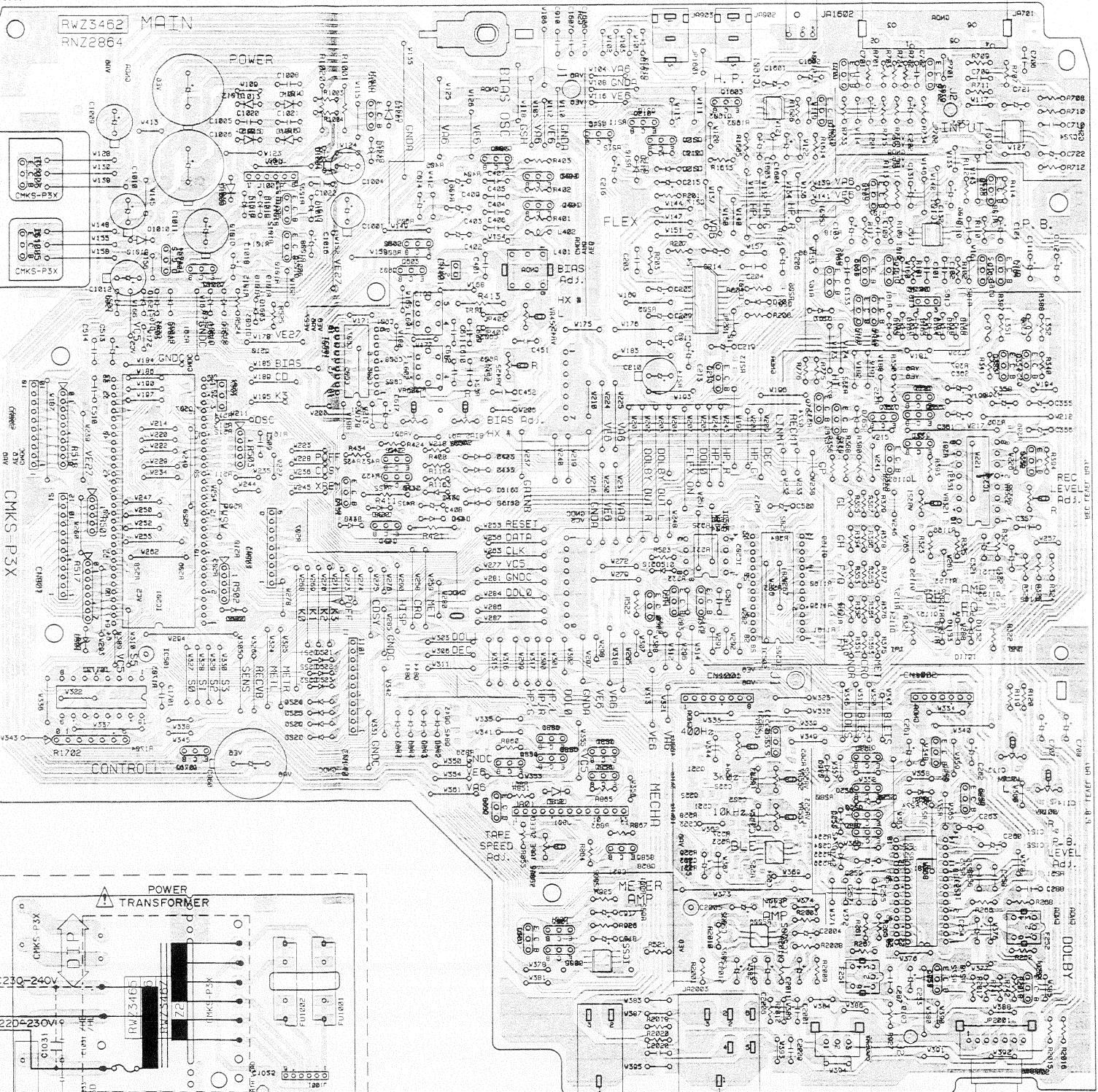
Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

- The parts mounted on this PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.

DOLBY S UNIT



MAIN UNIT



Q1001	Q210	Q211	Q1604	Q701	Q702	Q1603
Q403	Q402	Q106	Q105	Q1005	Q1006	Q1007
Q602	Q603	Q163	Q164	Q165	Q166	Q167
Q1004	Q1007	Q168	Q169	Q170	Q171	Q172
Q173	Q174	Q175	Q176	Q177	Q178	Q179
Q180	Q181	Q182	Q183	Q184	Q185	Q186
Q187	Q188	Q189	Q190	Q191	Q192	Q193
Q194	Q195	Q196	Q197	Q198	Q199	Q200
Q201	Q202	Q203	Q204	Q205	Q206	Q207
Q208	Q209	Q210	Q211	Q212	Q213	Q214
Q215	Q216	Q217	Q218	Q219	Q220	Q221
Q222	Q223	Q224	Q225	Q226	Q227	Q228
Q229	Q230	Q231	Q232	Q233	Q234	Q235
Q236	Q237	Q238	Q239	Q240	Q241	Q242
Q243	Q244	Q245	Q246	Q247	Q248	Q249
Q250	Q251	Q252	Q253	Q254	Q255	Q256
Q257	Q258	Q259	Q260	Q261	Q262	Q263
Q264	Q265	Q266	Q267	Q268	Q269	Q270
Q271	Q272	Q273	Q274	Q275	Q276	Q277
Q278	Q279	Q280	Q281	Q282	Q283	Q284
Q285	Q286	Q287	Q288	Q289	Q290	Q291
Q292	Q293	Q294	Q295	Q296	Q297	Q298
Q299	Q300	Q301	Q302	Q303	Q304	Q305
Q306	Q307	Q308	Q309	Q310	Q311	Q312
Q313	Q314	Q315	Q316	Q317	Q318	Q319
Q320	Q321	Q322	Q323	Q324	Q325	Q326
Q327	Q328	Q329	Q330	Q331	Q332	Q333
Q334	Q335	Q336	Q337	Q338	Q339	Q340
Q341	Q342	Q343	Q344	Q345	Q346	Q347
Q348	Q349	Q350	Q351	Q352	Q353	Q354
Q355	Q356	Q357	Q358	Q359	Q360	Q361
Q362	Q363	Q364	Q365	Q366	Q367	Q368
Q369	Q370	Q371	Q372	Q373	Q374	Q375
Q376	Q377	Q378	Q379	Q380	Q381	Q382
Q383	Q384	Q385	Q386	Q387	Q388	Q389
Q390	Q391	Q392	Q393	Q394	Q395	Q396
Q397	Q398	Q399	Q400	Q401	Q402	Q403
Q404	Q405	Q406	Q407	Q408	Q409	Q410
Q411	Q412	Q413	Q414	Q415	Q416	Q417
Q418	Q419	Q420	Q421	Q422	Q423	Q424
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Q432	Q433	Q434	Q435	Q436	Q437	Q438
Q439	Q440	Q441	Q442	Q443	Q444	Q445
Q446	Q447	Q448	Q449	Q450	Q451	Q452
Q453	Q454	Q455	Q456	Q457	Q458	Q459
Q460	Q461	Q462	Q463	Q464	Q465	Q466
Q467	Q468	Q469	Q470	Q471	Q472	Q473
Q474	Q475	Q476	Q477	Q478	Q479	Q480
Q481	Q482	Q483	Q484	Q485	Q486	Q487
Q488	Q489	Q490	Q491	Q492	Q493	Q494
Q495	Q496	Q497	Q498	Q499	Q500	Q501
Q502	Q503	Q504	Q505	Q506	Q507	Q508
Q509	Q510	Q511	Q512	Q513	Q514	Q515
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Q530	Q531	Q532	Q533	Q534	Q535	Q536
Q537	Q538	Q539	Q540	Q541	Q542	Q543
Q544	Q545	Q546	Q547	Q548	Q549	Q550
Q551	Q552	Q553	Q554	Q555	Q556	Q557
Q558	Q559	Q560	Q561	Q562	Q563	Q564
Q565	Q566	Q567	Q568	Q569	Q570	Q571
Q572	Q573	Q574	Q575	Q576	Q577	Q578
Q579	Q580	Q581	Q582	Q583	Q584	Q585
Q586	Q587	Q588	Q589	Q590	Q591	Q592
Q593	Q594	Q595	Q596	Q597	Q598	Q599
Q600	Q601	Q602	Q603	Q604	Q605	Q606
Q607	Q608	Q609	Q610	Q611	Q612	Q613
Q614	Q615	Q616	Q617	Q618	Q619	Q620
Q621	Q622	Q623	Q624	Q625	Q626	Q627
Q628	Q629	Q630	Q631	Q632	Q633	Q634
Q635	Q636	Q637	Q638	Q639	Q640	Q641
Q642	Q643	Q644	Q645	Q646	Q647	Q648
Q649	Q650	Q651	Q652	Q653	Q654	Q655
Q656	Q657	Q658	Q659	Q660	Q661	Q662
Q663	Q664	Q665	Q666	Q667	Q668	Q669
Q670	Q671	Q672	Q673	Q674	Q675	Q676
Q677	Q678	Q679	Q680	Q681	Q682	Q683
Q684	Q685	Q686	Q687	Q688	Q689	Q690
Q691	Q692	Q693	Q694	Q695	Q696	Q697
Q698	Q699	Q700	Q701	Q702	Q703	Q704
Q705	Q706	Q707	Q708	Q709	Q710	Q711
Q712	Q713	Q714	Q715	Q716	Q717	Q718
Q719	Q720	Q721	Q722	Q723	Q724	Q725
Q726	Q727	Q728	Q729	Q730	Q731	Q732
Q733	Q734	Q735	Q736	Q737	Q738	Q739
Q740	Q741	Q742	Q743	Q744	Q745	Q746
Q747	Q748	Q749	Q750	Q751	Q752	Q753
Q754	Q755	Q756	Q757	Q758	Q759	Q760
Q761	Q762	Q763	Q764	Q765	Q766	Q767
Q768	Q769	Q770	Q771	Q772	Q773	Q774
Q775	Q776	Q777	Q778	Q779	Q780	Q781
Q782	Q783	Q784	Q785	Q786	Q787	Q788
Q789	Q790	Q791	Q792	Q793	Q794	Q795
Q796	Q797	Q798	Q799	Q800	Q801	Q802
Q803	Q804	Q805	Q806	Q807	Q808	Q809
Q810	Q811	Q812	Q813	Q814	Q815	Q816
Q817	Q818	Q819	Q820	Q821	Q822	Q823
Q824	Q825	Q826	Q827	Q828	Q829	Q830
Q831	Q832	Q833	Q834	Q835	Q836	Q837
Q838	Q839	Q840	Q841	Q842	Q843	Q844
Q845	Q846	Q847	Q848	Q849	Q850	Q851
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Q859	Q860	Q861	Q862	Q863	Q864	Q865
Q866	Q867	Q868	Q869	Q870	Q871	Q872
Q873	Q874	Q875	Q876	Q877	Q878	Q879
Q880	Q881	Q882	Q883	Q884	Q885	Q886
Q887	Q888	Q889	Q890	Q891	Q892	Q893
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Q901	Q902	Q903	Q904	Q905	Q906	Q907
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Q922	Q923	Q924	Q925	Q926	Q927	Q928
Q929	Q930	Q931	Q932	Q933	Q934	Q935
Q936	Q937	Q938	Q939	Q940	Q941	Q942
Q943	Q944	Q945	Q946	Q947	Q948	Q949
Q950	Q951	Q952	Q953	Q954	Q955	Q956
Q957	Q958	Q959	Q960	Q961	Q962	Q963
Q964	Q965	Q966	Q967	Q968	Q969	Q970
Q971	Q972	Q973	Q974	Q975	Q976	Q977
Q978	Q979	Q980	Q981	Q982	Q983	Q984
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Q992	Q993	Q994	Q995	Q996	Q997	Q998
Q999	Q1000	Q1001	Q1002	Q1003	Q1004	Q1005
Q1006	Q1007	Q1008	Q1009	Q1010	Q1011	Q1012
Q1013	Q1014	Q1015	Q1016	Q1017	Q1018	Q1019
Q1020	Q1021	Q1022	Q1023	Q1024	Q1025	Q1026
Q1027	Q1028	Q1029	Q1030	Q1031	Q1032	Q1033
Q1034	Q1035	Q1036	Q1037	Q1038	Q1039	Q1040
Q1041	Q1042	Q1043	Q1044	Q1045	Q1046	Q1047
Q1048	Q1049	Q1050	Q1051	Q1052	Q1053	Q1054
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Q1083	Q1084	Q1085	Q1086	Q1087	Q1088	Q1089
Q1090	Q1091	Q1092	Q1093	Q1094	Q1095	Q1096
Q1097	Q1098	Q1099	Q1100	Q1101	Q1102	Q1103
Q1104	Q1105	Q1106	Q1107	Q1108	Q1109	Q1110
Q1111	Q1112	Q1113	Q1114	Q1115	Q1116	Q1117
Q1118	Q1119	Q1120	Q1121	Q1122	Q1123	Q1124
Q1125	Q1126	Q1127	Q1128	Q1129	Q1130	Q1131
Q1132	Q1133	Q1134	Q1135	Q1136	Q1137	Q1138
Q1139	Q1140	Q1141	Q1142	Q1143	Q1144	Q1145
Q1146	Q1147	Q1148	Q1149	Q1150	Q1151	Q1152
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Q1230	Q1231	Q1232	Q1233	Q1234	Q1235	Q1236
Q1237	Q1238	Q1239	Q1240	Q1241	Q1242	Q1243
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Q1258	Q1259	Q1260	Q1261	Q1262	Q1263	Q1264
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Q1300	Q1301	Q1302	Q1303	Q1304	Q1305	Q1306
Q1307	Q1308	Q1309	Q1310	Q1311	Q1312	Q1313
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Q1321	Q1322	Q1323	Q1324	Q1325	Q1326	

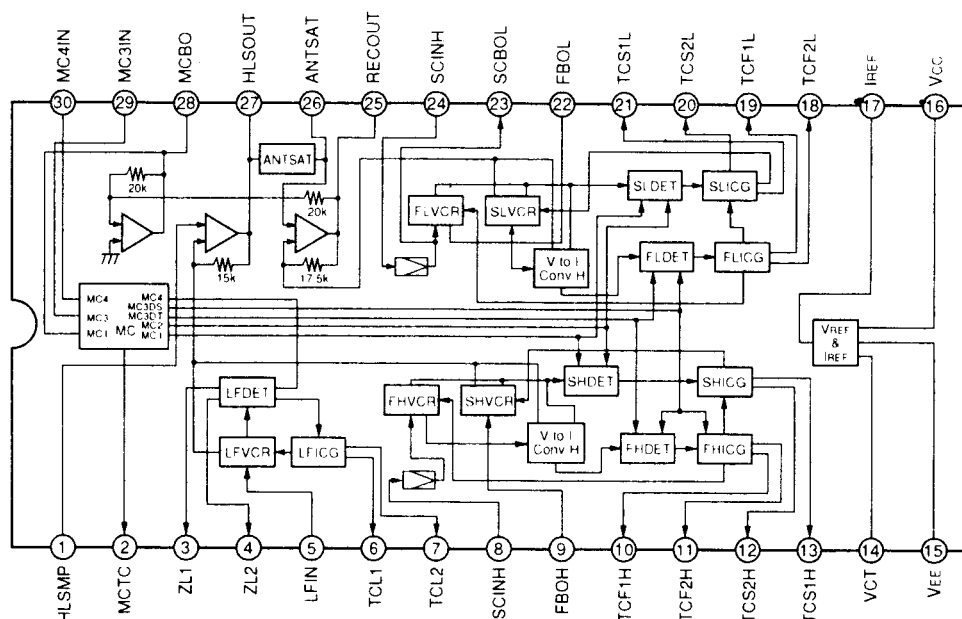
4. IC INFORMATION

- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

■ CXA1917S (DOLBY S UNIT, IC1001, IC1002)

DOLBY S TYPE NOISE REDUCTION SYSTEM

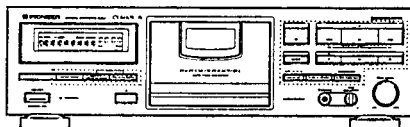
- **Block Diagram**



● Pin Function

Pin No.	NAME	FUNCTION
1	HLSMP	HL stage main bus input pin
2	MCTC	MC2 time constant pin
3	ZL1	Weighted pin for HL/LF/FB main band rectifiers
4	ZL2	Input pin for HL/LF/FB bus band rectifiers
5	LFIN	HL/LF/FB stages input pin
6	TCL1	Primary integral time constant pin for HL/LF/FB detectors
7	TCL2	Secondary integral time constant pin for HL/LF/FB detectors
8	SCINH	Input pin for HL/HF side chains
9	FBOH	Output pin for HL/HF/FB VCRs
10	TCF1H	Primary integral time constant pin for HL/HF/FB detectors
11	TCF2H	Secondary integral time constant pin for HL/HF/FB detectors
12	TCS2H	Secondary integral time constant pin for HL/HF/SB detectors
13	TCS1H	Primary integral time constant pin for HL/HF/SB detectors
14	VCT	Dual power supply of + and – → Ground pin Single power supply → VCT pin
15	VEE	Dual power supply of + and – → Negative power supply pin Single power supply → Ground pin
16	VCC	Positive power supply pin
17	IREF	Reference current input pin
18	TCF2L	Secondary integral time constant pin for LL/HF/FB detectors
19	TCF1L	Primary integral time constant pin for LL/HF/FB detectors
20	TCS2L	Secondary integral time constant pin for LL/FB/SB detectors
21	TCS1L	Primary integral time constant pin for LL/HF/SB detectors
22	FBOL	Output pin for LL/HF/FB VCRs
23	SCBOL	Output pin for LL/HF side chain buffer amplifiers
24	SCINL	Input pin for LL/HF side chains
25	RECOUT	Recording (encode) output pin
26	ANTSAT	LL stage main bus input pin
27	HLSOUT	HL stage output pin
28	MCBO	MC buffer feedback pin
29	MC3IN	MC3 input pin
30	MC4IN	MC4 input pin

Service Manual



**ORDER NO.
RRV1123**

The chapter 1 of this Service Manual will not be reprinted. On your additional orders, we may supply only the chapter 2. For the chapter 1, please make copies and attach to the chapter 2 at your side if necessary.

STEREO CASSETTE DECK

CT-S430S

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	The voltage can be converted by the following method.
	CT-S430S		
HBXJ	○	AC230 - 240V	AC220 - 230V, *
HB	○	AC230 - 240V	AC220 - 230V, *
HEM	○	AC220 - 230V	AC230 - 240V, *
HEMXJ	○	AC220 - 230V	AC230 - 240V, *
HEWM	○	AC220 - 230V	AC230 - 240V, *
HEWMXJ	○	AC220 - 230V	AC230 - 240V, *
HL	○	AC220 - 230V	AC230 - 240V, *
HLXJ	○	AC220 - 230V	AC230 - 240V, *
SD	○	AC110V/120 - 127V/220V/240V	With the voltage selector
SDXJ	○	AC110V/120 - 127V/220V/240V	With the voltage selector

* : Alter the wiring of the Power-supply block at the primary winding of power transformer referring to the "Line Voltage Selection" described in Service Manual.

NOTE:

The introduction of CT-S430/HBXJ, HEMXJ, HEWMXJ, HLXJ, and SDXJ was postponed in April, 1994.

CONTENTS

CHAPTER1

1.1 SPECIFICATIONS	1-2
1.2 PANEL FACILITIES	1-3
1.3 IC INFORMATION	1-4
1.4 ADJUSTMENTS	1-7
1.5 PARTS LIST FOR EXPLODED VIEWS AND PACKING	1-11
1.6 PCB PARTS LIST	1-13

CHAPTER2

2.1 BLOCK DIAGRAM	2-2
2.2 EXPLODED VIEWS AND PACKING	2-3
2.3 SCHEMATIC DIAGRAMS	2-7
2.4 PCB CONNECTION DIAGRAM	2-13

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CHAPTER 1

1.1 SPECIFICATIONS

System	4 track, 2-channel stereo
Heads	"Hard Permalloy" recording/playback head × 1 "Ferrite" erasing head × 1
Motor	DC servo motor × 1
Wow and Flutter	0.070% (WRMS, JIS) ±0.18% (DIN)
Fast Winding Time	Approx. 100 seconds (C-60 tape)
Frequency Response (at -20 dB recording level)	
TYPE IV (Metal) tape	25 to 18,000 Hz (±6 dB)
TYPE II (High/CrO ₂) Tape	25 to 17,000 Hz (±6 dB)
TYPE I (Normal) Tape	25 to 17,000 Hz (±6 dB)
Signal-to-Noise Ratio (Dolby NR OFF)	
Dolby NR off	More than 57 dB
Noise Reduction Effect	
Dolby B-type NR ON	More than 10 dB (at 5 kHz)
Dolby C-type NR ON	More than 19 dB (at 5 kHz)
Dolby S-type NR ON	More than 22 dB (at 5 kHz) (CT-S430S only)
Harmonic Distortion	No more than 1.0% (at -4 dB: 160 nwb/m)
Input (Sensitivity)	
LINE (INPUT)	100 mV (Input impedance 67 kΩ)
Output (Reference level)	
LINE (OUTPUT)	0.5 V (Output impedance 2.2 kΩ)
Headphone (PHONES)	1.33 mW (Load Impedance 32 Ω)

Miscellaneous

Power requirements	
U.K., model	AC 230—240 Volts~, 50/60 Hz
Australian model	AC 240V, 50/60 Hz
Power consumption	16 W
Dimensions	420 (W)×125 (H)×280 (D) mm
Weight (without package)	
U.K. model and Australian model	3.8 kg

Subfunctions

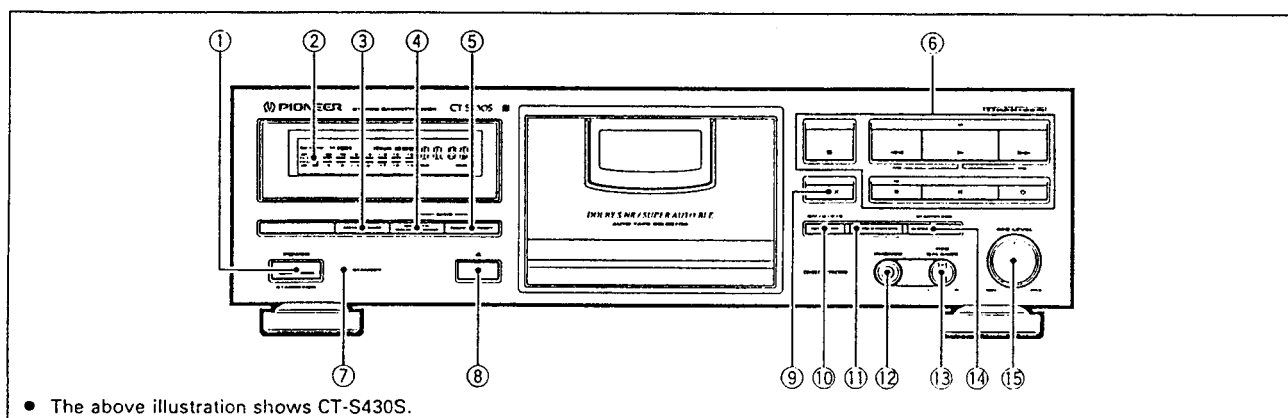
- Dolby B-type, C-type and S-type NR systems (CT-S430S)
- Dolby B-type and C-type NR Systems (CT-S330)
- DOLBY HX PRO system
- Auto tape selector (TYPE I, II, IV)
- Headphones jack
- 4-digit electronic tape/time counter
- Music search up to ±15 selections
- Automatic space recording mute
- SUPER AUTO BLE tuning system
- FL level meter 7 + 1 segments (with peak hold)
-  System remote control available
- CD · DECK SYNCHRO function
- FLEX system
- Display off
- Last memory
- Timer play

Accessories

Operating instructions	1
Connection cord with pin plugs	2
 Remote control cord	1
CD · DECK SYNCHRO control cord	1

NOTE:
Specifications and design subject to possible modifications without notice, due to improvements.

1.2 PANEL FACILITIES



① POWER STANDBY/ON switch

The POWER switch activates the secondary transformer only. Even when the switch is in the STANDBY position, there will be a power flow to the deck's circuits as long as the power cord is connected to a power outlet.

② Function display

③ Level meter range selector button (METER RANGE)

Press to select wide or expanded range on the level meter.

④ Display off/Tape counter mode button (DISP OFF/COUNTER MODE)

Press to select the tape counter mode, the time counter mode, or to turn the function display off. Press the button to choose between the modes or to turn the display off.

Display off → Display on → Display on
(Tape counter) (Tape counter) (Time counter)

⑤ Tape counter reset button (COUNTER RESET)

⑥ Operation buttons

- ◀/MS : Rewind/music search
- : Stop
- ▶ : Playback
- ▶▶/MS : Fast forward/music search
- : Recording
- ⏸ : Pause
- : Recording mute

⑦ STANDBY indicator

⑧ Eject button (▲)

- If the tape is moving (recording, playback, tape winding, etc.), press the stop (■) button before pressing this button.

⑨ FLEX button

⑩ Dolby* NR button (OFF/B/C/S) (CT-S430S)

Dolby* NR button (OFF/B/C) (CT-S330)

For the CT-S430S

OFF → B → C → S

For the CT-S330

OFF → B → C

*

- Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.
- "DOLBY", the double-D symbol and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

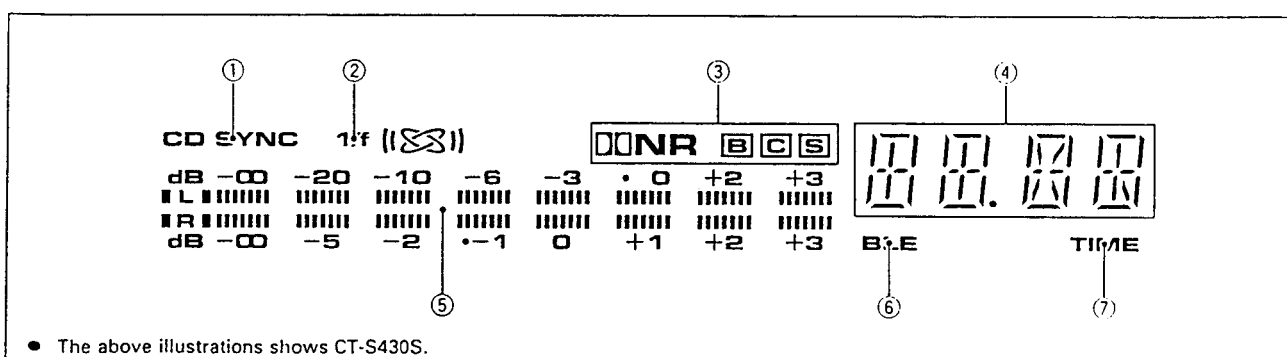
⑪ CD · DECK SYNCHRO recording button (CD SYNCHRO)

⑫ Headphones jack (PHONES)

⑬ Recording balance control (REC BALANCE)

⑭ SUPER AUTO BLE button

⑮ Recording level control (REC LEVEL)



① CD · DECK SYNCHRO indicator (CD SYNC)

Lights when synchro recording from a CD player is being carried out.

② FLEX indicator (1/f)

This indicator lights when the FLEX button is pressed.

③ DOLBY NR B/C/S indicator (CT-S430S)

DOLBY NR B/C indicator (CT-S330)

④ Counter indicator

Normally the tape number or time counter is displayed. Flashes for four seconds after the power cord is connected to the power supply.

⑤ Level meter with peak hold function

The ● beside the -1 dB mark (at Expand mode) or 0 dB mark (at Wide mode) indicates the Dolby NR systems reference level.

Meter range:

Wide mode: -20 dB to +3 dB

Expand mode: -5 dB to +3 dB

- Selected meter range is shown on the function display by pressing the METER RANGE button.

⑥ BLE indicator

⑦ TIME counter indicator

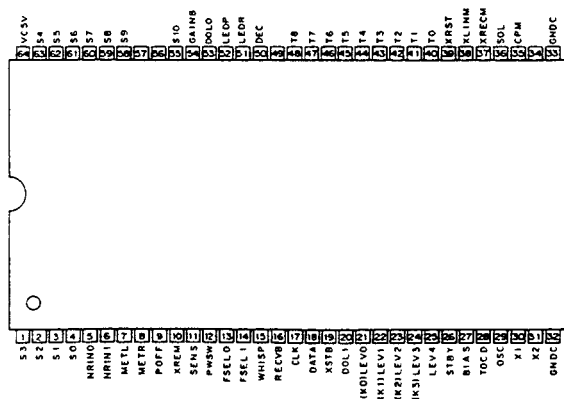
Lights up in the time counter mode.

1.3 IC INFORMATION

- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

■ PD4508A (MAIN UNIT, IC501)

● Pin Arrangement (Top view)



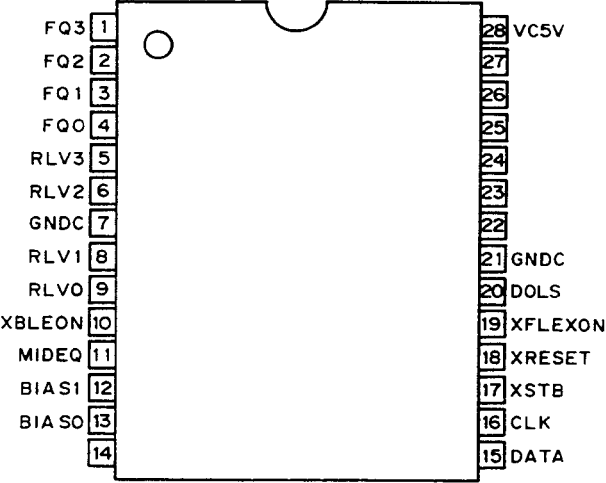
● Pin Function

Pin No.	Name	I/O	Function
1	S3	O	Segment output, key scan output.
2	S2	O	
3	S1	O	
4	S0	O	
5	NRINO	I	Not used.
6	NRIN1	I	
7	METL	I	Level detection input, Lch.
8	METR	I	Level detection input, Rch.
9	POFF	I	POWER OFF input. "H":Active.
10	XREM	I	Remote commander input. "L":Active.
11	SENS	I	Sensing pulse input
12	PWSW	I	POWER SW input
13	FSEL0	O	AUTO BLE frequency select output (3 KHz)
14	FSEL1	O	AUTO BLE frequency select output (10 KHz)
15	XHISP	O	2× speed select output during AUTO BLE. "L":2× speed.
16	XRECVB	O	Meter circuit time constant switching output. "L":FAST, "H":SLOW.
17	CLK	O	Expansion IC clock output and memory IC clock output
18	DATA	I, O	Expansion IC data output and memory IC data input/output
19	XSTB	O	Expansion IC strobe output. "L" during communication output.
20	DOL1	O	DOLBY switching output 1
21	LEVEL0 (K0)	O I	Level scan output. Key scan input.
22	LEVEL1 (K1)	O I	Level scan output. Key scan input.
23	LEVEL2 (K2)	O I	Level scan output. Key scan input.
24	LEVEL3 (K3)	O I	Level scan output. Key scan input.
25	LEVEL4	O	Level scan output.

Pin No.	Name	I/O	Function
26	STBY	O	STANDBY display output
27	BIAS	O	BIAS oscillation output
28	TOCD	O	CD SYNC output
29	OSC	O	AUTOBLE 400/3K/10 KHz square wave output
30	X1	—	Crystal/ceramic connection for main system clock oscillation
31	X2	—	
32	GNDC	—	GND
33	(XT1)	—	Crystal connection for subsystem clock oscillation. GND.
34	(XT2)	—	Crystal connection for subsystem clock oscillation. Not used.
35	CPM	O	Capstan motor driving
36	SOL	O	Solenoid driving
37	XRECMT	O	Record mute output. "L":ON.
38	XLINMT	O	Line mute output. "L":ON.
39	XRST	I	System reset input. "L":Active.
40	T0	O	FL display grid output
41	T1	O	
42	T2	O	
43	T3	O	
44	T4	O	
45	T5	O	
46	T6	O	
47	T7	O	
48	T8	O	
49	—	—	Not used.
50	DEC	O	DECODE/ENCODE output. "H":DECODE, "L":ENCODE.
51	LEDR	O	Output for displaying playback system running
52	LEDP	O	Output for displaying record system running
53	DOLO	O	DOLBY switching output 0
54	GAINB	O	FLEX IC gain switching output
55	S10	O	Segment output
56	VLOAD	—	Connected to pull-down resistor for FL controller/driver
57	VPRE	—	Output buffer power supply for FL controller/driver
58	S9	O	Segment output
59	S8	O	Segment output, key scan output.
60	S7	O	
61	S6	O	
62	S5	O	
63	S4	O	
64	VC5V	—	+ 5V power supply

■ NJU3718L (MAIN UNIT, IC502)

● Pin Arrangement (Top view)



● Pin Functions

Pin No.	Name	Function
1	FQ3	Output BIT 3 for compensating AUTO BLE HIGH EQ
2	FQ2	Output BIT 2 for compensating AUTO BLE HIGH EQ
3	FQ1	Output BIT 1 for compensating AUTO BLE HIGH EQ
4	FQ0	Output BIT 0 for compensating AUTO BLE HIGH EQ
5	RLV3	Output BIT 3 for compensating AUTO BLE LEVEL
6	RLV2	Output BIT 2 for compensating AUTO BLE LEVEL
7	GNDC	GND
8	RLV1	Output BIT 1 for compensating AUTO BLE LEVEL
9	RLV0	Output BIT 0 for compensating AUTO BLE LEVEL
10	XBLEON	AUTO BLE ON output. "L":ON during BLE.
11	MIDEQ	Output for compensating AUTO BLE MID EQ
12	BIAS1	Output BIT 1 for compensating AUTO BLE BIAS
13	BIAS0	Output BIT 0 for compensating AUTO BLE BIAS
14	—	Not used.
15	DATA	Serial data signal input
16	CLK	Clock signal input
17	XSTB	Strobe signal input
18	XRST	System reset input. "L":Active.
19	XFLEX ON	Flex IC ON output. "L" during FLEX ON.
20	DOLS	Dolby S ON output
21	GNDC	GND
22 to 27	—	—
28	VC5	+5V power supply

■ AT24C01-10PC (MAIN UNIT, IC505)

● Pin Functions

Pin No.	Name	Function
1	NC	Not used.
2		
3		
4	GND	GND
5	DATM	Serial data signal input/output
6	CLKM	Clock signal input
7	NC	Connected to GND.
8	VCC	5V power supply

1.4 ADJUSTMENTS

1. MECHANICAL ADJUSTMENT

1. Tape speed Adjustment			
Mode	Test tape	Adjustment position	Specification rating (playback frequency)
PLAY	Play the STD-301 tape (3kHz)	VR852	3000Hz $\pm$ 5Hz

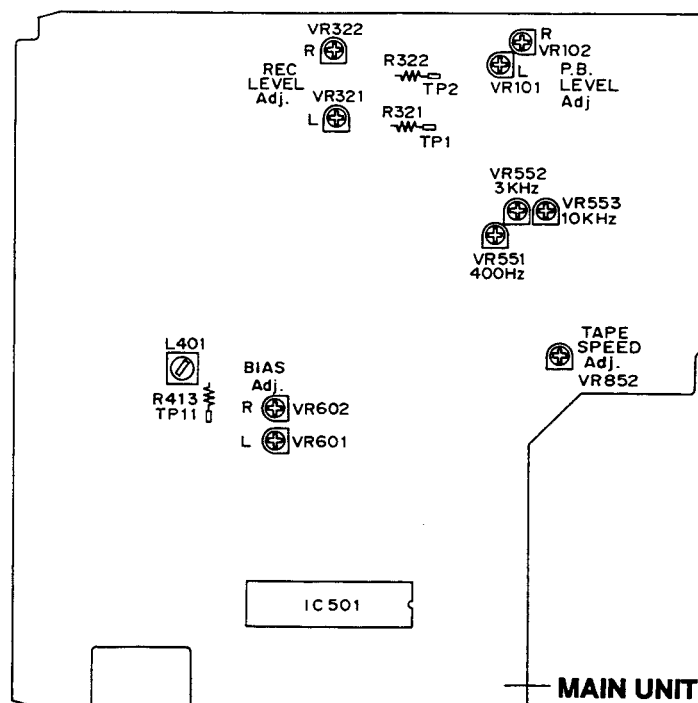


Fig. 1 Adjusting points

● Before performing the head azimuth adjustment

Remove the azimuth cover before performing this adjustment.

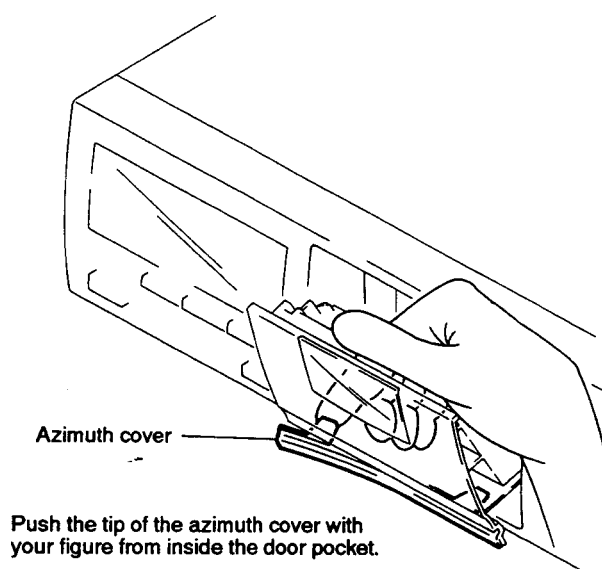


Fig. 2 Removal of azimuth cover

2. ELECTRICAL ADJUSTMENTS

Adjustment Conditions

1. The mechanical adjustments must be completed first.
2. The head must be cleaned and demagnetized.
3. Turn power on allow the deck to warm up for at least a few minutes before commencing any electrical adjustments.
4. The reference signal is 0 dBV=1 Vrms.
5. Connect a 10 k Ω load resistance to the OUTPUT terminals.
6. Unless otherwise specified, the switches listed below are left in the positions indicated.

DOLBY NR : OFF
TAPE SELECTOR : NORM

Test Tapes

STD-331E : Playback adjustments
(See Fig. 3)
STD-631 or STD-632 : NORMAL blank tape
STD-621 : CrO₂ blank tape
STD-610 : METAL blank tape

* As the reference recording level is 250 nwb/m for STD-331E, the recording level will be higher by 4 dB for STD-331B (160 nwb/m). When adjusting, pay carefull attention to the type of tape used.

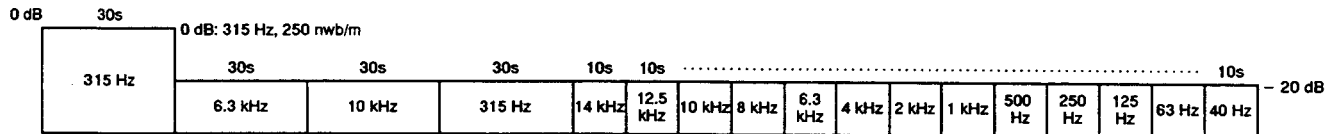


Fig. 3 Constants of the test tape STD-331E

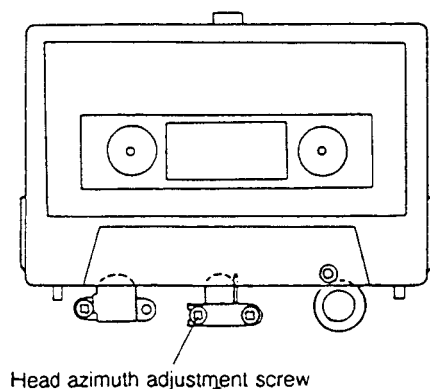


Fig. 4 Head azimuth adjustment

List of Adjustments

Playback sections

1. Head azimuth adjustment.
2. Playback level adjustment.

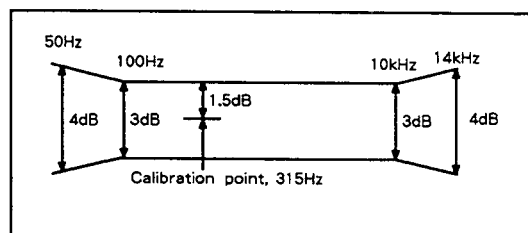
Recording sections

1. Bias oscillator adjustment.
2. Recording bias adjustment.
3. Recording level adjustment.
4. Level meter check
5. AUTO BLE adjustment.

NOTE: This unit has an automatic tape selection feature.

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PLAY BACK



RECORDING

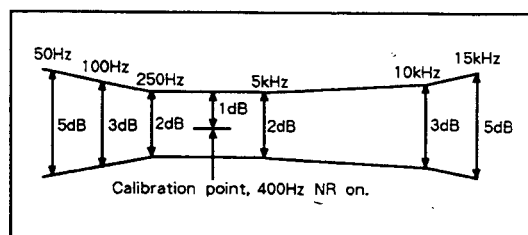


Fig. 5 Frequency response zone

PLAYBACK SECTION

1. Head Azimuth Adjustment

- Turn VR101, 102 to mechanical center positions.

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	PLAY	Play the 10 kHz/-20 dB section of STD-331E test tape.	Head azimuth adjustment screw. (See Fig. 4)	LINE OUT	Maximum playback signal level.	
2.	STOP	Lock the screw with screw lock after completing adjustment.				

2. Playback Level Adjustment

- This adjustment determines the DOLBY NR level, and must be performed with great care.

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	PLAY	Play the 315 Hz/0 dB section of the STD-331E test tape.	Deck VR101 (Lch) VR102 (Rch)	TP. 1 (Lch) TP. 2 (Rch)	-6.7 dBV	This adjustment must be performed accurately for proper Dolby level setting.

RECORDING SECTION

1. Bias Oscillator Adjustment

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	REC	Load the STD-610 test tape with no input signal.	Deck L401	TP. 11	105 kHz $\pm$ 0.3 kHz	

2. Recording Bias Adjustment

- After the adjustment, caution should be exercised so as not to become under bias by checking the distortion rate.

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	REC	Load the STD-631 or STD-632 test tape. Record the 315 Hz and 6.3 kHz signals at -26 dBV input level and playback.	Deck VR601 (Lch) VR602 (Rch)	LINE OUT	Repeatedly record, playback and adjust so that the playback level of 6.3 kHz signal becomes + 0.5dB $\pm$ 0.5 dB when compared with the 315 Hz signal.	

3. Recording Level Adjustment

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	REC/ PAUSE	Apply a 315 Hz signal to the line input terminals, load the STD-631 or STD-632 test tape.	Volume of the output level of the oscillator	TP. 1 (Lch) TP. 2 (Rch)	-11.2 dBV	
2.	REC/ PLAY	Record the above signal onto the STD-631 or STD-632 test tape, and playback.	Deck VR321 (Lch) VR322 (Rch)		Repeatedly record, playback and adjust so that the playback signal level becomes -11.2dBV.	
3.	REC/ PLAY	Record the above signal onto the STD-621 test tape, and playback.	Check		-11.2 dBV $\pm$ 1.5 dB	
4.	REC/ PLAY	Record the above signal onto the STD-610 test tape, and playback.	Check		-11.2 dBV $\pm$ 1.5 dB	

4. Level Meter Check

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	REC/ PAUSE	Apply a 315 Hz signal to the line input terminals.	Volume of the output level of the oscillator	TP. 1 (Lch) TP. 2 (Rch)	Check that the level meters "0 dB" light up within $-7.2 \text{ dBV} \pm 2 \text{ dB}$ of the signal output level.	

5. AUTO BLE Adjustment

- BLE adjustment should be performed after all other adjustments are completed.
- This adjustment should be performed in the test mode.
- Entering the Test Mode.
Turn on the power, and after more than 4 seconds, press the "COUNTER RESET" button, "COUNTER MODE" button and **|||** (PAUSE) button simultaneously.
- Releasing the Test Mode.
Press the "COUNTER RESET" button.

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.		Set to test mode.	—	—	—	
2.		Press the AUTO BLE key on the front panel.	VR551	Level meter Rch	Adjust the Lch segment which is lit until Rch is not lighting up. Lch ☒ → ☐ Rch ☒ ☒ ☐ ☒ (☒ : light up ☐ : not light up)	400 Hz adjustment (Test mode 1 FL indication 1)
3.		Press the AUTO BLE key on the front panel.	VR552			3 kHz adjustment (Test mode 2 FL indication 2)
4.		Press the AUTO BLE key on the front panel.	VR553			10 kHz adjustment (Test mode 3 FL indication 3)

1.5 PARTS LIST FOR EXPLODED VIEWS AND PACKING

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

1. EXTERIOR AND PACKING

■ CONTRAST OF HBXJ, HB, HEM, HEWM, HEWMXJ, HL, HLXJ, HEMXJ, SD AND SDXJ TYPES

HBXJ, HB, HEM, HEWM, HEWMXJ, HL, HLXJ, HEMXJ, SD and SDXJ have the same construction except for the following:

Mark	No.	Symbol & Description	Part No.									
			HBXJ type	HB type	HEM type	HEWM type	HEWMXJ type	HL type	HLXJ type	HEMXJ type	SD type	SDXJ type
NSP	4	TRN 1 unit	RWZ3298	RWZ3298	RWZ3217	RWZ3217	RWZ3217	RWZ3217	RWZ3217	RWZ3217	RWZ3218	RWZ3218
NSP	5	TRN 2 unit	RWZ3220	RWZ3220	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used
Δ	9	Power Transformer (AC220-230/230-240V)	RTT1254	RTT1254	RTT1254	RTT1254	RTT1254	RTT1254	RTT1254	RTT1254	Not used	Not used
Δ	9	Power Transformer (AC110/120-127/220/240V)	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	RTT1255	RTT1255
Δ	10	Power cord with HB plug	PDG1055	PDG1055	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used
Δ	10	Power cord with HE plug	Not used	Not used	PDG1003	PDG1003	PDG1003	PDG1003	PDG1003	PDG1003	Not used	Not used
Δ	10	Power cord with SD plug	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	PDG1013	PDG1013
NSP	16	Main chassis	RNB1100	RNB1090	RNB1090	RNB1090	RNB1100	RNB1090	RNB1100	RNB1100	RNB1090	RNB1100
	32	FL lens	RAH2413	RAH2413	RAH2413	RAH2413	RAH2413	RAH2414	RAH2414	RAH2413	RAH2414	RAH2414
	35	Rear panel	RNA1818	RNA1847	RNA1848	RNA1848	RNA1814	RNA1822	RNA1840	RNA1814	RNA1820	RNA1838
Δ	45	Pin cap	VEC1616	VEC1616	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used
Δ	48	Voltage selector	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	PSB1002	PSB1002
Δ	49	Fuse (T5A)	PEK1003	PEK1003	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used
	67	Connection cord with mini plug	PDE-319	PDE1247	PDE1247	PDE1247	PDE-319	PDE1247	PDE-319	PDE-319	PDE-319	PDE-319
	57	Control cord	RDE1030	RDE1038	RDE1038	RDE1038	RDE1030	RDE1038	RDE1030	RDE1030	RDE1030	RDE1030
	58	Operating instructions (English)	RRB1146	RRB1146	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used
	58	Operating instructions (English, French, German, Italian, Dutch, Swedish, Spanish, Portuguese)	Not used	Not used	RRE1101	Not used	Not used	Not used	Not used	RRE1101	Not used	Not used
	58	Operating instructions (German)	Not used	Not used	Not used	RRD1150	RRD1150	Not used	Not used	Not used	Not used	Not used
	58	Operating instructions (English, Spanish, Chinese)	Not used	Not used	Not used	Not used	Not used	RRE1102	RRE1102	Not used	RRE1102	RRE1102
	61	Packing case	RHG1572	RHG1593	RHG1609	RHG1609	RHG1571	RHG1574	RHG1580	RHG1613	RHG1573	RHG1582
	65	Pad spacer A	RHC1039	RHC1039	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used
	66	Pad spacer B	RHC1041	RHC1041	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used

■ PARTS LIST FOR HBXJ TYPE

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Main unit	RWZ3208		12	Door spring L	RBH1384
	2	Dolby S unit	RWX1101		13	Half pressure spring	RBK1004
	3	OPSW unit	RWZ3211		14	LED lens	PNW2019
NSP	4	TRN 1 unit	RWZ3298		15	Damper assy	REC1005
NSP	5	TRN 2 unit	RWZ3220				
	6	FL unit	RWZ3214	NSP	16	Main chassis	RNB1100
Δ	7	Strain relief	CM - 22B		17	Cord clamper	RNH - 184
Δ	8	Fuse FU1001, FU1002 (T1.0A)	REK1022		18	Indicator lens S	RNK1911
Δ	9	Power transformer	RTT1254		19	Insulator	PNW1912
Δ	10	Power cord with HB plug	PDG1055		20	Balance knob	RAC1705
	11	Mechanism unit	RYM1226		21	VR knob	RAC1707
					22	Eject spring L	RBH1379
					23	Operation knob	RAC1795

2. MECHANISM UNIT

Mark	No.	Description	Part No.
	24	Eject knob	RAC1906
	25	Power knob	RAC1809
	26	Door lens	RAH2171
	27	Mode knob A	RAC1907
	28	Name plate	RAM1007
NSP	29	Eject collar	RLA1283
	30	Indication panel	REE - 113
NSP	31	Arm collar	RLA1290
	32	FL lens	RAH2413
	33	Door pocket	RAH2443
	34	Front panel	RAH2411
	35	Rear panel	RNA1818
	36	Bonnet	REA1077
	37	Eject spring	RBH1340
	38	Washer	WA52D120D025
NSP	39	PCB spacer	PNY - 404
	40	Eject arm L	RNE1763
	41	Eject lever L	RNK2045
	42	Connector assy 3P	RKP1672
	43	Connector assy 2P	RKP1681
	44	Azimuth cover	RAH2431
	45	Pin cap	VEC1616
NSP	46	Binder	Z09 - 058
	47	Earth lead assy	RDF1089
	48		
△	49	Fuse (T5A)	PEK1003
	50	Screw	BBZ30P080FMC
	51	Screw	IBZ30P150FCU
	52	Screw	BSZ26P120FMC
	53	Screw	ABZ30P080FMC
	54	Screw	IPZ26P080FMC
	55	Screw	BCZ26P050FMC
	56	Connection cord assy	RDE1036
	57	Control cord	RDE1030
	58	Operating instructions (English)	RRB1146
	59	Pad (L)	RHA1111
	60	Pad (R)	RHA1112
	61	Packing case	RHG1572
	62	Sheet	RHX - 034
	63	Spacer A	RHC1044
	64		
	65	Pad spacer A	RHC1039
	66	Pad spacer B	RHC1041
	67	Connection cord with mini plug	PDE - 319

Mark	No.	Description	Part No.
	1	Plunger	RLA1288
	2	PCB Control BLK	RXA1625
	3	Push Switch	RSG1018
	4	SPLF	RSN1023
	5	Photo - Transistor	SPI33534FG
	6	MTR Main BLK	RXM1075
	7	Solenoid BLK	RXP1021
	8	Spring Interlock L	RBH1385
	9	Arm Interlock L	RNE1780
	10	Chassis Base BLK	RXA1627
	11	Spring Brake	RBH1387
	12	Main Belt	REB1163
	13	F/R Belt	REB1254
	14	Lever Brake	RNK2071
	15	E Head	RPB1040
	16	Pinch Roller BLK R	RXA1630
	17	Head Spacer	RNK1631
	18	Clutch Assy BLK	RXA1631
	19	Screw	RBA1113
	20	Washer 2.1 × 0.25T	RBF1038
	21	Spring Reel (L)	RBH1388
	22	Spring Reel (R)	RBH1389
	23	Cam Spring	RBH1393
	24	Spacer	RLA1286
	25	Lever F/R	RNE1782
	26	Reel Feather	RNK2072
	27	Reel Base	RNK2073
	28	Play Gear (A)	RNK2074
	29	FF Gear (A)	RNK2075
	30	F/R Pulley	RNK2076
	31	Clutch Assy BLK	RXA1632
	32	Washer	WA17D040D025
	33	Washer	WA23F060M040
	34	Spring (Azimuth)	RBH1076
	35	F Lock Screw	RBA1031
	36	Spring HB	RBH1390
	37	Head Base	RNE1784
	38	R/P Head	RPB1056
	39	Stop Ring	YE15FUC
	40	Screw	RBA1113
	41	Washer 2.0 × 0.3	RBE1009
	42	Spring Arm Play	RBH1391
	43	Spacer	RLA1286
	44	Washer	WA26D047D050
	45	Cam Gear	RNK2078
	46	Arm Play	RNK2079
	47	Spring Cassette	RNE1786
	48	Screw	BMZ26P040FZK
	49	Washer	WA26D045D025

1.6 PCB PARTS LIST

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω $\rightarrow 56 \times 10^1 \rightarrow 561$ RD1/8PM $\boxed{5}\boxed{6}\boxed{1}\text{J}$

47k Ω $\rightarrow 47 \times 10^3 \rightarrow 473$ RD1/4PS $\boxed{4}\boxed{7}\boxed{3}\text{J}$

0.5 Ω $\rightarrow 0R5$ RN2H $\boxed{0}\boxed{R}\boxed{5}\text{K}$

1 Ω $\rightarrow 010$ RS1P $\boxed{0}\boxed{1}\boxed{0}\text{K}$

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k $\Omega \rightarrow 562 \times 10^1 \rightarrow 5621$ RN1/4PC $\boxed{5}\boxed{6}\boxed{2}\boxed{1}\text{F}$

LIST OF WHOLE PCB ASSEMBLIES

Mark	PCB Assemblies	Part No.									
		HBXJ type	HB type	HEM type	HEWM type	HEWMXJ type	HL type	HLXJ type	HEMXJ type	SD type	SDXJ type
NSP	Mother unit	RWM1697	RWM1697	RWM1693	RWM1693	RWM1693	RWM1693	RWM1693	RWM1693	RWM1695	RWM1695
	└ Main unit	RWZ3208	RWZ3208	RWZ3208	RWZ3208	RWZ3208	RWZ3208	RWZ3208	RWZ3208	RWZ3208	RWZ3208
	└└ Dolby S unit	RWX1101	RWX1101	RWX1101	RWX1101	RWX1101	RWX1101	RWX1101	RWX1101	RWX1101	RWX1101
	└ OPSW unit	RWZ3211	RWZ3211	RWZ3211	RWZ3211	RWZ3211	RWZ3211	RWZ3211	RWZ3211	RWZ3211	RWZ3211
	└ FL unit	RWZ3214	RWZ3214	RWZ3214	RWZ3214	RWZ3214	RWZ3214	RWZ3214	RWZ3214	RWZ3214	RWZ3214
NSP	└ TR 2 unit	RWZ3220	RWZ3220	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used
NSP	└ TR 1 unit	RWZ3298	RWZ3298	RWZ3217	RWZ3217	RWZ3217	RWZ3217	RWZ3217	RWZ3217	RWZ3218	RWZ3218

TRN 1 UNIT

RWZ3298, RWZ3217 and RWZ3218 have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		RWZ3298	RWZ3217	RWZ3218	
Δ	C1025	CKSQYF223Z50	CKSQYF223Z50	Not used	
Δ	C1033	Not used	Not used	VCG - 044	
Δ	C1031	Not used	VCG - 044	Not used	
Δ	Capacitor cover	Not used	REC - 150	REC - 150	
	Terminal	Not used	Not used	PKC - 027	

■ PARTS LIST FOR HBXJ AND HB TYPES

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
DOLBY S UNIT					C1037, C1038		CFTYA334J50
SEMICONDUCTORS					C1013, C1014, C1055, C1056		CKSQYB102K50
	IC1001, IC1002		CXA1417Q		C1007, C1008, C1025, C1026		CKSQYB104K25
CAPACITORS					C1043, C1044, C1067, C1068		CKSQYB104K25
	C1003, C1004, C1015, C1016		CEJA010M50		C1077, C1078, C1081, C1082		CKSQYB104K25
	C1051, C1052		CEJA010M50		C1087, C1088		CKSQYB104K25
	C1089, C1090		CEJA100M25		C1023, C1024, C1049, C1050		CKSQYB153K50
	C1085, C1086		CEJA220M25		C1065, C1066, C1069-C1072		CKSQYB182K50
	C1033, C1034		CEJAR10M50		C1083, C1084		CKSQYB182K50
	C1001, C1002, C1031, C1032		CEJAR22M50		C1079, C1080		CKSQYB183K50
	C1045, C1046, C1091, C1092		CEJAR22M50		C1059, C1060		CKSQYB222K50
	C1027, C1028, C1041, C1042		CEJAR47M50		C1009, C1010, C1073, C1074		CKSQYB223K50
	C1075, C1076		CEJAR47M50		C1093, C1094		CKSQYB333K50
	C1019, C1020		CFTYA224J50		C1005, C1006, C1061, C1062		CKSQYB393K50
					C1063, C1064		CKSQYB471K50

Mark	No.	Description	Part No.
	C1047, C1048		CKSQYB473K50
	C1011, C1012		CKSQYB681K50
	C1017, C1018, C1053, C1054		CKSQYB822K50
	C1021, C1022, C1039, C1040		CKSQYB823K25
	C1029, C1030, C1035, C1036 (47/16)		RCH1095

RESISTORS

All Resistors

RS1/10S□□□J

OTHERS

CN1002 2MM PIN HEADER 7P

6033B-07Z029

CN1001 2MM PIN HEADER 8P

6033B-08Z029

MAIN UNIT**SEMICONDUCTORS**

	IC505	AT24C01-10PC
	IC351	CXA1198AP
	IC251	CXA1563S
	IC1601, IC554, IC701	M5218AFP
	IC101	NJM4580ED
△	IC1003	NJM7806FA
△	IC1004	NJM78L05A
△	IC1005	NJM7906FA
	IC502	NJU3718L
	IC201	PA0059AM
	IC501	PD4508A
	IC1701	TC4050BP
	IC601	UPC1297CA
	IC223	XRA10393F
	Q510	2SA1037K
△	Q211, Q421, Q602, Q852	2SA1309A
	Q1001, Q431, Q856	2SB1238X
	Q854	2SB1425
	Q1006, Q1007, Q253, Q254	2SC3311A
	Q351, Q352, Q858	2SC3311A
	Q401, Q402	2SD1302
	Q1603, Q1604, Q353, Q354, Q403	2SD2144S
	Q701, Q702	2SD2144S
	Q553	2SK246
	Q161, Q162	2SK373
	Q1005, Q332, Q501, Q502, Q762	DTA114TS
	Q1010, Q841-Q843	DTA124EK
	Q165	DTA124ES
	Q105, Q106, Q163, Q164, Q210	DTC114TS
	Q901, Q902	DTC114TS
	Q1165, Q507, Q551, Q552	DTC124EK
	Q167, Q168, Q212, Q213	DTC124ES
	Q255-Q260, Q355-Q358, Q422	DTC124ES
	Q432, Q511, Q512, Q603, Q853	DTC124ES
	Q855, Q857	DTC124ES
	Q1151, Q1153, Q1155, Q1157, Q1159	FMG1
	Q1161	FMG1
△	D1001, D1009, D1010, D1013-D1016	1SR35-100AVL
△	D812	1SR35-100AVL
	D431	1SS252
	D1011, D1017, D1018, D1161, D1162	1SS254
	D1602-D1604, D161, D162	1SS254

Mark	No.	Description	Part No.
	D1620-D1622, D163-D167, D201		1SS254
	D210-D212, D251-D253		1SS254
	D421-D423, D432, D433		1SS254
	D502, D503, D510, D521-D527		1SS254
	D742, D841-D843, D913, D921		1SS254
△	D1002		MTZJ27B
	D765		MTZJ3. 9B
△	D1004		MTZJ7. 5B
	D501		MTZJ9. 1A

COILS AND FILTERS

L402	LFA121J
L401 (105K)	RTD1039
L601, L602 (105K)	RTD1046
L351, L352	RTF1102
F251, F252	RTF1208

CAPACITORS

C609, C610	CCCSL101K500
C161, C162	CCSQCH100D50
C105, C106, C613, C723, C724	CCSQCH101J50
C359, C360	CCSQCH221J50
C213, C321, C322, C358, C555	CEAS010M50
C1016, C111, C112, C201, C202	CEAS100M50
C408, C617, C707, C708	CEAS100M50
C103, C104, C210, C214-C216	CEAS101M10
C261, C262, C721, C722	CEAS101M10
C1001, C1004	CEAS101M50
C1010	CEAS102M10
C1018	CEAS220M16
C1009, C1012	CEAS331M10
C131, C132, C1603, C1604, C209	CEAS470M16
C259, C260, C361, C362	CEAS470M16
C402, C403, C409, C513, C520	CEAS470M16
C205, C206, C211, C219	CEAS470M50
C355, C356, C917, C918	CEAS470M50
C614	CEASR10M50
C203, C204, C287, C288	CFTYA103J50
C255, C256	CFTYA104J50
C404	CFTYA223J50
C257, C258	CFTYA683J50
C1606, C509, C510, C514, C521	CKCYF103Z50
C910	CKCYF103Z50
C1008, C1020-C1022, C1607, C1701	CKCYF473Z50
C2020, C357, C706	CKCYF473Z50
C554, C601, C602	CKSQYB103K50
C503	CKSQYB104K25
C504	CKSQYB123K50
C217, C218	CKSQYB222K50
C505, C552, C605, C606	CKSQYB223K50
C553	CKSQYB472K50
C607, C608	CKSQYB473K50
C851	CKSQYB681K50
C603, C604	CKSQYB821K50
C551	CKSQYB823K25
C769	CKSQYF473Z50
C405, C406	CQMA332J50
C407	CQMA472J50

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	C101, C102		CQMA681J50		VR321, VR322, VR551-VR553 (22K)		RCP1046
	C109, C110		CQMA682J50		VR601, VR602 (22K Ω)		RCP1046
	C401		CQPA822J100		VR2003		RCS1028
	C860 (2200/16)		PCH1114		VR2002		RCV1095
	C611, C612 (430P/500)		RCG1005		Other Resistors		RS1/10S□□□J
	C1011 (1000/25)		RCH1113				
	C1005, C1006 (2200/25)		RCH1114				
RESISTORS				OTHERS			
	R502, R503		RA4T223J		CN903 8P JUMPER CONNECTOR		52147-0810
	R501		RA4T274J		CN902 10P JUMPER CONNECTOR		52147-1010
	R517		RA7T274J		CN1401 11P JUMPER CONNECTOR		52147-1110
	R321, R322 (560 Ω)		RCN1024		CN901 12P JUMPER CONNECTOR		52147-1210
	R1702 (11K/22K)		RCX1020		CN401 KR CONNECTOR		B2B-PH-K-E
					CN100 KR CONNECTOR		B3B-PH-K-E
	R413		RD1/2LMF010J		JA1602 MINI JACK		PKN1005
	R1001		RD1/2LMF152J		JA701 4P JACK		RKB-020
	R421		RD1/2LMF181J		JA2003 HEADPHONE JACK		RKN1002
	R411		RD1/2LMF391J		JA902, JA903 REMOTE CONTROL JACK		RKN1004
	R1164, R707, R708, R867		RD1/6PM104J		PCB BINDER		VEF1008
					PCB BINDER		VEF1040
	R2015, R2016, R265, R266		RD1/6PM112J		EARTH PLATE		VNF-091
	R733, R734, R860		RD1/6PM112J		X501 CERAMIC RESONATOR (4.19MHz)		VSS1014
	R1163, R352, R353		RD1/6PM114J				
	R1613, R1614, R715, R716		RD1/6PM152J				
	R1003, R1004, R401, R402, R408		RD1/6PM153J				
	R351		RD1/6PM154J				
	R375, R711, R712		RD1/6PM184J				
	R355		RD1/6PM203J				
	R111, R112, R201, R350, R354		RD1/6PM223J				
	R709, R710, R925, R926		RD1/6PM223J				
	R363		RD1/6PM224J				
	R775, R776		RD1/6PM241J				
	R327, R328		RD1/6PM272J				
	R367		RD1/6PM273J				
	R261, R262		RD1/6PM302J				
	R340, R341		RD1/6PM331J				
	R325, R326, R524, R525		RD1/6PM332J				
	R741, R742, R851		RD1/6PM332J				
	R113, R114, R366, R379		RD1/6PM333J				
	R378		RD1/6PM433J				
	R1605, R1606		RD1/6PM470J				
	R119, R120, R703, R704		RD1/6PM471J				
	R207, R208, R323, R324		RD1/6PM472J				
	R117, R424, R434, R521-R523		RD1/6PM473J				
	R701, R702		RD1/6PM473J				
	R101, R102, R109, R110		RD1/6PM474J				
	R403		RD1/6PM4R7J				
	R203, R204		RD1/6PM512J				
	R356		RD1/6PM513J				
	R2019, R2020, R855, R865		RD1/6PM561J				
	R387, R388		RD1/6PM622J				
	R377, R864		RD1/6PM683J				
	R267, R268, R393, R394		RD1/6PM822J				
	R364, R368, R376, R380		RD1/6PM823J				
	R365		RD1/6PM913J				
	R1020		RFA1/4L4R7J				
	VR101, VR102 (4.7K)		RCP1020				
	VR852 (1.0K Ω)		RCP1044				

Service Manual

ORDER NO.
RRZ1123

The chapter 1 of this Service Manual will not be reprinted. On your additional orders, we may supply only the chapter 2. For the chapter 1, please make copies and attach to the chapter 2 at your side if necessary.

STEREO CASSETTE DECK

CT-S430S

CHAPTER 2

CONTENTS

CHAPTER2

2.1 BLOCK DIAGRAM	2-2
2.2 EXPLODED VIEWS AND PACKING	2-3
2.3 SCHEMATIC DIAGRAMS.....	2-7
2.4 PCB CONNECTION DIAGRAM.....	2-13

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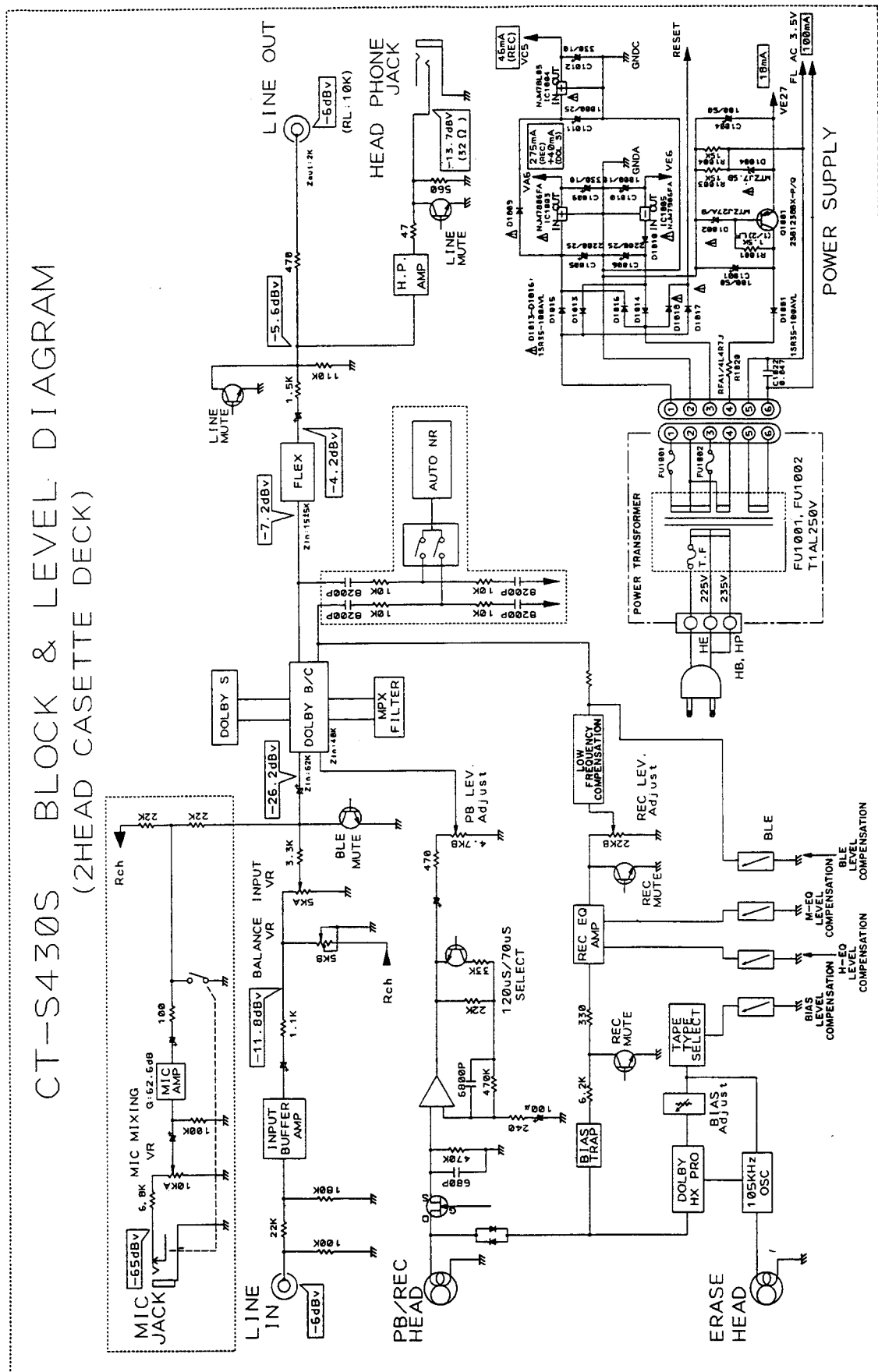
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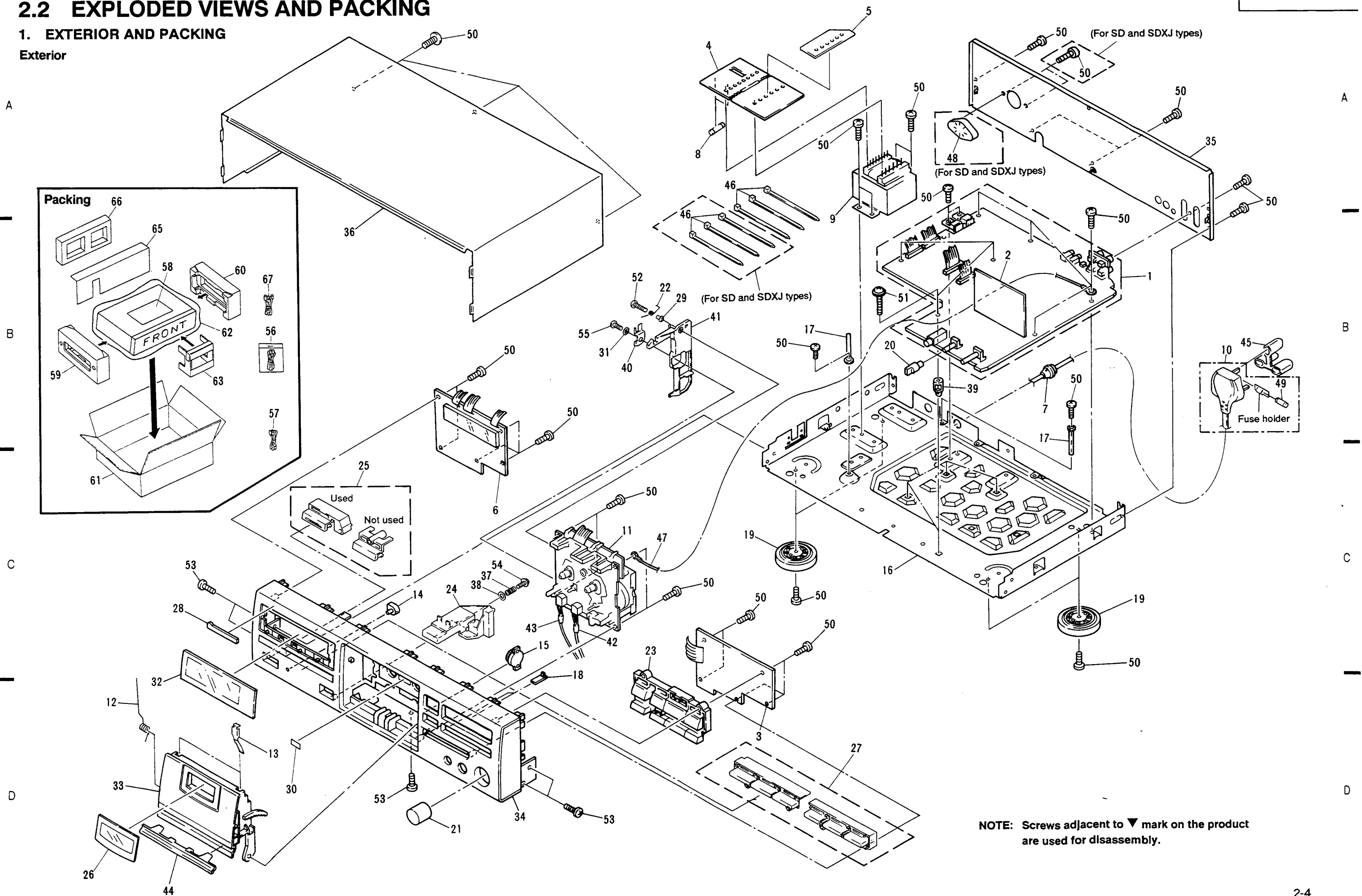
2.1 BLOCK DIAGRAM



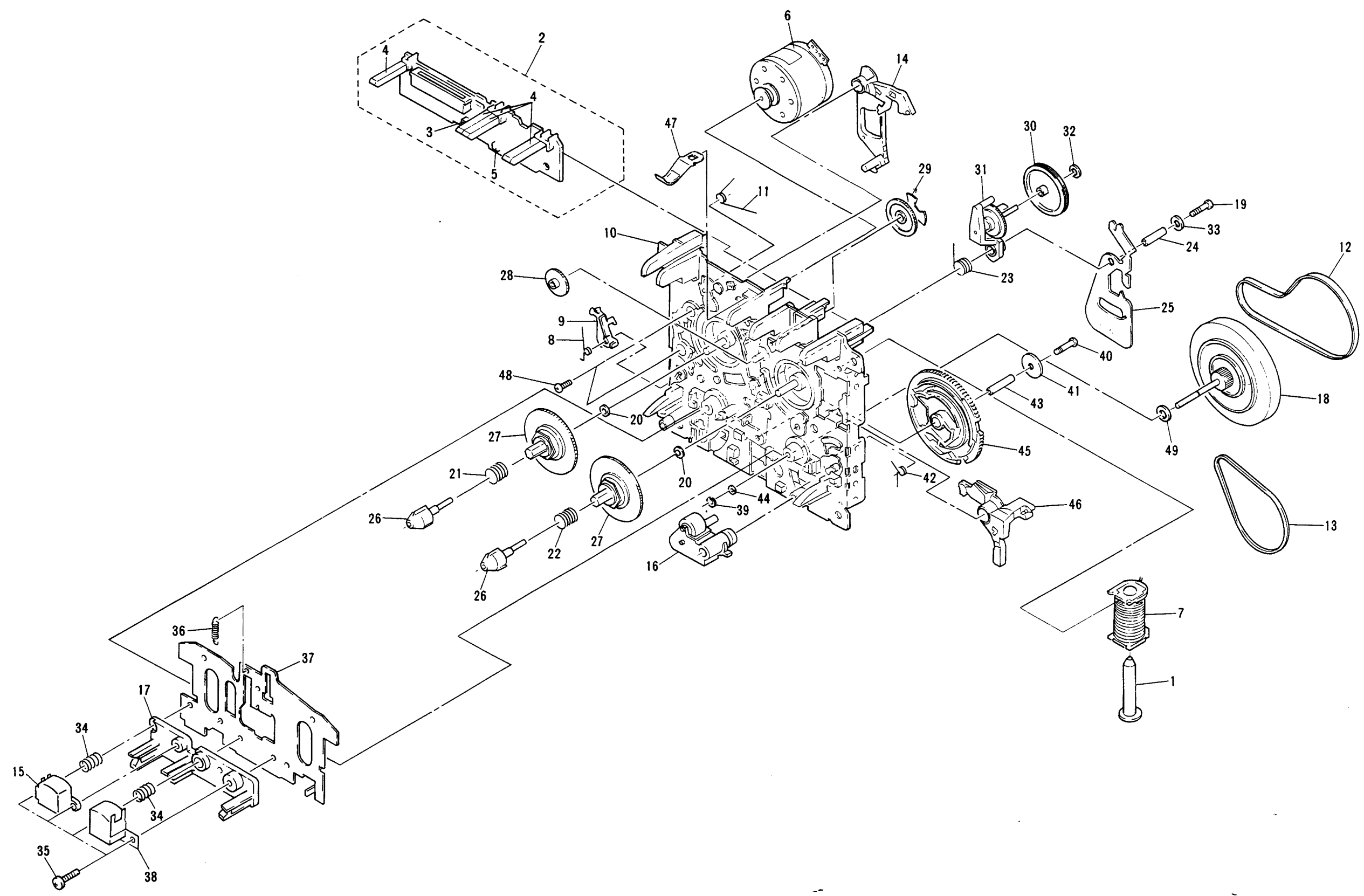
2.2 EXPLODED VIEWS AND PACKING

1. EXTERIOR AND PACKING

Exterior



2. MECHANISM UNIT



A

B

C

D

2.3 SCHEMATIC DIAGRAMS

NOTE FOR SCHEMATIC DIAGRAMS (Type 6A)

1. When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".

2. Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.

3. RESISTORS:
Unit: k: kΩ, M: MΩ, or Ω unless otherwise noted.
Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.

4. CAPACITORS:
Unit: p: pF or μF unless otherwise noted.
Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
Rated voltage: 50V except for electrolytic capacitors.

5. COILS:
Unit: m: mH or μH unless otherwise noted.

6. VOLTAGE AND CURRENT:
□ or - V :
DC voltage (V) in STOP mode unless otherwise noted.
⇐ mA or - mA :
DC current in STOP mode unless otherwise noted.

7. OTHERS:
• ○ or ● : Adjusting point.
• ◁ : Measurement point.
• The Δ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.

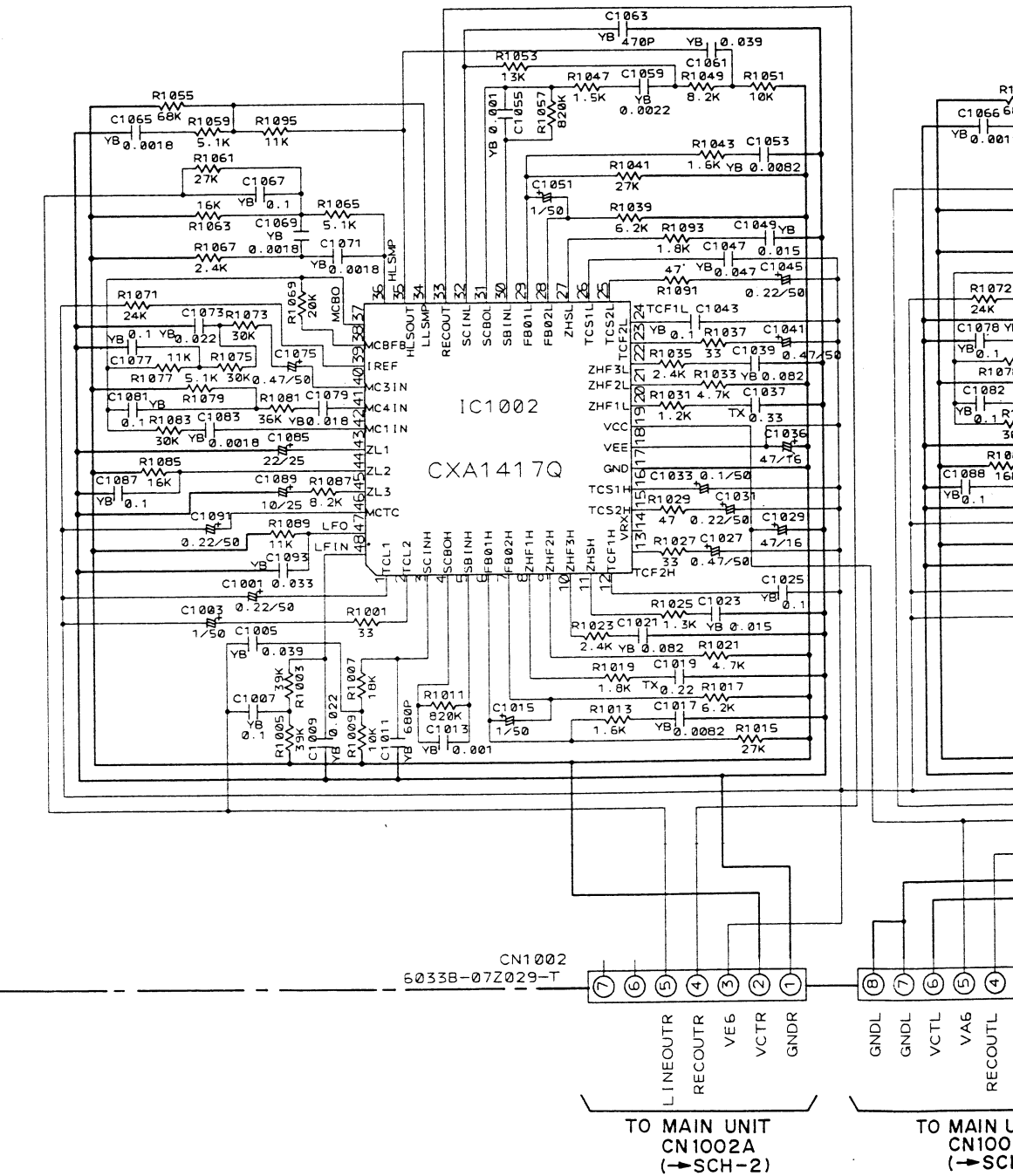
8. SCH-□ ON THE SCHEMATIC DIAGRAM:
• SCH-□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)

9. SWITCHES (Underline indicates switch position):
OPSW UNIT
S1401 : ◀REW
S1402 : REC
S1403 : AUTO BLE
S1404 : ■STOP
S1406 : FLEX (l/f)
S1407 : ▶▶FF
S1408 : ▶▶PLAY
S1409 : CD SYNCHRO
S1410 : ■PAUSE
S1411 : REC MUTE
S1412 : DOLBY NR

FL UNIT
S1505 : POWER SW
S1506 : COUNTER RESET
S1507 : COUNTER MODE/DISP OFF
S1508 : METER RANGE

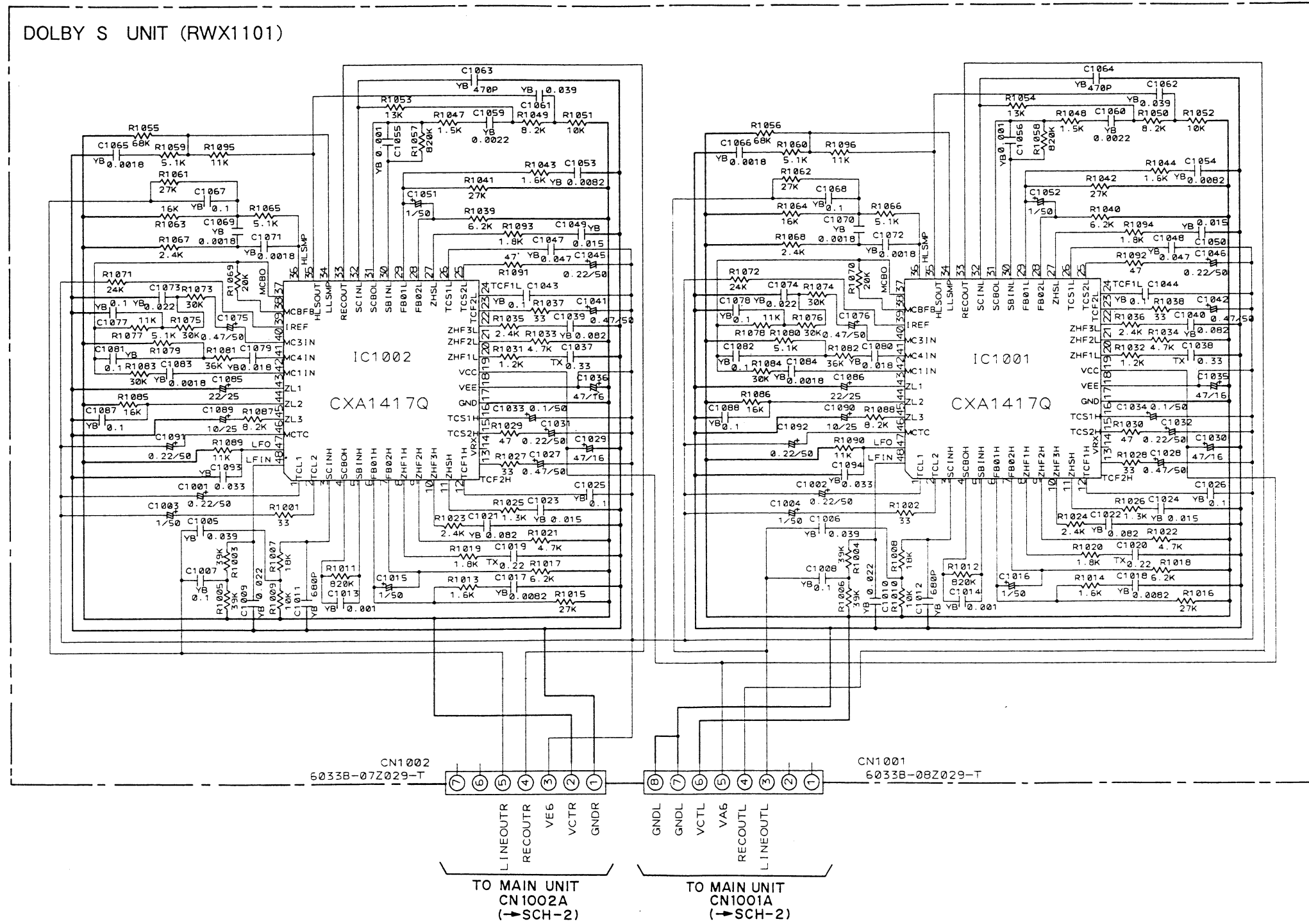
1. DOLBY S UNIT

DOLBY S UNIT (RWX1101)



1. DOLBY S UNIT

SCH-1



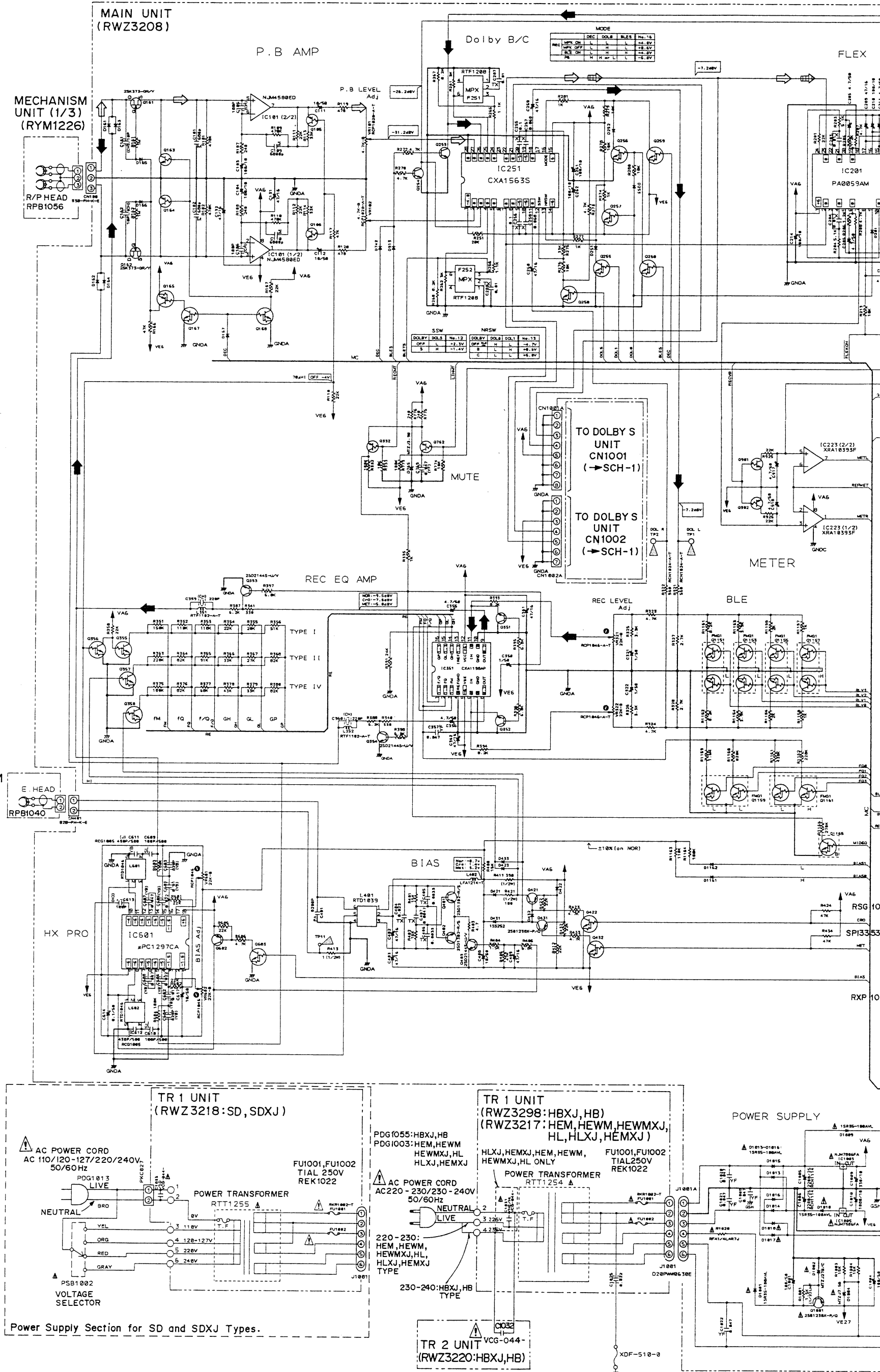
SCH-1

DOLBY S UNIT

DOLBY S UNIT

SCH-1

2. MAIN, OPSW, FL, TR 1 AND TR 2 UNIT



SCH-2

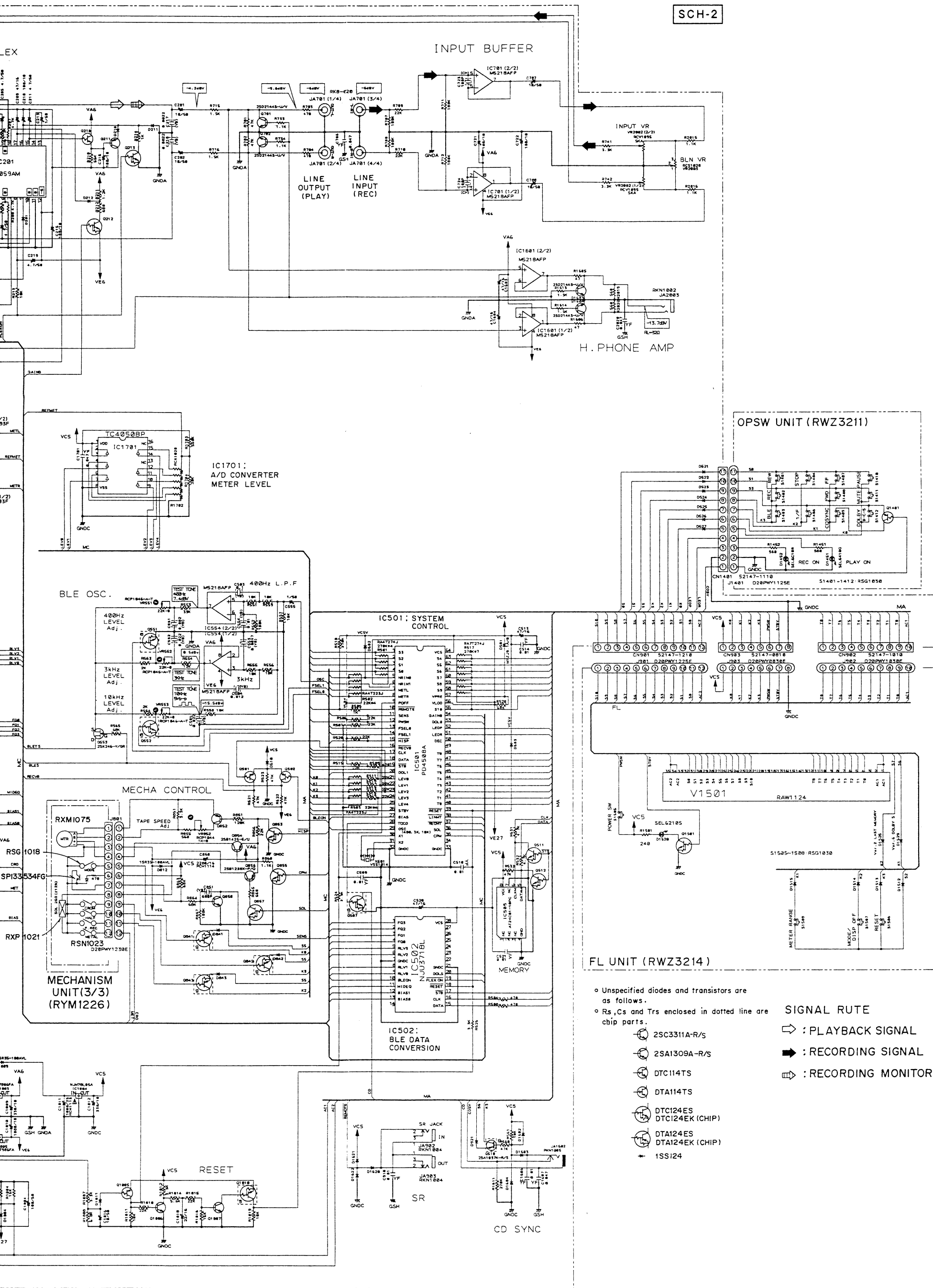
MAIN UNIT, OPSW UNIT,
FL UNIT, TR 1 UNIT,
TR 2 UNIT

Line Voltage Selection

Line voltage can be changed by the following modification:
1. Disconnect the AC power cord.
2. Remove the cover.
3. Change the connection of TRANSFORMER 1 UNIT primary pins.

4. Stick a line voltage label on the rear panel.

Part No.	Description
AAX - 193	220V label
AAX - 192	240V label

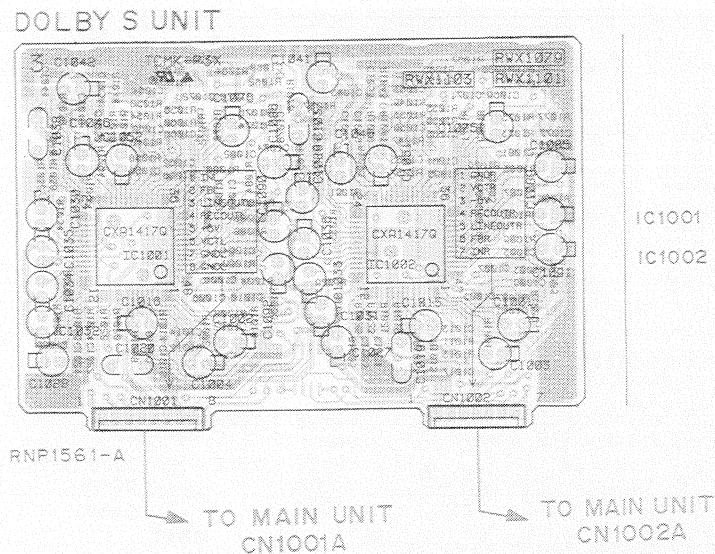
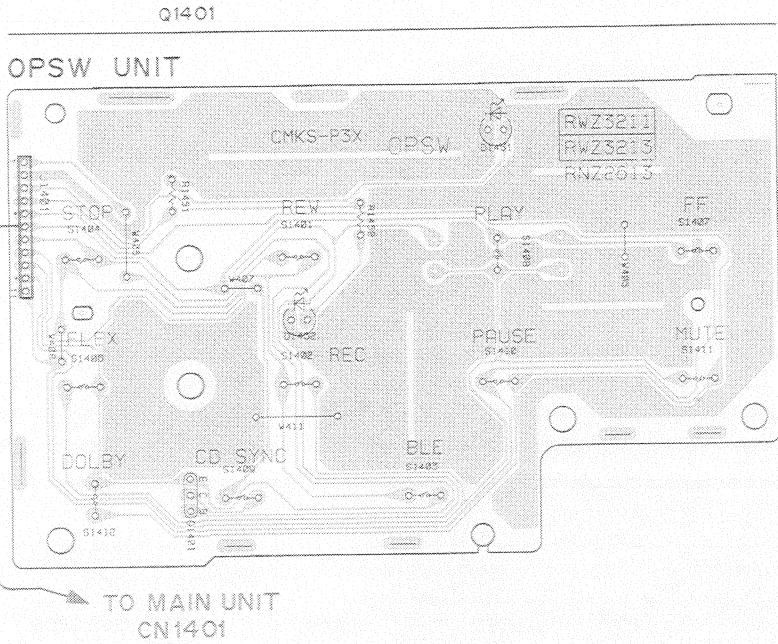


MAIN UNIT, OPSW UNIT,
FL UNIT, TR 1 UNIT,
TR 2 UNIT

SCH-2

2.4 PCB CONNECTION DIAGRAM

• This diagram is viewed from the mounted parts side.



• This diagram is viewed from the pink colored foil side.
• This PCB is double sided.

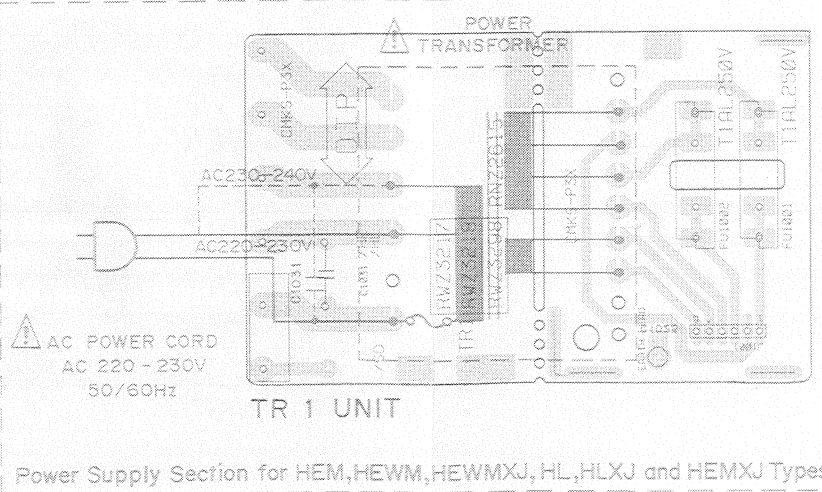
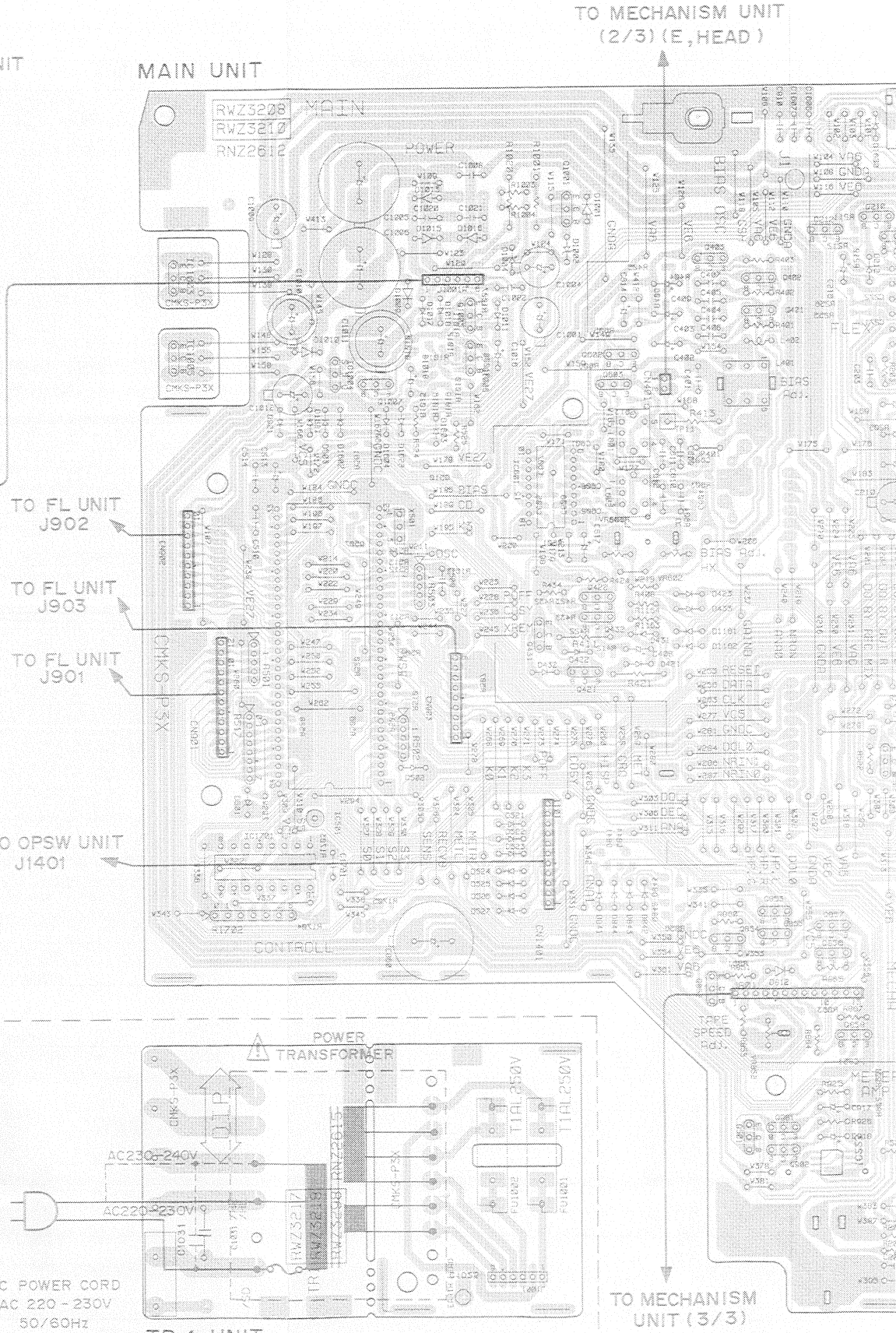
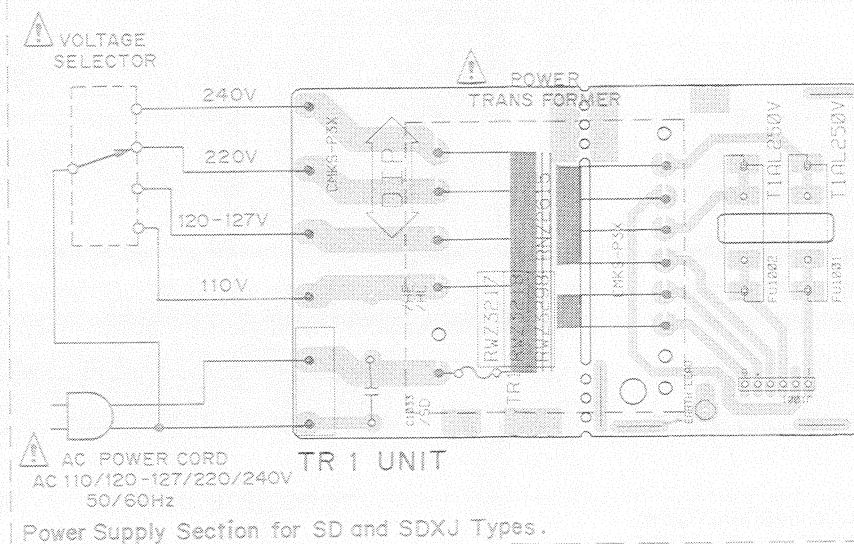
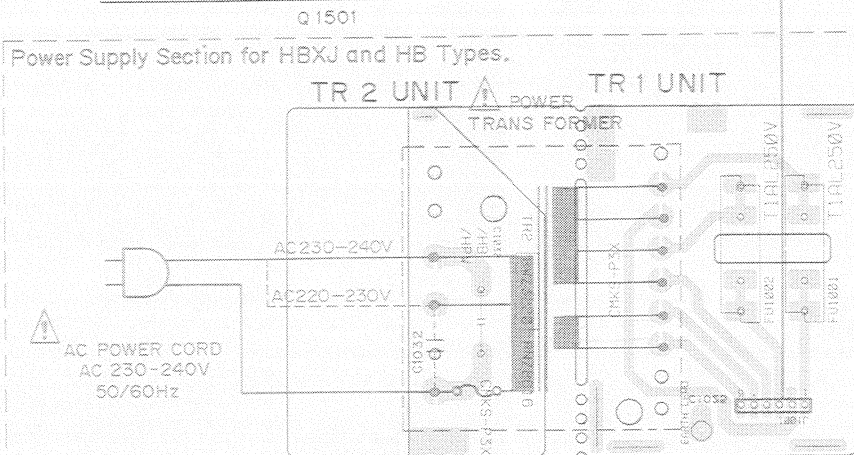
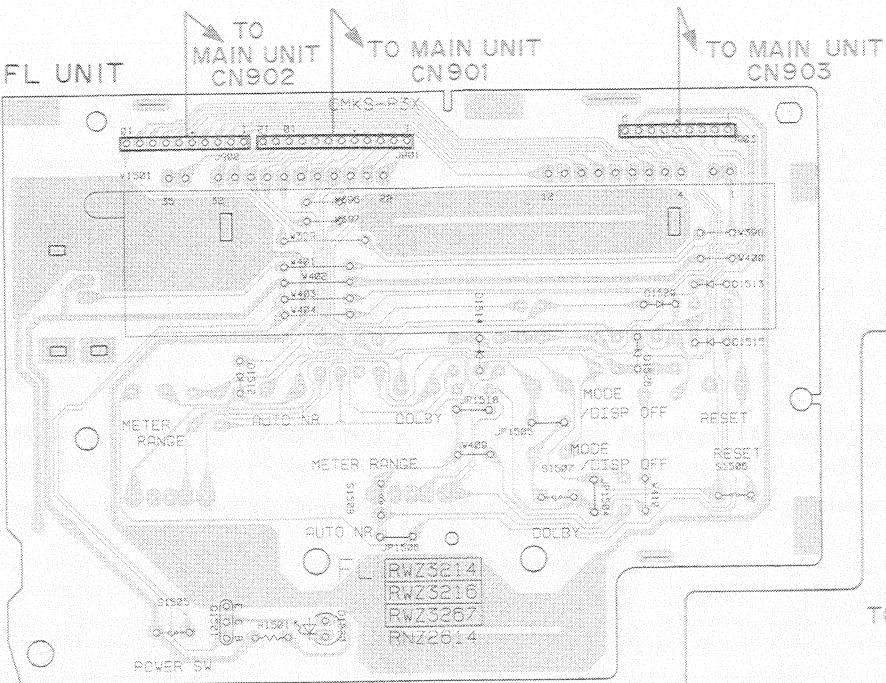
NOTE FOR PCB DIAGRAMS
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

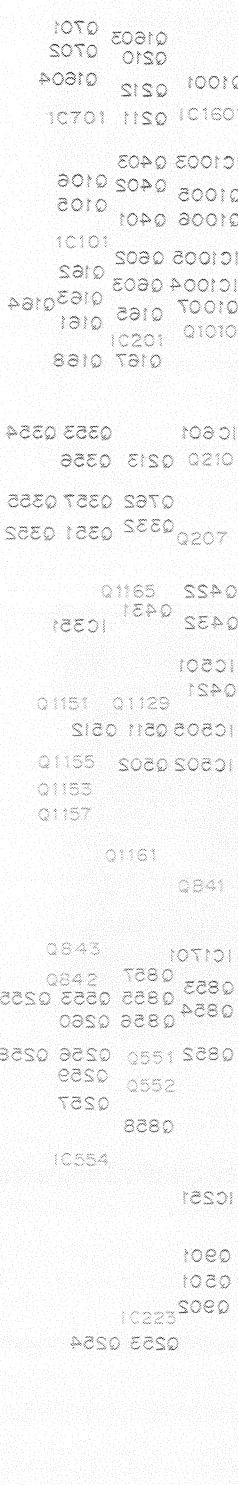
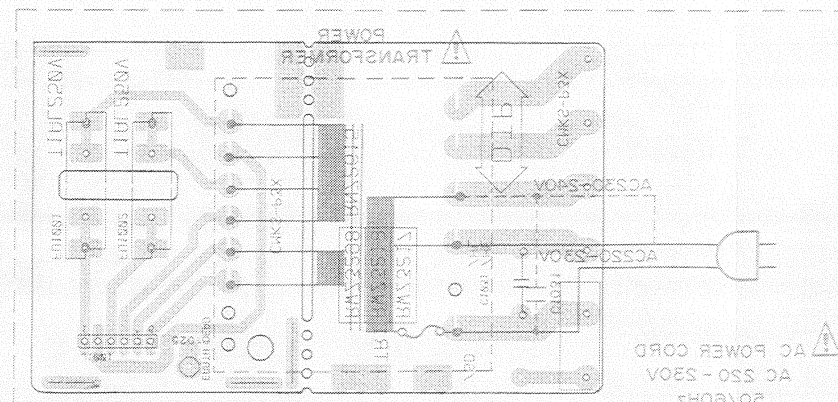
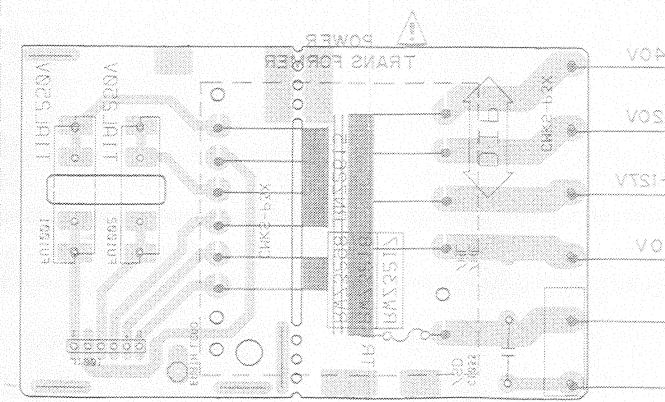
Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Diode
		Capacitor (Polarized)

3. The transistor terminal marked with E or C shows the emitter.
4. The diode terminal marked with C or P shows cathode side.
5. The capacitor terminal marked with @ or - shows negative terminal.

NOTE FOR PCB DIAGRAMS
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator





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