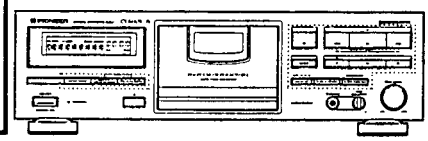
PIONEER®
The Art of Entertainment

Service Manual



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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.

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4200

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

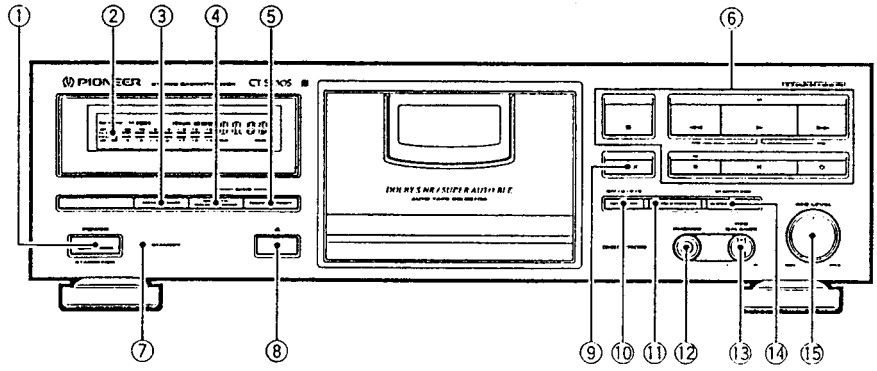
- Dolby B-type, C-type and S-type NR systems (CT-S430S)
- Dolby B-type and C-type NR Systems (CT-S330)
- DOLBY HX PRO system
- Auto tape selector (TYPE I, II, IV)
- Headphones jack
- 4-digit electronic tape/time counter
- Music search up to ±15 selections
- Automatic space recording mute
- SUPER AUTO BLE tuning system
- FL level meter 7 + 1 segments (with peak hold)
- SRT 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
SRT 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



• The above illustration shows CT-S430S.

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.*

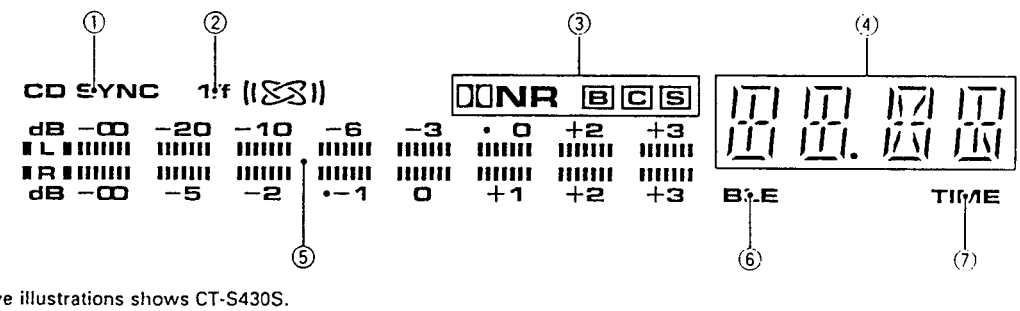
⑪ **CD · DECK SYNCHRO recording button (CD SYNCHRO)**

⑫ **Headphones jack (PHONES)**

⑬ **Recording balance control (REC BALANCE)**

⑭ **SUPER AUTO BLE button**

⑮ **Recording level control (REC LEVEL)**



• The above illustrations shows CT-S430S.

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**

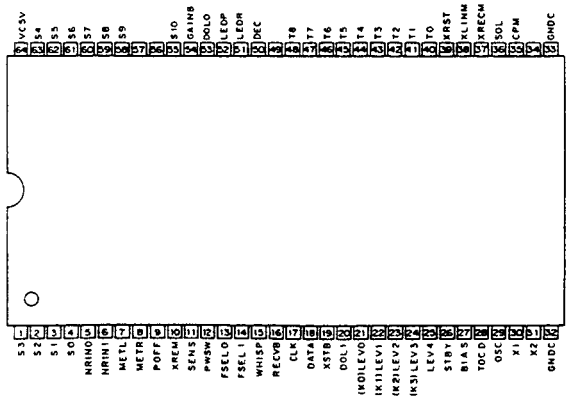
⑦ **TIME counter indicator**
Lights up in the time counter mode.

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)



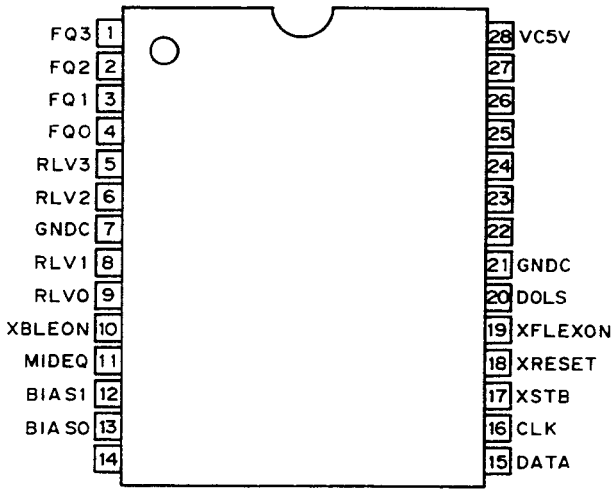
● Pin Function

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 ± 5Hz

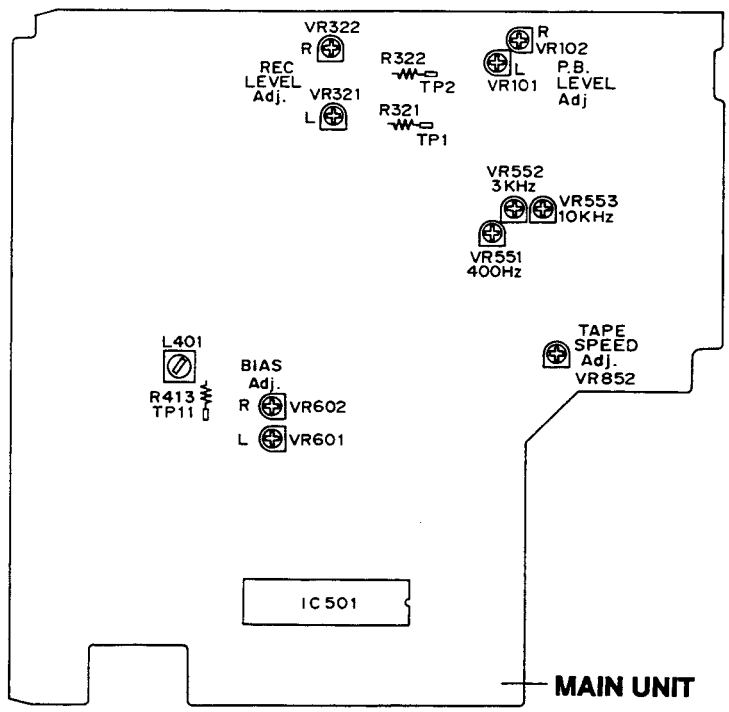


Fig. 1 Adjusting points

● **Before performing the head azimuth adjustment**

Remove the azimuth cover before performing this adjustment.

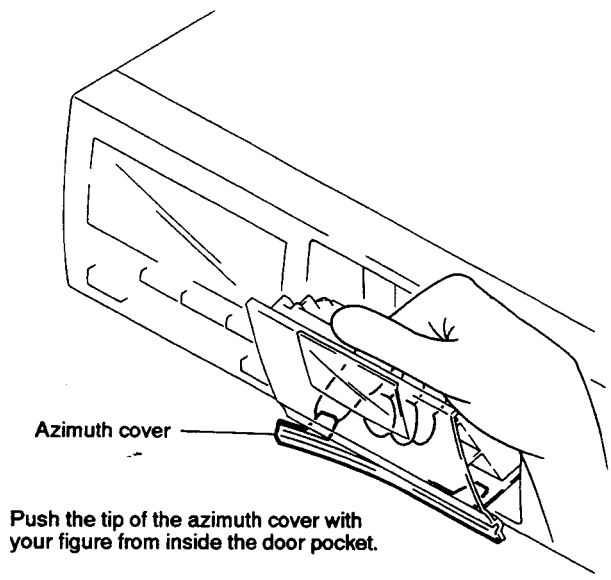


Fig. 2 Removal of azimuth cover

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 kΩ 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	: CrO_2 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.

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.

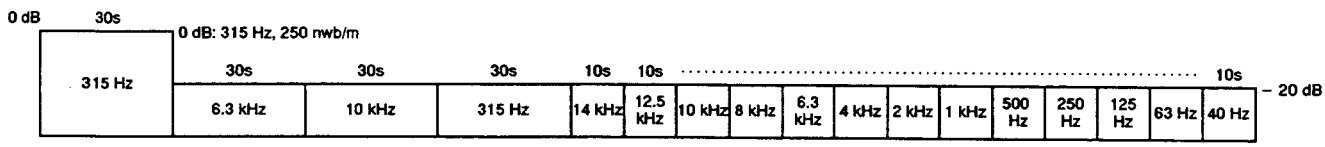


Fig. 3 Constants of the test tape STD–331E

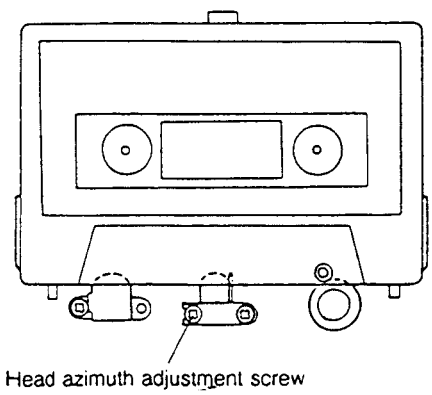


Fig. 4 Head azimuth adjustment

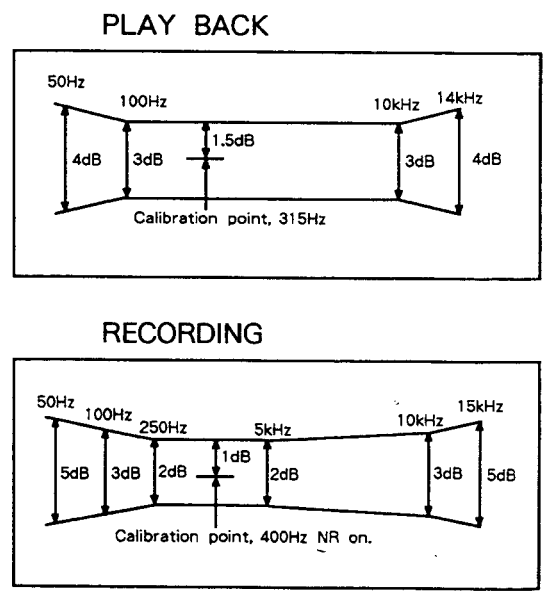


Fig. 5 Frequency response zone

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 ± 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 ± 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 ± 1.5 dB	
4.	REC/ PLAY	Record the above signal onto the STD–610 test tape, and playback.	Check			–11.2 dBV ± 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 dBV ± 2 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 ⚠ 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
⚠	9	Power Transformer (AC220-230/230-240V)	RTT1254	RTT1254	RTT1254	RTT1254	RTT1254	RTT1254	RTT1254	RTT1254	Not used	Not used
⚠	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
⚠	10	Power cord with HB plug	PDG1055	PDG1055	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used
⚠	10	Power cord with HE plug	Not used	Not used	PDG1003	PDG1003	PDG1003	PDG1003	PDG1003	PDG1003	Not used	Not used
⚠	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
	45	Pin cap	VEC1616	VEC1616	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used
⚠	48	Voltage selector	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used	PSB1002	PSB1002
⚠	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.
	1	Main unit	RWZ3208
	2	Dolby S unit	RWX1101
	3	OPSW unit	RWZ3211
NSP	4	TRN 1 unit	RWZ3298
NSP	5	TRN 2 unit	RWZ3220
	6	FL unit	RWZ3214
⚠	7	Strain relief	CM - 22B
⚠	8	Fuse FU1001, FU1002 (T1.0A)	REK1022
⚠	9	Power transformer	RTT1254
⚠	10	Power cord with HB plug	PDG1055
	11	Mechanism unit	RYM1226
	12	Door spring L	RBH1384
	13	Half pressure spring	RBK1004
	14	LED lens	PNW2019
	15	Damper assy	REC1005
NSP	16	Main chassis	RNB1100
	17	Cord clamper	RNH - 184
	18	Indicator lens S	RNK1911
	19	Insulator	PNW1912
	20	Balance knob	RAC1705
	21	VR knob	RAC1707
	22	Eject spring L	RBH1379
	23	Operation knob	RAC1795

Mark	No.	Description	Part No.
	24	Eject knob	RAC1906
	25	Power konb	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
	46	Binder	Z09 – 058
NSP	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

2. MECHANISM UNIT

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 ⚠ 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 → 56 × 10^1 → 561 ····· RD1/8PM 5 6 1 J
47k Ω → 47 × 10^3 → 473 ····· RD1/4PS 4 7 3 J
0.5 Ω → 0R5 ····· RN2H 0 R 5 K
1 Ω → 010 ····· RS1P 0 1 0 K

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

5.62k Ω → 562 × 10^1 → 5621 ····· RN1/4PC 5 6 2 1 F

LIST OF WHOLE PCB ASSSEMBLIES

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	
	C1025	CKSQYF223Z50	CKSQYF223Z50	Not used	
⚠	C1033	Not used	Not used	VCG – 044	
⚠	C1031	Not used	VCG – 044	Not used	
⚠	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.
DOLBY S UNIT			
SEMICONDUCTORS			
	IC1001, IC1002		CXA1417Q
CAPACITORS			
	C1003, C1004, C1015, C1016		CEJA010M50
	C1051, C1052		CEJA010M50
	C1089, C1090		CEJA100M25
	C1085, C1086		CEJA220M25
	C1033, C1034		CEJAR10M50
	C1001, C1002, C1031, C1032		CEJAR22M50
	C1045, C1046, C1091, C1092		CEJAR22M50
	C1027, C1028, C1041, C1042		CEJAR47M50
	C1075, C1076		CEJAR47M50
	C1019, C1020		CFTYA224J50
	C1037, C1038		CFTYA334J50
	C1013, C1014, C1055, C1056		CKSQYB102K50
	C1007, C1008, C1025, C1026		CKSQYB104K25
	C1043, C1044, C1067, C1068		CKSQYB104K25
	C1077, C1078, C1081, C1082		CKSQYB104K25
	C1087, C1088		CKSQYB104K25
	C1023, C1024, C1049, C1050		CKSQYB153K50
	C1065, C1066, C1069–C1072		CKSQYB182K50
	C1083, C1084		CKSQYB182K50
	C1079, C1080		CKSQYB183K50
	C1059, C1060		CKSQYB222K50
	C1009, C1010, C1073, C1074		CKSQYB223K50
	C1093, C1094		CKSQYB333K50
	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

Mark	No.	Description	Part No.
	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
	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		CEAS4R7M50
	C355, C356, C917, C918		CEAS4R7M50
	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.
	C101, C102		CQMA681J50
	C109, C110		CQMA682J50
	C401		CQPA822J100
	C860 (2200/16)		PCH1114
	C611, C612 (430P/500)		RCG1005
	C1011 (1000/25)		RCH1113
	C1005, C1006 (2200/25)		RCH1114
RESISTORS			
	R502, R503		RA4T223J
	R501		RA4T274J
	R517		RA7T274J
	R321, R322 (560Ω)		RCN1024
	R1702 (11K/22K)		RCX1020
	R413		RD1/2LMF010J
	R1001		RD1/2LMF152J
	R421		RD1/2LMF181J
	R411		RD1/2LMF391J
	R1164, R707, R708, R867		RD1/6PM104J
	R2015, R2016, R265, R266		RD1/6PM112J
	R733, R734, R860		RD1/6PM112J
	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 (1.0KΩ)		RCP1044
	VR321, VR322, VR551-VR553 (22K)		RCP1046
	VR601, VR602 (22KΩ)		RCP1046
	VR2003		RCS1028
	VR2002		RCV1095
	Other Resistors		RS1/10S□□□J
OTHERS			
	CN903 8P JUMPER CONNECTOR		52147-0810
	CN902 10P JUMPER CONNECTOR		52147-1010
	CN1401 11P JUMPER CONNECTOR		52147-1110
	CN901 12P JUMPER CONNECTOR		52147-1210
	CN401 KR CONNECTOR		B2B-PH-K-E
	CN100 KR CONNECTOR		B3B-PH-K-E
	JA1602 MINI JACK		PKN1005
	JA701 4P JACK		RKB-020
	JA2003 HEADPHONE JACK		RKN1002
	JA902, JA903 REMOTE CONTROL JACK		RKN1004
	PCB BINDER		VEF1008
	PCB BINDER		VEF1040
	EARTH PLATE		VNF-091
	X501 CERAMIC RESONATOR (4.19MHz)		VSS1014

OPSW UNIT

SEMICONDUCTORS

	Q1401	DTA114TS
	D1451	SEL6410G
	D1452	SEL6C10R

SWITCHES AND RELAYS

	S1401-S1404, S1406-S1412	RSG1030

RESISTORS

	All Resistors	RD1/6PM□□□J

FL UNIT

SEMICONDUCTORS

	Q1501	DTC124ES
	D1512-D1515, D1526, D1529	1SS254
	D1520	SEL6210S

SWITCHES AND RELAYS

	S1505-S1508	RSG1030

RESISTORS

	All Resistors	RD1/6PM□□□J

OTHERS

	V1501 FL INDICATOR TUBE	RAW1124

TR 2 UNIT

CAPACITORS

⚠	C1032 (0.01/400)	VCG-044

TR 1 UNIT

CAPACITORS

	C1025	CKSQYF223Z50

PIONEER®
The Art of Entertainment

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

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
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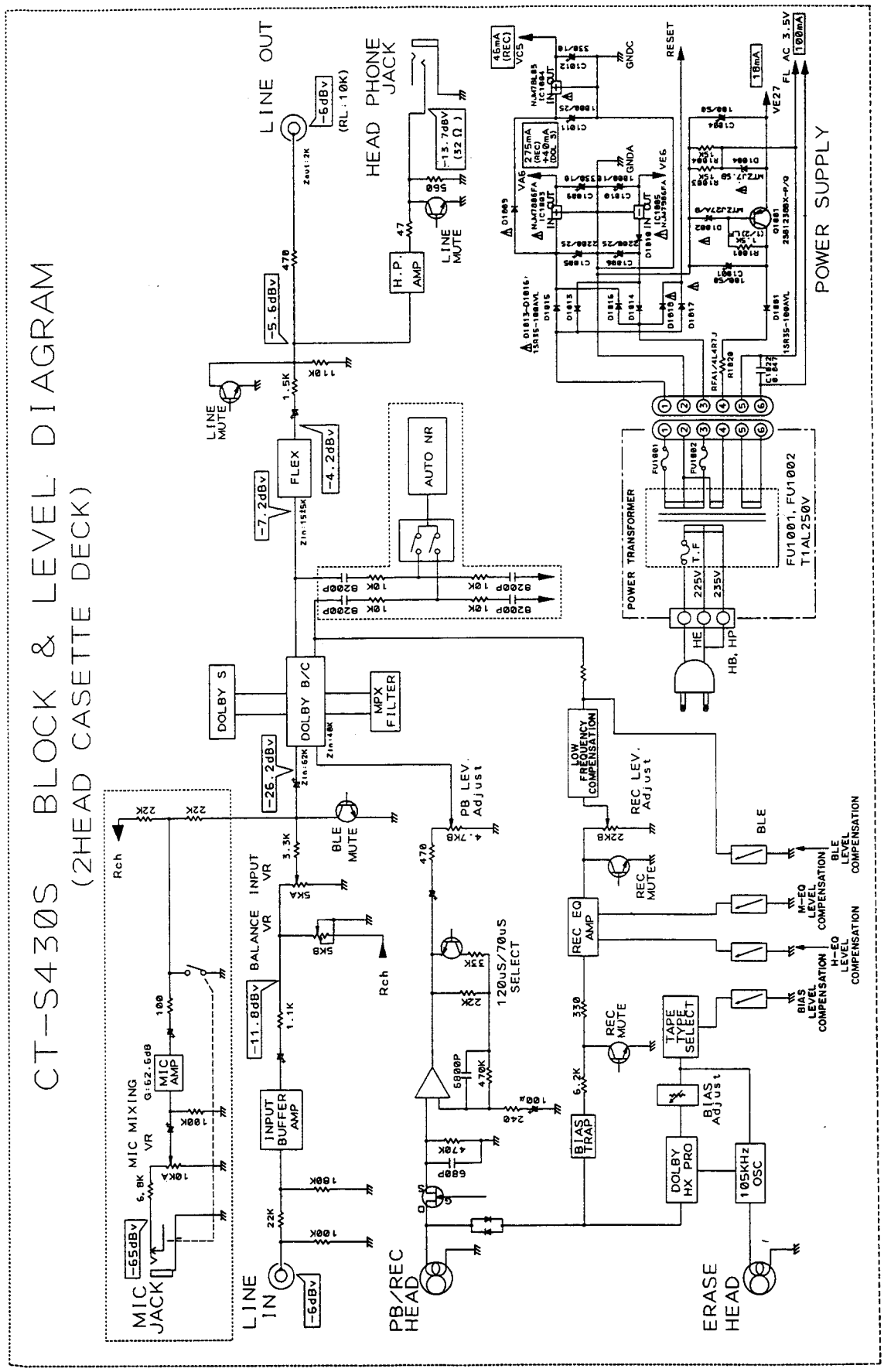
PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911

T – SSK APR. 1994 Printed in Japan

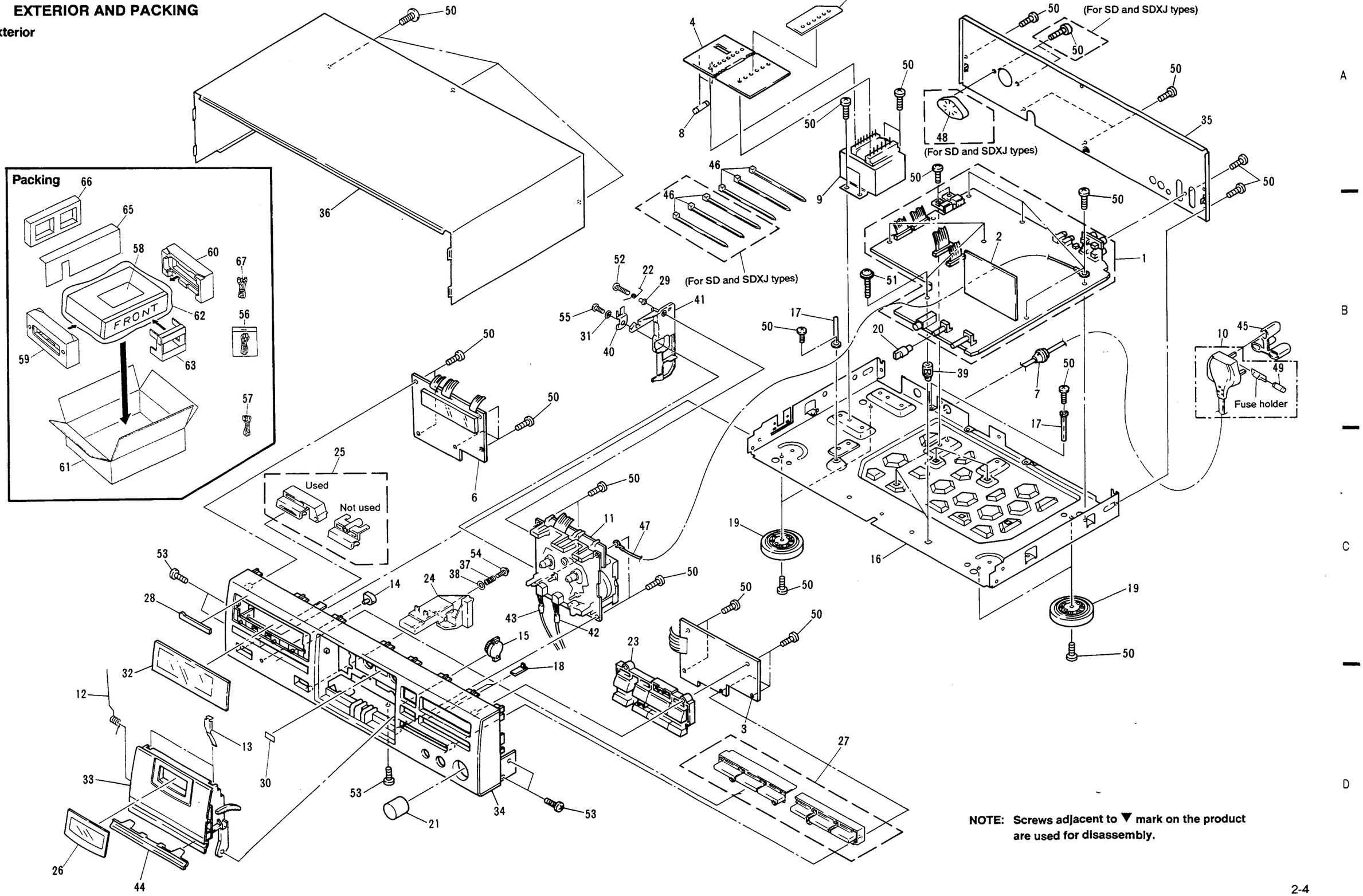
2.1 BLOCK DIAGRAM



2.2 EXPLODED VIEWS AND PACKING

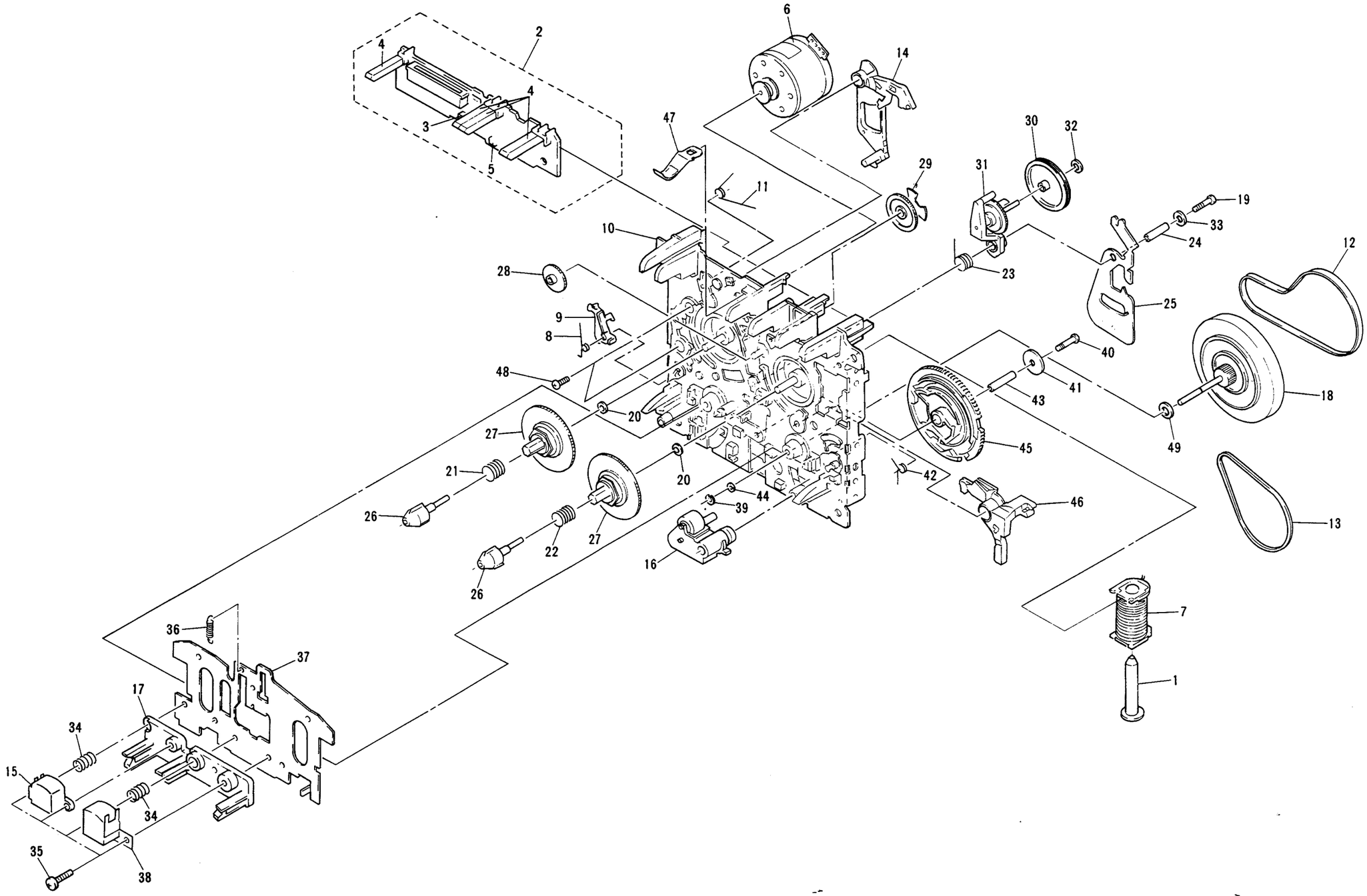
1. EXTERIOR AND PACKING

Exterior



NOTE: Screws adjacent to ▼ mark on the product are used for disassembly.

2. MECHANISM UNIT



2.3 SCHEMATIC DIAGRAMS

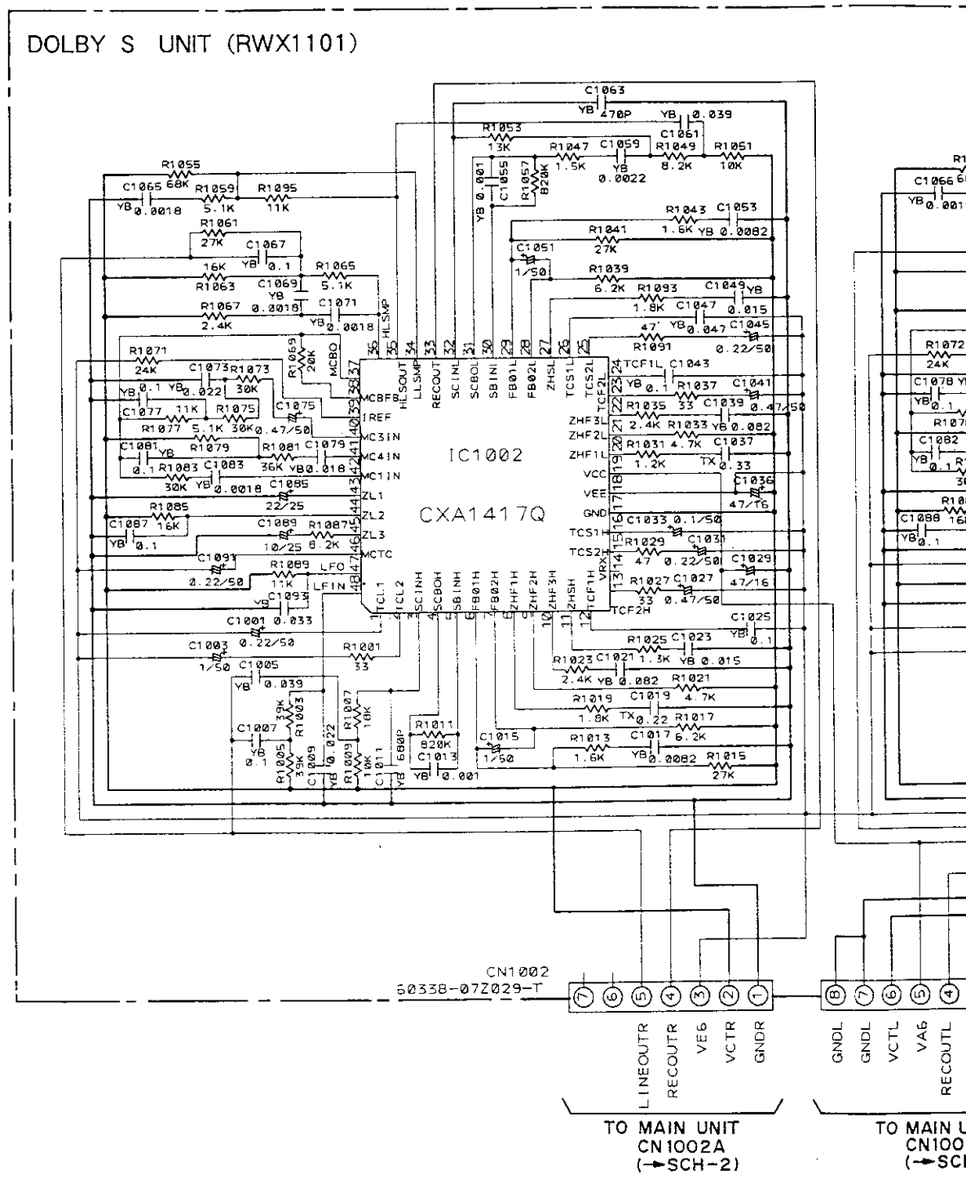
NOTE FOR SCHEMATIC DIAGRAMS (Type 6A)

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 ⚠ 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 (I/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

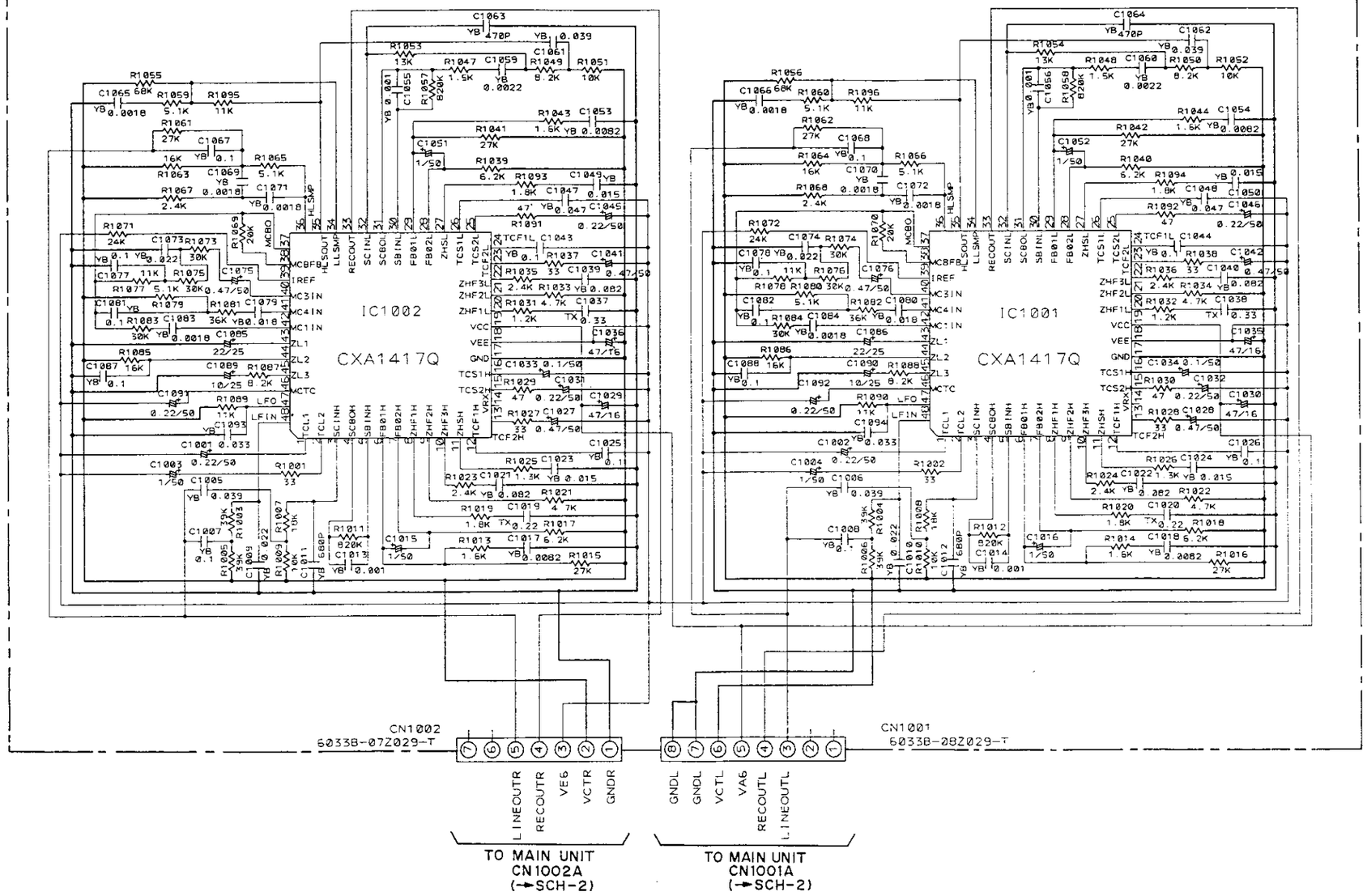


SCH—1 DOLBY S UNIT

1. DOLBY S UNIT

SCH-1

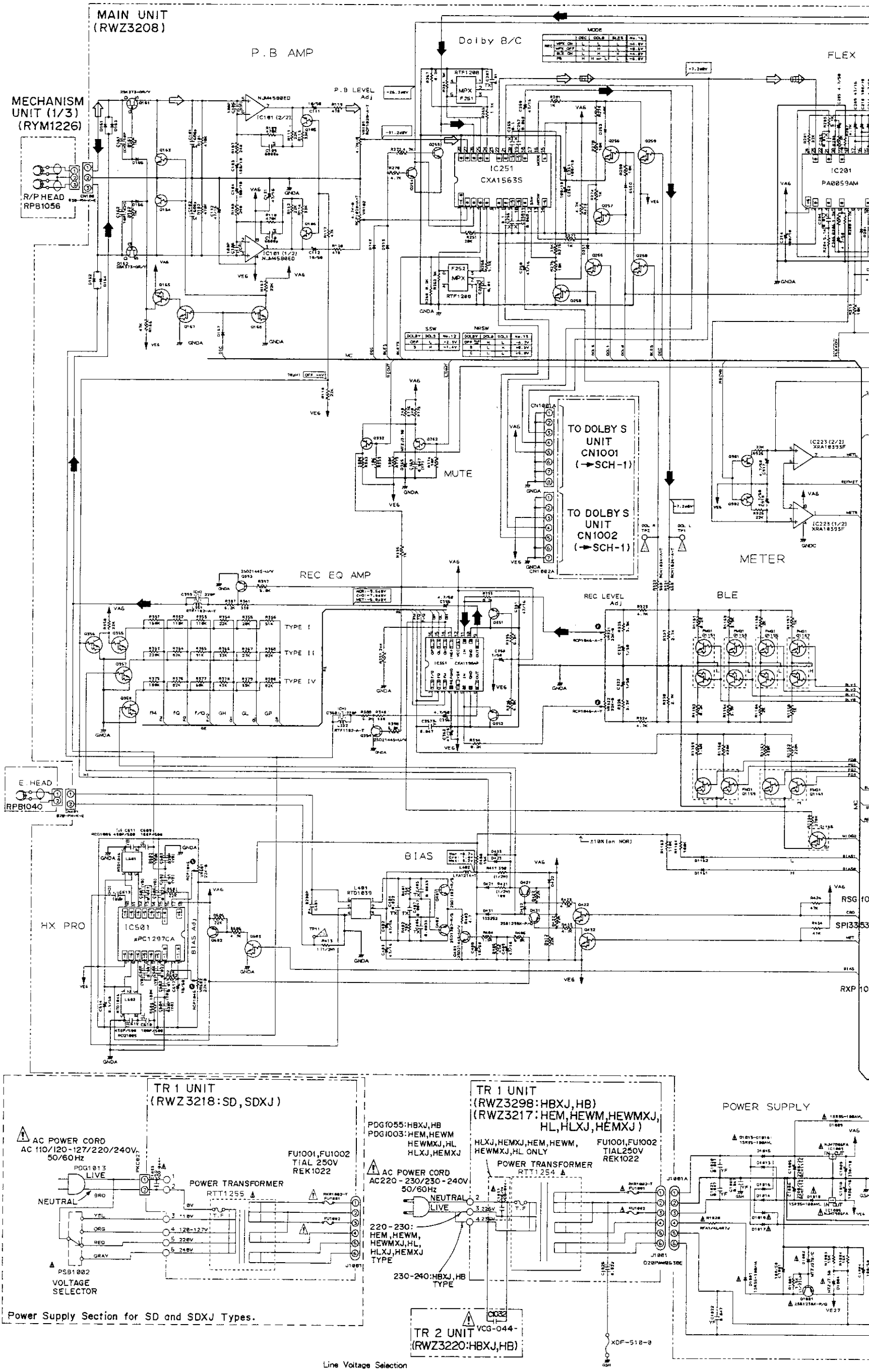
DOLBY S UNIT (RWX1101)



SCH-1 DOLBY S UNIT

DOLBY S UNIT SCH-1

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



Line Voltage Selection

Line voltage can be chaged 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

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

SCH-2

INPUT BUFFER

LINE OUTPUT (PLAY)

LINE INPUT (REC)

INPUT VR

BLN VR

H. PHONE AMP

IC1701 : A/D CONVERTER METER LEVEL

BLE OSC.

400Hz LEVEL Adj.

3kHz LEVEL Adj.

10kHz LEVEL Adj.

400Hz L.P.F

IC501 : SYSTEM CONTROL

MECHA CONTROL

RXM1075

TAPE SPEED Adj

RSG1018

SPI3334FG

RXP1021

RSN1023

MECHANISM UNIT(3/3) (RYM1226)

IC502 : BLE DATA CONVERSION

MEMORY

RESET

SR

CD SYNC

OPSW UNIT (RWZ3211)

REC ON

PLAY ON

FL UNIT (RWZ3214)

- Unspecified diodes and transistors are as follows.
- Rs, Cs and Trs enclosed in dotted line are chip parts.

2SC3311A-R/S
2SA1309A-R/S
DTC114TS
DTA114TS
DTC124ES
DTC124EK (CHIP)
DTA124ES
DTA124EK (CHIP)
1SS124

SIGNAL RUTE

: PLAYBACK SIGNAL

: RECORDING SIGNAL

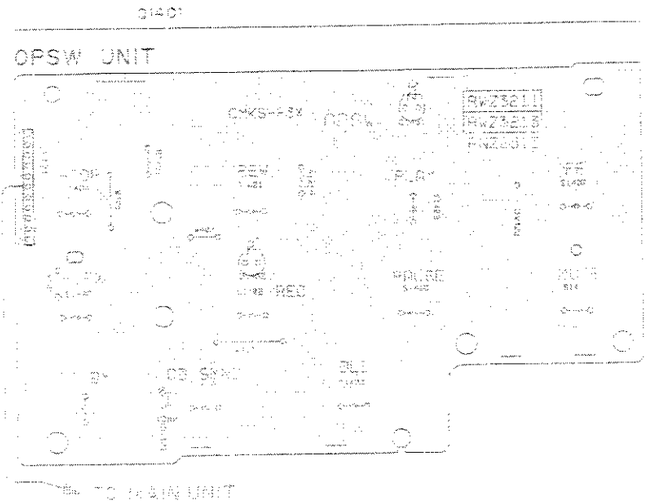
: RECORDING MONITOR SIGNAL

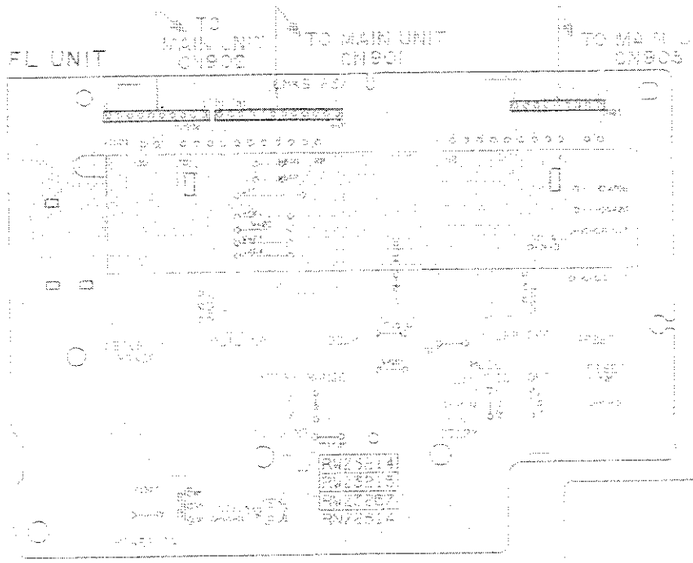
MAIN UNIT, OPSW UNIT, FL UNIT, TR 1 UNIT, TR 2 UNIT

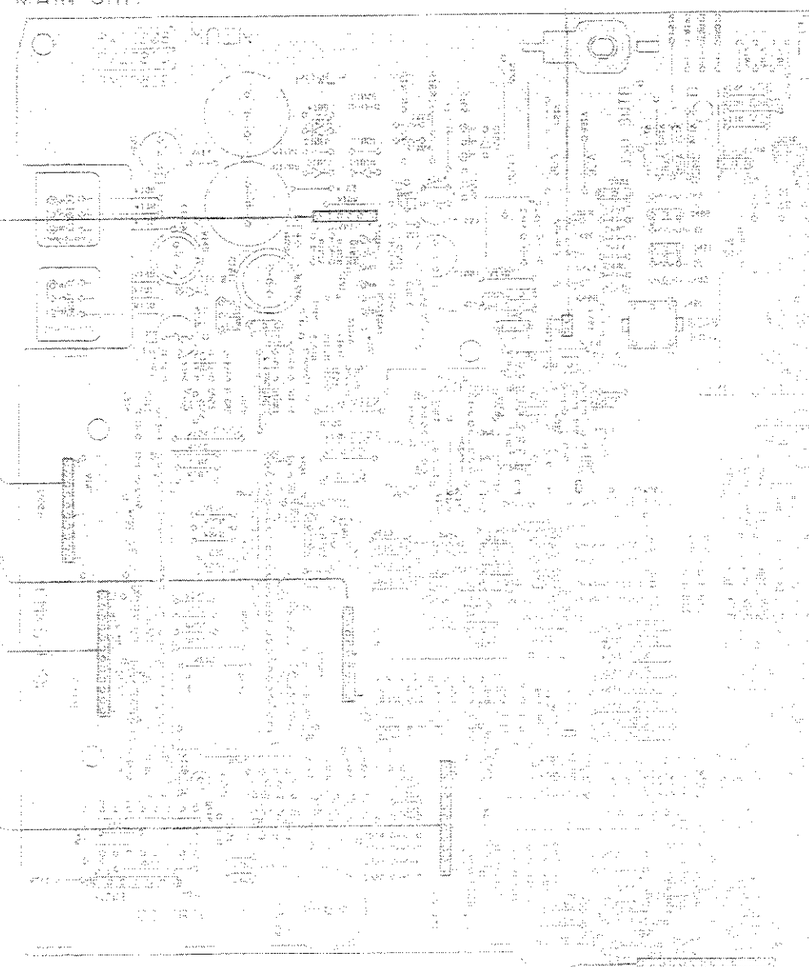
SCH-2

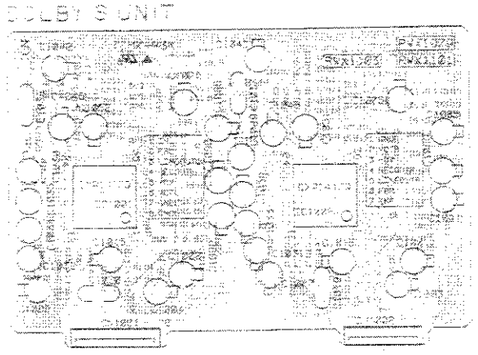
2.4 PCB CONNECTION DIAGRAM

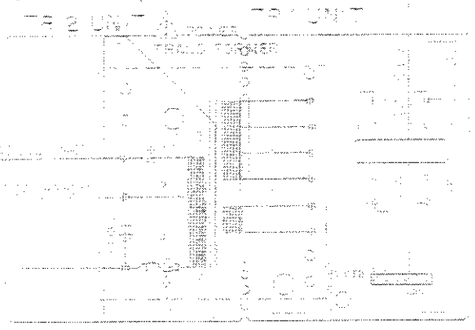
- This diagram is viewed from the mounted parts side.



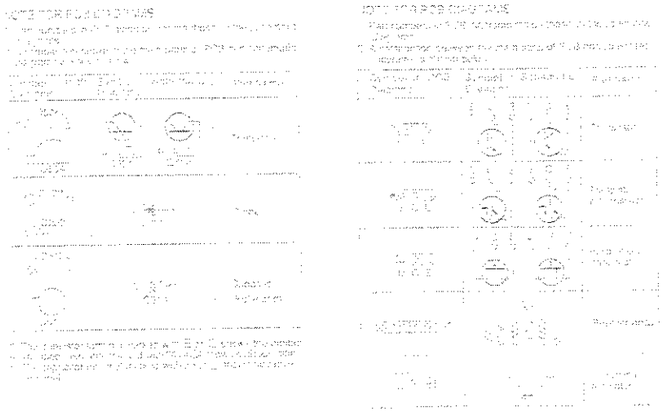


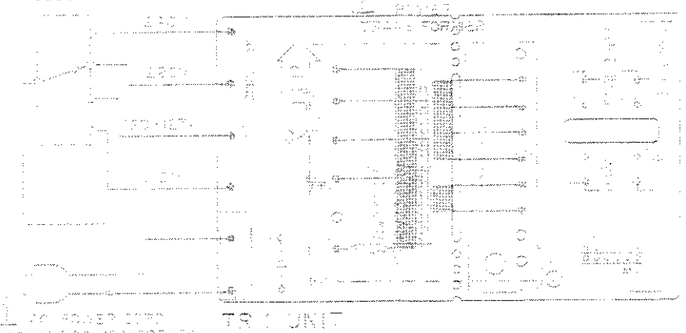


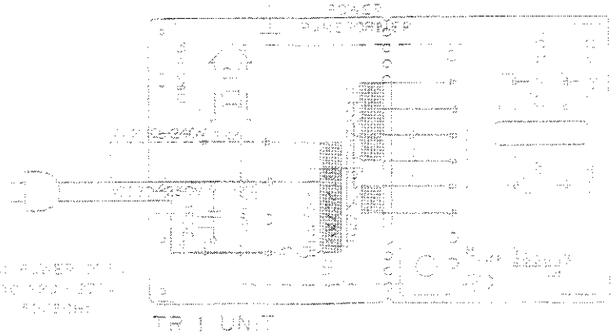


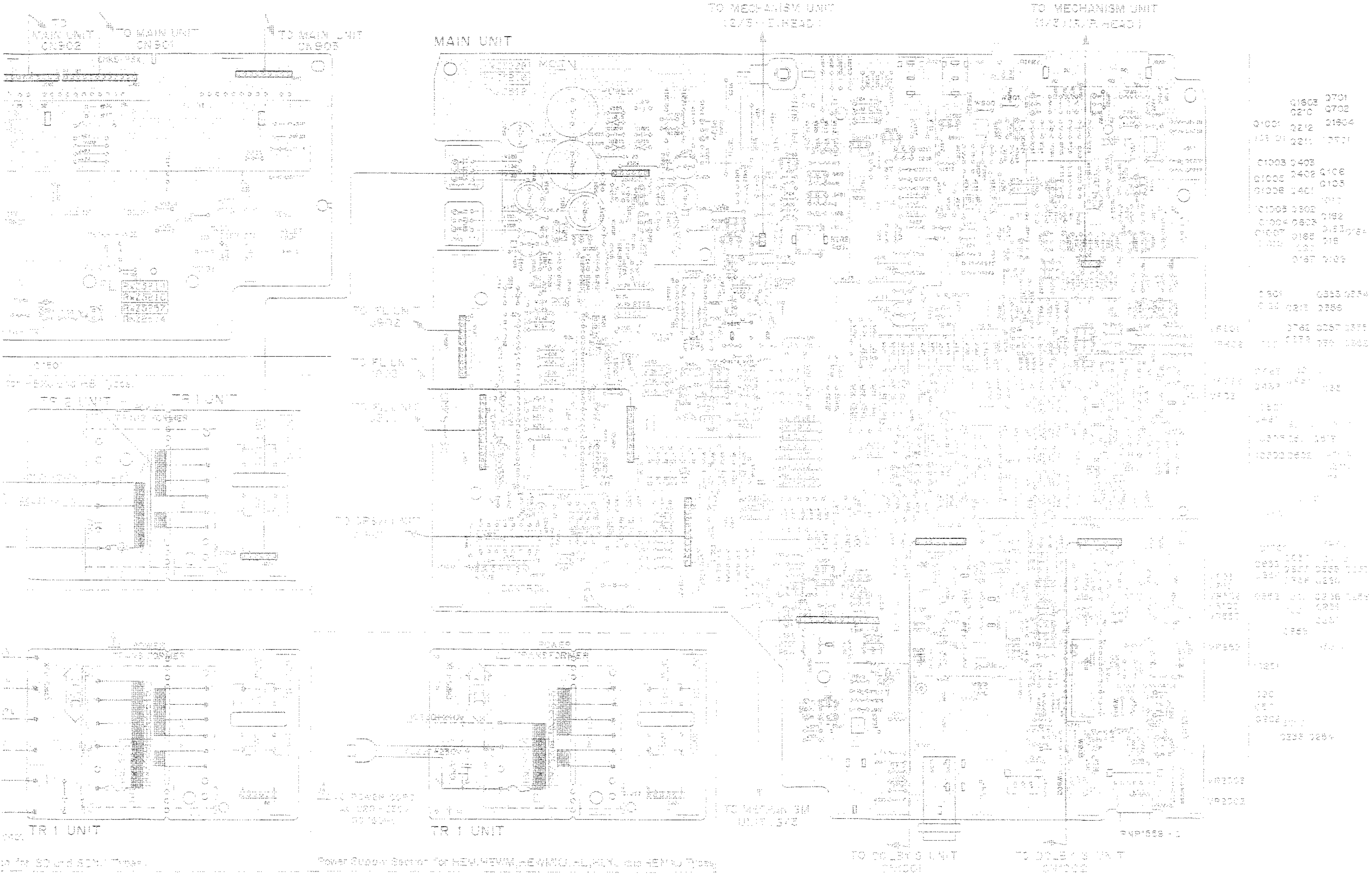


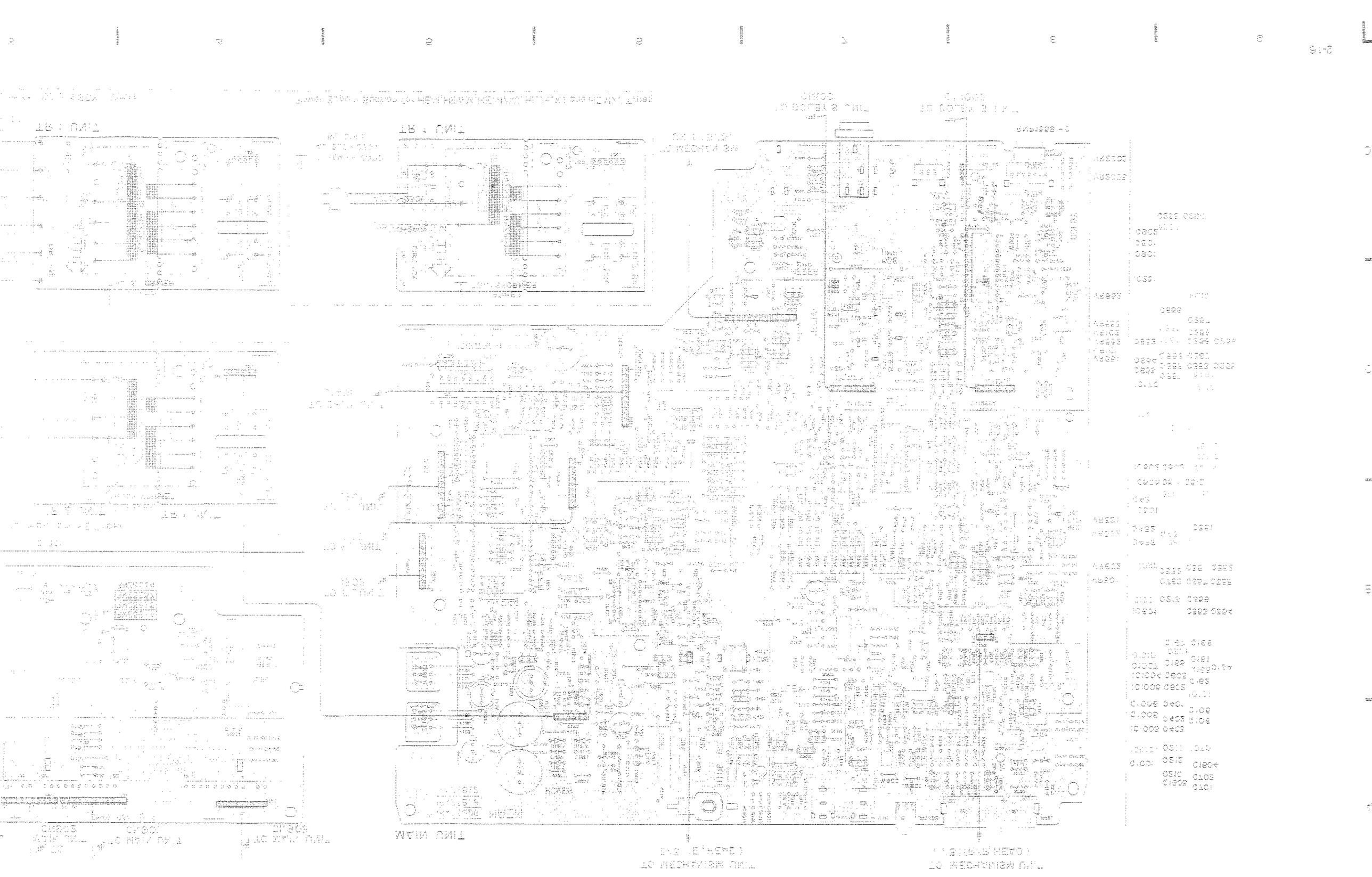
- This diagram is viewed from the pink colored foil side.
- This PCB is double sided.








TO MECHANISM UNIT
TO MECHANISM UNIT
TO MAIN UNIT CN902
TO MAIN UNIT CN901
TO MAIN UNIT CN903
MAIN UNIT
POWER TRANSFORMER
TR 1 UNIT
TR 1 UNIT



5.4 PCB CONNECTION DIAGRAM

* This diagram is viewed from the foil side.