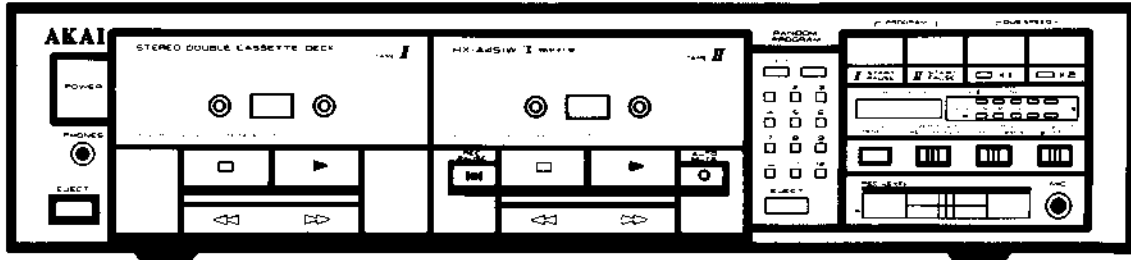


AKAI SERVICE MANUAL



STEREO DOUBLE CASSETTE DECK

MODEL HX-A451W

SPECIFICATIONS

Track system.....	4 track 2 channel stereo	Input sensitivity/Impedance	
Heads.....	HD head for recording and playback × 1	LINE.....	70 mV/47 kohms
	HD head for playback × 1	MIC.....	0.25 mV/5 kohms
	Erase head × 1	Output sensitivity/Impedance	
Motors.....	DC motor for capstan drive × 1	LINE.....	388 mV/2 kohms
	DC motor for reel drive × 1	Headphones.....	0.3 mW (8 ohms)
Wow & flutter.....	0.09% WRMS (JIS), 0.12% (DIN)	Power requirements.....	120 V, 60 Hz for USA & Canada 220V, 50 Hz for Europe except UK 240 V, 50 Hz for UK & Australia 110 V/120 V/220 V/240 V, 50 Hz/60 Hz convertible for other countries
Frequency response		Dimensions.....	440(W) × 108(H) × 291(D) mm (17.3 × 4.3 × 11.5 inches)
Normal.....	30 Hz to 15,000 Hz ± 3dB	Weight.....	4.4 kg (9.7 lbs)
CrO ₂	30 Hz to 15,000 Hz ± 3dB		
Metal.....	30 Hz to 16,000 Hz ± 3 dB		
S/N (Metal).....	57 dB		
	Dolby B type NR switch ON: Improves up to 5 dB at 1 kHz, 10 dB above 5 kHz		
	Dolby C type NR switch ON: Improves up to 15 dB at 500 Hz, 20 dB at 1 kHz to 10 kHz		
Harmonic distortion.....	Less than 0.8% (Metal)		

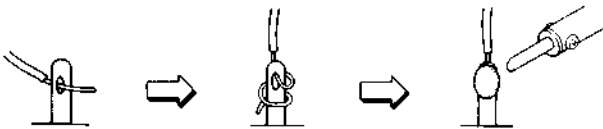
* For improvement purposes, specifications and design are subject to change without notice.

* "DOLBY" and the double-D symbol are trademarks of DOLBY Laboratories Licensing Corporation.
Noise reduction manufactured under license from DOLBY Laboratories Licensing Corporation.

★SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

- Parts identified by the Δ symbol parts are critical for safety. Replace only with parts number specified.
- In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation. These must also be replaced only with specified replacements.
Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
- Use specified internal wiring. Note especially:
 - Wires covered with PVC tubing
 - Double insulated wires
 - High voltage leads
- Use specified insulating materials for hazardous live parts. Note especially:
 - Insulation Tape
 - PVC tubing
 - Spacers (Insulating Barriers)
 - Insulation sheets for transistors
 - Plastic screws for fixing microswitch (especially in turntable)
- When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



- Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).

- Check that replaced wires do not contact sharp edged or pointed parts.
- Also check areas surrounding repaired locations.
- Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

SAFETY CHECK AFTER SERVICING

Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 M ohms. but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for **C** or **A**, specified insulation resistance should be headphone jacks line-in-out jacks etc. more than 2.2 M ohms (ground terminals, microphone jacks).

★INFORMATION

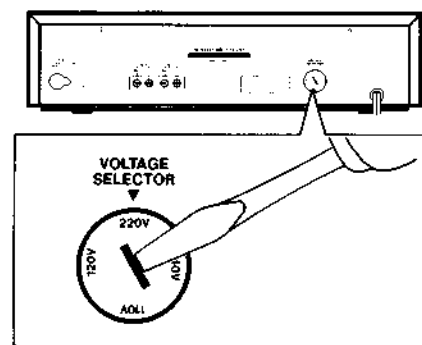
SYMBOLS FOR PRIMARY DESTINATION

Alphabet indicates the destination of the units as listed below.

Symbols	Principal Destinations
A	USA
B	UK
C	Canada
E	Europe (except UK)
J	Japan
S	Australia
V	W. Germany only
U	Universal Area

VOLTAGE CONVERSION (**U** Model only)

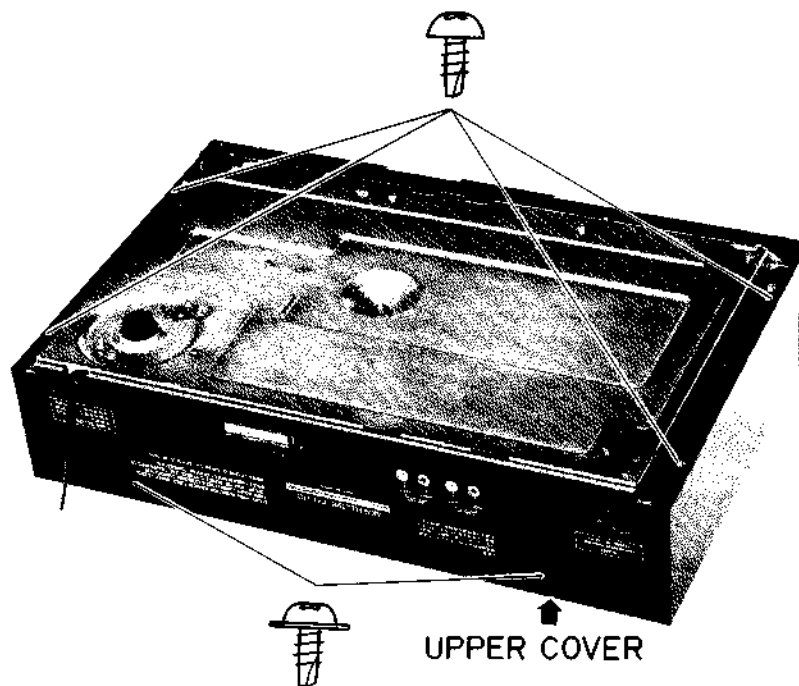
Before connecting the power cord, set the **VOLTAGE SELECTOR** located on the rear panel with a screwdriver so that the correct voltage is indicated.



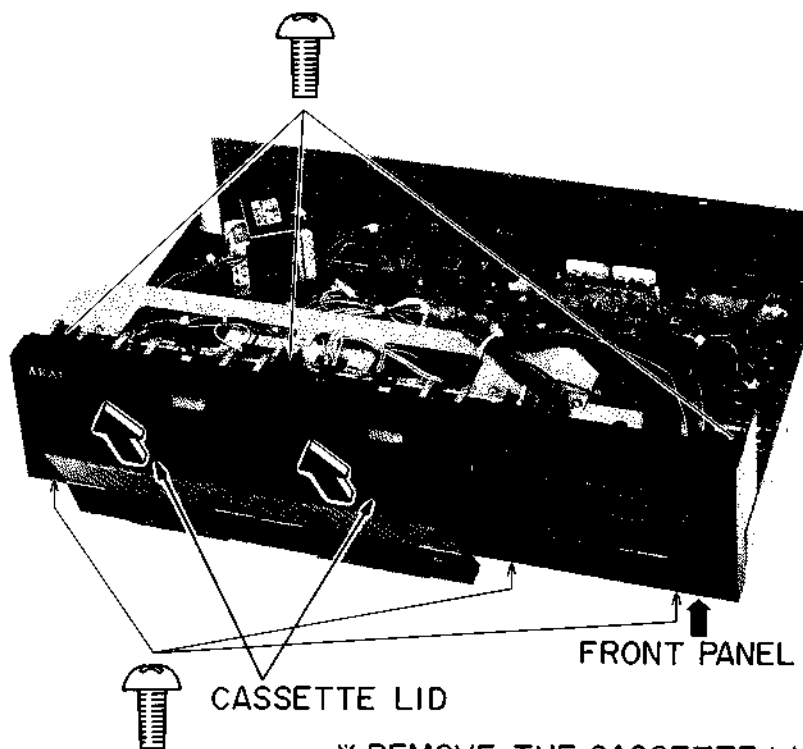
I. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs.
Reassemble in reverse order.

1. REMOVAL OF UPPER COVER

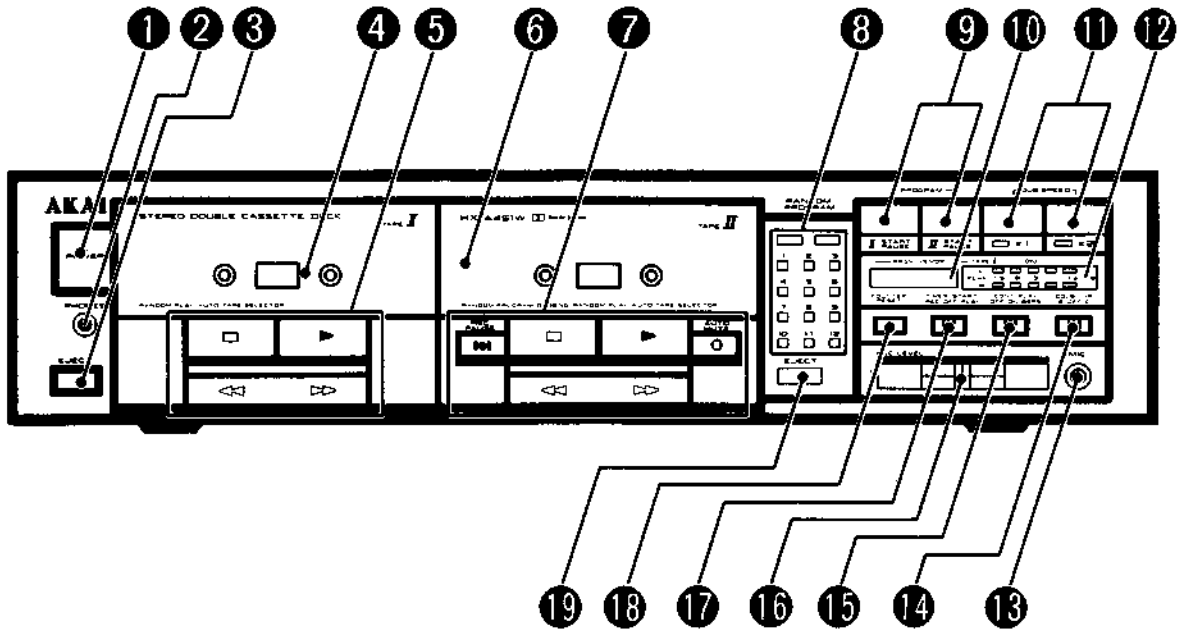


2. REMOVAL OF FRONT PANEL



※ REMOVE THE CASSETTE LIDS,
THEN REMOVE FRONT PANEL.

II. CONTROLS



- 1 POWER Switch**
To turn ON and OFF the power.
- 2 PHONES jack**
To listen through a pair of headphones, connect them to this jack.
- 3 TAPE I deck EJECT button**
To open the cassette holder.
- 4 TAPE I deck cassette holder and cassette lid**
To load a cassette for playback.
- 5 TAPE I deck operation buttons**
Stop (■), Play (▶), Rewind (◀◀) and Fast Forward (▶▶) buttons for playback operation.
- 6 TAPE II deck cassette holder and cassette lid**
To load a cassette for recording or playback.
- 7 TAPE II deck operation buttons**
REC PAUSE (⏸), Stop (■), Play (▶), AUTO MUTE (○), Rewind (◀◀) and Fast Forward (▶▶) buttons for playback and recording operation.
- 8 RANDOM PROGRAM 1 to 12, CHECK and CLEAR buttons**
For programming the random playback and the random program dubbing operation.
- 9 PROGRAM START PAUSE I/II button**
To start and stop random playback.
- 10 LED Digital display**
Shows tape running numerical index for both the TAPE I TAPE II decks, and programming number of the random program system.
PRGM MEMORY indicator
Tells you the random program is memorized.
TAPE I indicator
Tells you the digital display is showing the TAPE I deck tape counter.
- 11 DUBBING SPEED ×1 / ×2 button and indicator**
To start and stop tape dubbing.
- 12 LED PEAK Level Meter**
Shows recording and playback levels.
- 13 MIC jack**
Use for microphone recording.
- 14 DOLBY NR selector (B, OFF and C)**
To record or play back with the DOLBY B or C-type NR.
- 15 CONT PLAY selector (ON and BSPS)**
To select the continuous playback mode.
- 16 Left and Right REC LEVEL controls**
To set the recording input levels.
- 17 TIMER START selector**
For absentee recording and timed playback.
- 18 COUNTER RESET button**
To reset the digital tape counter to "0000".
- 19 TAPE II deck EJECT button**
To open the cassette holder.

III. PRINCIPAL PARTS LOCATION

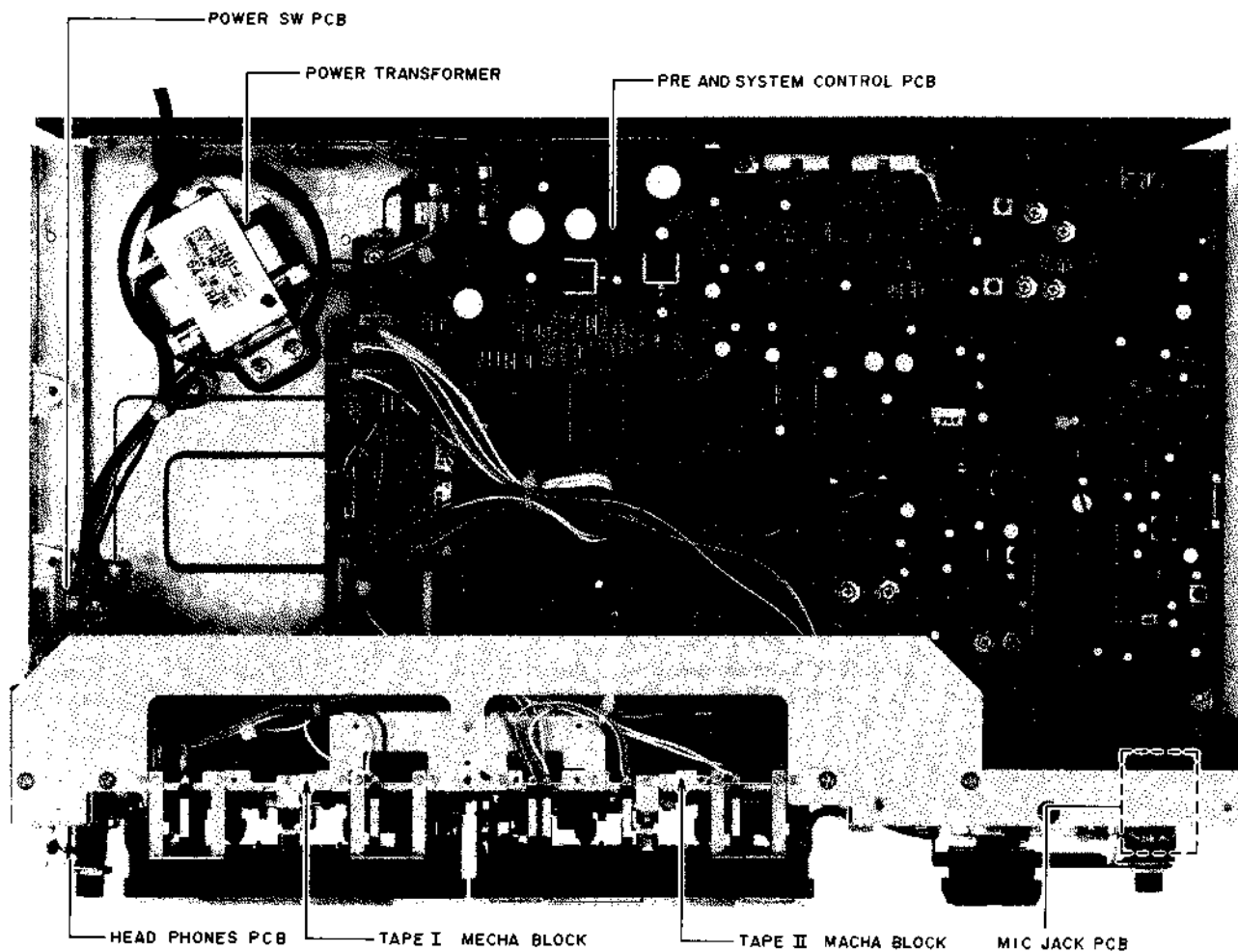


Fig. 3-1. Top View

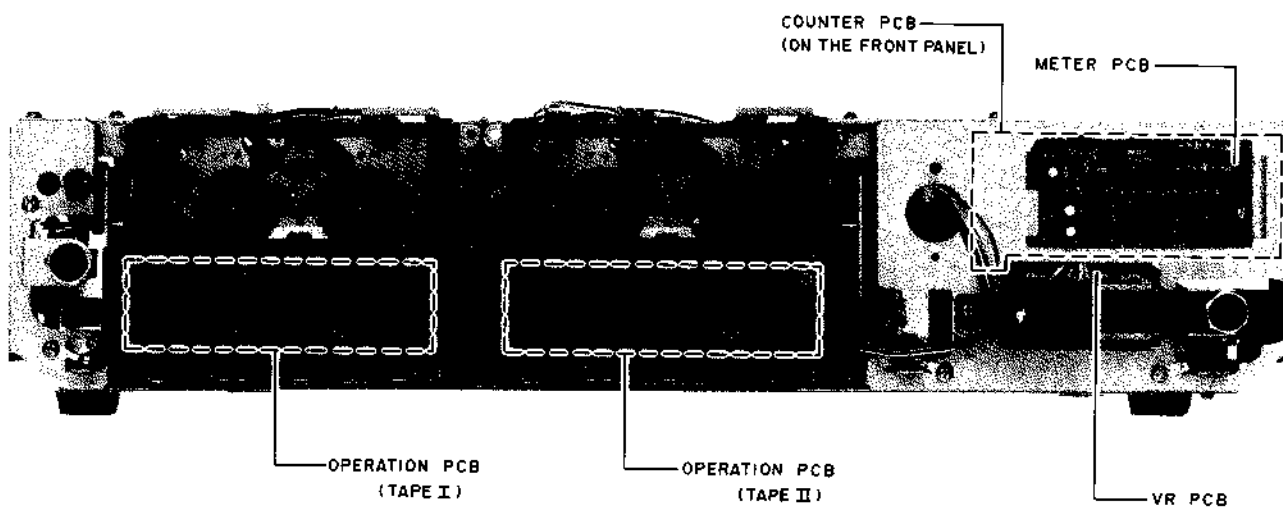


Fig. 3-2. Front View

IV. MECHANICAL ADJUSTMENT

4-1. PINCH ROLLER PRESSURE MEASUREMENT

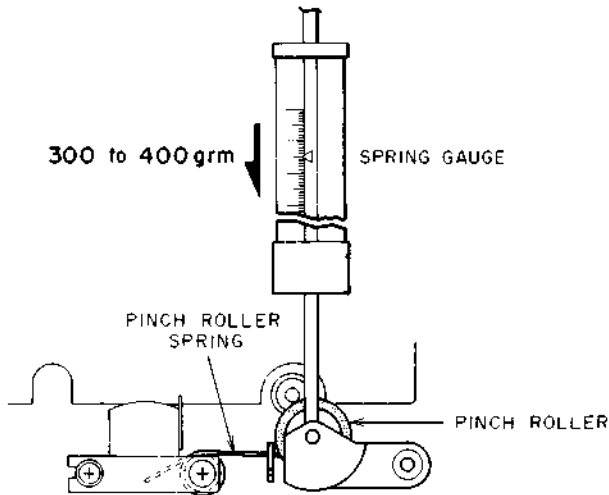


Fig. 4-1

Put in **PLAY** mode. Push pinch roller arm down with the spring gauge, push the pinch Roller 1 to 2mm away from the Capstan and release slowly.

Read the spring gauge at the moment the pinch roller touches the capstan and begins to rotate. Specified contact pressure measurement of 200 to 400 gm. If there is no measurement obtained, replace the pinch Roller spring.

4-2. WINDING TORQUE MEASUREMENT IN EACH MODE

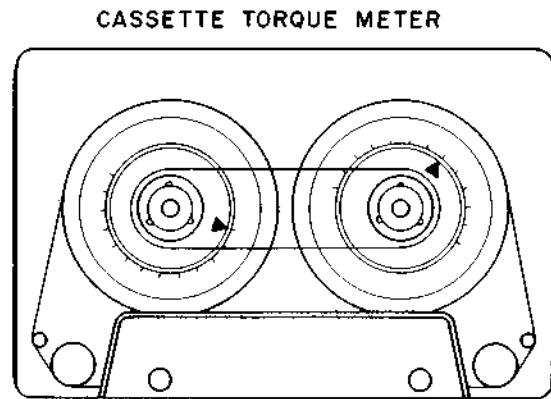


Fig. 4-2

Insert cassette torque meter (AJ-751179) and measure in each mode. For Fast Forward and Rewind, measure at the end of tape when the tape has stopped running.

PLAY Mode

Take up Torque: 30 to 70 gm-cm

Back tension torque: 1 to 6 gm-cm

FAST FORWARD, REWIND mode

Take up Torque: 70 to 160 gm-cm

V. HEAD ADJUSTMENT

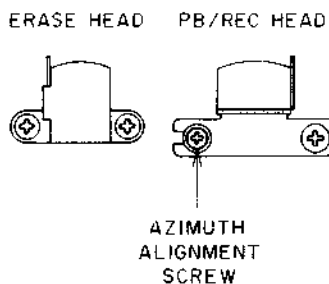


Fig. 5-1

Play Back a 10 kHz Azimuth Alignment Tape (AT-750778) and Adjust the Azimuth Alignment Screw, until the output levels of both channels are maximum. After Adjustment, Paintlock the Azimuth Alignment Screw.

VI. ELECTRICAL ADJUSTMENT

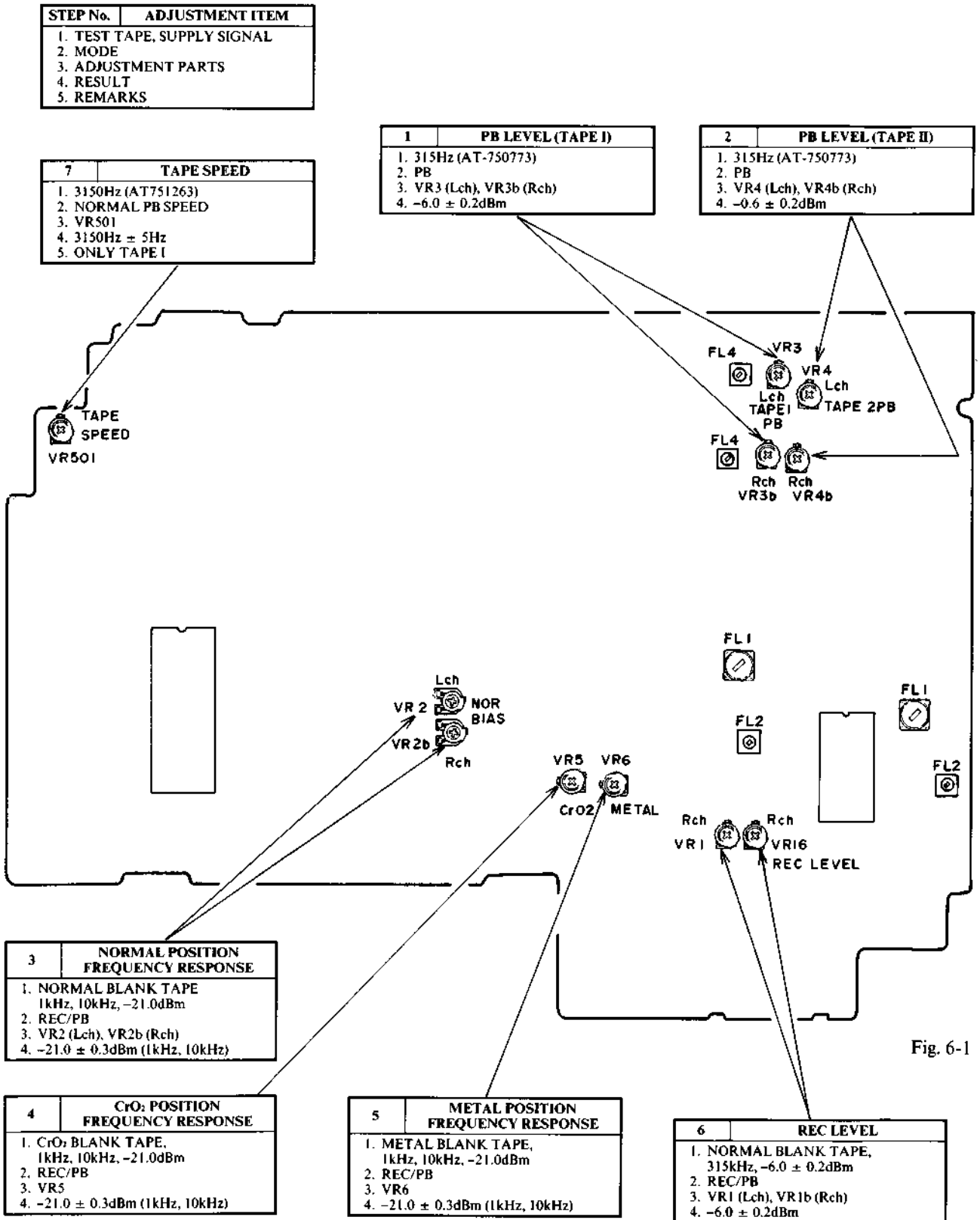


Fig. 6-1

NOTES: ALL ADJUSTMENT ARE WITHOUT DOLBY.
 USE THE FOLLOWING CASSETTE MEASURING TAPES:
 NORMAL TAPE : MAXELL UD-123
 CrO₂ TAPE : TDK AC-512
 METAL TAPE : TDK AC-712

VII. PARTS LIST

ATTENTION

1. When placing an order for parts, be sure to list Part No., Model No. and the description of each part. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.
2. Please make sure that Part No. is correct when ordering.
If not, a part different from the one you ordered may be delivered.
3. Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.

HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

b) PC Board

2. HEAD BASE BLOCK

REF. NO.	PART NO.	DESCRIPTION
2-1x	BH-T2023A320A	HEAD BASE BLOCK
2-2	HP-H2206A010A	HEAD R/P PR4-8FU C
2-3	ZS-477876	PAN20×03STL CMT
2-4	ZS-536488	BID20×08STL CMT
2-5	ZG-402895	SP CS ANGLE ADJUST

SP (Service Parts) Classification

A small "x" indicates that this part is not shown in the Photo or Illustration.

This number corresponds with the individual parts index number in that figure.

This number corresponds with the Figure Number.

6. MAIN PC BOARD

REF. NO.	PART NO.	DESCRIPTION
6-IC1	EI-324536	IC HD14049BP
6-IC2	EI-336801	IC MB8841-564M
6-C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
6-C1B	EC-350949	C MMY V 223M 250DC [J]
6-C1C	EC-338397	C MMY V 223M 125AC [C,A]
6-X1	EI-318384	OSC X'TAL NC-18C

Symbols for primary destination

[A]: AAL(U.S.A.) [S]: SAA(Australia)
 [B]: BEAB(England) [U]: U/T(Universal Area)
 [C]: CSA(Canada) [V]: VDE(W. Germany)
 [E]: CEE(Europe) [Y]: Custom Version
 [J]: JPN(Japan)

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

5. When Part No. is known, Parts Index at end of Parts List can be used to locate where that part is shown in Parts List by its Reference No. listed at right of Part No.

WARNING

⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS

AVERTISSEMENT

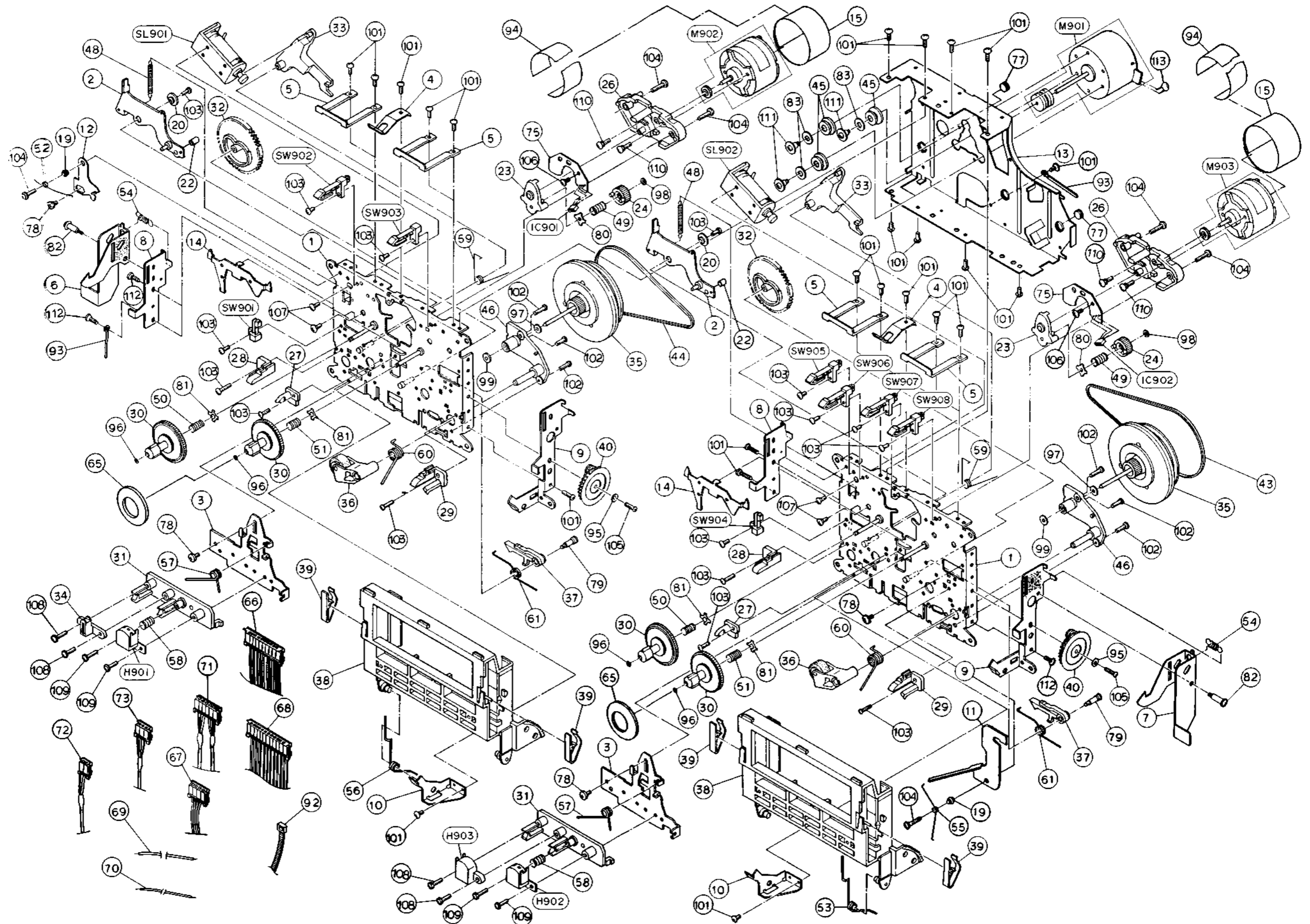
⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

RECOMMENDED SPARE PARTS LIST

Because, if the parts listed below are on hand, almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1	N BB-366591	MECHA AKI-8000Y BLK	72	EV-345781	R S-FIX H RVF8P01 3P 202
2	BT-366563	ΔTRANS POWER T2091 [C, A]	73	EV-337993	R S-FIX H RVF8P01 3P 203
3	BT-366565	ΔTRANS POWER T2091 [B, S]	74	EV-337992	R S-FIX H RVF8P01 3P 502
4	BT-366564	ΔTRANS POWER T2091 [E, V]	75	EV-336785	R S-FIX H TM8KV2-1S 3P 0.50W 104
5	BT-366562	ΔTRANS POWER T2091 [J]	76	EV-366583	VR SLIDE VJ3013-2PVN5B-15A 503
6	BT-366561	ΔTRANS POWER T2091 [U]			
7	ED-330319	ΔD SILICON DBA10B 100/1.0A			
8	ED-369669	D LED GL-1EG111 GREEN			
9	ED-369668	D LED GL-1HD111 RED			
10	ED-366799	D LED LC-204MBE GREEN			
11	ED-366621	D LED SLH-56MC3 GREEN			
12	ED-366620	D LED SLH-56VC3 RED			
13	ED-349662	D SILICON DS135E-FA6 F10 100/1.0A			
14	ED-301911	D SILICON H DS448			
15	ED-344280	D SILICON H GMA-01-FY2 F05			
16	ED-330989	D ZENER H HZ11 B2			
17	ED-346611	D ZENER H HZ11 B3			
18	ED-323836	D ZENER H HZ16 2			
19	ED-337776	D ZENER H HZ3 C1			
20	ED-337267	D ZENER H HZ4 A1			
21	ED-346599	D ZENER H HZ4 C3			
22	ED-337265	D ZENER H HZ6 C2			
23	ED-331667	D ZENER H HZ7 A1			
24	EF-355226	Δ FUSE BET T 1.00A 250V			
25	EF-355374	Δ FUSE BET T 500MA 250V			
26	EF-623103	Δ FUSE SEMKO T 1.00A 250V			
27	EF-593706	Δ FUSE SEMKO T 500MA 250V			
28	EF-306949	Δ FUSE TSC A 250V 1.25A			
29	EF-309388	Δ FUSE TSC A 250V 800MA			
30	EF-309392	Δ FUSE TSC 125V 1.25A			
31	EF-309391	Δ FUSE TSC 125V 800MA			
32	EH-336776	FILTER DB D07003K 100kHz			
33	EH-354528	FILTER DB FX-100B			
34	EH-359984	FILTER DOLBY T2089			
35	EI-361561	IC BA3402SP			
36	EI-330352	IC BA6109			
37	EI-359985	IC CX20187			
38	EI-355388	IC IR2E27			
39	EI-337008	IC LC7800			
40	EI-357498	IC μ51143AL			
41	N EI-337228	IC μ5218L			
42	EI-366584	IC UPD75104			
43	EI-349372	OSC CE CSA4.00MG 4MHz			
44	EO-356809	COIL FIX 1 100Z-121 100.00KC			
45	ER-348272	Δ R FUSE ERD2FC S10 1/4W 12ROG			
46	ER-318647	Δ R FUSE ERD2FC S10 1/4W 4R7J			
47	ER-318248	Δ R FUSE ERD2FC S10 1/4W 47ROG			
48	ES-358581	Δ SW PUSH J-U3065 01-1			
49	ES-359606	Δ SW SELECTOR 8T-41S0454 01-4 [U]			
50	ES-369959	SW SLIDE SSS41076B 1-01-04			
51	ES-349474	SW TACT SKHAM004A			
52	ET-363953	TR DTA114TS			
53	ET-353897	TR DTC114ES			
54	ET-366589	TR UN1124			
55	ET-308472	TR 2SA1115 E,F,G F05			
56	ET-355626	TR 2SA992 E,F			
57	ET-352334	TR 2SB774 Q,R,S,T			
58	ET-347143	TR 2SC1845 E,F			
59	ET-328435	TR 2SC2021 R,S			
60	ET-308977	TR 2SC2274K F F05			
61	ET-349705	TR 2SC2320 E,F,G			
62	ET-349272	TR 2SC3242A E,F F05			
63	ET-357845	TR 2SC3242A F,G F05			
64	ET-349081	TR 2SC3383 S,T			
65	ET-350795	TR 2SC3399 F05			
66	ET-349366	TR 2SC3402 F05			
67	ET-347961	TR 2SD1012-V G F05			
68	ET-366581	TR 2SD1762 E,F			
69	ET-310148	TR 2SD612K E,F			
70	EV-344109	R S-FIX H RVF8P01 3P 102			
71	EV-337996	R S-FIX H RVF8P01 3P 104			

MECHA BLOCK



PARTS LIST

6. REC VR PC BOARD

REF. NO.	PART NO.	DESCRIPTION
6-VR101	EV-366583	VR SLIDE VJ3013-2PVNSB-15A 503

7. MECHA II OPERATION PC BOARD

REF. NO.	PART NO.	DESCRIPTION
7-D9	ED-369668	D LED GL-1HD111 RED
7-D10	ED-369669	D LED GL-1EG111 GREEN
7-TS23 to 28	ES-349474	SW TACT SKHHAM004A

8. MECHA I OPERATION PC BOARD

REF. NO.	PART NO.	DESCRIPTION
8-D11	ED-369669	D LED GL-1EG111 GREEN
8-TS29 to 32	ES-349474	SW TACT SKHHAM004A

9. HEAD PHONE PC BOARD

REF. NO.	PART NO.	DESCRIPTION
9-J201	EJ-358901	PHONE J 3P HLJ0541-010 W/NUT 6.3

10. JACK PC BOARD

REF. NO.	PART NO.	DESCRIPTION
10-J101	EJ-366582	PHONE J 9P HLJ4308-3010 W/NUT 6.3

11. POWER SW PC BOARD

REF. NO.	PART NO.	DESCRIPTION
11-C520	EC-320548	△ C CE V F 103Z 250AC [J,C,A]
11-C520A	EC-338411	△ C CE V FZ 103P 400AC [U,E,B,S]
11-SW501	ES-358581	△ SW PUSH J-U3065 01-1

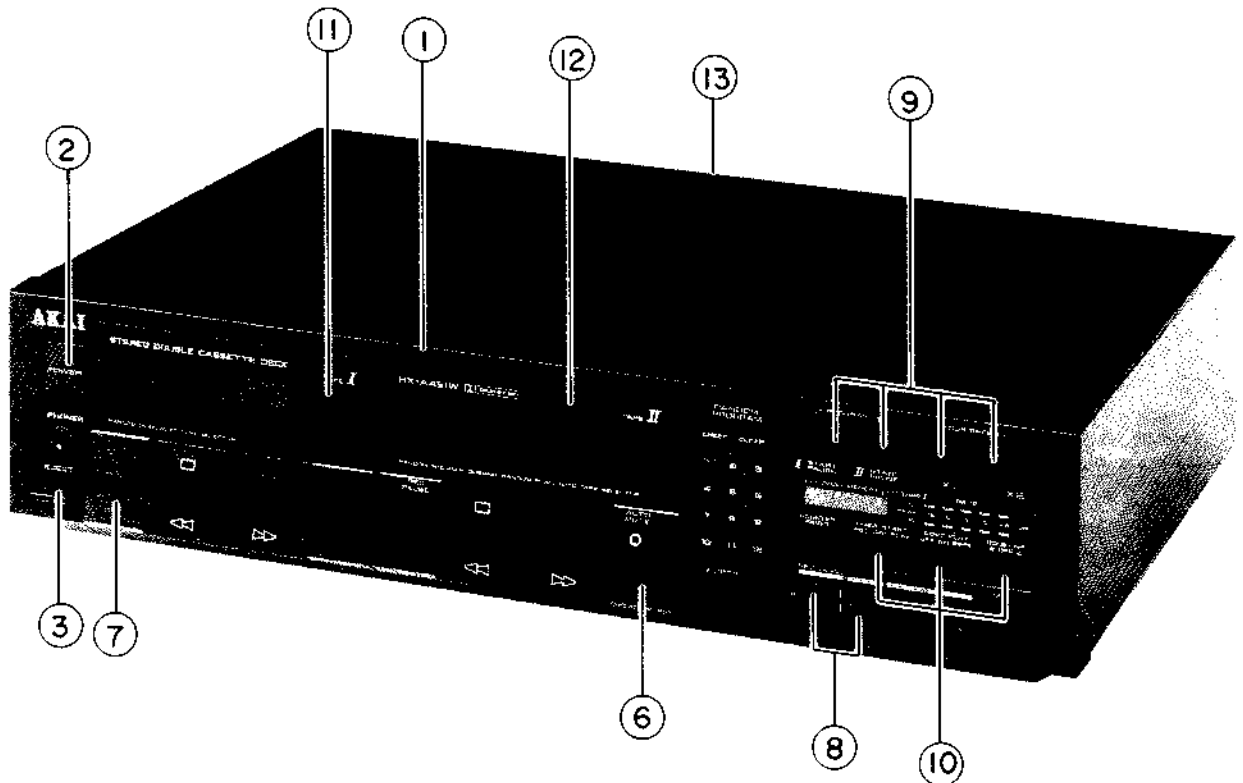
ASSEMBLY BLOCK



12. ASSEMBLY BLOCK

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
12-1	SA-202118	FOOT	12-7A	SP-355354N	PANEL REAR BOARD HX-A451W [U]
12-2	ZS-351186	ST BR30x08STL CMT C080 (FOOT FIX)	12-7B	SP-355354Q	PANEL REAR BOARD HX-A451W [C,A]
12-3	ZW-698308	RV NYL30x055 BL	12-7C	SP-355354R	PANEL REAR BOARD HX-A451W [E,V]
12-4	ML-359930	LEVER REC VR	12-7D	SP-355354S	PANEL REAR BOARD HX-A451W [B,S]
12-5	ZS-304022	ST PAN40x06STL CMT (TRANS POWER FIX)	12-8	ZS-352120	T2BR30x08STL BCM C080 (PANEL REAR FIX)
12-6	EW-347604	△ AC CORD 2 CORES VM1165B J [J]	12-9	MZ-365015	JOINT POWER SW
12-6A	EW-347683	△ AC CORD 2 CORES VM0129, VFF-CB U/T [U]	12-10	ZS-325495	T2BR30x06STL CMT (COVER UPPER FIX)
12-6B	EW-347607	△ AC CORD 2 CORES VM0238, SPT-1CB UC [C,A]	12-SW901	ES-359606	△ SW SELECTOR 3T-41S0454 01-4 [U]
12-6C	EW-347682	△ AC CORD 2 CORES VM0364, FC3097-CB EV [E]	12-T901	BT-366562	△ TRANS POWER T2091 [J]
12-6D	EW-347680	△ AC CORD 2 CORES LCFL2x0.75-CB B [B]	12-T901A	BT-366561	△ TRANS POWER T2091 [U]
12-6E	EW-347681	△ AC CORD 2 CORES VM0436, FC3093-CB S [S]	12-T901B	BT-366563	△ TRANS POWER T2091 [C,A]
12-7	SP-355354P	PANEL REAR BOARD HX-A451W [J]	12-T901C	BT-366564	△ TRANS POWER T2091 [E,V]
			12-T901D	BT-366565	△ TRANS POWER T2091 [B,S]

FINAL ASSEMBLY BLOCK



13. FINAL ASSEMBLY BLOCK

REF. NO.	PART NO.	DESCRIPTION
PANEL FRONT BLOCK		
13-1	BD-T2091A020A	PANEL FRONT BLK HX-A451W
13-1-B	BD-T2091A020B	PANEL FRONT BLK HX-A451W-B
13-2	SK-343017C	KNOB POWER (2)
13-2-B	SK-343017F	KNOB POWER-B
13-3	SK-364993A	KNOB EJECT
13-3-B	SK-364993B	KNOB EJECT-B
13-4	ZG-349502	SP PUSH EJECT
13-5	SK-369006	KNOB RANDOM
FINAL ASSEMBLY BLOCK		
13-6	SK-T2091A030A	KNOB OPERATE (1) BLK HX-A451W
13-6-B	SK-T2091A030B	KNOB OPERATE (1) BLK HX-A451W-B
13-7	SK-T2091A040A	KNOB OPERATE (2) BLK HX-A451W

13. FINAL ASSEMBLY BLOCK

REF. NO.	PART NO.	DESCRIPTION
13-7-B	SK-T2091A040B	KNOB OPERATE (2) BLK HX-A451W-B
13-8	SK-345270	KNOB REC CAP
13-9	SK-B364999A	KNOB PUSH PART
13-9-B	SK-B364999B	KNOB PUSH-B PART
13-10	SK-364997A	KNOB SLIDE
13-10-B	SK-364997B	KNOB SLIDE-B
13-11	BD-364998A	LID 1
13-12	BD-364998B	LID 2
13-13	SP-344591A	COVER UPPER
13-13-B	SP-344591D	COVER UPPER-B(2)
13-14x	EW-344151	CORD RR-61A PINX2-PINX2

Note: PANEL FRONT BLOCK consists of 1-2 to 13-4.
SYMBOL FOR COLOR VARIATION
 NON:STANDARD COLOR
 - B:BLACK

INDEX

HX-A451W

PART NO.	REF. NO.	PART NO.	REF. NO.	PART NO.	REF. NO.	PART NO.	REF. NO.
BA-T2091A050A	2-1A	EH-336776	3-FL4	ET-308141	3-TR526	EV-337996	3-VR4
BA-T2091A050B	2-1	EH-354528	3-FL1	ET-308141	3-TR525	EV-337996	3-VR3
BA-T2091A060A	2-2	EH-359984	3-FL2	ET-308472	3-TR515	EV-344109	3-VR6
BB-366591	1-1	EI-330352	3-IC503	ET-308472	3-TR37	EV-345781	3-VR501
BC-718507	1-38	EI-330352	3-IC504	ET-308472	3-TR34	EV-366583	6-VR101
BD-T2091A020A	13-1	EI-337008	3-IC502	ET-308472	3-TR36	EW-344151	13-14x
BD-T2091A020B	13-1-B	EI-337228	3-IC5	ET-308472	3-TR502	EW-347604	12-6
BD-364998A	13-11	EI-337228	3-IC6	ET-308472	3-TR505	EW-347607	12-6B
BD-364998B	13-12	EI-337228	3-IC1	ET-308472	3-TR35	EW-347680	12-6D
BF-718504	1-35	EI-337228	3-IC3	ET-308472	3-TR523	EW-347681	12-6E
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EF-593706	3-F501B	ES-715981	1-SW901	EV-337992	3-VR5		
EF-623103	3-F502B	ES-715981	1-SW904	EV-337993	3-VR1		

ABBREVIATIONS FOR SERVICE MANUAL (CASSETTE)

Abbreviation	Explanation	Abbreviation	Explanation
AC	Alternating Current	MICOM	MicroCOMputer
A/D	Analog/Digital	MIN	MINute
AF	Auto Fader	MML	Maximum Modulation Level
A.M	Auto Mute	MOL	Maximum Output Level
AMP	AMPlifier	MPX	Multi Plex
AR	Anti Recording	NC	Not Connected (No Connection)
AT BIAS	Auto Tuning BIAS	NFB	Negative Feed Back
ATT	ATTenuator	NORM	NORMAL
BAL	BALance	NR	Noise Reduction
BEF	Band Elimination Filter	OSC	OSCillator (OSCillation)
BSS	Blank Search System	P	Pulse
BSPS	Blank Skip Play System	PB	Play Back
CAP M	CAPsTan Motor	QMSS	Quick Memory Search System
CH	CHannel	QR	Quick Reverse
COMP	COMParator	R CH	Right CHannel
CONT	CONTinuanance	REC	RECord (RECording)
CRLP	Computer Recording Level Processing	REV	REVerse
CS	Chip Select	ROT	ROTation
D/A	Digital/Analog	REW	REWind
DC	Direct Current	SEC	SECOnd
DET	DETECTOR	SELE	SELEctor
DISCRI	DISCRIminator	SENS	SENSitivity
DUB	DUBbing	SEPP	Single Ended Push Pull
EQ	EQUALizer	SIG	SIGnal
FF(or F.FWD)	Fast Forward	SPECT	SPECTrum
FLD	FLUorescent Display	STD	STANdard
FREQ	FREQUency	SW	SWitch
FWD	FORWard	SYSCON	SYSTEM CONTROL
GND	GROuND	TP	TEST Point
H	High	TRIG	TRIGa
HPF	High Pass Filter	VCA	Voltage Control Attenuator
IND	INDicator	VOL	VOLUME
IPLS	Instant Program Location System	VOLT	VOLTage
L	Low	VR	Variable Resistor
L CH	Left CHannel	X'TAL	cysTAL
LED	Light Emiting Diode	X1	Normal speed
MEMO	MEMOry	X2	Dubble speed

AKAI ELECTRIC CO., LTD.

12-14, 2-Chome, Higashi-Kojiya, Ohta-Ku, Tokyo, Japan

TEL Tokyo (742) 5111 CABLE HIFIAKAI TOKYO TELEX J26261

Printed No. 860723-G1-2900

Printed Date: September 5, 1986

Printed in Japan

AKAI

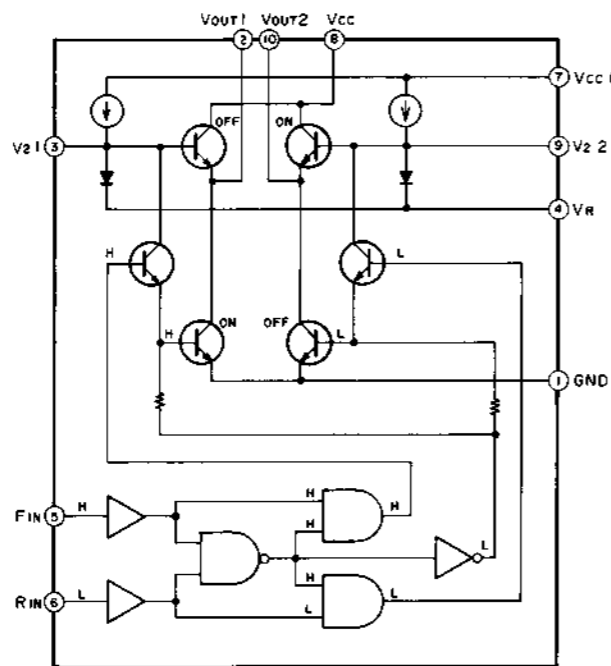
MODEL HX-A451W

SCHEMATIC DIAGRAM AND PCB BOARD

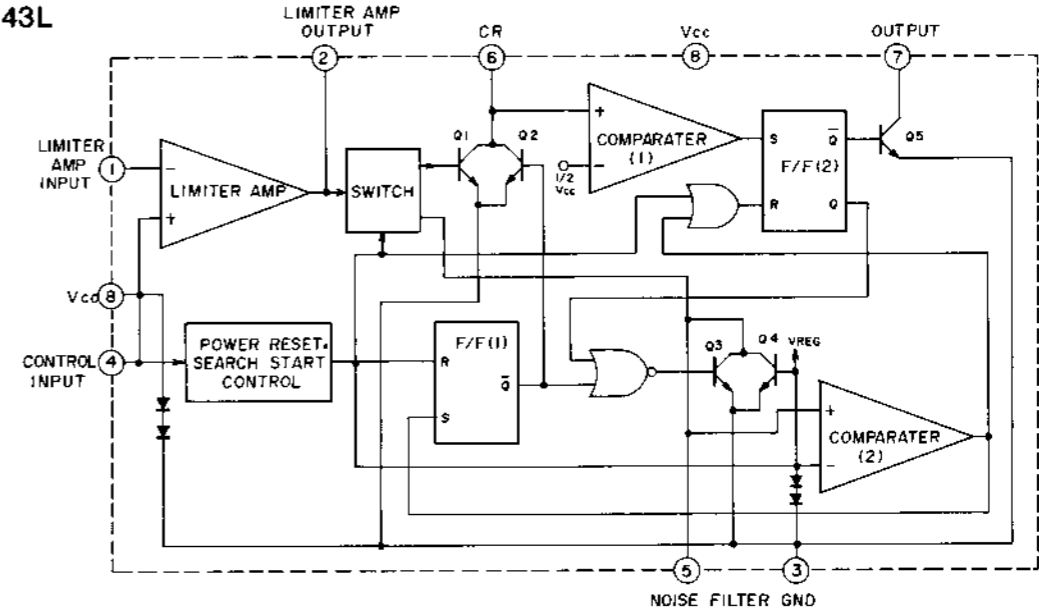
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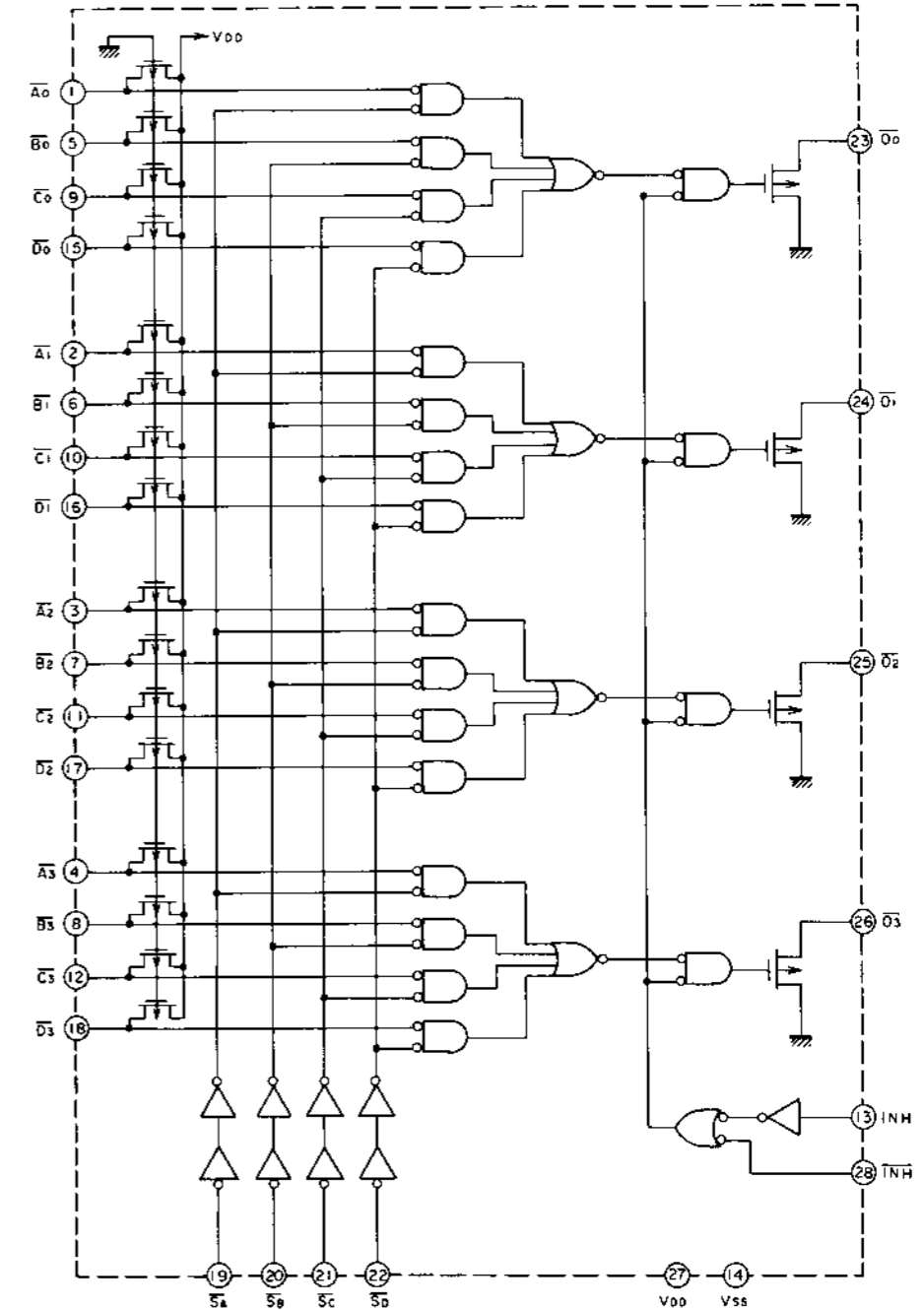
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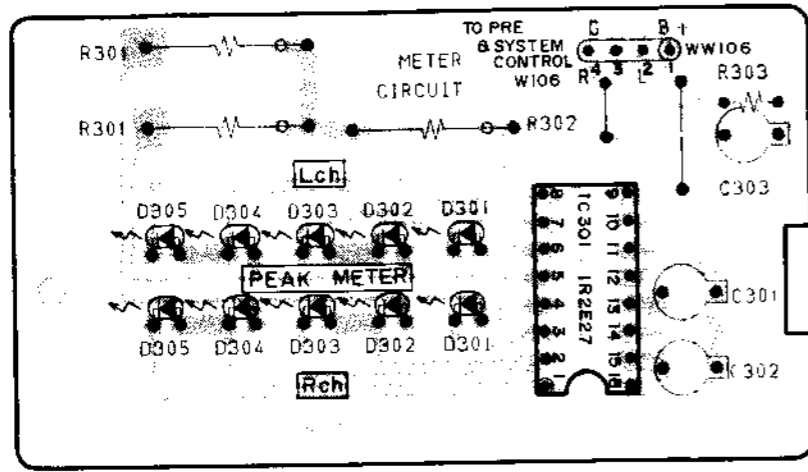


M51143L



LC7800



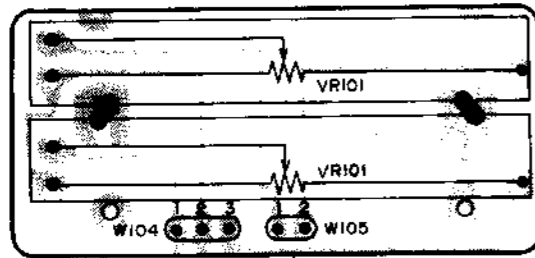


METER PCB T209IA501D

メーター基板

録音ボリューム基板

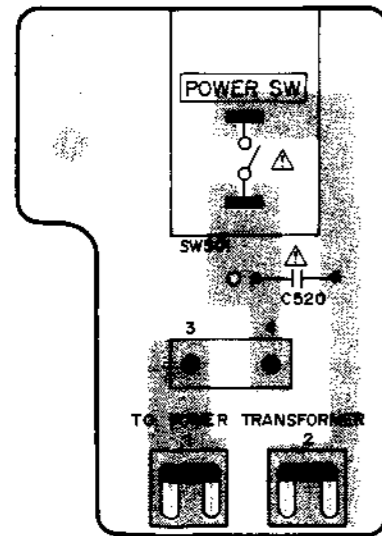
VR PCB T209IA501B



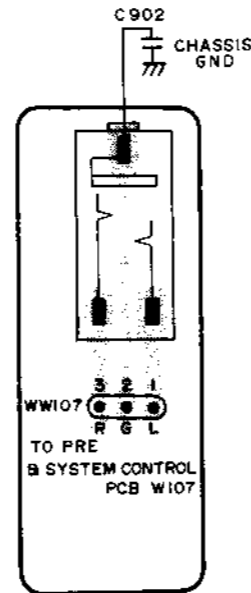
TO PRE & SYSTEM CONTROL PCB
W104, W105

電源スイッチ基板

POWER SW PCB
T209IA501E

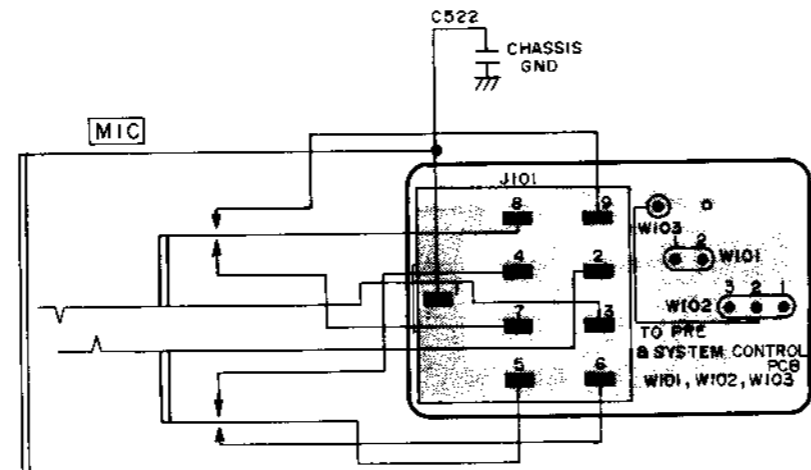


注意: △の付された部品は、安全上重要部品です。交換の際は、指定部品以外は使用しないこと。
 WARNING: △ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.
 AVERTISSEMENT: △ IL INDIQUE LES COMPOSANTS CRITIQUES DE SECURITE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL, NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT.

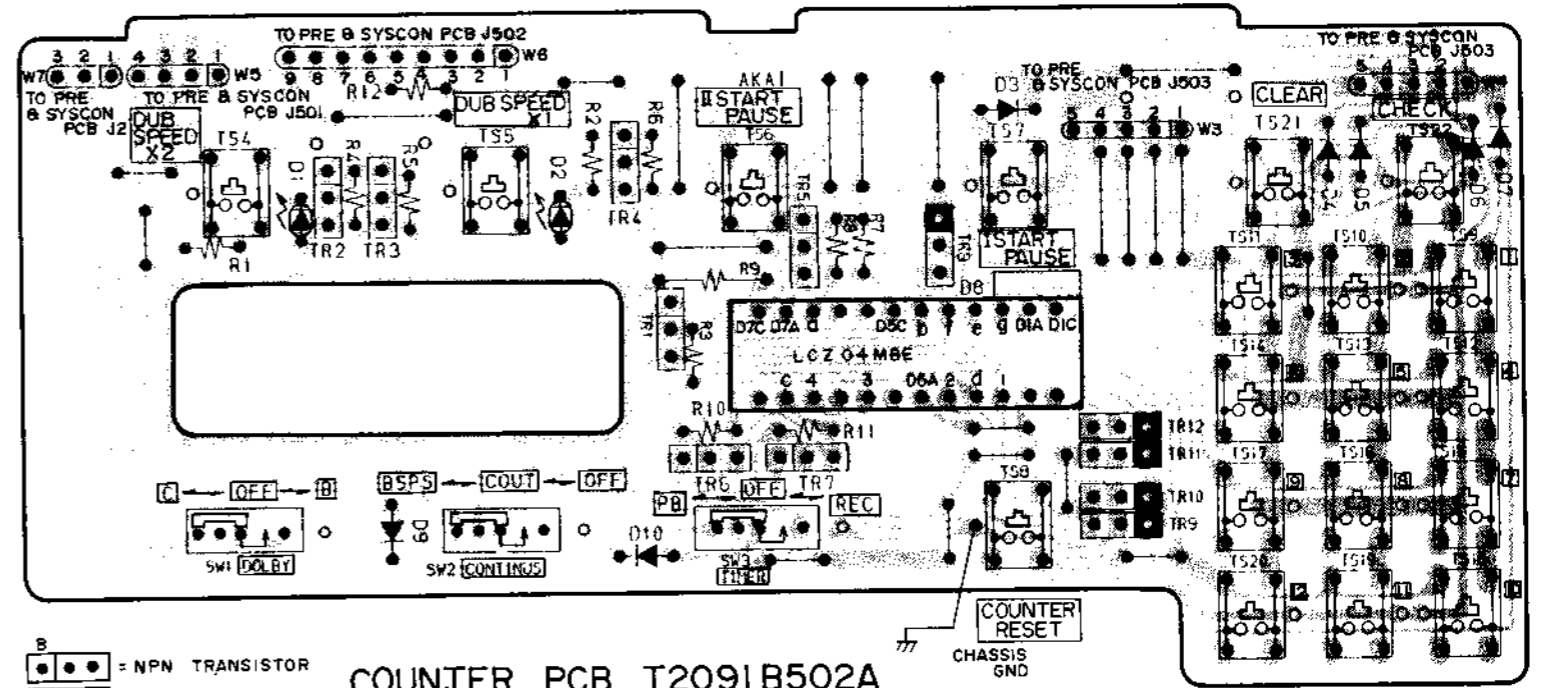


HEAD PHONES PCB
T209IA501C

ヘッドホン基板



MIC JACK PCB
T209IA501F
マイクジャック基板



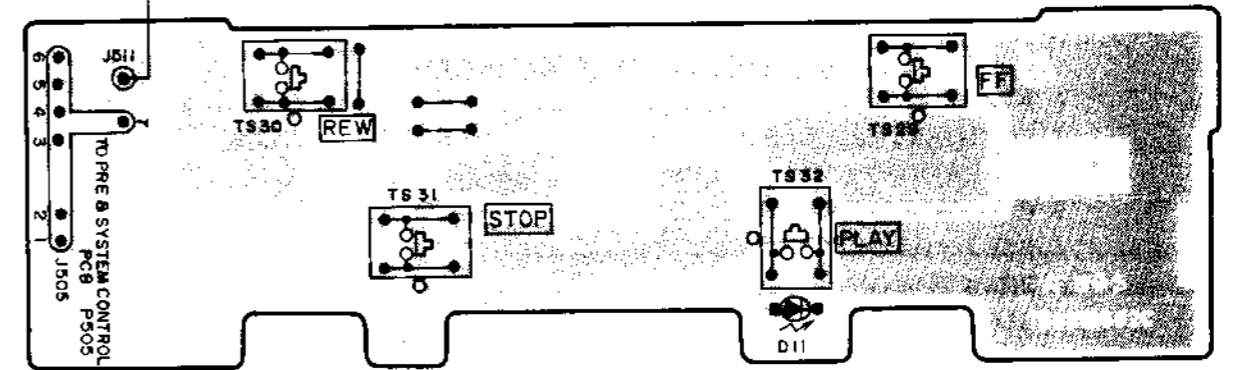
COUNTER PCB T209IB502A

カウンター基板

TR1, TR2, TR3, TR4, TR5, TR6,
TR7 2SC2021(Q,R)
TR8, TR9, TR10, TR11, TR12
..... UN1124

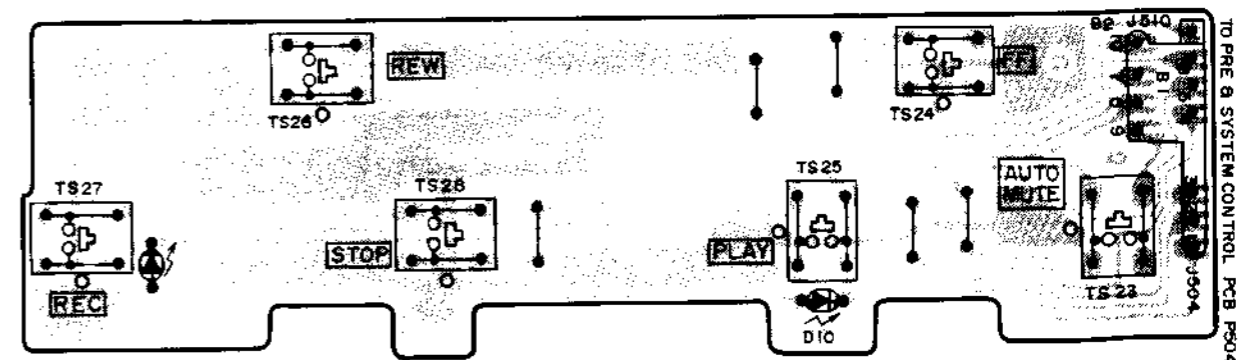
オペレーション基板(TAPE I)

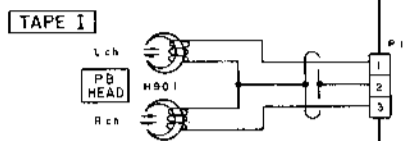
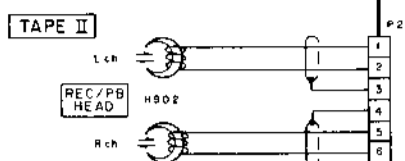
OPERATION PCB (TAPE I) T209IB502C



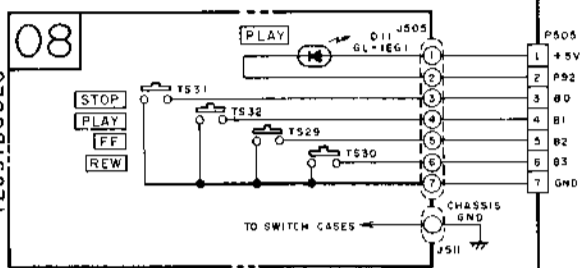
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OPERATION PCB (TAPE II) T209IB502B

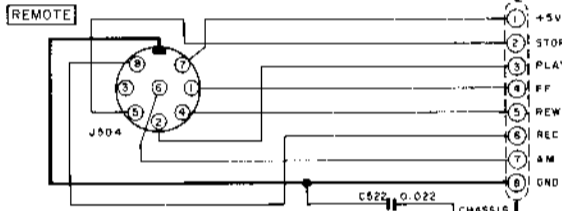
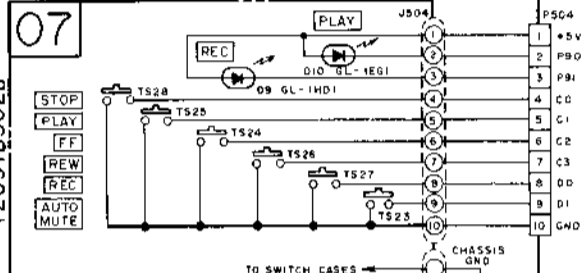




オペレーション基板(TAPE I)
OPERATION PCB(TAPE I)
T2091B502C

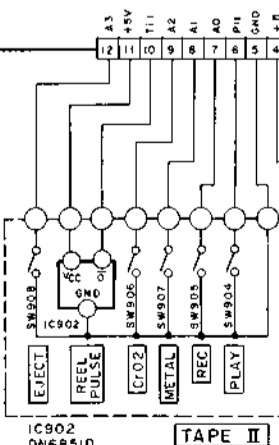
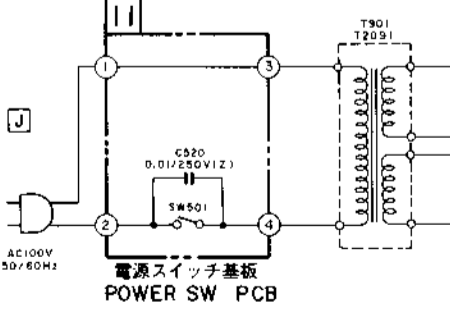
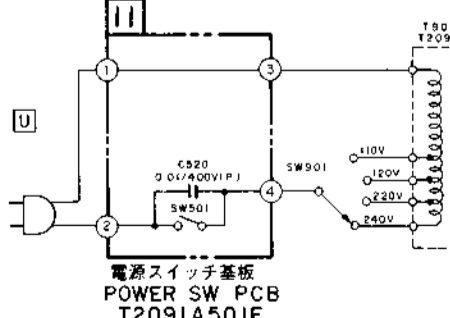
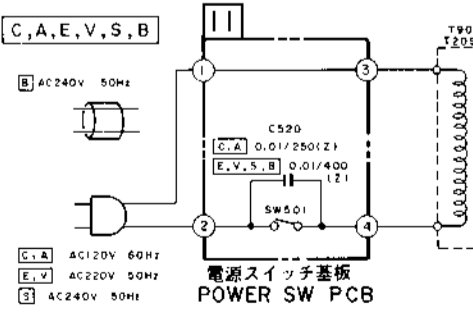
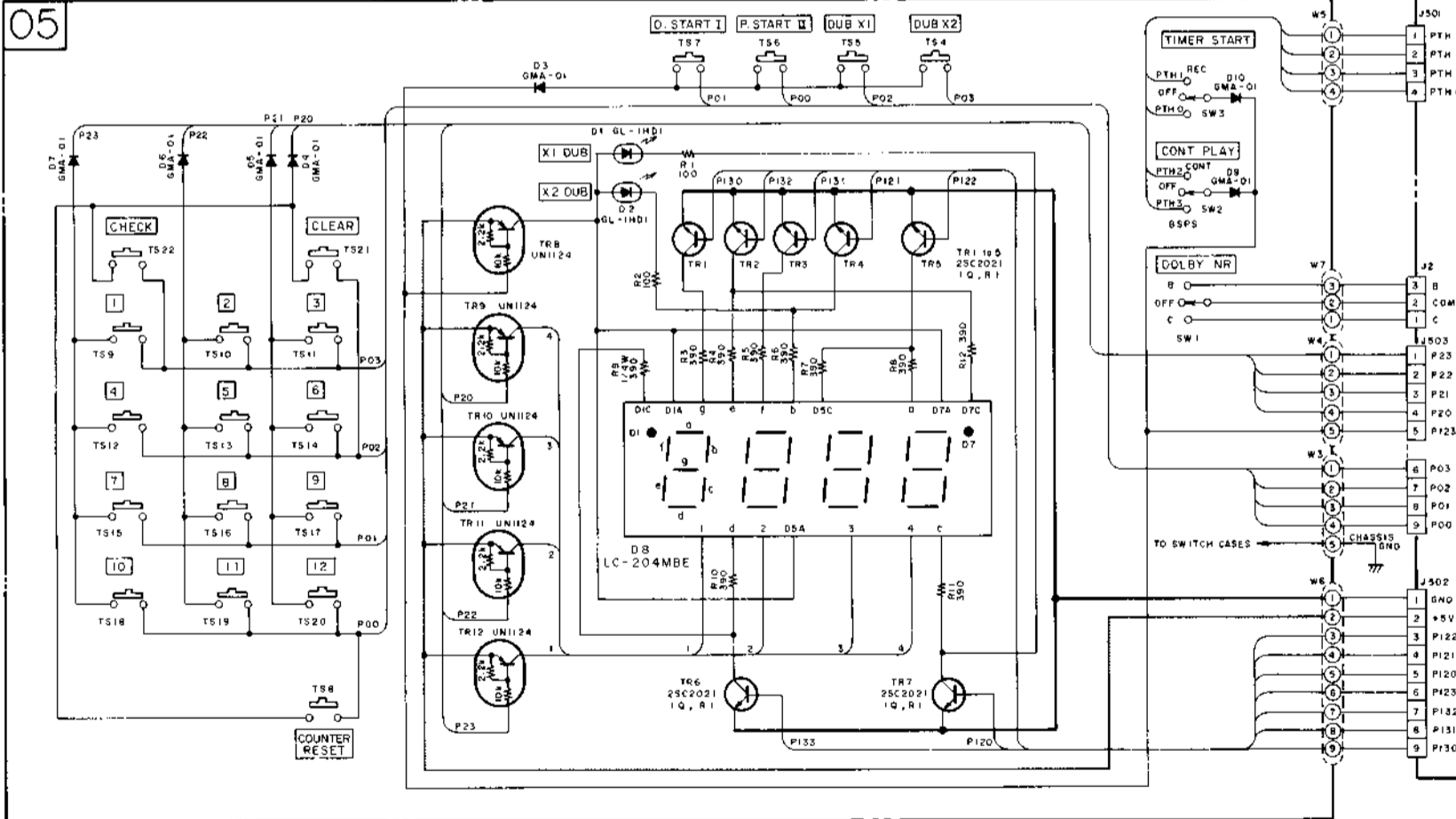


オペレーション基板(TAPE II)
OPERATION PCB(TAPE II)
T2091B502B



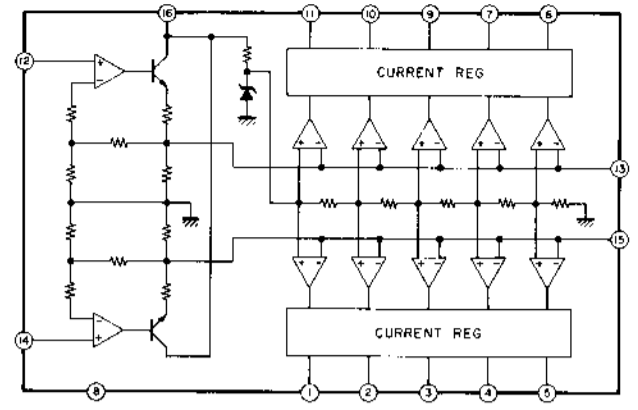
カウンター基板 COUNTER PCB T2091B502A

05

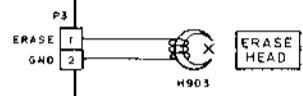


プリアンプ/システムコントロール基板
PREAMP AND SYSTEM CONTROL PCB
T2091A501A

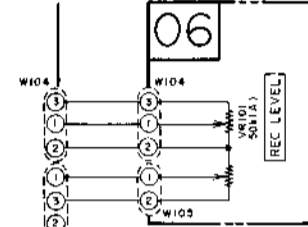
IR2E27A



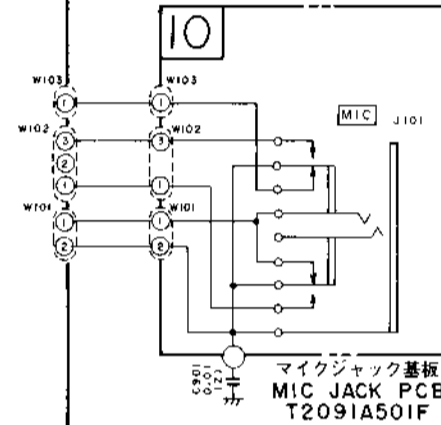
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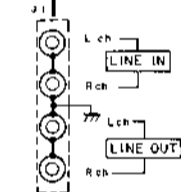
録音ボリューム基板
VR PCB T2019A501B



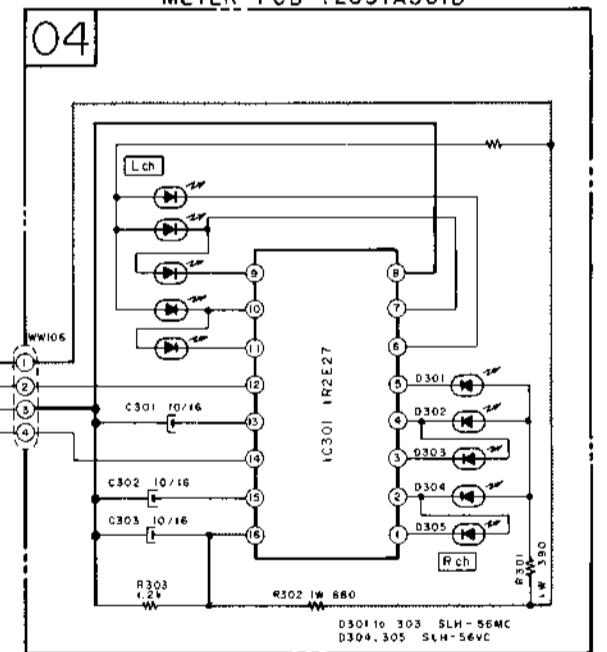
10



マイクジャック基板
MIC JACK PCB
T2091A501F



メーター基板
METER PCB T2091A501D

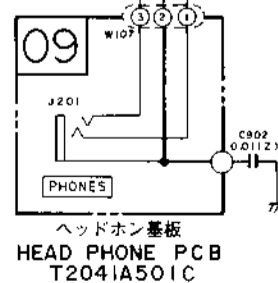


R電源 B (POWER SUPPLY) PCB

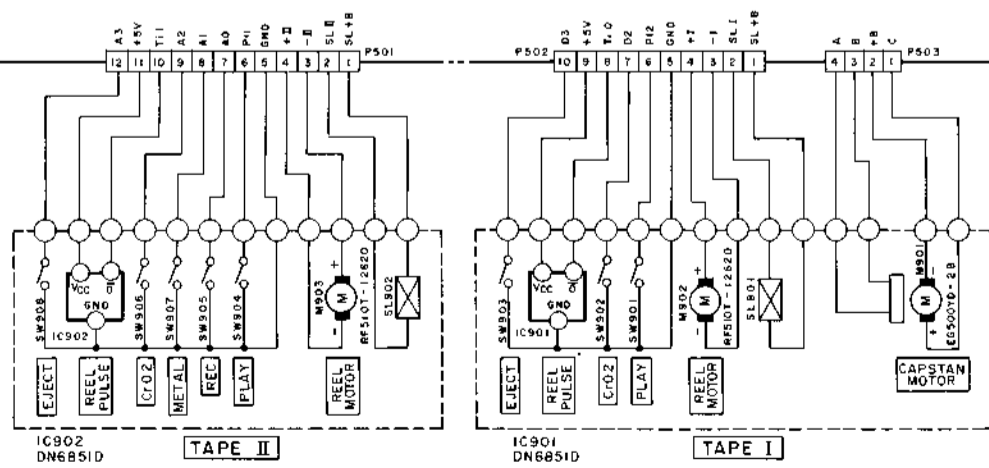
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W(J)
ALL CAPACITORS IN μF 50WV(J)
POWER TRANSFORMER IS DIFFERENT
ACCORDING TO AREA

備考
Cの単位(特に指定された部品以外)
抵抗……………Ω(1/6W(J))、(FS)記号は不燃性部品
コンデンサ……………μF 50WV(J)
各電圧は、GNDからのDC電圧をデジタルマルチメーターにて
測定した値です

HX-A451W
CONNECTION DIAGRAM
NO. 2-1 860822A



ヘッドホン基板
HEAD PHONE PCB
T2041A501C



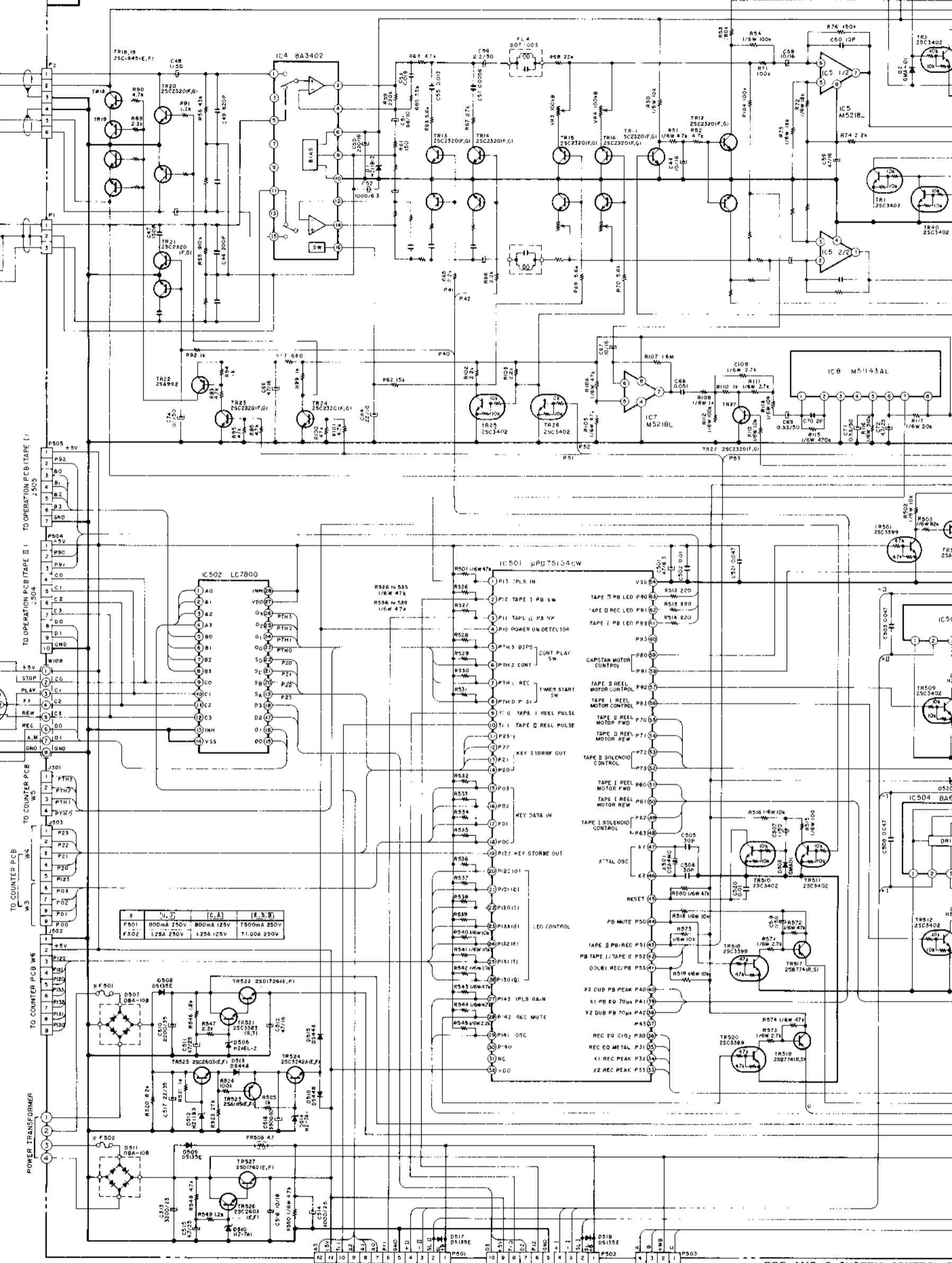
IC902
DN6851D

TAPE II

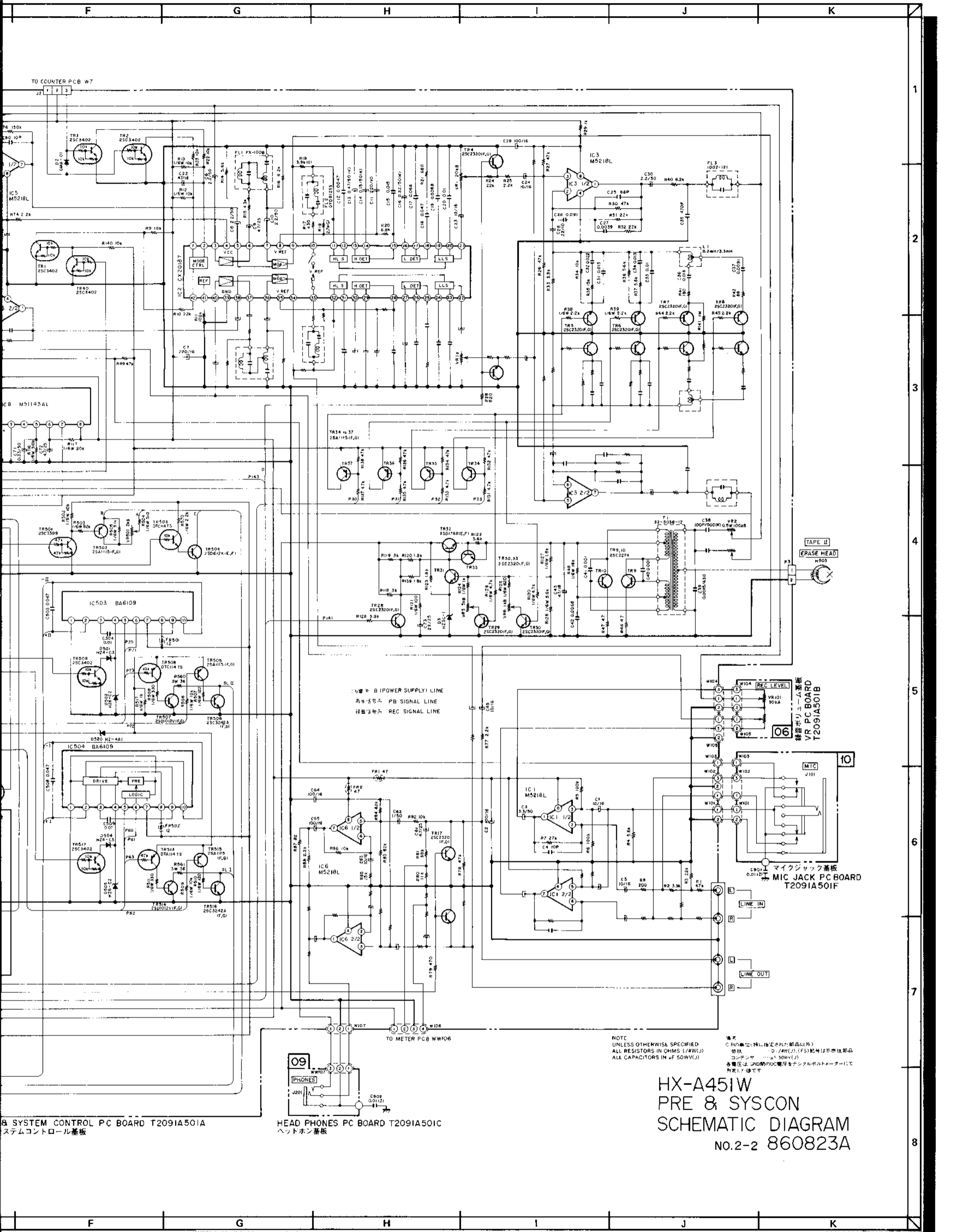
IC901
DN6851D

TAPE I

ヘッドホン基板
HEAD PHONE PCB
T2041A501C



PRE AMP & SYSTEM CONTROL PC BOARD T2091A501
プリアンプ/システムコントロール基板



① B POWER SUPPLY LINE
 ② PB SIGNAL LINE
 ③ REC SIGNAL LINE

NOTE
 UNLESS OTHERWISE SPECIFIED
 ALL RESISTORS IN OHMS (1/4W, 1/2W)
 ALL CAPACITORS IN μF (50V, 10V)

備考
 ○ Rの単位(特に指定された部品以外)
 抵抗 Ω / k(1k) / M(1M) / F(5) 記号は不変性部品
 コンデンサ μ / F(50V) / V(10V)
 ※電圧は、ICの動作電圧を参照してください
 ※実装は、図に示すように行なってください

HX-A45IW
 PRE & SYSCON
 SCHEMATIC DIAGRAM
 No.2-2 860823A

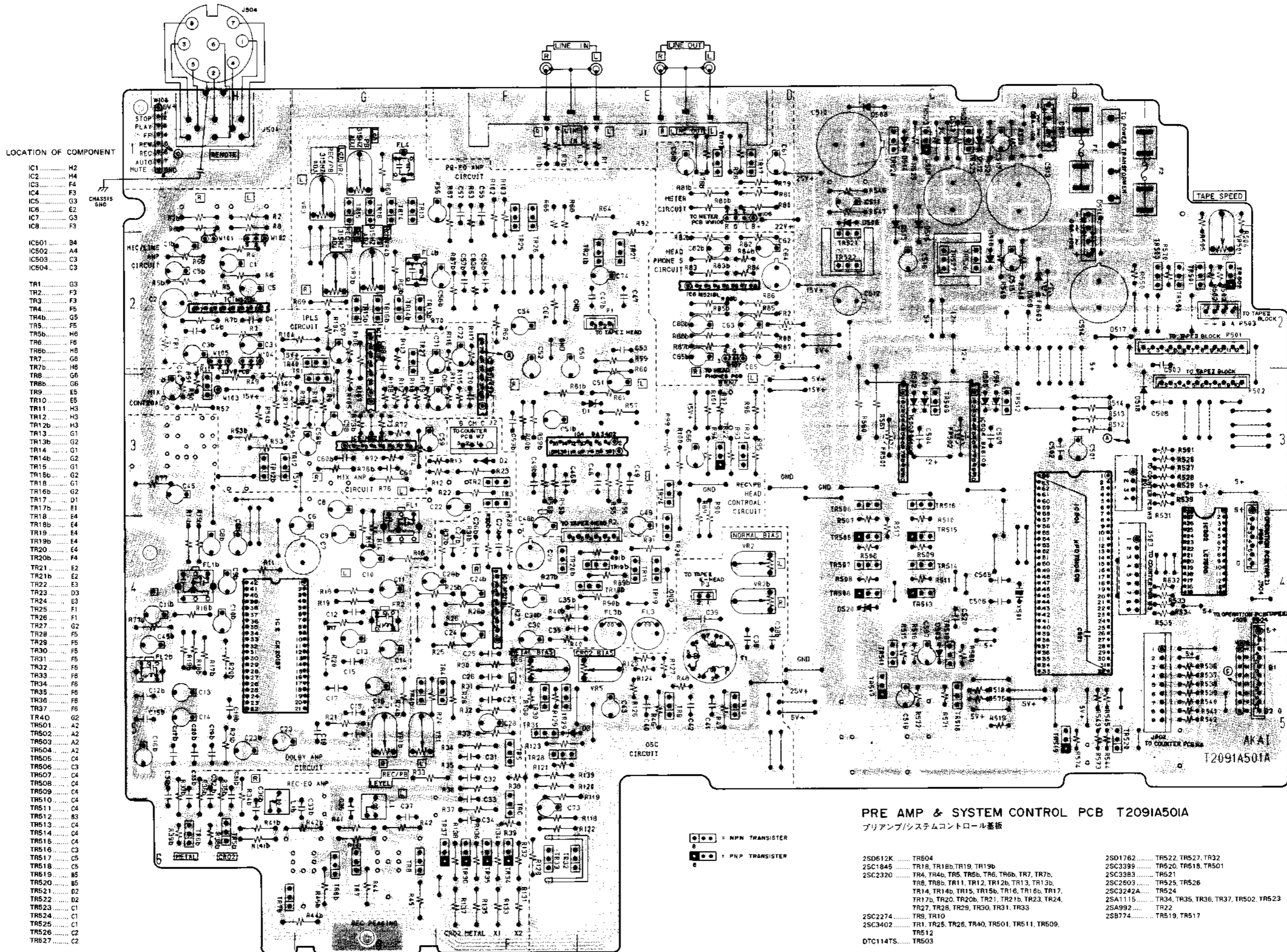
SYSTEM CONTROL PC BOARD T209IA501A
 システムコントロール基板

HEAD PHONES PC BOARD T209IA501C
 ヘッドホン基板

録音用コンピュータ基板
 VR PC BOARD
 T209IA501B

マイクジャック基板
 MIC JACK PC BOARD
 T209IA501F

1
2
3
4
5
6
7
8



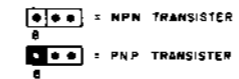
LOCATION OF COMPONENT

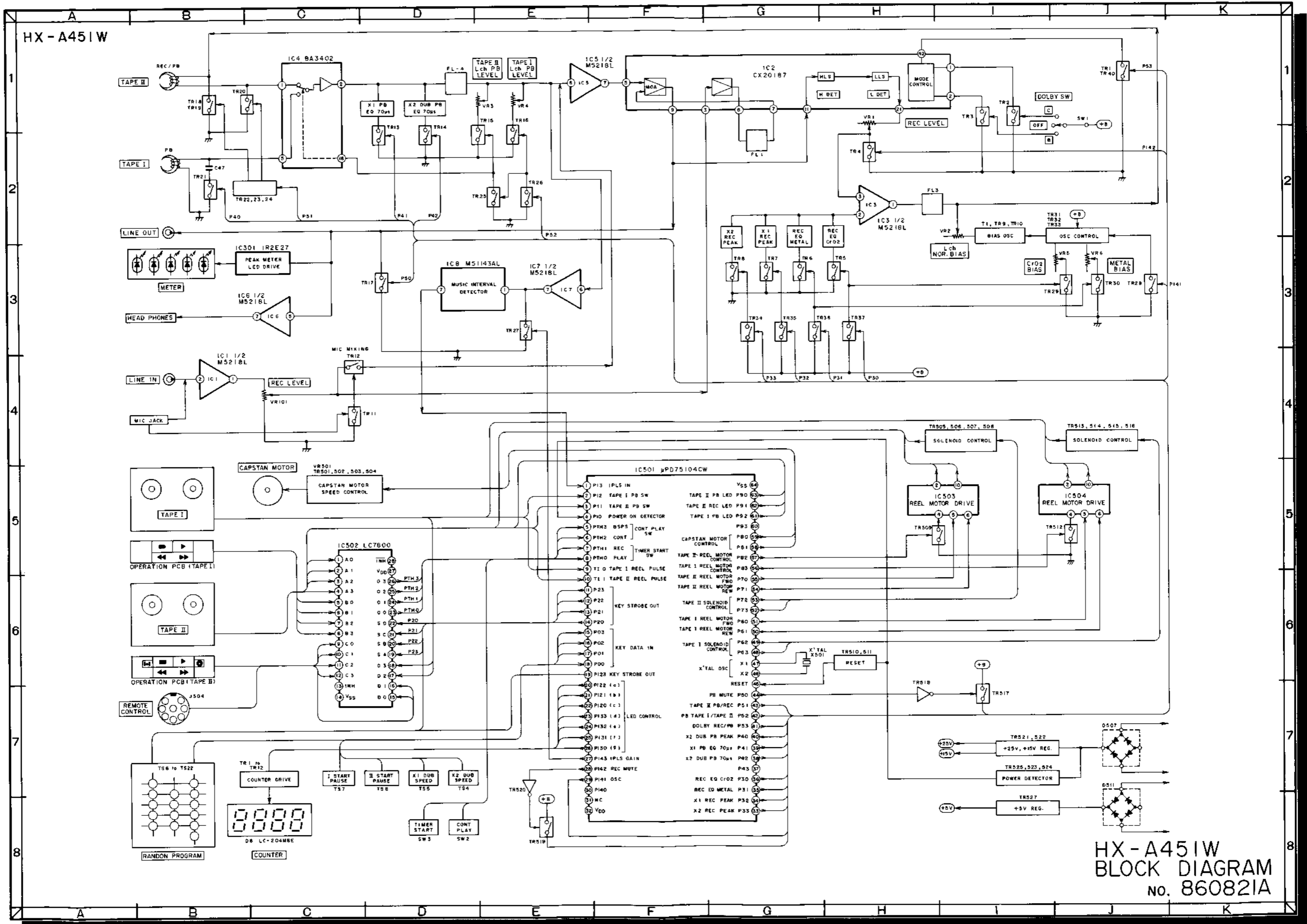
- IC1 H2
- IC2 H4
- IC3 F4
- IC4 F3
- IC5 G3
- IC6 E2
- IC7 G3
- IC8 F3

- IC501 B4
- IC502 A4
- IC503 C3
- IC504 C3

- TR1 G3
- TR2 F3
- TR3 F3
- TR4 F5
- TR4b G5
- TR5 F5
- TR6 F6
- TR6b H6
- TR7 G6
- TR7b H6
- TR8 G6
- TR8b G6
- TR9 E5
- TR10 E5
- TR11 H3
- TR12 H3
- TR12b H3
- TR13 G1
- TR13b G2
- TR14 G1
- TR14b G2
- TR15 G1
- TR16 G2
- TR16b G2
- TR17 D1
- TR17b E1
- TR18 E4
- TR18b E4
- TR19 E4
- TR19b E4
- TR20 E4
- TR20b F4
- TR21 E2
- TR21b E2
- TR22 E3
- TR23 D3
- TR24 E3
- TR25 F1
- TR26 F1
- TR27 G2
- TR28 F5
- TR29 F6
- TR30 F6
- TR31 F5
- TR32 F6
- TR33 F8
- TR34 F6
- TR35 F6
- TR36 F8
- TR37 F6
- TR40 G2
- TR501 A2
- TR502 A2
- TR503 A2
- TR504 A2
- TR505 C3
- TR506 C4
- TR507 C4
- TR508 C4
- TR509 C4
- TR510 C4
- TR511 C4
- TR512 B3
- TR513 C4
- TR514 C4
- TR515 C4
- TR516 C3
- TR517 C5
- TR518 C5
- TR519 B5
- TR520 B5
- TR521 D2
- TR522 D2
- TR523 C1
- TR524 C1
- TR525 C1
- TR526 C2
- TR527 C2

- PRE AMP & SYSTEM CONTROL PCB T2091A501A**
 プリアンプ/システムコントロール基板
- 25D612K TR504
 - 25C1845 TR18, TR18b, TR19, TR19b
 - 25C2320 TR4, TR4b, TR5, TR5b, TR6, TR6b, TR7, TR7b, TR8, TR8b, TR11, TR12, TR12b, TR13, TR13b, TR14, TR14b, TR15, TR15b, TR16, TR16b, TR17, TR17b, TR20, TR20b, TR21, TR21b, TR23, TR24, TR27, TR28, TR29, TR30, TR31, TR33
 - 25C2274 TR9, TR10
 - 25C3402 TR1, TR25, TR26, TR40, TR501, TR511, TR509, TR512
 - DTC1147S TR503
 - 25D1762 TR522, TR527, TR32
 - 25C3399 TR20, TR618, TR501
 - 25C3383 TR621
 - 25C2603 TR525, TR526
 - 25C3242A TR524
 - 25A1115 TR34, TR35, TR36, TR37, TR502, TR623
 - 25A992 TR22
 - 25B774 TR519, TR517





HX-A451W
BLOCK DIAGRAM
No. 860821A