

MHC-5500

SERVICE MANUAL

- MHC-5500 is composed of following models.

As for the service manual, it is issued for each component model, then, please refer to it.

COMPONENT MODEL NAME FOR MHC-5500

AMPLIFIER	TA-H500
CASSETTE DECK	TC-H500
TUNER	ST-H500
CD PLAYER	CDP-H500
SPEAKER SYSTEM	SS-H5500

PARTS LIST

NOTE:

- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- IT: Italian model

ACCESSORY & PACKING MATERIAL

Part No.	Description
1-465-409-11	REMOTE COMMANDER(RM-S500)
1-501-369-11	ANTENNA
1-501-374-11	ANTENNA, LOOP
1-557-954-21	(US)...CORD, SPEAKER CONNECTION
1-574-264-11	CORD, LIGHT PLUG
1-575-667-11	CORD (WITH CONNECTOR)
*3-354-980-02	CUSHION(for TC-H500)
3-707-584-11	COVER, BATTERY(for RM-S500)
3-751-599-11	(AEP, UK, IT)...MANUAL, INSTRUCTION
3-751-599-21	(US)...MANUAL, INSTRUCTION
3-751-599-41	(AEP)...MANUAL, INSTRUCTION
4-026-824-01	BAG, PROTECTION(for SS-H5500)
*4-857-137-01	CUSHION(for SS-H5500)
4-884-884-00	SHEET, PROTECTION(for ST-H500)
4-910-323-01	SHEET, PROTECTION(for TC-H500)
4-920-941-01	SHEET(B), PROTECTION(for CDP-H500)
*4-929-703-01	CUSHION(L) (for CDP-H500)
*4-929-704-01	CUSHION(R) (for CDP-H500)
*4-932-849-01	CUSHION(for ST-H500)
*4-932-867-01	CUSHION(for TA-H500)
*4-934-450-01	(U, AEP:TYPE1, UK) ...INDIVIDUAL CARTON(for TA/ST/TC/CDP)
*4-934-451-01	(AEP:TYPE2, IT) ...INDIVIDUAL CARTON(for TA/TC/CDP)
*4-934-467-01	INDIVIDUAL CARTON(for ST-H500)
*4-938-404-01	INDIVIDUAL CARTON(for SS-H5500)

SPECIFICATIONS

Power requirements

US model: 120 V, 60 Hz
AEP model: 220 V, 50/60 Hz
UK model: 240 V, 50 Hz

Power consumption

AEP model: 120 watts
UK model: 240 watts

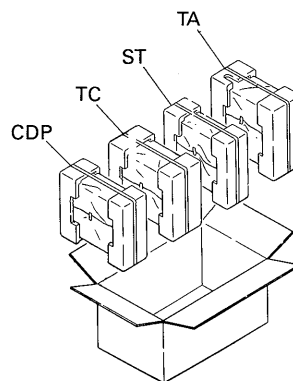
Supplied accessories

Remote Commander (1)
Sony SUM-3(NS) batteries (2)
Flat cord (1)
Optical digital cord (1)
AM loop antenna (1)
FM antenna (1)

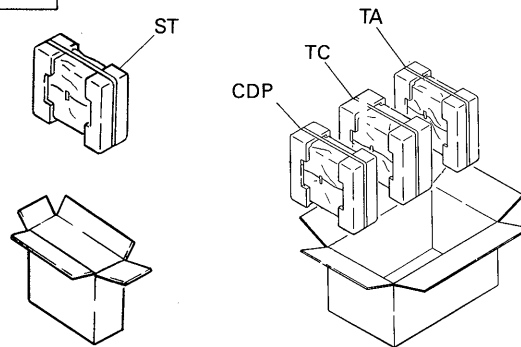
Design and specifications subject to change without notice.

AEP MODEL PACKING FORM

TYPE 1



TYPE 2

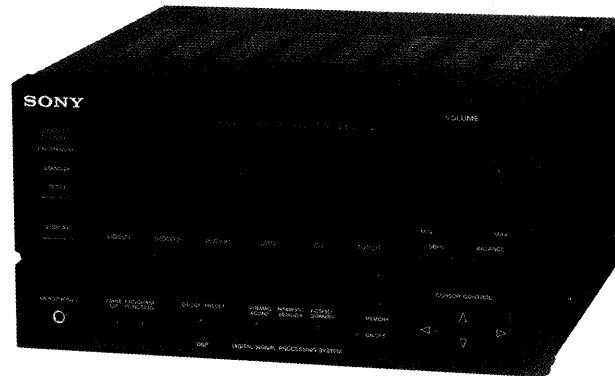


COMPACT HI-DENSITY
COMPONENT SYSTEM
SONY®

TA-H500

SERVICE MANUAL

*AEP Model
UK Model*



This set is the amplifier section in
MHC-5500.

SPECIFICATIONS

Continuous RMS power output	45 + 45 watts (6 ohms at 1 kHz, 5% THD)
Inputs	PHONO (phono jack): sensitivity 5 mV, impedance 47 kilohms
Outputs	HEADPHONES (stereo minijack): accepts headphones of 8 ohms or more. SPEAKER: accepts speakers of 6 to 16 ohms.
Dimensions	Approx. 225 × 120 × 280 mm (w/h/d)
Weight	5.5 kg

Design and specifications subject to change
without notice.

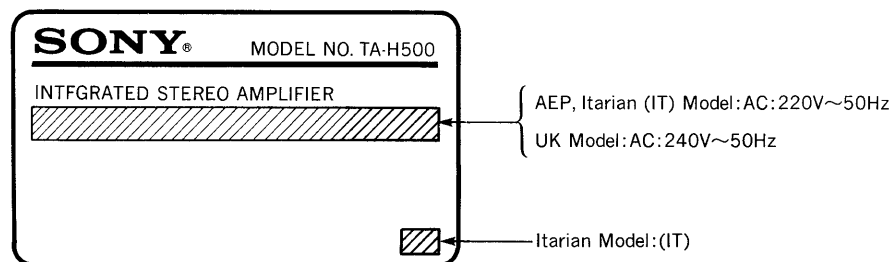
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

INTEGRATED STEREO AMPLIFIER
SONY®

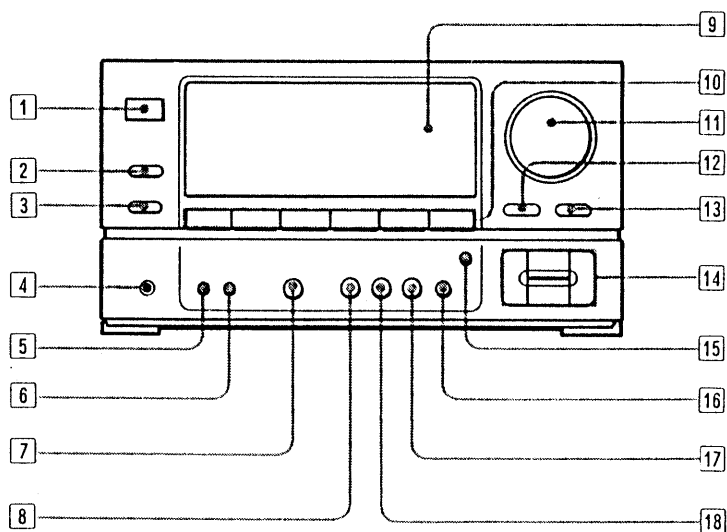
MODEL IDENTIFICATION

—Model Number Label—



SECTION 1 GENERAL

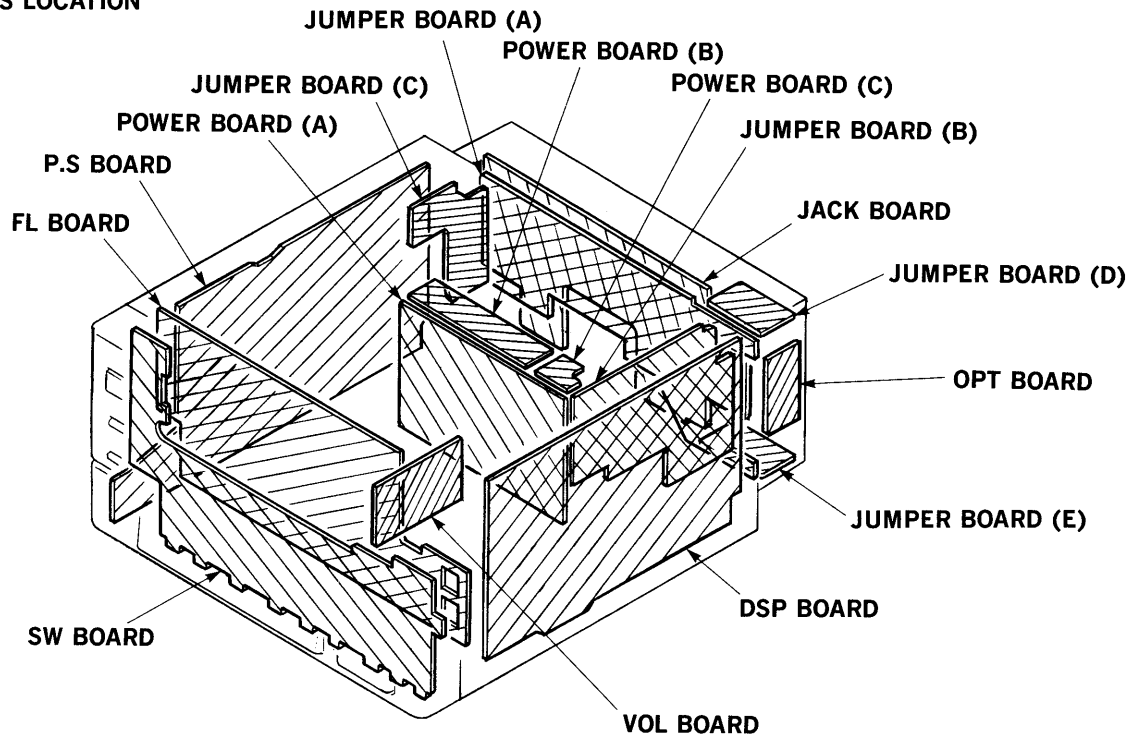
1-1. PARTS IDENTIFICATION



- 1** SYSTEM POWER switch and STANDBY indicator
It remains lit as long as the AC power cord is connected to a wall outlet.
- 2** DEMO button
- 3** DISPLAY button
- 4** HEADPHONES jack (stereo minijack)
- 5** WAKE UP button
- 6** PROGRAM FUNCTION button
- 7** DSP button and PRESET and DIRECT indicators
- 8** DYNAMIC SOUND button
- 9** Display window
- 10** Function selectors
- 11** VOLUME control
- 12** DBFB (Dynamic Bass Feedback) button
- 13** BALANCE button
- 14** CURSOR CONTROL buttons
- 15** MEMORY button
- 16** ON/OFF button
- 17** PRESENCE SURROUND button
- 18** PARAMETRIC EQUALIZER button

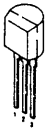
SECTION 2 DIAGRAMS

2-1. CIRCUIT BOARDS LOCATION



2-2. SEMICONDUCTOR LEAD LAYOUTS

LM317LZRA



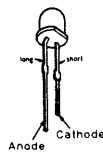
DTA144WS
DTC114ES
2SC2603-EF
2SC3622A-LK



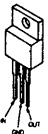
2SD1387
2SD1616A-K



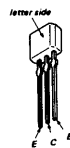
SEL2210S



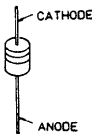
M5F7805
M5F7812
M5278D56



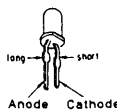
2SA1175-HFE



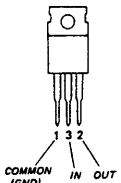
HZS24-3L
HZS30-2L
1SS120
11ES2



SEL2410E-D
SEL2910A-D



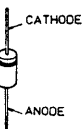
M5F7912
M5F7924



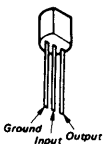
2SA988-F
2SC1841-PAFAEA
2SC3864
2SD1761-EF



HZS6B1L
UZL-20M
UZL-6M2
UZP-3.3BB
UZP-5.6B
10E2N

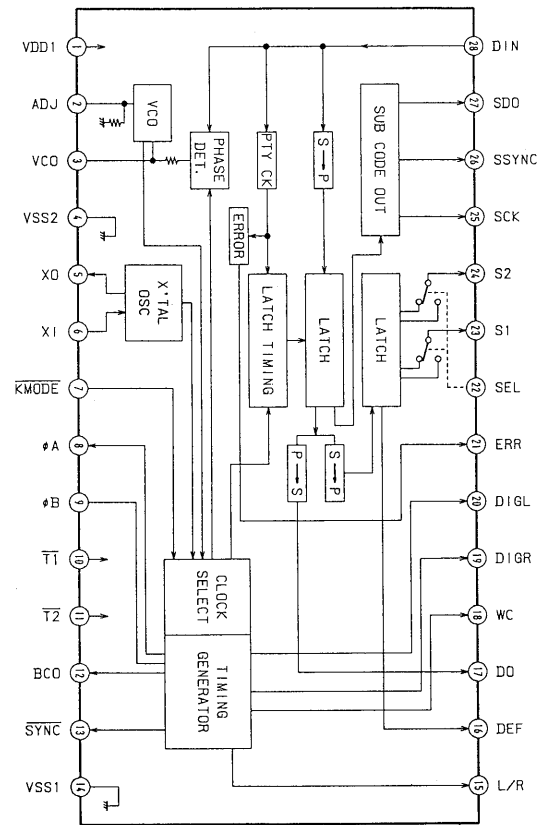
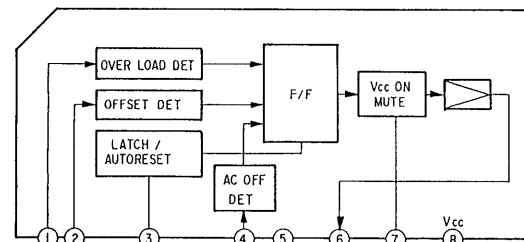


RC79L05A

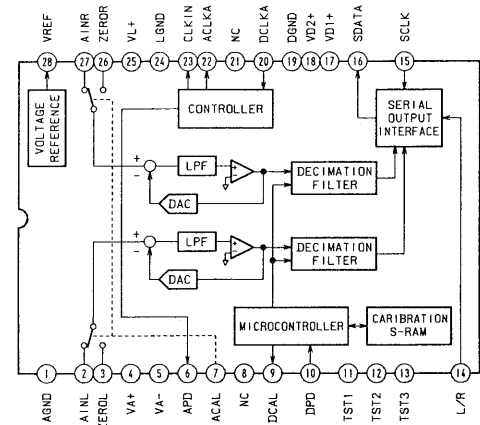


IC Block Diagrams

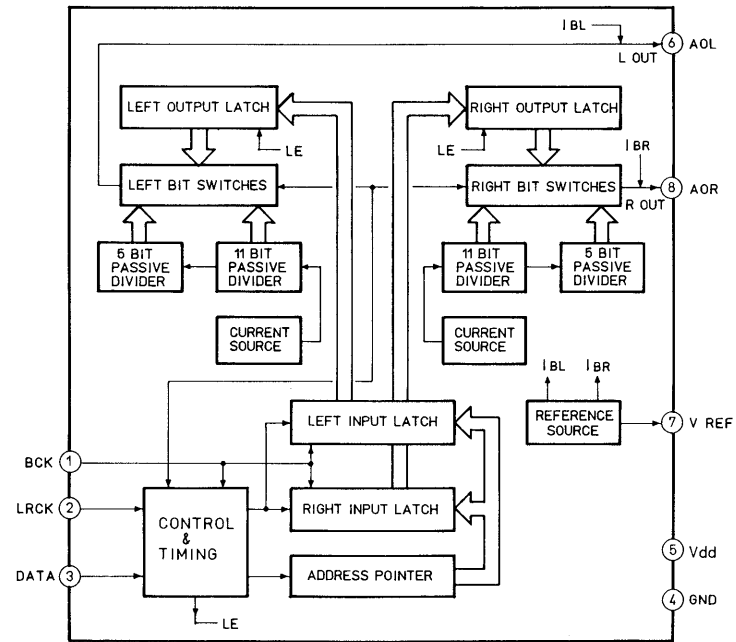
IC401 YM3623B

IC802 μ PC1237HA

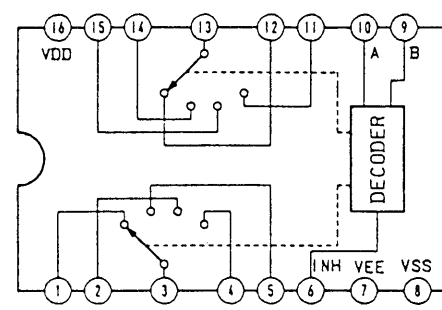
IC302 CS5326-KP



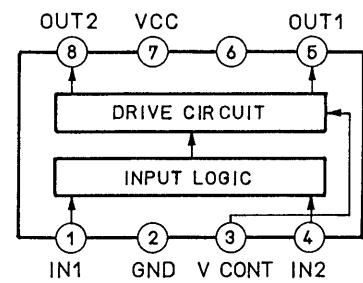
IC303 TDA1543A-S1



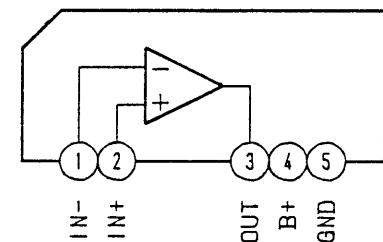
IC707, 708 TC4052BPHB



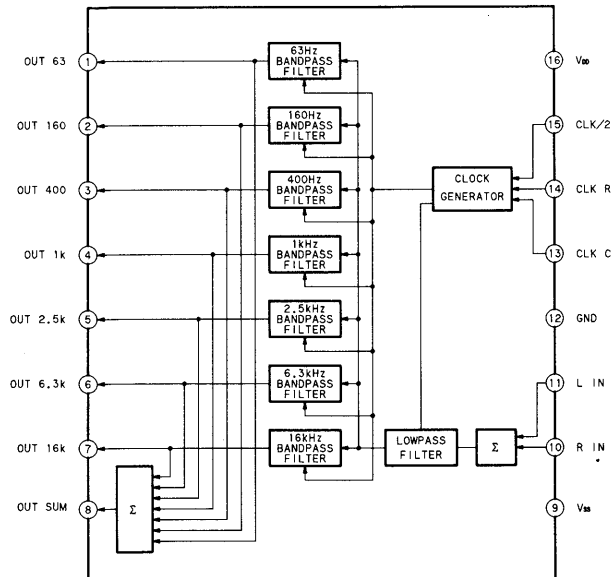
IC501 LB1639



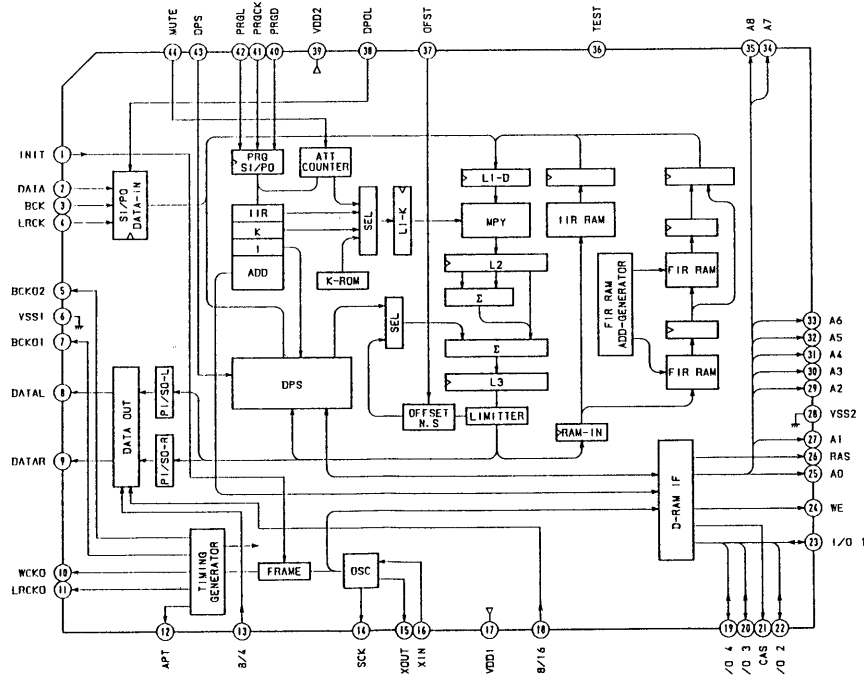
IC804 M5239L



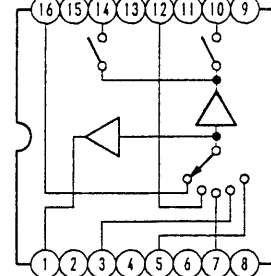
IC705, 706 XR1091



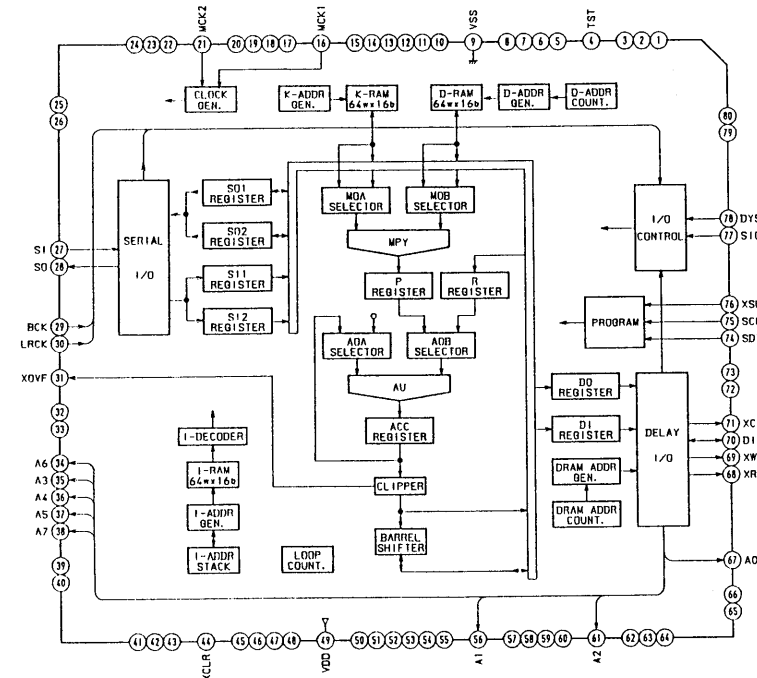
IC404 CXD1355Q



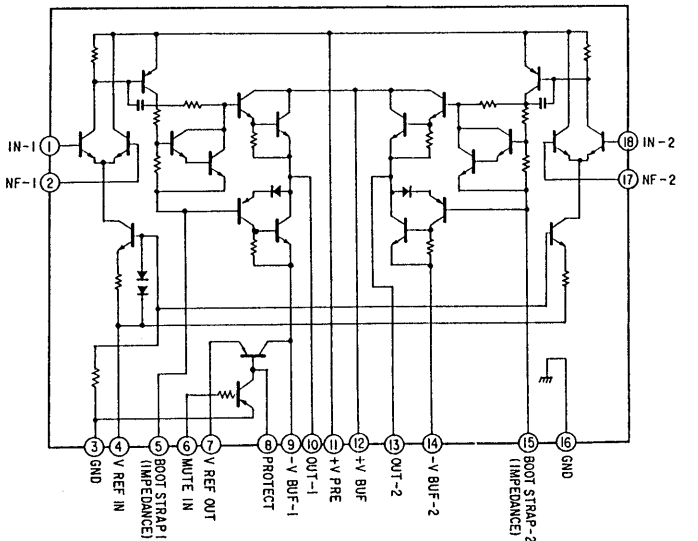
IC121 BA7625



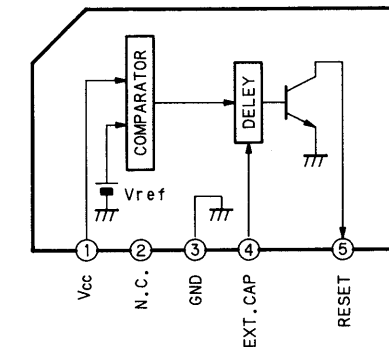
IC402, 403 CXD1160AQ



IC801 STK4162-II



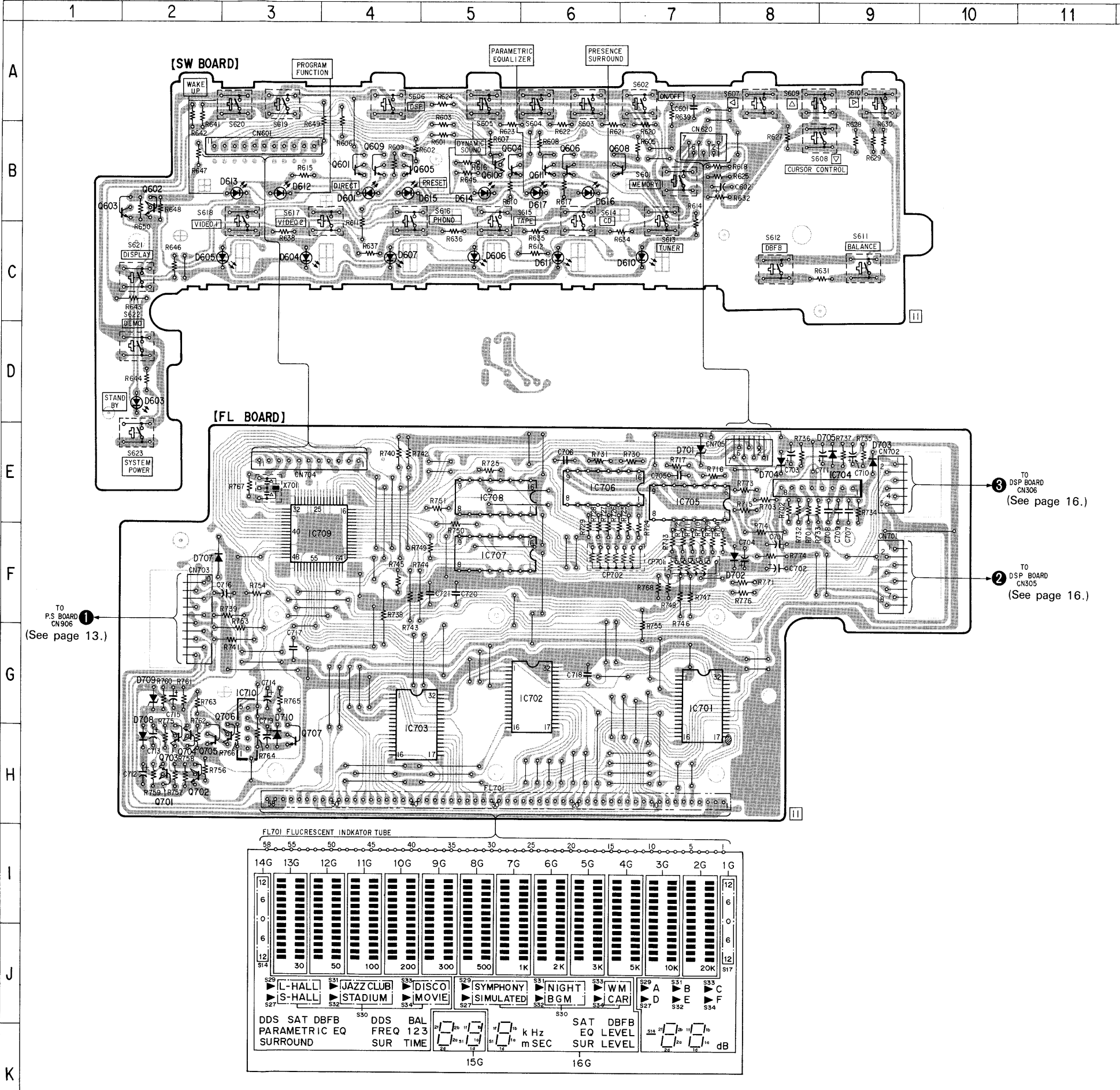
IC710 M51953BL

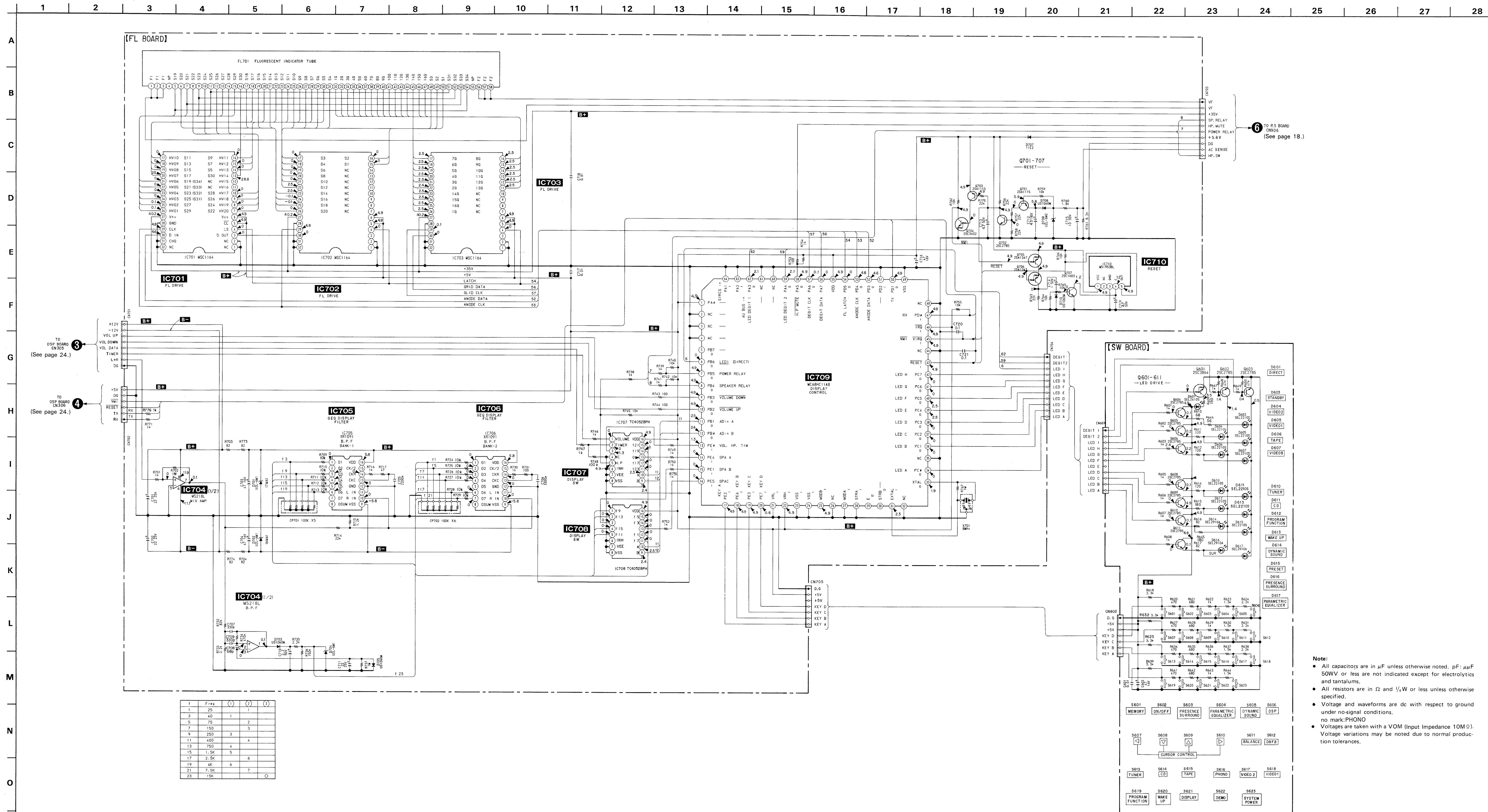


● Semiconductor Location 2-3. PRINTED WIRING BOARDS — Display Section —

Ref. No.	Location
D601	B-4
D603	D-2
D604	C-3
D605	C-2
D606	C-5
D607	C-4
D610	C-7
D611	C-6
D612	B-3
D613	B-3
D614	B-5
D615	B-4
D616	B-6
D617	B-6
D701	E-7
D702	F-8
D703	E-9
D704	E-8
D705	E-9
D707	F-2
D708	H-2
D709	G-2
D710	H-3
IC701	G-7
IC702	G-6
IC703	G-4
IC704	E-8
IC705	E-7
IC706	E-6
IC707	F-5
IC708	E-5
IC709	F-3
IC710	G-3
Q601	B-4
Q602	B-2
Q603	B-1
Q604	B-5
Q605	B-4
Q606	B-6
Q609	B-4
Q610	B-5
Q611	B-6
Q701	H-2
Q702	H-2
Q703	H-2
Q704	H-2
Q705	H-2
Q706	H-3
Q707	H-4

Note:
● ○ : parts extracted from the component side.
● — : parts extracted from the conductor side.





Note:

- All capacitors are in μF unless otherwise noted. $\text{pF} = \mu\text{F} \times 10^{-6}$ 50VW or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.

no mark:PHONO

Voltag es are taken with a VOM (Input Impedance 10M Ω).

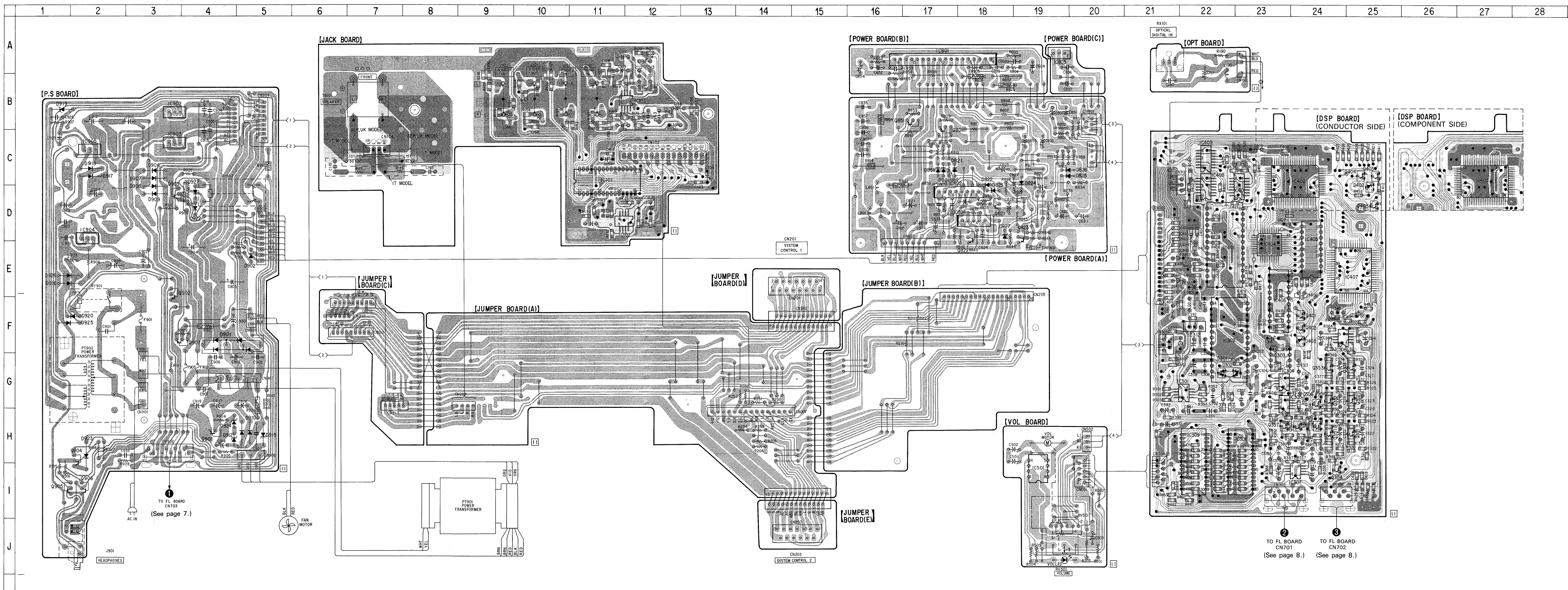
Voltage variations may be noted due to normal production tolerances.

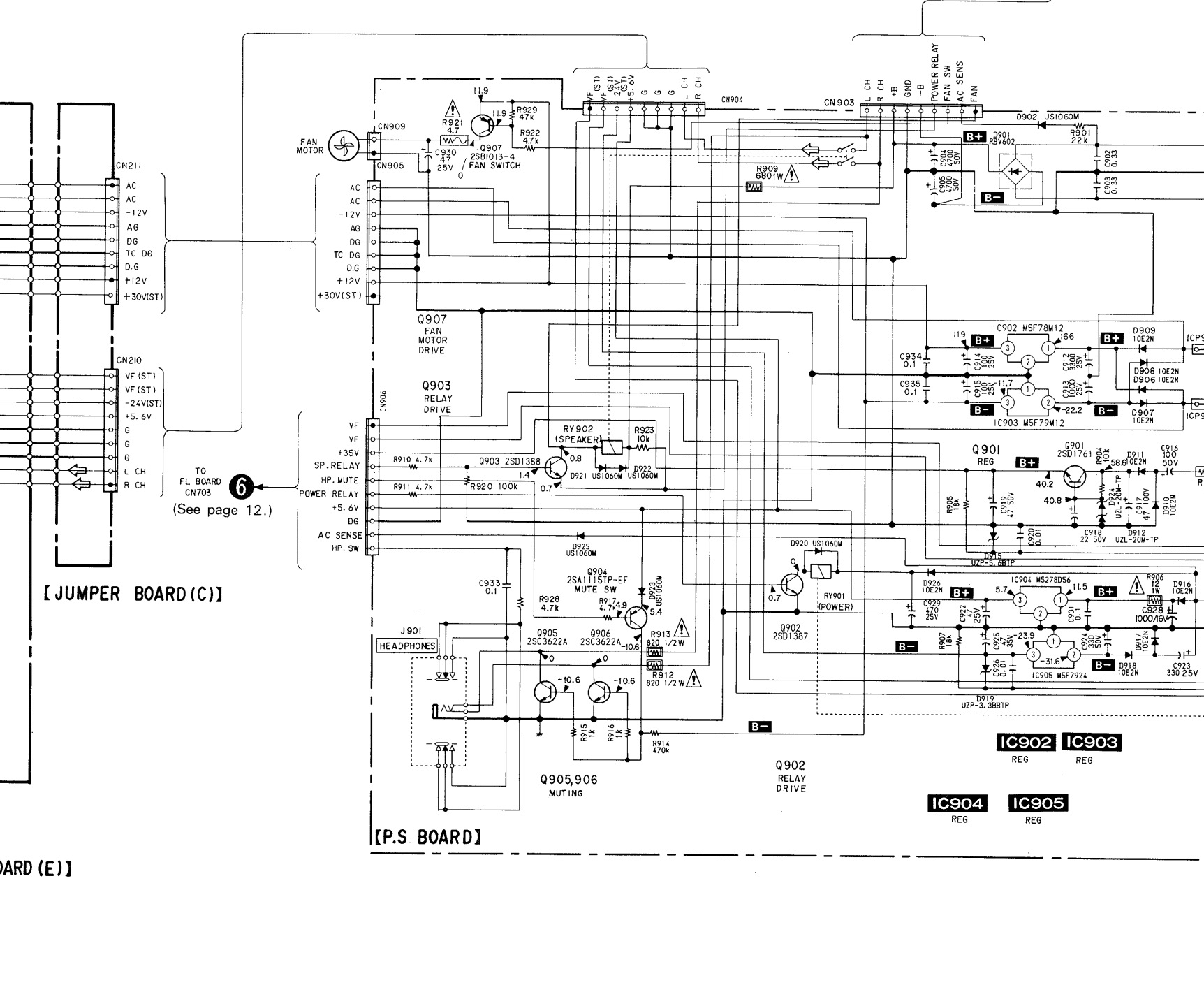
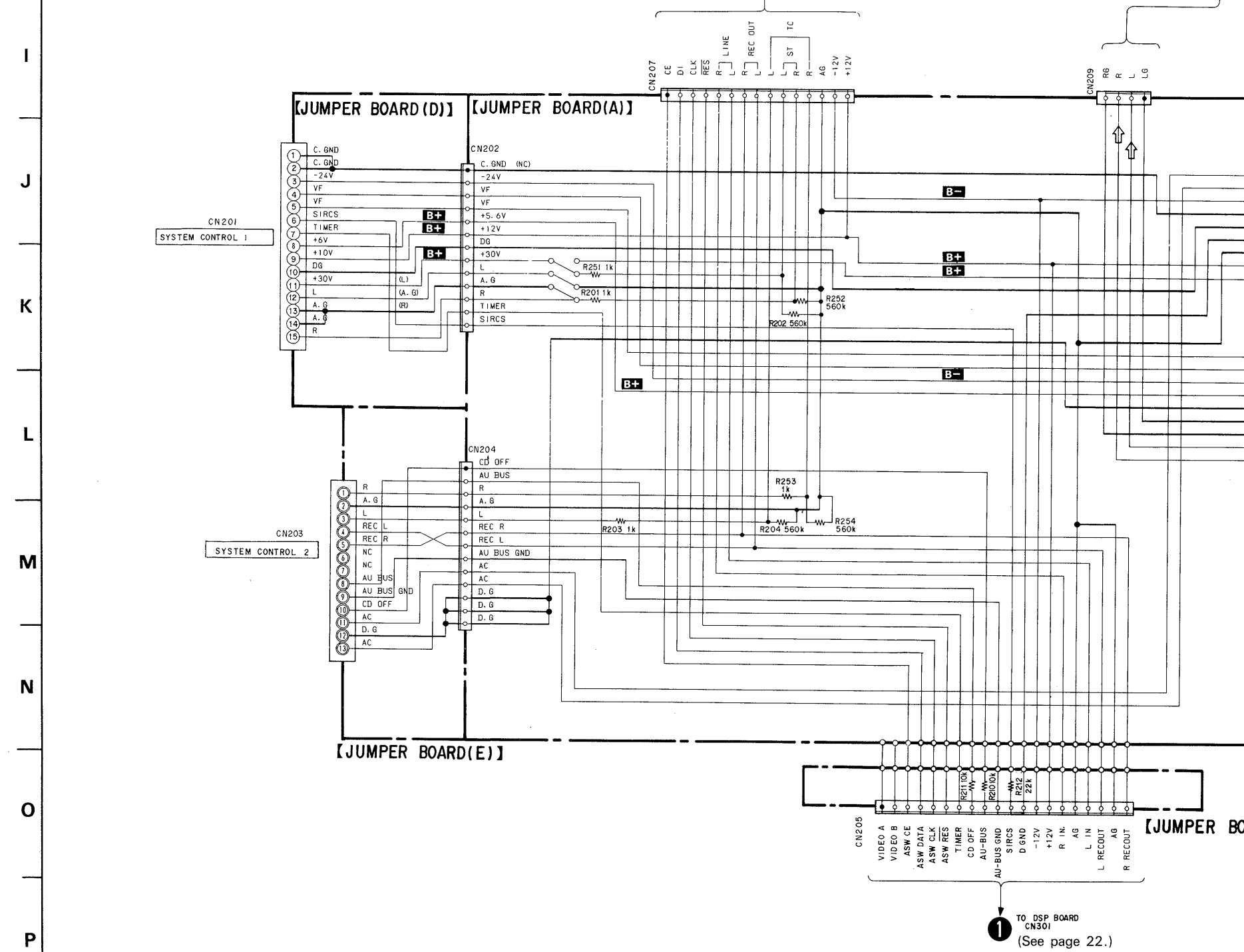
● Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D301	G-22	IC501	I-19
D302	G-22	IC801	A-17
D402	C-25	IC802	D-17
D403	F-24	IC803	A-19
D801	C-17	IC804	D-18
D821	C-17	IC902	B-3
D822	C-18	IC903	C-3
D823	D-18	IC904	D-2
D824	C-19	IC905	C-2
D825	C-19		
D826	C-19	Q301	H-25
D827	D-18	Q302	G-25
D851	C-17	Q303	G-24
D901	F-4	Q304	I-24
D902	E-5	Q305	H-24
D906	C-3	Q306	G-24
D907	C-3	Q307	H-24
D908	D-3	Q351	H-24
D909	D-3	Q352	G-24
D910	H-5	Q353	G-24
D911	H-5	Q357	H-23
D912	H-4	Q401	F-24
D915	H-5	Q402	F-24
D916	E-2	Q403	C-25
D917	C-2	Q404	C-25
D918	C-2	Q405	D-25
D919	B-1	Q801	B-17
D920	F-2	Q821	D-18
D921	D-4	Q822	D-18
D922	D-4	Q823	D-19
D923	H-2	Q851	B-17
D924	H-4	Q901	H-4
D925	F-2	Q902	E-3
D926	E-2	Q903	D-3
		Q904	H-2
IC101	C-11	Q905	I-1
IC102	D-11	Q906	I-2
IC103	B-12	Q907	F-4
IC301	G-22		
IC302	F-22		
IC303	G-23		
IC304	G-23		
IC305	G-23		
IC306	F-24		
IC307	I-24		
IC308	H-23		
IC309	H-22		
IC312	F-22		
IC401	E-22		
IC402	C-24		
IC403	C-27		
IC404	E-23		
IC405	D-24		
IC406	F-23		
IC407	E-25		
IC408	C-22		
IC409	C-22		
IC410	D-22		

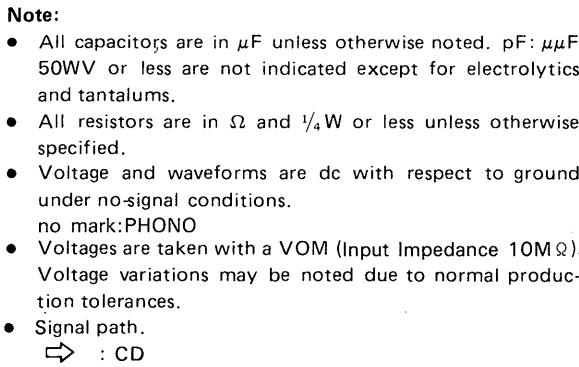
- Note:
- : parts extracted from the component side.
 - : Through hole.
 - ▨ : Pattern on the side which is seen.
 - ▩ : Pattern of the rear side.
 - IT : Italian Model

2-5. PRINTED WIRING BOARDS—Analog / Digital Section—





- Note:** The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.



SECTION 3 EXPLODED VIEW

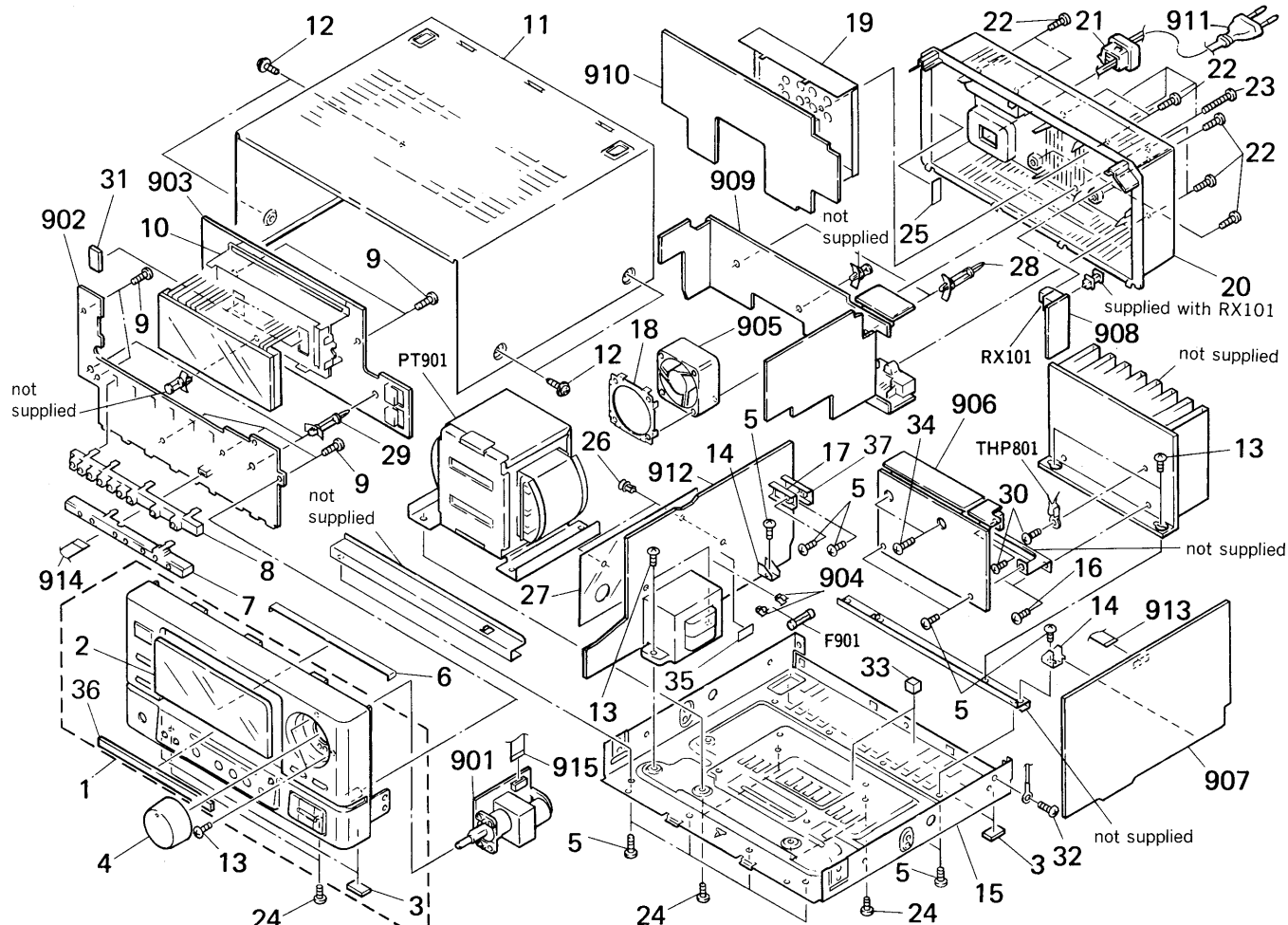
NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- IT : Itarian Model
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

- Color Indication of Appearance Parts
Example:
(RED) ... KNOB, BALANCE (WHITE)

↑ Cabinet's Color ↑ Parts Color



Ref.No	Part No.	Description	Remarks
1	X-4930-313-1	PANEL ASSY, FRONT	2,3,36
2	4-932-820-11	WINDOW	
3	4-930-336-01	FOOT (FELT)	
4	X-4936-803-1	KNOB (VOLUME) ASSY	
5	7-682-547-04	SCREW +BVTT 3X6 (S)	
6	*4-932-836-01	REINFORCEMENT (P)	
7	4-932-821-01	HOUSE (A)	
8	4-932-822-01	HOUSE (F)	
9	4-928-635-01	SCREW, +BV (2.6X8) TAPPING	
10	4-932-837-01	HOLDER (FL TUBE)	
11	4-932-841-01	CASE	
12	3-704-366-01	SCREW (CASE) (M3X8)	
13	7-682-548-04	SCREW +BVTT 3X8 (S)	
14	4-932-825-01	BRACKET (MT)	
15	*4-932-854-01	CHASSIS	
16	7-685-645-79	SCREW +BVTP 3X6 TYPE2 IT-3	
17	3-309-144-21	HEAT SINK	
18	*4-932-835-01	BRACKET (FAN)	
19	4-932-840-12	PLATE, SHIELD	
20	*4-932-842-13	PANEL, BACK	
21	*3-703-244-00	BUSHING (2104), CORD	
22	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
23	7-685-878-09	SCREW +BVTT 3X25 (S)	
24	3-721-187-01	SCREW (3X8)	
25	3-831-441-XX	CUSHION, SPEAKER	
26	4-812-134-11	RIVET NYLON, 3.5	
27	4-932-852-01	SHEET (INSULATING)	
28	*4-924-098-21	HOLDER, PC BOARD	
29	*4-924-098-31	HOLDER, PC BOARD	
30	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
31	4-921-941-31	CUSHION (FL)	
32	7-621-770-87	SCREW +PTT 2.6X5 (S)	

Ref.No	Part No.	Description	Remarks
33	*4-932-867-01	CUSHION	
34	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3	
35	*3-701-947-14	LABEL (T2A), FUSE	
36	4-932-826-11	PLATE (FUNCTION), INDICATION	
37	4-886-555-00	HEAT SINK	
901	*1-634-654-11	PC BOARD, VOL	
902	*A-4334-463-A	MOUNTED PCB, SW	
903	*A-4334-423-A	MOUNTED PCB, FL	
904	*1-533-213-31	HOLDER, FUSE	
905	1-541-562-31	MOTOR, DC FAN (SJ-40A12C)	
906	*A-4334-457-A	(AEP, UK) ... MOUNTED PCB, POWER	
906	*A-4334-458-A	(IT) ... MOUNTED PCB, POWER	
907	*A-4334-541-A	(AEP, UK) ... MOUNTED PCB, DSP	
907	*A-4334-544-A	(IT) ... MOUNTED PCB, DSP	
908	*1-634-656-11	PC BOARD, OPT	
909	*1-634-655-11	PC BOARD, JUMPER	
910	*A-4334-543-A	(AEP, UK) ... MOUNTED PCB, JACK	
910	*A-4334-545-A	(IT) ... MOUNTED PCB, JACK	
911	1-574-804-11	(UK) ... CORD, POWER	
911	1-575-923-11	(AEP, IT) ... CORD, POWER (WITH CORE)	
912	*A-4334-461-A	(AEP) ... MOUNTED PCB, P.S	
912	*A-4334-462-A	(IT) ... MOUNTED PCB, P. S	
912	*A-4334-842-A	(UK) ... MOUNTED PCB, P. S	
913	1-575-730-11	WIRE, FLAT TYPE (5 CORE)	
914	1-575-731-11	WIRE, FLAT TYPE (7 CORE)	
915	1-575-732-11	WIRE, FLAT TYPE (9 CORE)	
F901	1-532-388-51	FUSE 2A	
PT901	1-449-990-11	(UK) ... TRANSFORMER, POWER	
PT901	1-449-991-11	(AEP, IT) ... TRANSFORMER, POWER	
RX101	8-749-921-11	IC GP1F32R	
THP801	1-800-427-00	POSISTOR	

SECTION 4 ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:MF: μ F, PF: μ MF.**RESISTORS**

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH: μ H

SEMICONDUCTORSIn each case, U: μ , for example:
 UA....: μ A..., UPA....: μ PA...,
 UPC....: μ PC, UPD....: μ PD...

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

- IT : Italian Model

Ref.No	Part No.	Description				
901	*1-634-654-11	PC BOARD, VOL				
902	*A-4334-463-A	MOUNTED PCB, SW				
903	*A-4334-423-A	MOUNTED PCB, FL				
904	*1-533-213-31	HOLDER, FUSE				
905	1-541-562-31	MOTOR, DC FAN (SJ-40A12C)				
906	*A-4334-457-A	(AEP, UK)....MOUNTED PCB, POWER				
906	*A-4334-458-A	(IT)....MOUNTED PCB, POWER				
907	*A-4334-541-A	(AEP, UK)....MOUNTED PCB, DSP				
907	*A-4334-544-A	(IT)....MOUNTED PCB, DSP				
908	*1-634-656-11	PC BOARD, OPT				
909	*1-634-655-11	PC BOARD, JUMPER				
910	*A-4334-543-A	(AEP, UK)....MOUNTED PCB, JACK				
910	*A-4334-545-A	(IT)....MOUNTED PCB, JACK				
911	Δ 1-574-804-11	(UK)....CORD, POWER				
911	Δ 1-575-923-11	(AEP,IT)....CORD, POWER (WITH CORE)				
912	*A-4334-461-A	(AEP)....MOUNTED PCB, P.S				
912	*A-4334-462-A	(IT)....MOUNTED PCB, P. S				
912	*A-4334-842-A	(UK)....MOUNTED PCB, P. S				
913	1-575-730-11	WIRE, FLAT TYPE (5 CORE)				
914	1-575-731-11	WIRE, FLAT TYPE (7 CORE)				
915	1-575-732-11	WIRE, FLAT TYPE (9 CORE)				
CAPACITOR						
C101	1-123-875-11	ELECT	10MF	20%	50V	
C102	1-123-875-11	ELECT	10MF	20%	50V	
C103	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C104	1-124-477-11	ELECT	47MF	20%	16V	
C105	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C107	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C108	1-163-125-00	CERAMIC CHIP	220PF	10%	50V	
C109	1-124-902-00	ELECT	0.47MF	20%	50V	
C110	1-163-125-00	CERAMIC CHIP	220PF	10%	50V	
C111	1-124-927-11	ELECT	4.7MF	20%	50V	
C112	1-130-473-00	MYLAR	0.0015MF	5%	50V	
C113	1-130-480-00	MYLAR	0.0056MF	5%	50V	
C114	1-124-925-11	ELECT	2.2MF	20%	50V	
C115	1-136-165-00	(IT)....FILM	0.1MF	5%	50V	
C116	1-163-003-11	CERAMIC	330PF	10%	50V	
C117	1-163-003-11	CERAMIC	330PF	10%	50V	
C118	1-163-003-11	CERAMIC	330PF	10%	50V	
C151	1-123-875-11	ELECT	10MF	20%	50V	
C152	1-123-875-11	ELECT	10MF	20%	50V	
C153	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C154	1-124-477-11	ELECT	47MF	20%	16V	
C157	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C158	1-163-125-00	CERAMIC CHIP	220PF	10%	50V	
C159	1-124-902-00	ELECT	0.47MF	20%	50V	
C160	1-163-125-00	CERAMIC CHIP	220PF	10%	50V	
C161	1-124-927-11	ELECT	4.7MF	20%	50V	
C162	1-130-473-00	MYLAR	0.0015MF	5%	50V	
C163	1-130-480-00	MYLAR	0.0056MF	5%	50V	
C164	1-124-925-11	ELECT	2.2MF	20%	50V	
C165	1-136-165-00	(IT)....FILM	0.1MF	5%	50V	
C166	1-163-003-11	CERAMIC	330PF	10%	50V	

Ref.No	Part No.	Description				
C167	1-163-003-11	CERAMIC	330PF	10%	50V	
C168	1-163-003-11	CERAMIC	330PF	10%	50V	
C190	1-161-379-00	CERAMIC	0.01MF	30%	16V	
C191	1-124-477-11	ELECT	47MF	20%	16V	
C302	1-136-153-00	FILM	0.01MF	5%	50V	
C303	1-136-165-00	FILM	0.1MF	5%	50V	
C304	1-124-477-11	ELECT	47MF	20%	25V	
C305	1-136-165-00	FILM	0.1MF	5%	50V	
C307	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C308	1-136-165-00	FILM	0.1MF	5%	50V	
C309	1-124-477-11	ELECT	47MF	20%	25V	
C311	1-130-473-00	MYLAR	0.0015MF	5%	50V	
C312	1-130-479-00	MYLAR	0.0047MF	5%	50V	
C313	1-130-472-00	MYLAR	0.0012MF	5%	50V	
C314	1-124-477-11	ELECT	47MF	20%	25V	
C315	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C316	1-124-477-11	ELECT	47MF	20%	25V	
C321	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C322	1-123-875-11	ELECT	10MF	20%	50V	
C323	1-123-875-11	ELECT	10MF	20%	50V	
C324	1-123-875-11	ELECT	10MF	20%	50V	
C325	1-163-038-00	CERAMIC CHIP	0.1MF		25V	
C326	1-163-038-00	CERAMIC CHIP	0.1MF		25V	
C327	1-163-038-00	CERAMIC CHIP	0.1MF		25V	
C328	1-136-165-00	FILM	0.1MF	5%	50V	
C329	1-136-165-00	FILM	0.1MF	5%	50V	
C330	1-124-791-11	ELECT	1MF	20%	50V	
C331	1-124-477-11	ELECT	47MF	20%	25V	
C332	1-124-477-11	ELECT	47MF	20%	25V	
C341	1-124-477-11	ELECT	47MF	20%	25V	
C352	1-136-153-00	FILM	0.01MF	5%	50V	
C357	1-124-477-11	ELECT	47MF	20%	25V	
C358	1-136-165-00	FILM	0.1MF	5%	50V	
C361	1-130-473-00	MYLAR	0.0015MF	5%	50V	
C362	1-130-479-00	MYLAR	0.0047MF	5%	50V	
C363	1-130-472-00	MYLAR	0.0012MF	5%	50V	
C364	1-124-477-11	ELECT	47MF	20%	25V	
C371	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C372	1-123-875-11	ELECT	10MF	20%	50V	
C373	1-123-875-11	ELECT	10MF	20%	50V	
C374	1-123-875-11	ELECT	10MF	20%	50V	
C375	1-163-038-00	CERAMIC CHIP	0.1MF		25V	
C376	1-163-038-00	CERAMIC CHIP	0.1MF		25V	
C377	1-163-038-00	CERAMIC CHIP	0.1MF		25V	
C378	1-136-165-00	FILM	0.1MF	5%	50V	
C379	1-136-165-00	FILM	0.1MF	5%	50V	
C380	1-124-791-11	ELECT	1MF		50V	
C381	1-124-477-11	ELECT	47MF	20%	25V	
C382	1-124-477-11	ELECT	47MF	20%	25V	
C391	1-124-477-11	ELECT	47MF	20%	25V	
C392	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C401	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C402	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C403	1-124-477-11	ELECT	47MF	20%	25V	
C404	1-162-637-11	CERAMIC CHIP	0.47MF		16V	

Ref.No	Part No.	Description							
C405	1-163-019-00	CERAMIC CHIP	0.0068MF	10%	50V				
C406	1-163-101-00	CERAMIC CHIP	22PF	5%	50V				
C407	1-163-101-00	CERAMIC CHIP	22PF	5%	50V				
C408	1-124-477-11	ELECT	47MF	20%	25V				
C409	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V				
C410	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V				
C411	1-163-102-00	CERAMIC CHIP	24PF	5%	50V				
C412	1-163-102-00	CERAMIC CHIP	24PF	5%	50V				
C413	1-163-117-00	CERAMIC CHIP	100PF	5%	50V				
C414	1-163-117-00	CERAMIC CHIP	100PF	5%	50V				
C417	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V				
C418	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V				
C419	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V				
C420	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V				
C421	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V				
C422	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V				
C425	1-163-093-00	CERAMIC CHIP	10PF	5%	50V				
C427	1-124-477-11	ELECT	47MF	20%	25V				
C428	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V				
C429	1-163-093-00	CERAMIC CHIP	10PF	5%	50V				
C430	1-136-165-00	FILM	0.1MF	5%	50V				
C431	1-136-165-00	FILM	0.1MF	5%	50V				
C432	1-163-131-00	CERAMIC CHIP	390PF	5%	50V				
C433	1-163-131-00	CERAMIC CHIP	390PF	5%	50V				
C434	1-163-131-00	CERAMIC CHIP	390PF	5%	50V				
C435	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V				
C436	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V				
C437	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V				
C438	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V				
C439	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V				
C440	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V				
C441	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V				
C442	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V				
C443	1-163-131-00	CERAMIC CHIP	390PF	5%	50V				
C445	1-163-131-00	CERAMIC CHIP	390PF	5%	50V				
C446	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V				
C447	1-163-131-00	CERAMIC CHIP	390PF	5%	50V				
C501	1-123-875-11	ELECT	10MF	20%	50V				
C502	1-123-875-11	ELECT	10MF	20%	50V				
C503	1-124-443-00	ELECT	100MF	20%	10V				
C601	1-161-379-00	CERAMIC	0.01MF	30%	16V				
C602	1-124-477-11	ELECT	47MF	20%	16V				
C701	1-126-233-11	ELECT	22MF	20%	25V				
C702	1-126-233-11	ELECT	22MF	20%	25V				
C703	1-124-477-11	ELECT	47MF	20%	16V				
C704	1-124-477-11	ELECT	47MF	20%	16V				
C705	1-130-475-00	MYLAR	0.0022MF	5%	50V				
C706	1-130-477-00	MYLAR	0.0033MF	5%	50V				
C707	1-162-288-31	CERAMIC	330PF	10%	50V				
C708	1-162-219-31	CERAMIC	68PF	5%	50V				
C709	1-162-288-31	CERAMIC	330PF	10%	50V				
C710	1-124-925-11	ELECT	2.2MF	20%	50V				
C711	1-126-233-11	ELECT	22MF	20%	25V				
C712	1-124-477-11	ELECT	47MF	20%	16V				
C713	1-124-927-11	ELECT	4.7MF	20%	50V				
C714	1-124-791-11	ELECT	1MF	20%	50V				
C715	1-123-875-11	ELECT	10MF	20%	50V				
C716	1-124-477-11	ELECT	47MF	20%	16V				
C717	1-136-153-00	FILM	0.01MF	5%	50V				
C718	1-136-153-00	FILM	0.01MF	5%	50V				
C719	1-124-927-11	ELECT	4.7MF	20%	50V				
C720	1-164-159-11	CERAMIC	0.1MF		50V				
C721	1-164-159-11	CERAMIC	0.1MF		50V				
C801	1-123-875-11	ELECT	10MF	20%	50V				
C802	1-162-288-31	CERAMIC	330PF	10%	50V				
C803	1-162-288-31	CERAMIC	330PF	10%	50V				
C804	1-124-122-11	ELECT	100MF	20%	35V				
C805	1-124-910-11	ELECT	47MF	20%	50V				
C806	1-136-165-00	FILM	0.1MF	5%	50V				
C807	1-136-165-00	FILM	0.1MF	5%	50V				
C821	1-124-122-11	ELECT	100MF	20%	50V				
C822	1-123-875-11	ELECT	10MF	20%	50V				
C823	1-123-875-11	ELECT	10MF	20%	50V				
C824	1-164-159-11	CERAMIC	0.1MF		50V				
C825	1-126-176-11	ELECT	220MF	20%	10V				
C826	1-126-176-11	ELECT	220MF	20%	10V				
C827	1-123-875-11	ELECT	10MF	20%	50V				
C828	1-161-379-00	CERAMIC	0.01MF	30%	16V				
C829	1-161-494-00	CERAMIC	0.022MF		25V				
C830	1-124-477-11	ELECT	47MF	20%	16V				
C831	1-124-463-00	ELECT	0.1MF	20%	50V				
C832	1-123-875-11	ELECT	10MF	20%	50V				
C833	1-124-927-11	ELECT	4.7MF	20%	50V				
C834	1-123-875-11	ELECT	10MF	20%	50V				
C835	1-161-379-00	CERAMIC	0.01MF	30%	16V				
C836	1-136-165-00	FILM	0.1MF	5%	50V				
C837	1-136-165-00	FILM	0.1MF	5%	50V				
C851	1-123-875-11	ELECT	10MF	20%	50V				
C852	1-162-288-31	CERAMIC	330PF	10%	50V				
C853	1-162-288-31	CERAMIC	330PF	10%	50V				
C854	1-124-122-11	ELECT	100MF	20%	35V				
C855	1-124-910-11	ELECT	47MF	20%	50V				
C856	1-136-165-00	FILM	0.1MF	5%	50V				
C857	1-136-165-00	FILM	0.1MF	5%	50V				
C901	1-161-742-00	CERAMIC	0.0022MF	20%	400V				
C902	1-136-171-00	FILM	0.33MF	5%	50V				
C903	1-136-171-00	FILM	0.33MF	5%	50V				
C904	1-126-976-11	ELECT	4700MF	20%	50V				
C905	1-126-976-11	ELECT	4700MF	20%	50V				
C906	1-136-165-00	FILM	0.1MF	5%	50V				
C907	1-136-165-00	FILM	0.1MF	5%	50V				
C912	1-124-636-00	ELECT	330MF	20%	25V				
C913	1-124-557-11	ELECT	1000MF	20%	25V				
C914	1-124-478-11	ELECT	100MF	20%	25V				
C915	1-124-478-11	ELECT	100MF	20%	25V				
C916	1-124-122-11	ELECT	100MF	20%	50V				
C917	1-124-931-11	ELECT	47MF	20%	100V				
C918	1-126-233-11	ELECT	22MF	20%	50V				
C919	1-124-910-11	ELECT	47MF	20%	50V				
C920	1-161-379-00	CERAMIC	0.01MF	30%	16V				
C922	1-124-477-11	ELECT	47MF	20%	25V				
C923	1-124-479-11	ELECT	330MF	20%	25V				
C924	1-124-912-11	ELECT	330MF	20%	50V				
C925	1-124-910-11	ELECT	47MF	20%	35V				
C926	1-161-379-00	CERAMIC	0.01MF	30%	16V				
C927	1-136-165-00	FILM	0.1MF	5%	50V				
C928	1-126-939-11	ELECT	10000MF	20%	16V				
C929	1-124-480-11	ELECT	470MF	20%	25V				
C930	1-124-477-11	ELECT	47MF	20%	25V				
C931	1-136-165-00	FILM	0.1MF	5%	50V				
C933	1-164-159-11	CERAMIC	0.1MF		50V				
C934	1-164-159-11	CERAMIC	0.1MF		50V				
C935	1-164-159-11	CERAMIC	0.1MF		50V				
CN102	* 1-568-648-11	SOCKET, CONNECTOR 15P							
CN104	1-562-087-00	SOCKET, CONNECTOR 4P							
CN201	* 1-566-859-11	SOCKET, CONNECTOR 15P (SYSTEM CONTROL 1)							
CN202	1-506-979-31	CONNECTOR, BOARD TO BOARD 13P							
CN203	* 1-565-291-11	SOCKET, CONNECTOR 13P (SYSTEM CONTROL 2)							
CN204	1-506-979-31	CONNECTOR, BOARD TO BOARD 13P							
CN205	1-563-314-11	CONNECTOR, BOARD TO BOARD 20P							

Ref.No	Part No.	Description
CN207	1-569-647-11	PIN, CONNECTOR 15P
CN209	*1-506-509-11	PIN, CONNECTOR 4P
CN210	*1-563-529-11	CONNECTOR, BOARD TO BOARD 9P
CN211	*1-563-529-11	CONNECTOR, BOARD TO BOARD 9P
CN301	1-566-154-11	CONNECTOR, BOARD TO BOARD 20P
CN302	*1-564-518-11	PLUG, CONNECTOR 3P
CN303	*1-568-824-11	SOCKET, CONNECTOR 5P
CN304	*1-568-828-11	SOCKET, CONNECTOR 9P
CN305	1-568-319-11	SOCKET, CONNECTOR 8P
CN306	1-568-317-11	SOCKET, CONNECTOR 6P
CN501	*1-568-852-11	SOCKET, CONNECTOR 9P
CN502	*1-564-518-11	PLUG, CONNECTOR 3P
CN601	*1-563-381-11	SOCKET, CONNECTOR 11P
CN602	*1-568-826-11	SOCKET, CONNECTOR 7P
CN701	*1-568-320-11	PLUG, CONNECTOR 8P
CN702	*1-568-318-11	PLUG, CONNECTOR 6P
CN703	*1-568-322-11	PLUG, CONNECTOR 10P
CN704	1-569-648-11	PIN, CONNECTOR (PC BOARD) 11P
CN705	*1-568-826-11	SOCKET, CONNECTOR 7P
CN801	*1-568-848-11	SOCKET, CONNECTOR 5P
CN901	*1-564-321-00	PIN, CONNECTOR 2P
CN902	*1-564-321-00	PIN, CONNECTOR 2P
CN903	*1-564-512-11	PLUG, CONNECTOR 9P
CN904	1-566-125-11	CONNECTOR, BOARD TO BOARD 9P
CN905	1-566-125-11	CONNECTOR, BOARD TO BOARD 9P
CN906	1-568-321-11	SOCKET, CONNECTOR 10P
CN907	*1-564-242-00	PIN, CONNECTOR 5P
CN908	*1-564-104-00	PIN, CONNECTOR 3P
CN909	*1-506-944-11	PIN, CONNECTOR 2P
CP701	1-233-020-11	COMPOSITION CIRCUIT BLOCK
CP702	1-233-214-11	COMPOSITION CIRCUIT BLOCK
D301	8-719-400-18	DIODE MA152WK
D302	8-719-104-34	DIODE 1S2836
D402	8-719-104-34	DIODE 1S2836
D403	8-719-104-34	DIODE 1S2836
D601	8-719-301-44	DIODE SEL2410E-D
D603	8-719-301-39	DIODE SEL2210S
D604	8-719-301-39	DIODE SEL2210S
D605	8-719-301-39	DIODE SEL2210S
D606	8-719-301-39	DIODE SEL2210S
D607	8-719-301-39	DIODE SEL2210S
D610	8-719-301-39	DIODE SEL2210S
D611	8-719-301-39	DIODE SEL2210S
D612	8-719-301-39	DIODE SEL2210S
D613	8-719-301-39	DIODE SEL2210S
D614	8-719-301-61	DIODE SEL2910A-D
D615	8-719-301-39	DIODE SEL2210S
D616	8-719-301-61	DIODE SEL2910A-D
D617	8-719-301-61	DIODE SEL2910A-D
D701	8-719-933-36	DIODE HZS6B-1L
D702	8-719-933-36	DIODE HZS6B-1L
D703	8-719-912-20	DIODE 1SS120
D704	8-719-933-36	DIODE HZS6B-1L
D705	8-719-912-20	DIODE 1SS120
D707	8-719-200-82	DIODE 11ES2
D708	8-719-912-20	DIODE 1SS120
D709	8-719-000-60	DIODE UZL-6M2
D710	8-719-912-20	DIODE 1SS120
D801	8-719-912-20	DIODE 1SS120
D821	8-719-912-20	DIODE 1SS120
D822	8-719-912-20	DIODE 1SS120
D823	8-719-912-20	DIODE 1SS120
D824	8-719-934-15	DIODE HZS24-3L
D825	8-719-912-20	DIODE 1SS120
D826	8-719-912-20	DIODE 1SS120

Ref.No	Part No.	Description
D827	8-719-002-18	DIODE UZL-20M
D851	8-719-912-20	DIODE 1SS120
D901	8-719-302-38	DIODE RBV-602-01
D902	8-719-912-20	DIODE 1SS120
D906	8-719-200-77	DIODE 10E2N
D907	8-719-200-77	DIODE 10E2N
D908	8-719-200-77	DIODE 10E2N
D909	8-719-200-77	DIODE 10E2N
D910	8-719-200-77	DIODE 10E2N
D911	8-719-200-77	DIODE 10E2N
D912	8-719-002-18	DIODE UZL-20M
D915	8-719-014-66	DIODE UZP-5.6B
D916	8-719-200-77	DIODE 10E2N
D917	8-719-200-77	DIODE 10E2N
D918	8-719-200-77	DIODE 10E2N
D919	8-719-014-23	DIODE UZP-3.3BB
D920	8-719-912-20	DIODE 1SS120
D921	8-719-912-20	DIODE 1SS120
D922	8-719-912-20	DIODE 1SS120
D923	8-719-912-20	DIODE 1SS120
D924	8-719-002-18	DIODE UZL-20M
D925	8-719-912-20	DIODE 1SS120
D926	8-719-200-77	DIODE 10E2N
F901	△.1-532-388-51	FUSE 2A
FB301	1-410-396-41	FERRITE BEAD INDUCTOR
FB302	1-410-396-41	FERRITE BEAD INDUCTOR
FB303	1-410-396-41	FERRITE BEAD INDUCTOR
FL701	1-519-587-11	INDICATOR TUBE, FLUORESCENT
IC101	8-759-805-13	IC LC7821
IC102	8-759-603-13	IC M5218FP
IC103	8-759-603-13	IC M5218FP
IC301	8-759-603-13	IC M5218FP
IC302	8-759-999-09	IC CS5326-KP
IC303	8-759-990-13	IC TDA1543A
IC304	8-759-603-13	IC M5218FP
IC305	8-759-603-13	IC M5218FP
IC306	8-759-603-13	IC M5218FP
IC307	8-759-603-13	IC M5218FP
IC308	8-759-805-14	IC LC7822
IC309	8-759-805-14	IC LC7822
IC312	8-759-982-44	IC RC79L05A
IC401	8-759-973-98	IC YM3623B
IC402	8-752-332-80	IC CXD1160AQ
IC403	8-752-332-80	IC CXD1160AQ
IC404	8-759-979-94	IC CXD1355Q
IC405	8-759-973-04	IC MSM41464-10RS
IC406	8-759-634-73	IC M50760-141P
IC407	8-759-322-46	IC HD63B01Y0RM46F
IC408	8-759-927-46	IC SN74HC00NS
IC409	8-759-927-46	IC SN74HC00NS
IC410	8-759-927-29	IC SN74HCU04NS
IC501	8-759-820-62	IC LB1639
IC701	8-759-999-53	IC MSC1164GS-K
IC702	8-759-999-53	IC MSC1164GS-K
IC703	8-759-999-53	IC MSC1164GS-K
IC704	8-759-634-50	IC M5218AL
IC705	8-759-991-11	IC XR1091
IC706	8-759-991-11	IC XR1091
IC707	8-759-208-08	TC4052BPHB
IC708	8-759-208-08	TC4052BPHB
IC709	8-759-037-23	IC MC68HC11E9FU-SC400193FU
IC710	8-759-605-16	IC M51953BL
IC801	8-749-900-24	IC STK4162MK2

Note: The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Ref.No	Part No.	Description
IC802	8-759-111-68	IC UPC1237HA
IC803	8-759-604-29	IC M5F7805L
IC804	8-759-635-00	IC M5239L
IC902	8-759-604-33	IC M5F7812L
IC903	8-759-604-51	IC M5F7912L
IC904	8-759-634-63	IC M5278D56
IC905	8-759-604-93	IC M5F7924L
ICP902	△1-532-846-21	LINK, IC
ICP903	△1-532-846-21	LINK, IC
J101	1-565-303-11	JACK, PIN 6P (PHONO/VIDEO 2 IN, VIDEO 1 OUT)
J102	1-507-912-21	JACK, PIN 2P (VIDEO 1 IN)
J901	1-562-837-21	JACK (HEADPHONES)
L101	1-410-396-41	(IT)....FERRITE BEAD INDUCTOR
L151	1-410-396-41	(IT)....FERRITE BEAD INDUCTOR
L190	1-410-470-11	INDUCTOR 10UH
L401	1-410-470-11	INDUCTOR 10UH
L402	1-410-470-11	INDUCTOR 10UH
L801	*1-420-872-00	COIL, AIR CORE
L851	*1-420-872-00	COIL, AIR CORE
PT901	△1-499-991-11	(AEP, IT)....TRANSFORMER, POWER
PT901	△1-499-990-11	(UK)....TRANSFORMER, POWER
PT902	△1-449-950-11	(AEP, IT)....TRANSFORMER, POWER
PT902	△1-449-992-11	(UK)....TRANSFORMER, POWER
Q301	8-729-107-46	TRANSISTOR 2SC3624A-L15
Q302	8-729-107-46	TRANSISTOR 2SC3624A-L15
Q303	8-729-107-46	TRANSISTOR 2SC3624A-L15
Q304	8-729-113-69	TRANSISTOR FN1F4M-M32
Q305	8-729-113-69	TRANSISTOR FN1F4M-M32
Q306	8-729-113-69	TRANSISTOR FN1F4M-M32
Q307	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q351	8-729-107-46	TRANSISTOR 2SC3624A-L15
Q352	8-729-107-46	TRANSISTOR 2SC3624A-L15
Q353	8-729-107-46	TRANSISTOR 2SC3624A-L15
Q357	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q401	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q402	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q403	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q404	8-729-113-10	TRANSISTOR FA1F4M-L32
Q405	8-729-113-10	TRANSISTOR FA1F4M-L32
Q601	8-729-806-22	TRANSISTOR 2SC3864
Q602	8-729-620-05	TRANSISTOR 2SC2603-EF
Q603	8-729-620-05	TRANSISTOR 2SC2603-EF
Q604	8-729-620-05	TRANSISTOR 2SC2603-EF
Q605	8-729-620-05	TRANSISTOR 2SC2603-EF
Q606	8-729-620-05	TRANSISTOR 2SC2603-EF
Q608	8-729-620-05	TRANSISTOR 2SC2603-EF
Q609	8-729-620-05	TRANSISTOR 2SC2603-EF
Q610	8-729-620-05	TRANSISTOR 2SC2603-EF
Q611	8-729-620-05	TRANSISTOR 2SC2603-EF
Q701	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q702	8-729-620-05	TRANSISTOR 2SC2603-EF
Q703	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q704	8-729-900-80	TRANSISTOR DTC114ES
Q705	8-729-900-69	TRANSISTOR DTA144WS
Q706	8-729-900-69	TRANSISTOR DTA144WS
Q707	8-729-620-05	TRANSISTOR 2SC2603-EF
Q801	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA
Q821	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q822	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA
Q823	8-729-108-14	TRANSISTOR 2SA988-F
Q851	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA
Q901	8-729-920-98	TRANSISTOR 2SD1761-EF
Q902	8-729-801-94	TRANSISTOR 2SD1387-4

Ref.No	Part No.	Description
Q903	8-729-111-29	TRANSISTOR 2SD1616A-K
Q904	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q905	8-729-141-26	TRANSISTOR 2SC3622A-LK
Q906	8-729-141-26	TRANSISTOR 2SC3622A-LK
Q907	8-729-801-84	TRANSISTOR 2SB1013-4
RESISTOR		
R101	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R102	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R103	1-216-033-00	METAL GLAZE 220 5% 1/10W
R104	1-216-041-00	METAL GLAZE 470 5% 1/10W
R106	1-216-115-00	METAL GLAZE 560K 5% 1/10W
R107	1-216-115-00	METAL GLAZE 560K 5% 1/10W
R108	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R109	1-216-115-00	METAL GLAZE 560K 5% 1/10W
R111	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R112	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R113	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R114	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R116	1-216-115-00	METAL GLAZE 560K 5% 1/10W
R117	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R118	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R119	1-216-091-00	METAL GLAZE 56K 5% 1/10W
R120	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R121	1-216-089-00	METAL GLAZE 47K 5% 1/10W
R122	1-216-115-00	METAL GLAZE 560K 5% 1/10W
R123	△1-247-727-11	(IT)....CARBON 10 5% 1/2W F
R151	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R152	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R153	1-216-033-00	METAL GLAZE 220 5% 1/10W
R154	1-216-041-00	METAL GLAZE 470 5% 1/10W
R157	1-216-115-00	METAL GLAZE 560K 5% 1/10W
R158	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R159	1-216-115-00	METAL GLAZE 560K 5% 1/10W
R161	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R162	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R163	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R167	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R168	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R169	1-216-091-00	METAL GLAZE 56K 5% 1/10W
R170	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R171	1-216-089-00	METAL GLAZE 47K 5% 1/10W
R172	1-216-115-00	METAL GLAZE 560K 5% 1/10W
R173	△1-247-727-11	(IT)....CARBON 10 5% 1/2W F
R190	1-249-405-11	CARBON 100 5% 1/4W
R201	1-249-417-11	CARBON 1K 5% 1/4W
R202	1-247-897-11	CARBON 560K 5% 1/4W
R203	1-249-417-11	CARBON 1K 5% 1/4W
R204	1-247-897-11	CARBON 560K 5% 1/4W
R210	1-249-411-11	CARBON 330 5% 1/10W
R211	1-249-429-11	CARBON 10K 5% 1/4W
R212	1-249-433-11	CARBON 22K 5% 1/4W
R251	1-249-417-11	CARBON 1K 5% 1/4W
R252	1-247-897-11	CARBON 560K 5% 1/4W
R253	1-249-417-11	CARBON 1K 5% 1/4W
R254	1-247-897-11	CARBON 560K 5% 1/4W
R301	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R302	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R303	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W
R304	1-216-025-00	METAL GLAZE 100 5% 1/10W
R305	1-216-025-00	METAL GLAZE 100 5% 1/10W
R306	1-216-001-00	METAL GLAZE 10 5% 1/10W
R311	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R312	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W
R313	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W
R314	1-216-073-00	METAL GLAZE 10K 5% 1/10W

Note: The components identified by mark △ or dotted line with mark △ are critical for safety.
Replace only with part number specified.

Ref.No	Part No.	Description			
R321	1-216-043-00	METAL GLAZE	560	5%	1/10W
R322	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R323	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R324	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R325	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R326	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R327	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R328	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R329	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R330	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R331	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R332	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R333	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R334	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R335	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R336	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R337	1-216-117-00	METAL GLAZE	680K	5%	1/10W
R338	1-216-047-00	METAL GLAZE	820	5%	1/10W
R339	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R340	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R341	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R342	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R343	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R351	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R352	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R353	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R354	1-216-025-00	METAL GLAZE	100	5%	1/10W
R355	1-216-025-00	METAL GLAZE	100	5%	1/10W
R361	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R362	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R363	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R364	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R371	1-216-043-00	METAL GLAZE	560	5%	1/10W
R372	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R373	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R374	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R375	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R376	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R377	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R378	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R379	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R380	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R381	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R382	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R386	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R387	1-216-117-00	METAL GLAZE	680K	5%	1/10W
R388	1-216-047-00	METAL GLAZE	820	5%	1/10W
R389	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R391	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R392	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R393	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R401	1-216-033-00	METAL GLAZE	220	5%	1/10W
R402	1-216-117-00	METAL GLAZE	680K	5%	1/10W
R403	1-216-029-00	METAL GLAZE	150	5%	1/10W
R404	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R406	1-216-033-00	METAL GLAZE	220	5%	1/10W
R407	1-216-037-00	METAL GLAZE	330	5%	1/10W
R408	1-216-029-00	METAL GLAZE	150	5%	1/10W
R409	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R410	1-216-033-00	METAL GLAZE	220	5%	1/10W
R411	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R412	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R413	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R414	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R415	1-216-083-00	METAL GLAZE	27K	5%	1/10W

Ref.No	Part No.	Description			
R416	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R417	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R418	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R419	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R420	1-216-001-00	METAL GLAZE	10	5%	1/10W
R421	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R422	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R423	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R424	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R425	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R426	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R427	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R428	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R429	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R430	1-216-025-00	METAL GLAZE	100	5%	1/10W
R431	1-216-025-00	METAL GLAZE	100	5%	1/10W
R432	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R433	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R435	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R436	1-216-033-00	METAL GLAZE	220	5%	1/10W
R442	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R443	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
R444	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R445	1-216-748-11	METAL GLAZE	39K	5%	1/10W
R446	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R447	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R448	1-216-119-00	METAL GLAZE	820K	5%	1/10W
R449	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R450	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R451	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
R452	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R453	1-216-748-11	METAL GLAZE	39K	5%	1/10W
R454	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R455	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R456	1-216-119-00	METAL GLAZE	820K	5%	1/10W
R457	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R458	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R459	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W
R460	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R461	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R462	1-216-045-00	METAL GLAZE	680	5%	1/10W
R463	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R464	1-216-035-00	METAL GLAZE	270	5%	1/10W
R465	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R466	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W
R467	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R468	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R469	1-216-045-00	METAL GLAZE	680	5%	1/10W
R470	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R471	1-216-035-00	METAL GLAZE	270	5%	1/10W
R472	1-216-035-00	METAL GLAZE	270	5%	1/10W
R473	1-216-033-00	METAL GLAZE	220	5%	1/10W
R474	1-216-033-00	METAL GLAZE	220	5%	1/10W
R475	1-216-037-00	METAL GLAZE	330	5%	1/10W
R476	1-216-033-00	METAL GLAZE	220	5%	1/10W
R501	1-249-414-11	CARBON	560	5%	1/4W
R502	1-249-417-11	CARBON	1K	5%	1/4W
R503	1-249-417-11	CARBON	1K	5%	1/4W
R504	1-249-429-11	CARBON	10K	5%	1/4W
R505	1-249-429-11	CARBON	10K	5%	1/4W
R601	1-249-417-11	CARBON	1K	5%	1/4W
R602	1-249-417-11	CARBON	1K	5%	1/4W
R603	1-249-417-11	CARBON	1K	5%	1/4W
R605	1-249-417-11	CARBON	1K	5%	1/4W
R606	1-249-417-11	CARBON	1K	5%	1/4W

Ref.No	Part No.	Description			
R607	1-249-417-11	CARBON	1K	5%	1/4W
R608	1-249-417-11	CARBON	1K	5%	1/4W
R609	1-249-407-11	CARBON	150	5%	1/4W
R610	1-249-403-11	CARBON	68	5%	1/4W
R611	1-249-406-11	CARBON	120	5%	1/4W
R612	1-249-406-11	CARBON	120	5%	1/4W
R614	1-249-406-11	CARBON	120	5%	1/4W
R615	1-249-408-11	CARBON	180	5%	1/4W
R616	1-249-404-00	CARBON	82	5%	1/4W
R617	1-249-404-00	CARBON	82	5%	1/4W
R618	1-249-423-11	CARBON	3.3K	5%	1/4W
R620	1-249-413-11	CARBON	470	5%	1/4W
R621	1-249-415-11	CARBON	680	5%	1/4W
R622	1-249-417-11	CARBON	1K	5%	1/4W
R623	1-249-419-11	CARBON	1.5K	5%	1/4W
R624	1-249-421-11	CARBON	2.2K	5%	1/4W
R625	1-249-423-11	CARBON	3.3K	5%	1/4W
R627	1-249-413-11	CARBON	470	5%	1/4W
R628	1-249-415-11	CARBON	680	5%	1/4W
R629	1-249-417-11	CARBON	1K	5%	1/4W
R630	1-249-419-11	CARBON	1.5K	5%	1/4W
R631	1-249-421-11	CARBON	2.2K	5%	1/4W
R632	1-249-423-11	CARBON	3.3K	5%	1/4W
R634	1-249-413-11	CARBON	470	5%	1/4W
R635	1-249-415-11	CARBON	680	5%	1/4W
R636	1-249-417-11	CARBON	1K	5%	1/4W
R637	1-249-419-11	CARBON	1.5K	5%	1/4W
R638	1-249-421-11	CARBON	2.2K	5%	1/4W
R639	1-249-423-11	CARBON	3.3K	5%	1/4W
R641	1-249-413-11	CARBON	470	5%	1/4W
R642	1-249-415-11	CARBON	680	5%	1/4W
R643	1-249-417-11	CARBON	1K	5%	1/4W
R644	1-249-419-11	CARBON	1.5K	5%	1/4W
R645	1-249-408-11	CARBON	180	5%	1/4W
R646	1-249-402-11	CARBON	56	5%	1/4W
R647	1-249-417-11	CARBON	1K	5%	1/4W
R648	1-249-437-11	CARBON	47K	5%	1/4W
R649	1-249-417-11	CARBON	1K	5%	1/4W
R650	1-249-437-11	CARBON	47K	5%	1/4W
R701	1-249-417-11	CARBON	1K	5%	1/4W
R702	1-247-903-00	CARBON	1M	5%	1/4W
R703	1-249-404-00	CARBON	82	5%	1/4W
R704	1-249-404-00	CARBON	82	5%	1/4W
R709	1-249-429-11	CARBON	10K	5%	1/4W
R710	1-249-429-11	CARBON	10K	5%	1/4W
R711	1-249-429-11	CARBON	10K	5%	1/4W
R712	1-249-429-11	CARBON	10K	5%	1/4W
R713	1-249-429-11	CARBON	10K	5%	1/4W
R714	1-249-433-11	CARBON	22K	5%	1/4W
R715	1-249-418-11	CARBON	1.2K	5%	1/4W
R716	1-249-417-11	CARBON	1K	5%	1/4W
R717	1-249-401-11	CARBON	47	5%	1/4W
R724	1-249-429-11	CARBON	10K	5%	1/4W
R725	1-249-429-11	CARBON	10K	5%	1/4W
R726	1-249-429-11	CARBON	10K	5%	1/4W
R727	1-249-429-11	CARBON	10K	5%	1/4W
R728	1-249-429-11	CARBON	10K	5%	1/4W
R729	1-249-429-11	CARBON	10K	5%	1/4W
R730	1-249-417-11	CARBON	1K	5%	1/4W
R731	1-249-405-11	CARBON	100	5%	1/4W
R732	1-249-440-11	CARBON	82K	5%	1/4W
R733	1-249-421-11	CARBON	2.2K	5%	1/4W
R734	1-247-895-00	CARBON	470K	5%	1/4W
R735	1-249-421-11	CARBON	2.2K	5%	1/4W
R736	1-247-883-00	CARBON	150K	5%	1/4W

Ref.No	Part No.	Description			
R737	1-247-903-00	CARBON	1M	5%	1/4W
R738	1-249-417-11	CARBON	1K	5%	1/4W
R739	1-249-417-11	CARBON	1K	5%	1/4W
R740	1-249-429-11	CARBON	10K	5%	1/4W
R741	1-249-417-11	CARBON	1K	5%	1/4W
R742	1-249-429-11	CARBON	10K	5%	1/4W
R743	1-249-405-11	CARBON	100	5%	1/4W
R744	1-249-405-11	CARBON	100	5%	1/4W
R745	1-249-429-11	CARBON	10K	5%	1/4W
R746	1-249-417-11	CARBON	1K	5%	1/4W
R747	1-249-417-11	CARBON	1K	5%	1/4W
R748	1-249-441-11	CARBON	100K	5%	1/4W
R749	1-249-417-11	CARBON	1K	5%	1/4W
R750	1-249-417-11	CARBON	1K	5%	1/4W
R751	1-249-417-11	CARBON	1K	5%	1/4W
R752	1-249-417-11	CARBON	1K	5%	1/4W
R753	1-249-405-11	CARBON	100	5%	1/4W
R754	1-249-417-11	CARBON	1K	5%	1/4W
R755	1-249-429-11	CARBON	10K	5%	1/4W
R756	1-249-433-11	CARBON	22K	5%	1/4W
R757	1-249-433-11	CARBON	22K	5%	1/4W
R758	1-249-433-11	CARBON	22K	5%	1/4W
R759	1-249-429-11	CARBON	10K	5%	1/4W
R760	1-249-420-11	CARBON	1.8K	5%	1/4W
R761	1-249-428-11	CARBON	8.2K	5%	1/4W
R762	1-249-429-11	CARBON	10K	5%	1/4W
R763	1-249-433-11	CARBON	22K	5%	1/4W
R764	1-249-429-11	CARBON	10K	5%	1/4W
R765	1-249-429-11	CARBON	10K	5%	1/4W
R766	1-249-429-11	CARBON	10K	5%	1/4W
R767	1-247-903-00	CARBON	1M	5%	1/4W
R771	1-249-417-11	CARBON	1K	5%	1/4W
R773	1-249-404-00	CARBON	82	5%	1/4W
R774	1-249-404-00	CARBON	82	5%	1/4W
R775	1-249-433-11	CARBON	22K	5%	1/4W
R776	1-249-417-11	CARBON	1K	5%	1/4W
R801	1-249-417-11	CARBON	1K	5%	1/4W
R802	1-249-438-11	CARBON	56K	5%	1/4W
R803	1-249-438-11	CARBON	56K	5%	1/4W
R804	1-249-414-11	CARBON	560	5%	1/4W
R805	1-249-438-11	CARBON	56K	5%	1/4W
R806	1-247-756-11	CARBON	2.2K	5%	1/2W
R807	1-247-756-11	CARBON	2.2K	5%	1/2W
R808	1-249-425-11	CARBON	4.7K	5%	1/4W
R809	1-249-417-11	CARBON	1K	5%	1/4W
R810	1-249-431-11	CARBON	15K	5%	1/4W
R811	1-217-156-00	METAL PLATE	0.22	10%	5W
R812	1-249-441-11	CARBON	100K	5%	1/4W
R813	1-249-438-11	CARBON	56K	5%	1/4W
R814	△ 1-247-727-11	CARBON	10	5%	1/2W F
R821	△ 1-212-881-11	FUSIBLE	100	5%	1/4W F
R822	1-247-752-11	CARBON	1K	5%	1/2W
R823	1-247-752-11	CARBON	1K	5%	1/2W
R824	△ 1-212-881-11	FUSIBLE	100	5%	1/4W F
R825	△ 1-212-881-11	FUSIBLE	100	5%	1/4W F
R826	1-249-441-11	CARBON	100K	5%	1/4W
R827	1-249-429-11	CARBON	10K	5%	1/4W
R828	1-249-431-11	CARBON	15K	5%	1/4W
R829	1-249-423-11	CARBON	3.3K	5%	1/4W
R830	1-249-433-11	CARBON	22K	5%	1/4W
R831	1-249-433-11	CARBON	22K	5%	1/4W
R832	1-249-438-11	CARBON	56K	5%	1/4W
R833	1-249-430-11	CARBON	12K	5%	1/4W
R834	1-249-441-11	CARBON	100K	5%	1/4W
R835	1-249-441-11	CARBON	100K	5%	1/4W

Note: The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Ref.No	Part No.	Description				
R837	1-249-417-11	CARBON	1K	5%	1/4W	
R838	1-249-429-11	CARBON	10K	5%	1/4W	
R839	1-249-441-11	CARBON	100K	5%	1/4W	
R840	1-249-414-11	CARBON	560	5%	1/4W	
R841	1-249-438-11	CARBON	56K	5%	1/4W	
R842	1-249-429-11	CARBON	10K	5%	1/4W	
R843	1-249-437-11	CARBON	47K	5%	1/4W	
R844	1-249-425-11	CARBON	4.7K	5%	1/4W	
R845	1-247-885-00	CARBON	180K	5%	1/4W	
R846	1-247-889-00	CARBON	270K	5%	1/4W	
R851	1-249-417-11	CARBON	1K	5%	1/4W	
R852	1-249-438-11	CARBON	56K	5%	1/4W	
R853	1-249-438-11	CARBON	56K	5%	1/4W	
R854	1-249-414-11	CARBON	560	5%	1/4W	
R855	1-249-438-11	CARBON	56K	5%	1/4W	
R856	1-247-756-11	CARBON	2.2K	5%	1/2W	
R857	1-247-756-11	CARBON	2.2K	5%	1/2W	
R858	1-249-425-11	CARBON	4.7K	5%	1/4W	
R859	1-249-417-11	CARBON	1K	5%	1/4W	
R860	1-249-431-11	CARBON	15K	5%	1/4W	
R861	1-217-156-00	METAL PLATE	0.22	10%	5W	
R862	1-249-441-11	CARBON	100K	5%	1/4W	
R863	1-249-437-11	CARBON	47K	5%	1/4W	
R864	△ 1-247-727-11	CARBON	10	5%	1/2W	F
R901	1-249-433-11	CARBON	22K	5%	1/4W	
R904	1-249-429-11	CARBON	10K	5%	1/4W	
R905	1-249-432-11	CARBON	18K	5%	1/4W	
R906	1-216-421-11	METAL OXIDE	12	5%	1W	F
R907	1-249-432-11	CARBON	18K	5%	1/4W	
R909	1-215-868-00	METAL OXIDE	680	5%	1W	F
R910	1-249-425-11	CARBON	4.7K	5%	1/4W	
R911	1-249-425-11	CARBON	4.7K	5%	1/4W	
R912	△ 1-247-751-11	CARBON	820	5%	1/2W	F
R913	△ 1-247-751-11	CARBON	820	5%	1/2W	F
R914	1-247-895-00	CARBON	470K	5%	1/4W	
R915	1-249-417-11	CARBON	1K	5%	1/4W	
R916	1-249-417-11	CARBON	1K	5%	1/4W	
R917	1-249-425-11	CARBON	4.7K	5%	1/4W	
R920	1-249-441-11	CARBON	100K	5%	1/4W	
R921	△ 1-212-849-00	FUSIBLE	4.7	5%	1/4W	F
R922	1-249-425-11	CARBON	4.7K	5%	1/4W	
R923	1-249-429-11	CARBON	10K	5%	1/4W	
R929	1-249-437-11	CARBON	47K	5%	1/4W	
R926	△ 1-212-869-00	FUSIBLE	33	5%	1/4W	F
R928	1-249-425-11	CARBON	4.7K	5%	1/4W	
RV501	1-238-708-11	RES, VAR, CARBON 10K/100K/100K (VOLUME)				
RX101	8-749-921-11	IC GP1F32R				
RY901	1-515-720-11	RELAY				
RY902	1-515-533-11	RELAY				
S601	1-554-303-21	SWITCH, KEY BOARD (MEMORY)				
S602	1-554-303-21	SWITCH, KEY BOARD (ON/OFF)				
S603	1-554-303-21	SWITCH, KEY BOARD (PRESENCE SURROUND)				
S604	1-554-303-21	SWITCH, KEY BOARD (PARAMETRIC EQUALIZER)				
S605	1-554-303-21	SWITCH, KEY BOARD (DYNAMIC SOUND)				
S606	1-554-303-21	SWITCH, KEY BOARD (DSP)				
S607	1-554-303-21	SWITCH, KEY BOARD (< ▽)				
S608	1-554-303-21	SWITCH, KEY BOARD (< ▽)				
S609	1-554-303-21	SWITCH, KEY BOARD (< ▽)				
S610	1-554-303-21	SWITCH, KEY BOARD (< ▽)				
S611	1-554-303-21	SWITCH, KEY BOARD (BALANCE)				
S612	1-554-303-21	SWITCH, KEY BOARD (DBFB)				
S613	1-554-303-21	SWITCH, KEY BOARD (TUNER)				
S614	1-554-303-21	SWITCH, KEY BOARD (CD)				
S615	1-554-303-21	SWITCH, KEY BOARD (TAPE)				

Ref.No	Part No.	Description
S616	1-554-303-21	SWITCH, KEY BOARD (PHONO)
S617	1-554-303-21	SWITCH, KEY BOARD (VIDEO 2)
S618	1-554-303-21	SWITCH, KEY BOARD (VIDEO 1)
S619	1-554-303-21	SWITCH, KEY BOARD (PROGRAM FUNCTION)
S620	1-554-303-21	SWITCH, KEY BOARD (WAKE UP)
S621	1-554-303-21	SWITCH, KEY BOARD (DISPLAPY)
S622	1-554-303-21	SWITCH, KEY BOARD (DEMO)
S623	1-554-303-21	SWITCH, KEY BOARD (SYSTEM POWER)
TB101	1-537-276-11	TERMINAL BOARD (SP) (SPEAKER)
X401	1-577-269-11	VIBRATOR, CRYSTAL (18.432MHz)
X402	1-577-614-11	VIBRATOR, CRYSTAL (16.345MHz)
X406	1-578-699-11	OSCILLATOR, CERAMIC (800KHz)
X407	1-577-157-11	VIBRATOR, CERAMIC (8MHz)
X701	1-577-157-11	VIBRATOR, CERAMIC (8MHz)

Note: The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

TC-H500

SERVICE MANUAL

*US Model
Canadian Model
AEP Model
UK Model*



This set is the cassette deck section in MHC-2500, MHC-3500, MHC-5500.

SPECIFICATIONS

Recording system	4-track 2-channel stereo
Frequency response	(DOLBY NR OFF) 40 – 13,000 Hz (± 3 dB), using TYPE I cassette (Sony HF-S) 40 – 14,000 Hz (± 3 dB), using TYPE II cassette 40 – 15,000 Hz (± 3 dB), using TYPE IV cassette
Wow and flutter	0.1% WRMS $\pm 0.3\%$ (DIN)
Dimensions	Approx. 225 x 118 x 235 mm (w/h/d) (9 x 4 $\frac{3}{4}$ x 9 $\frac{3}{8}$ inches)
Weight	Approx. 2.5 kg (5 lb 8 oz)

Design and specifications subject to change without notice.

Model Name Using Similar Mechanism	TC-818M
Tape Transport Mechanism Type	Deck A TCM-170RA1
	Deck B TCM-170RB7

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

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

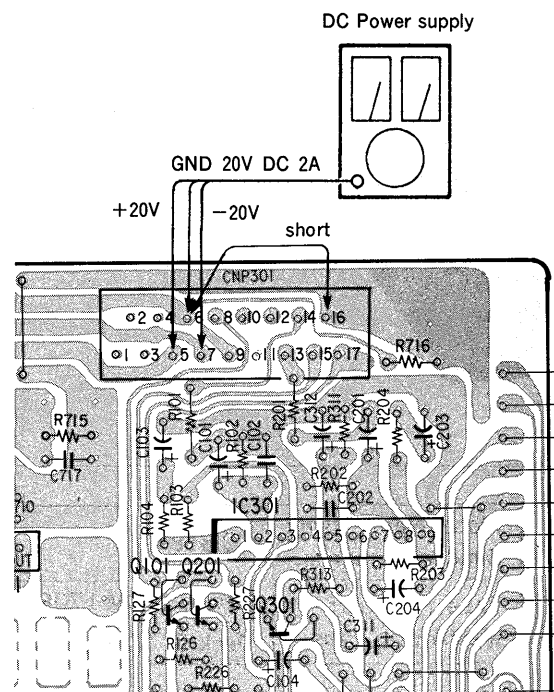
STEREO CASSETTE DECK
SONY[®]

REPAIRING PRECAUTION

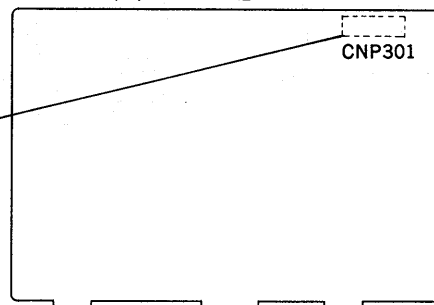
[To apply B+ voltage]

The power of this unit is fed from amplifier.

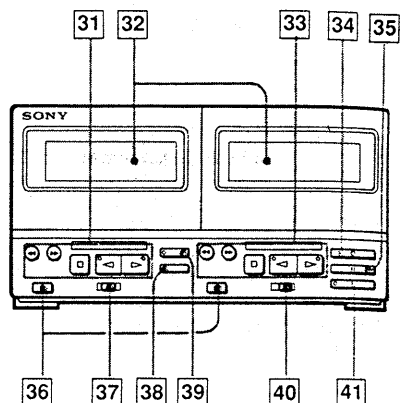
Because of this, connect the DC Power supply as illustrated below when this unit alone operates.



[AUDIO (A) BOARD] conductor side



SECTION 1 GENERAL



- 31 Tape operation buttons for deck A
◀▶ : Fast winding
□ : Stop
◁ : Reverse play
▷ : Forward play
- 32 Cassette holders
- 33 Tape operation buttons for deck B
- 34 REC (recording) button
- 35 PAUSE button
- 36 EJECT button
- 37 DIRECTION MODE selector
- 38 TAPE DUBBING HIGH SPEED button
- 39 CD SYNCHRO (CD synchronized recording) button
- 40 DOLBY NR selector
- 41 AMS (Automatic Music Sensor)/BLANK SKIP button

SECTION 2 ADJUSTMENTS

2-1. MECHANICAL ADJUSTMENTS

PRECAUTION

- Clean the following parts with a denatured-alcohol-moistened swab :

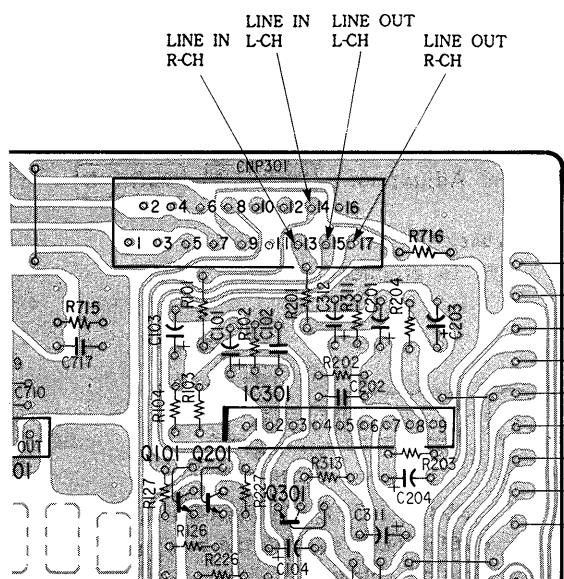
record/playback head	pinch roller
erase head	rubber belts
capstan	idler
- Demagnetize the record/playback head with a head demagnetizer.
- Do not use a magnetized screwdriver for the adjustments.
- After the adjustments, apply suitable locking compound to the parts adjusted.

Torque Measurement

Torque	Torque Meter	Meter Reading
FWD	CQ-102C	30 to 60g·cm (0.416 to 0.833 oz·inch)
FWD Back tension	CQ-102C	1 to 5g·cm (0.014 to 0.069 oz·inch)
REV	CQ-102RC	30 to 60g·cm (0.416 to 0.833 oz·inch)
REV Back Tension	CQ-102RC	1 to 5g·cm (0.014 to 0.069 oz·inch)
FF, REW	CQ-201B	100 to 170g·cm (1.39 to 2.36 oz·inch)

• Location of LINE IN/OUT

AUDIO Board (A) CNP301



2-2. ELECTRICAL ADJUSTMENTS

Note : The adjustment should be performed in the order given in the service manual.

The adjustments should be performed for both L-CH and R-CH.

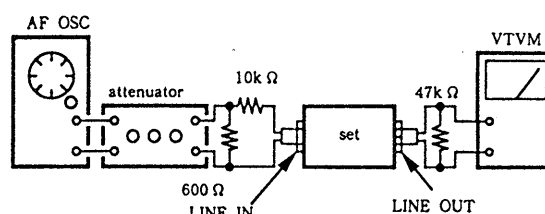
- Switches and controls should be set as follows unless otherwise specified.

DOLBY NR switch : OFF

• Standard Record :

Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

—Record Mode—



Standard Input Level

INPUT terminal	LINE IN
source impedance	10kΩ
input level	0.31V (−8dB)

Standard Output Level

OUTPUT terminal	LINE OUT
load impedance	47kΩ
output level	0.25V (−10dB)

• Test tape

Type	Signal	Used for
P-4-A100	10kHz, −10dB	Azimuth Adjustment
P-4-L300	315Hz, 0dB	PB LEVEL Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

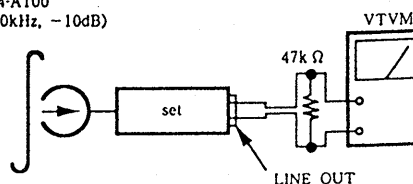
Record/Playback Head Azimuth Adjustment

DECK A DECK B

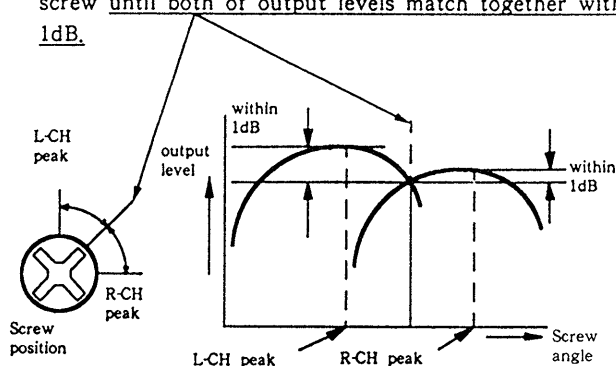
Procedure :

- Mode : FWD playback

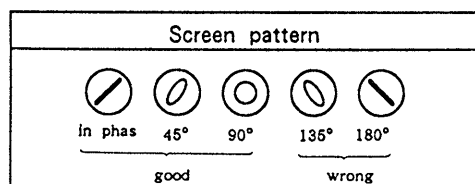
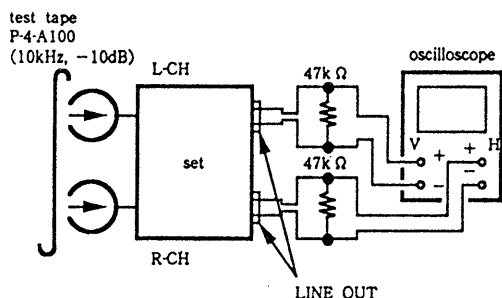
test tape
P-4-A100
(10kHz, −10dB)



2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.

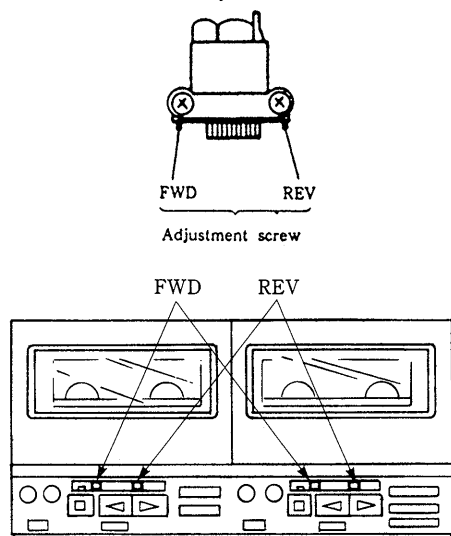


3. Phase Check
Mode : playback



4. Set in the REV mode and repeat the step 1-3.
5. After the adjustment, lock the screws with locking compound.

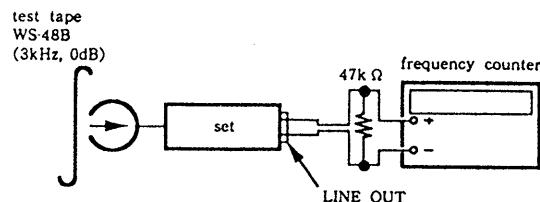
Adjustment Location : Record/Playback head
(Adjustable without disassembly.)



Tape Speed Adjustment DECK A DECK B

Procedure :

Mode : FWD playback



Perform high speed adjustment before normal speed adjustment.
Connect TP1 to ground with jumper wire and continue to press HIGH SPEED DUBING switch : High speed playback.
After the high speed adjustment, remove jumper wire of TP1.
Play back the test tape WS-48B and adjust to meet the specifications below.

speed	deck	Adjustment Part	variable resistor of motor	S805 High speed dubbing	frequency counter reading
high	A	M11A	(H)	ON	$5,960 \pm 20\text{Hz}$
	B	M11B	(H)		
normal	A	M11A	(L)	OFF	$2,980 \pm 10\text{Hz}$
	B	M11B	(L)		

Frequency difference between the beginning and the end of the tape should be within 3%.
Frequency difference between deck A and deck B the beginning of the tape should be within 1.5%.

Adjustment Location :

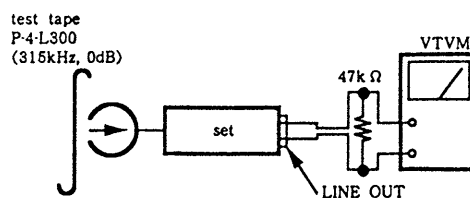
deck A : motor (M11A) rear side
deck B : motor (M11B) rear side

Playback Level Adjustment DECK A DECK B

Procedure :

Mode : playback

Connect TP1 to ground.



Adjust deck A : RV41A(L-CH), RV61A(R-CH) and deck B : RV41B(L-CH) , RV61B(R-CH) so that the reading on VTVM meets the specification below.

LINE OUT level : $-10 \pm 0.5\text{dB}$ (0.23 to 0.26V)

Level difference between channels : less than 0.5dB

Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location : MD board

Record Bias Adjustment **DECK B**

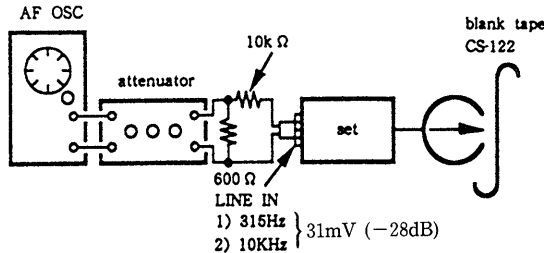
Setting :

REC LEVEL control : standard record (See page 3.)

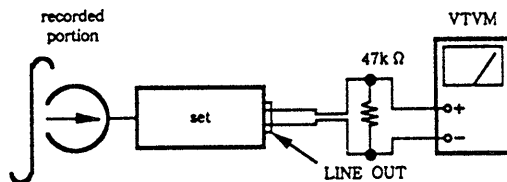
Connect TP1 to ground.

Procedure :

1. Mode : record



2. Mode : playback



Confirm that the 10kHz playback output is $0 \pm 0.5\text{dB}$ relative to the 315Hz output. If necessary, adjust RV42 (L-CH), RV62 (R-CH) and repeat the steps given above.

After the adjustment remove jumper wire of TP1.

Adjustment Location : MD B board

Record Level Adjustment **DECK B**

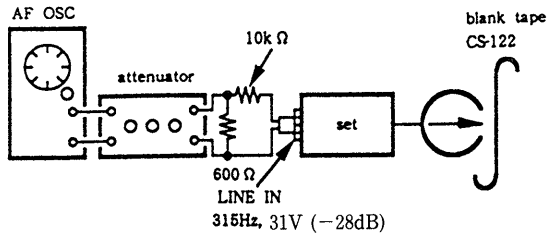
Setting :

REC LEVEL control : standard record (See page 3.)

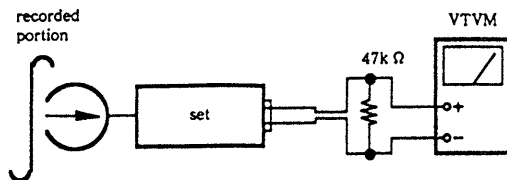
Connect TP1 to ground.

Procedure :

1. Mode : record



2. Mode : playback



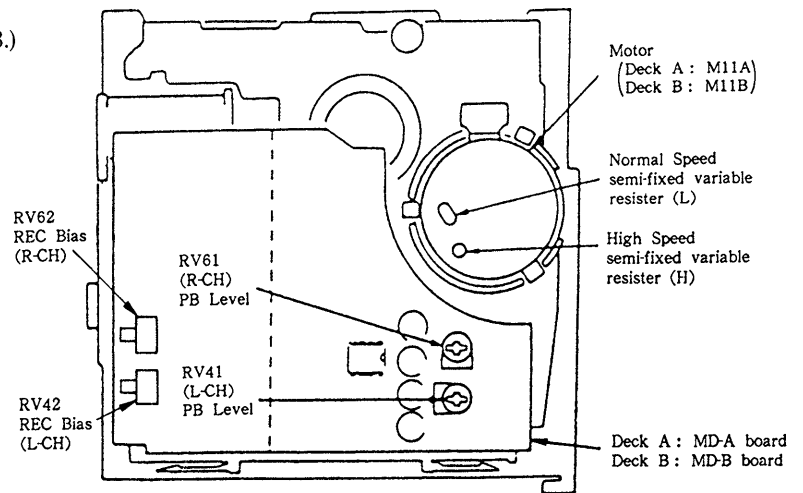
3. Play back the signal recorded in step 1.
Confirm that the signal level is within the specification below. If necessary, adjust RV101 (L-CH), RV201 (R-CH) and repeat the step1-3.

4. After the adjustment, remove jumper wire of TP1.

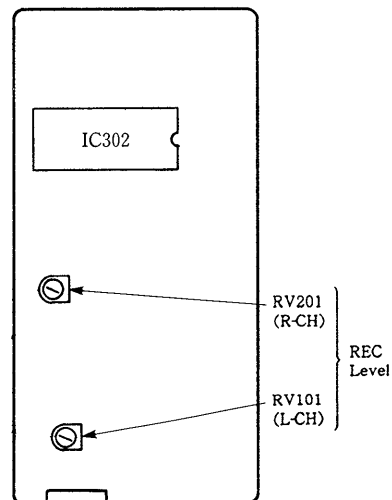
LINE OUT level : $-30 \pm 0.5\text{dB}$ (23 to 26nV)

Adjustment Location : audio (B) board

-Adjusting Parts Location Diagram-



AUDIO (B) BOARD --Component Side--



SECTION 3

DIAGRAMS

3-1. IC801 M50964-223SP PIN FUNCTIONS

PIN No.	PIN NAME	I/O	SIGNAL NAME	FUNCTION											
1	Vcc		Vcc	POWER 5 ±0.5 V											
2	AVSS		AVSS	Analogue system GND											
3	VREF	I	VREF	Analogue system reference voltage input											
4	D-A	O	D-A	D/A conversion output (Not used : OPEN)											
5	PWM	O	PWM	PWM output (Not used : GND)											
6	P63	O	$\overline{\text{AMS}}$	AMS LED indication output											
7	P62	O	$\overline{\text{A FWD}}$	Deck A FWD LED output											
8	P61	O	$\overline{\text{BIAS IV}}$	TYPE IV bias oscillation output											
9	P60	O	$\overline{\text{BIAS II}}$	TYPE II bias oscillation output											
10	P47	O	$\overline{\text{A REV}}$	Deck A RVS LED output											
11	P46	O	$\overline{\text{A REV}}$	Deck A RVS LED output											
12	AN5	I	B HALF	Deck B Record prevention claw A, B detection input (Analogue)											
				Voltage (V)	1 V	1.9 V	2.8 V	3.9 V	5 V						
				Half	ON	ON	ON	ON	OFF						
				Claw A	OFF	ON	OFF	ON	OFF						
				Claw B	ON	ON	OFF	OFF	OFF						
13	AN4	I	KEY3	KEY input											
14	AN3	I	KEY2	Voltage (V)	0	0.3	0.7	1.2	1.7	2.3	2.8	3.4	4.0	4.5	5.0
				KEY1	B■	B■	B▶	B◀	B○	A◀◀	A▶▶		□ B	□ C	OFF
15	AN2	I	KEY1	KEY2	A■	A■	A▶	A◀		B◀◀	B▶▶	B●	↻	RELAY	OFF
				KEY3	AMS		HDUB	NDUB							
16	P41	O	$\overline{\text{B FWD}}$	Deck B FWD LED output											
17	P40	O	$\overline{\text{B REV}}$	Deck B RVS LED output											
18	P37	O	$\overline{\text{A FWD}}$	Deck A FWD LED output											
19	P36	O	$\overline{\text{B PAUSE}}$	Deck B PAUSE LED output											
20	P35	O	$\overline{\text{B REC}}$	Deck B REC LED output											
21	P34	O	DOLBY $\overline{\text{B/C}}$	Dolby $\overline{\text{B/C}}$ output											
22	P33	O	DOLBY $\overline{\text{ON/OFF}}$	Dolby $\overline{\text{ON/OFF}}$ output											
23	P32	I	SIRCS	SIRCS input or AUDIO BUS reverse input											
24	P31	O	$\overline{70}/120$	Playback EQ output for playing deck											
25	P30	O	AUB OUT	AUDIO BUS output											
26	INTI	I	AUB IN	AUDIO BUS normal input											
27	CNVSS		CNVSS	GND											
28	$\overline{\text{RESET}}$	I	$\overline{\text{RESET}}$	Microcomputer reset input											
29	XIN	I	XIN	Clock input (4 MHz)											
30	XO	O	XO	Clock output (4 MHz)											
31	Φ	O	Φ	(Not used : OPEN)											
32	Vss		Vss	GND											
33	P57	I	$\overline{\text{TEST}}$	Electrical adjusting test mode setting											
34	P56	I	TYPE IV	TYPE IV switch input											
35	P55	I	$\text{B70}/\overline{\text{I20}}$	Deck B TYPE II switch input											
36	P54	I	B SHUT	Deck B Reel table signal input											
37	P53	I	$\text{A70}/\overline{\text{I20}}$	Deck A TYPE II switch input											
38	P52	I	A SHUT	Deck B Reel table signal input											
39	P51	I	$\overline{\text{A HALF}}$	Deck A Half switch input											

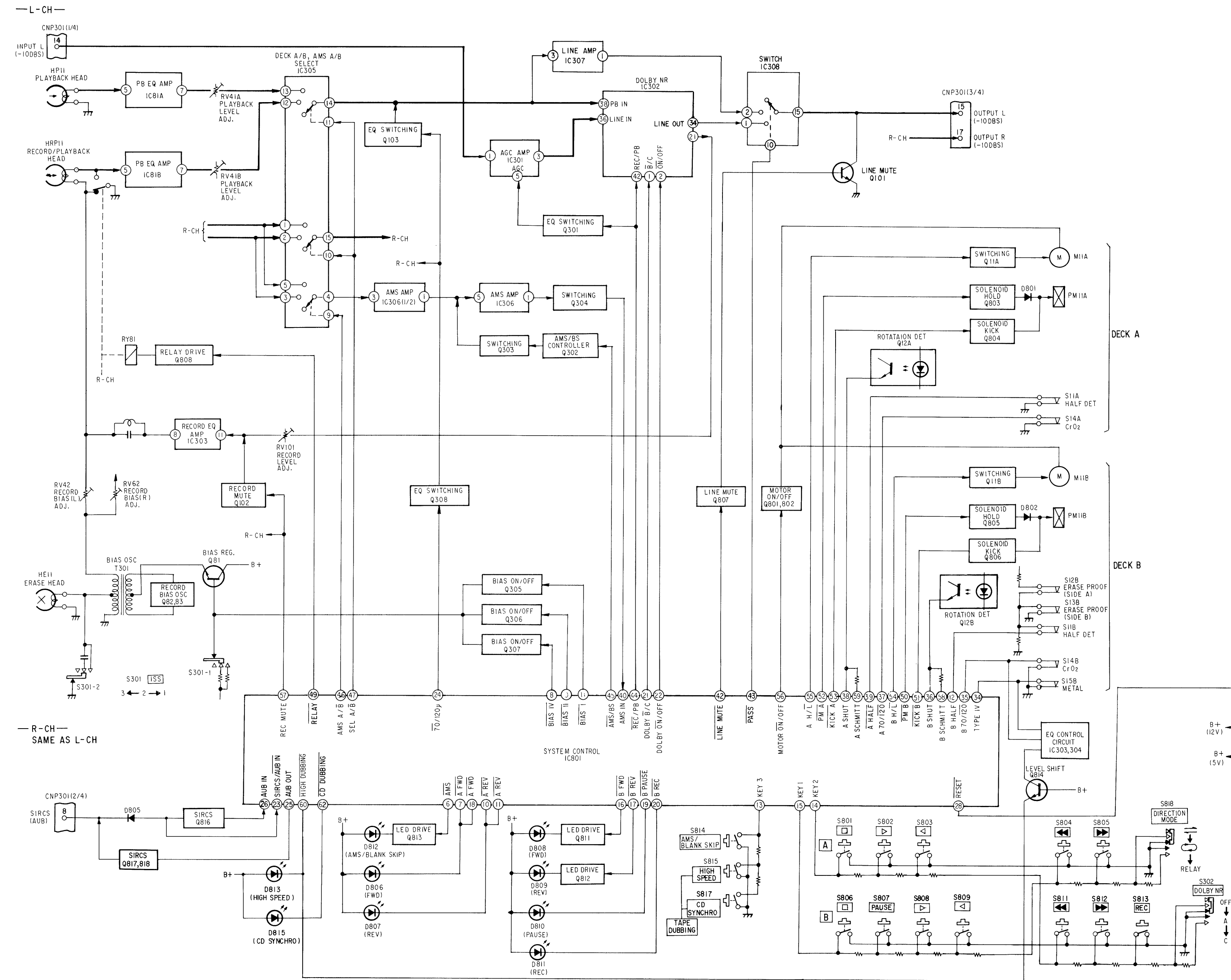
PIN No.	PIN NAME	I/O	SIGNAL NAME	FUNCTION
40	P50	I	AMSIN	AMS signal input
41	P17	O	$\overline{\text{MMUTE}}$	Meter mute output
42	P16	O	$\overline{\text{LMUTE}}$	Line mute output
43	P15	O	$\overline{\text{PASS}}$	PASS AMP change output
44	P14	O	$\overline{\text{REC}}/\text{PB}$	Dolby IC REC/PB select output
45	P13	O	$\overline{\text{AMS}}/\text{BS}$	AMS AMP characteristics change output
46	P12	O	AMS A/ $\overline{\text{B}}$	AMS AMP input Deck A/B select output
47	P11	O	SEL A/ $\overline{\text{B}}$	Dolby IC PB input Deck A/B select output
48	P10	O	$\overline{\text{BIAS I}}$	TYPE I bias oscillation output
49	P07	O	$\overline{\text{RELAY}}$	REC/PB change relay output
50	P06	O	$\overline{\text{PM B}}$	Deck B plunger hold output
51	P05	O	$\overline{\text{KICK B}}$	Deck B plunger kick output
52	P04	O	$\overline{\text{PM A}}$	Deck A plunger hold output
53	P03	O	$\overline{\text{KICK A}}$	Deck A plunger kick output
54	P02	O	B H/ $\overline{\text{L}}$	Deck B capstan motor speed select
55	P01	O	A H/ $\overline{\text{L}}$	Deck A capstan motor speed select
56	P00	O	M $\overline{\text{ON}}/\text{OFF}$	Capstan motor $\overline{\text{ON}}/\text{OFF}$
57	P27	O	REC MUTE	REC MUTE output
58	P26	O	B SCHMITT	Deck B reel table schmitt output
59	P25	O	A SCHMITT	Deck A reel table schmitt output
60	P24	O	$\overline{\text{HDUB}}$	High Speed Dubbing LED output
61	P23	O	$\overline{\text{NDUB}}$	Normal Speed Dubbing LED output
62	P22	O	$\overline{\text{CD DUB}}$	Auto CD Synchro LED output
63	P21	O	$\overline{\text{A PAUSE}}$	Deck A PAUSE LED output
64	P20	O	$\overline{\text{SIRCS}}/\text{AUB}$	SIRCS/AUDIO BUS mode select

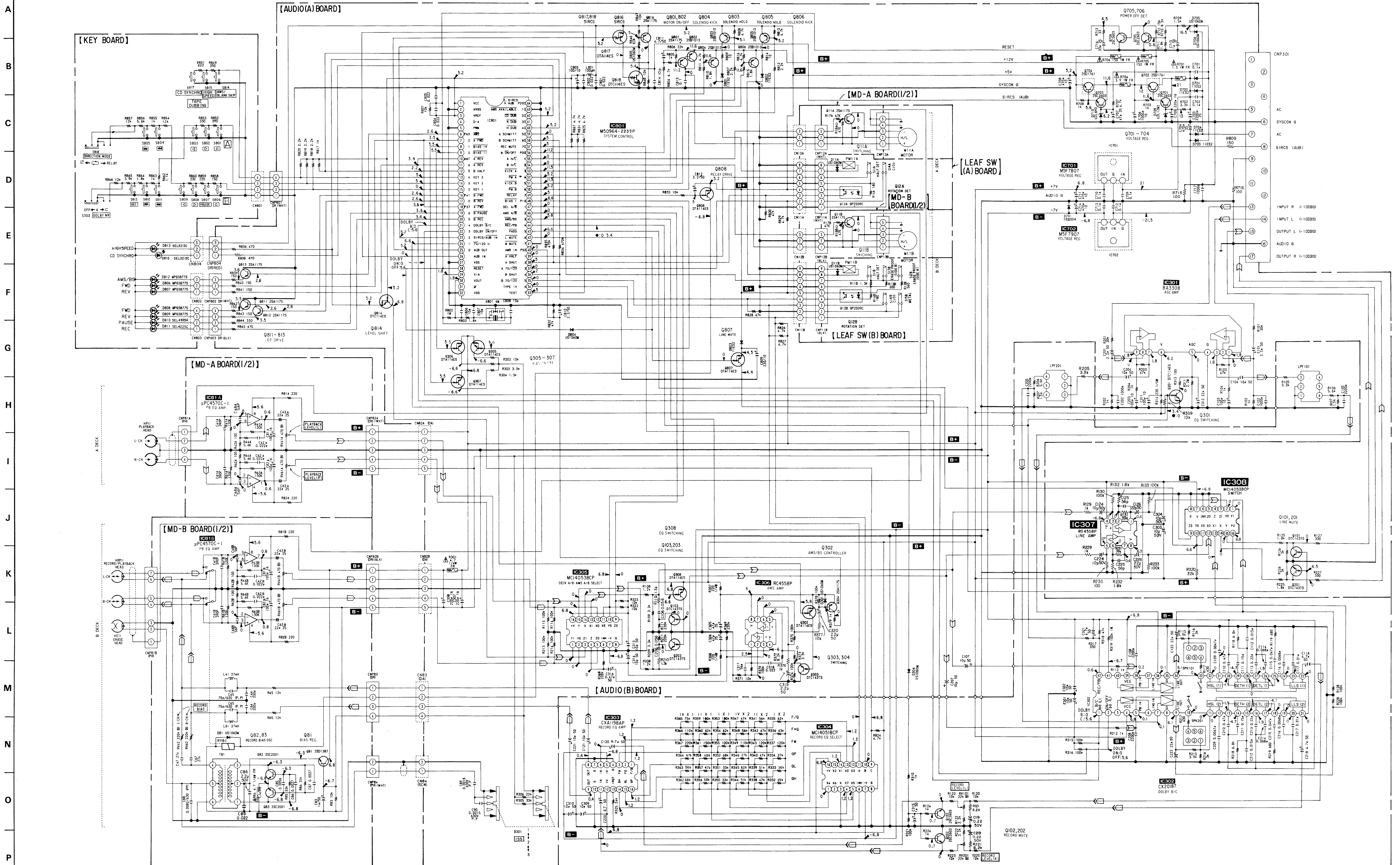
[TEST MODE]

When making pin ③ low (connect TP1 to ground with jumper wire), following function operates.

1. Source monitor
Release the line mute while recording.
2. High speed playback
On recording, while pressing HIGH SPEED (DUBBING) button, high speed playback operates.
3. Record memory stop
Using DIRECTION MODE switch $\rightleftarrows$, returns to the recording start point and stops or plays.

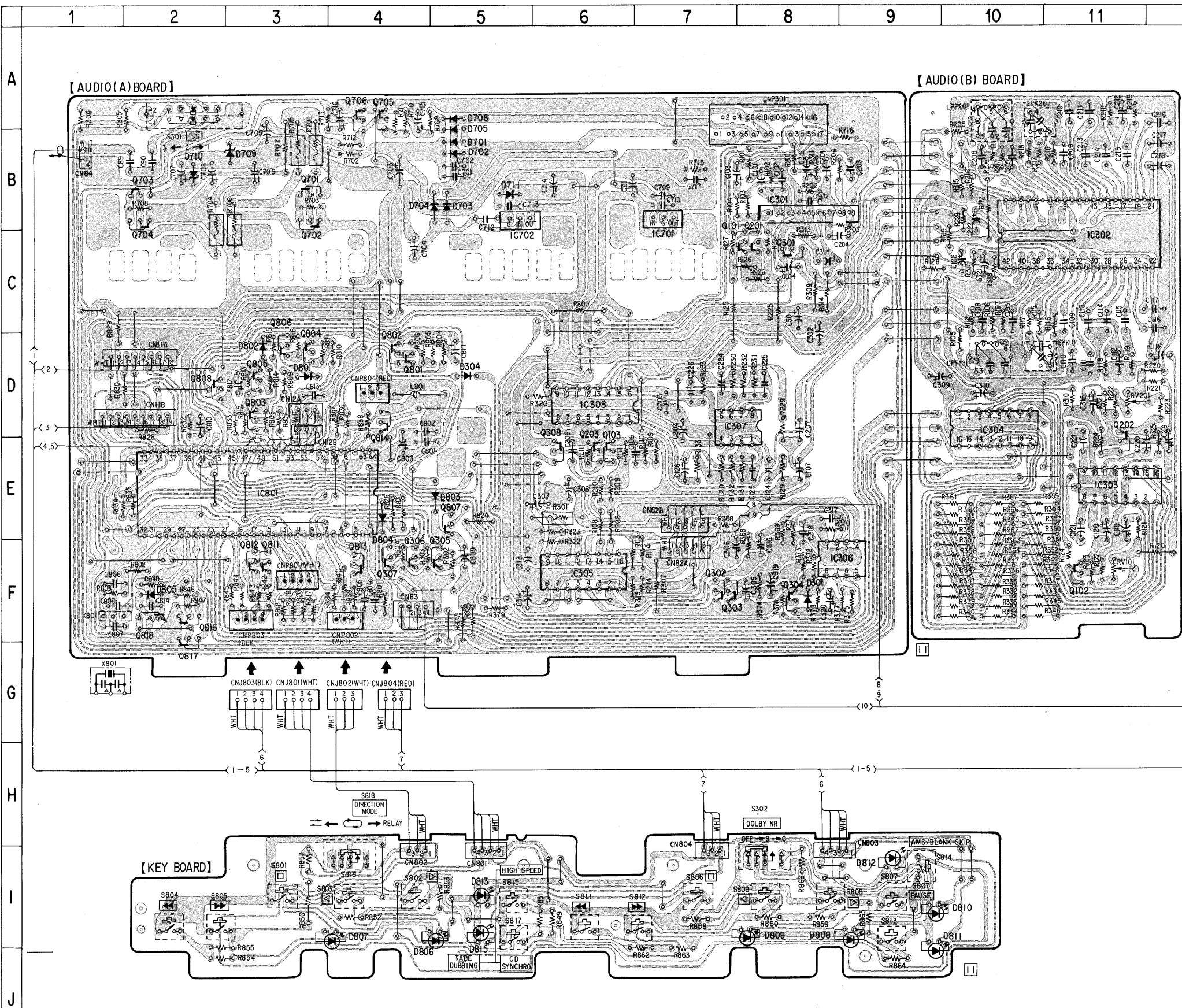
3-2. BLOCK DIAGRAM



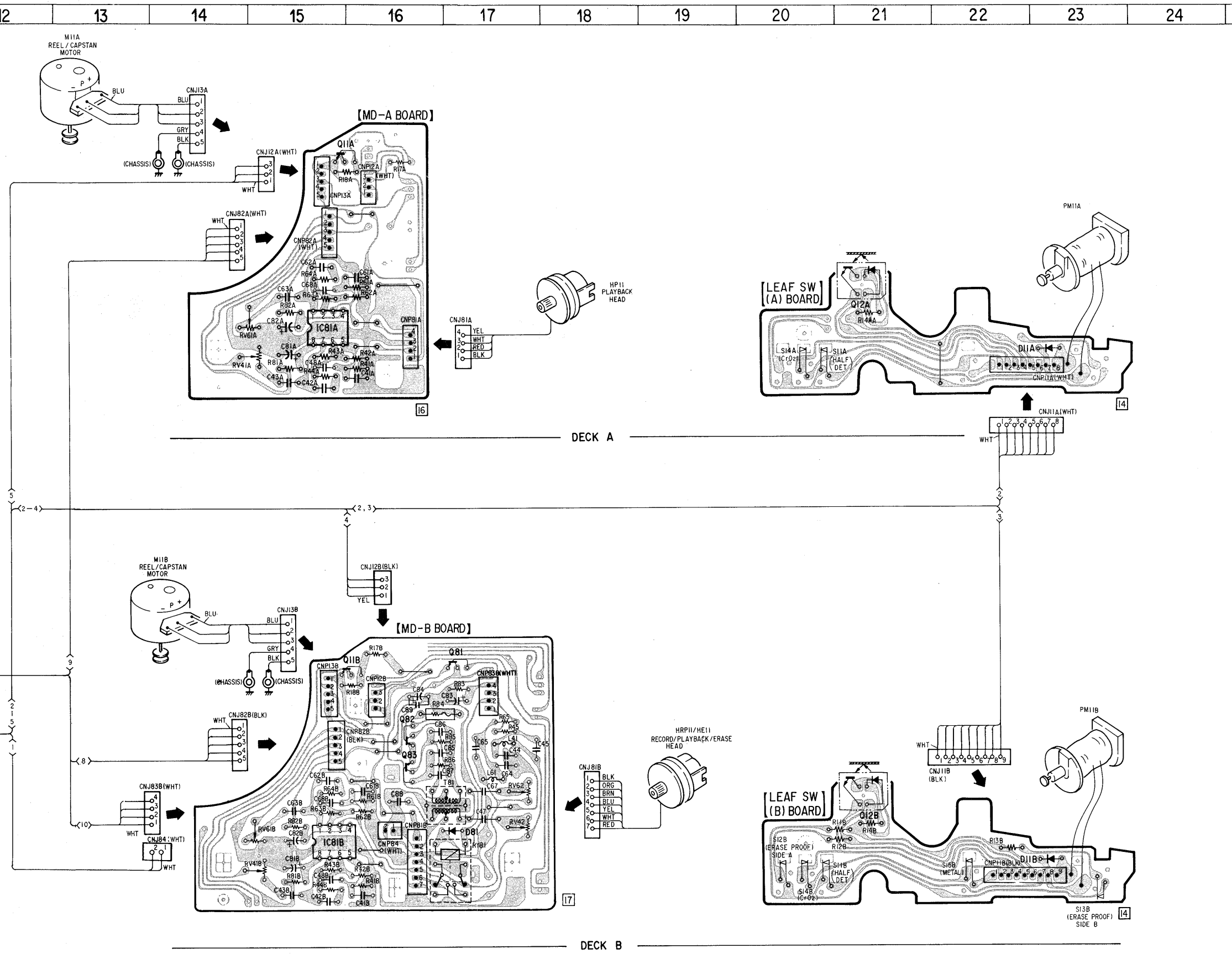


-  : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark : STOP
 - REC
- Voltages are taken with a VOM (Input Impedance 10M Ω).
Voltage variations may be noted due to normal production tolerances.
 -  : PB (DECK A)
 -  : PB (DECK B)
 -  : REC (DECK B)

3-4. PRINTED WIRING BOARDS



Note:
● ○ : parts extracted from the component side.



● Semiconductor Location

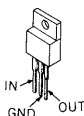
Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D11A	D-23	IC81A	D-15	Q302	F-7
D11B	I-11	IC81B	I-15	Q303	F-7
D81	I-17	IC301	B-8	Q304	F-8
D301	F-8	IC302	B-11	Q305	F-5
D304	C-5	IC303	E-11	Q306	F-4
D701	B-5	IC304	D-10	Q307	F-4
D702	B-5	IC305	F-6	Q308	E-6
D703	B-5	IC306	F-8	Q701	B-3
D704	B-5	IC307	D-7	Q702	B-3
D705	A-5	IC308	D-6	Q703	B-2
D706	A-5	IC701	B-7	Q704	B-2
D709	B-3	IC702	B-5	Q705	A-4
D710	B-2	IC801	E-3	Q706	A-4
D711	B-5			Q801	D-4
D801	C-3	Q11A	B-16	Q802	D-4
D802	C-3	Q11B	G-16	Q803	D-3
D803	E-5	Q12A	C-21	Q804	D-3
D804	E-4	Q12B	H-21	Q805	D-3
D805	F-2	Q81	G-17	Q806	D-3
D806	I-4	Q82	H-16	Q807	E-5
D807	I-4	Q83	H-16	Q808	D-2
D808	I-9	Q101	C-7	Q811	F-3
D809	I-8	Q102	F-11	Q812	F-3
D810	I-9	Q103	E-6	Q813	F-4
D811	I-9	Q201	C-8	Q814	D-4
D812	I-9	Q202	D-11	Q816	F-2
D813	I-5	Q203	E-6	Q817	F-2
D815	I-5	Q301	C-8	Q818	F-2

● Semiconductor Lead Layouts

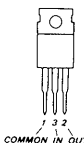
BA3308



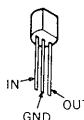
M5F7807



M5F7907



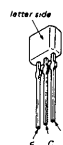
TC4051BPHB



**DTA114ES
DTC114ES
DTC143TS
2SC2603-EF**



2SA1175-HFE



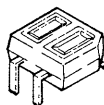
**2SB1013-4
2SC2001
2SD1388**



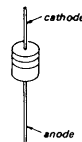
2SD1761-EF



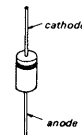
GP-2S09-C



**HZS6C3L
1SS120
11EQS04
11ES2**



**HZ12B2L
1SS132**



**MPG3877S
SEL3213C-D**



**SEL4225C-D
SEL4925A-D**



SECTION 4 EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.

- Color Indication of Appearance Parts
Example:

(RED) ... KNOB, BALANCE (WHITE)

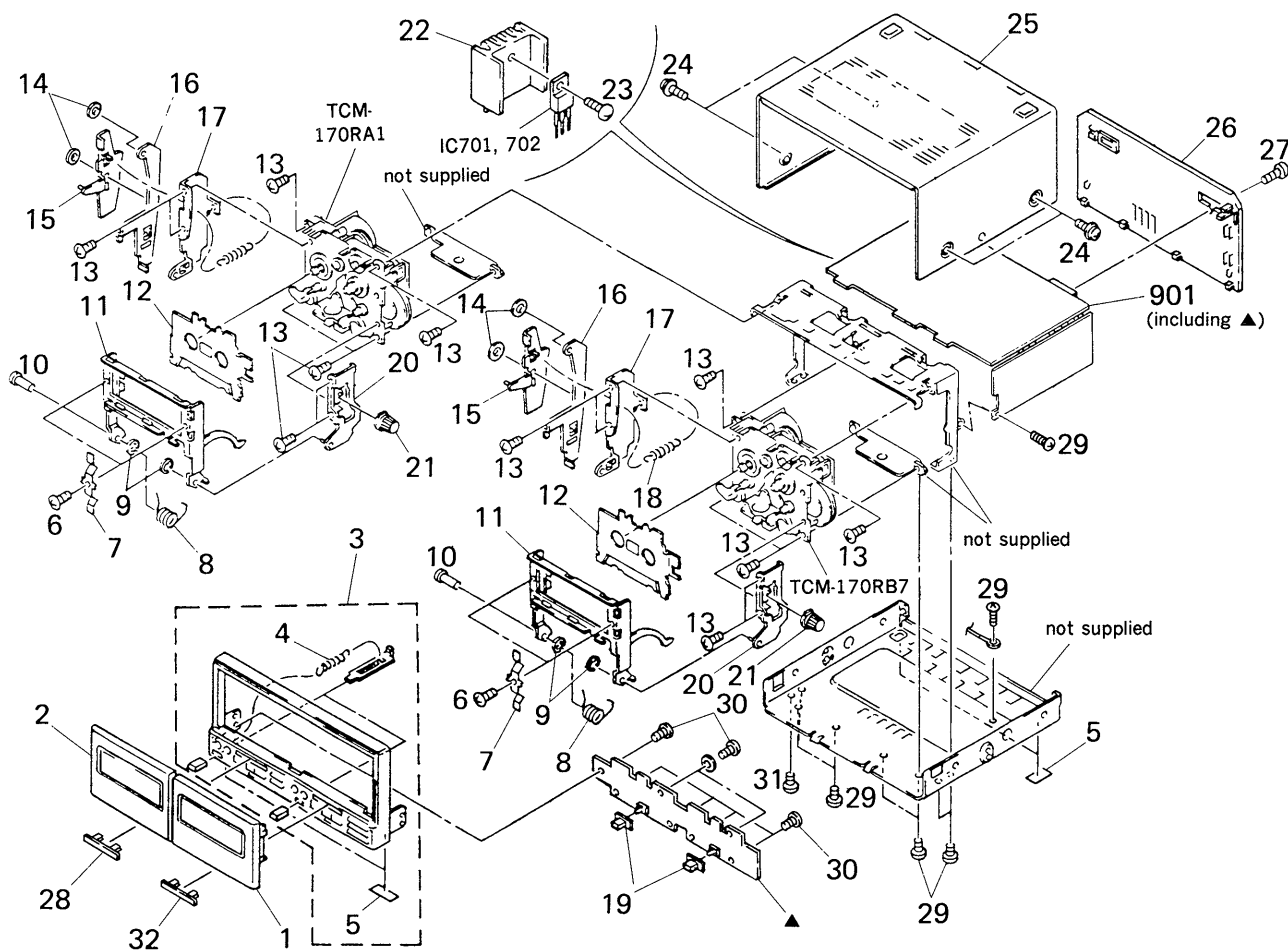
↑
Cabinet's Color

↑
Parts' Color

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

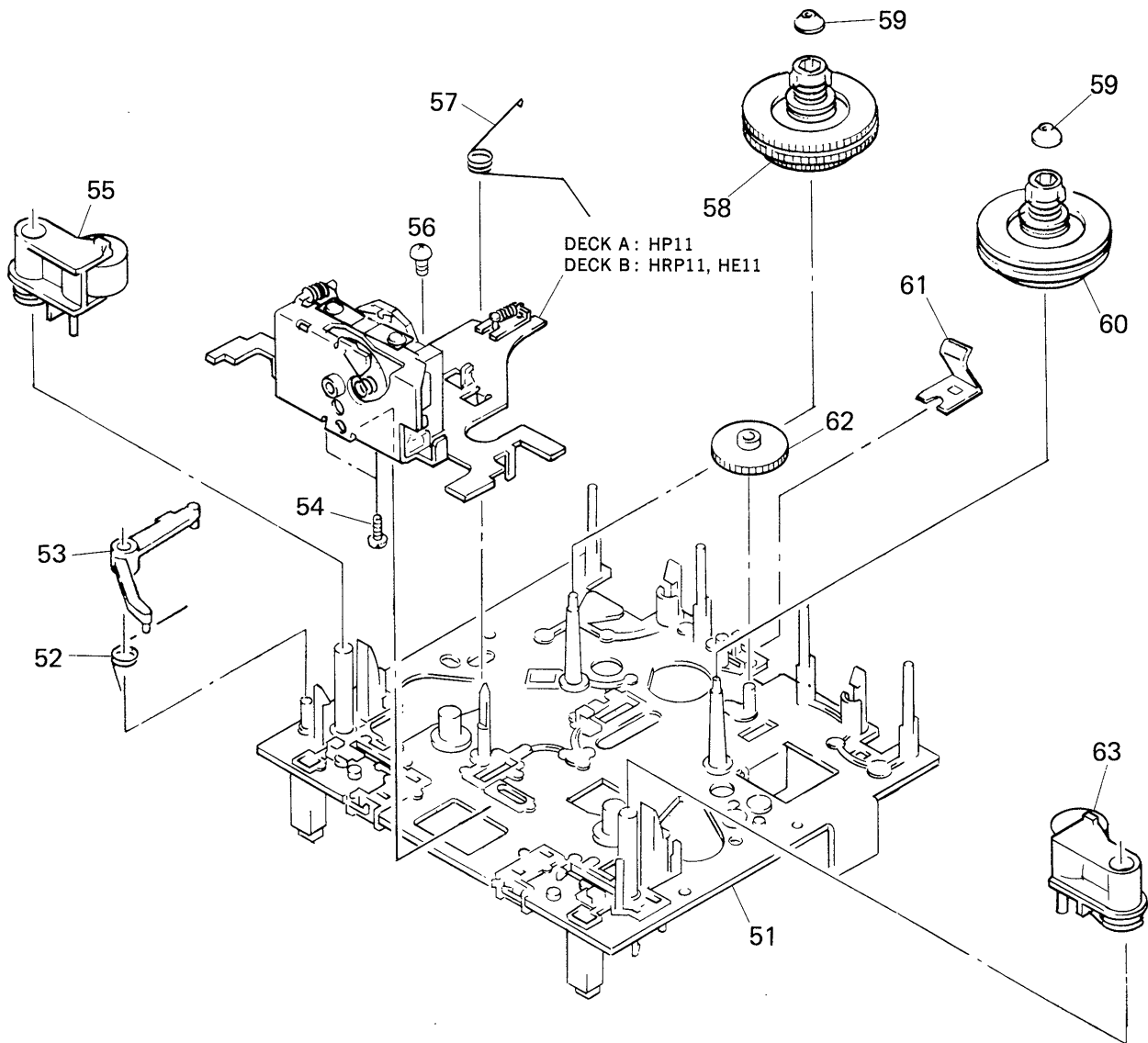
4-1. FRONT PANEL BLOCK



Ref.No	Part No.	Description	Remarks
1	X-3340-199-1	LID (B) ASSY, CASSETTE	
2	X-3340-198-1	LID (A) ASSY, CASSETTE	
3	X-3346-301-1	PANEL ASSY, FRONT	
4	3-567-110-00	SPRING, TENSION	
5	4-930-336-01	FOOT (FELT)	
6	7-621-255-15	SCREW +PTT 2X3 (S)	
7	3-354-908-01	SPRING (CASSETTE RETAINER)	
8	3-346-364-01	SPRING (LOADING), TORSION	
9	7-624-105-04	RETAINING, RING E-2.3	
10	*3-346-334-01	SHAFT (HOLDER FITTING LEFT)	
11	*3-340-150-01	HOLDER, CASSETTE	
12	*3-340-123-01	RETAINER, CASSETTE	
13	7-621-773-86	SCREW +BVTT 2.6X4 (S)	
14	3-558-708-21	WASHER, STOPPER	
15	*X-3332-465-1	LEVER (LOCK) ASSY	
16	*3-340-142-01	LEVER (EJECT)	
17	*X-3332-466-1	BRACKET (L) ASSY	
18	3-343-474-01	SPRING, TENSION	

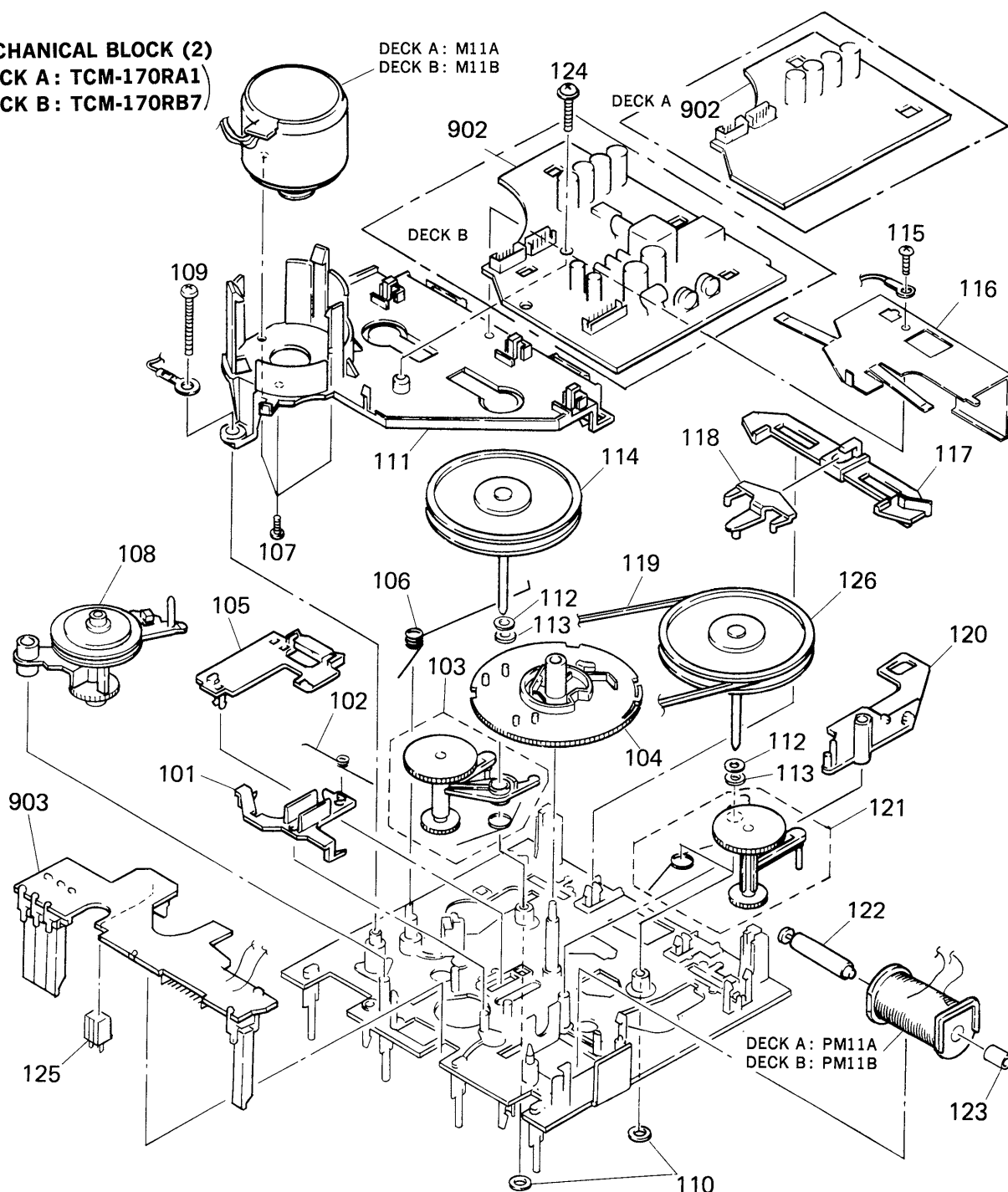
Ref.No	Part No.	Description	Remarks
19	3-349-054-01	KNOB (SLIDE)	
20	*X-3332-494-1	BRACKET (R) ASSY	
21	X-3340-185-1	GEAR (DAMPER) ASSY	
22	*4-921-402-01	HEAT SINK	
23	7-685-646-79	SCREW BVTP 3X8 TYPE2 IT-3	
24	3-704-366-01	SCREW (CASE) (M3X8)	
25	4-932-841-01	CASE	
26	*3-354-982-01	PANEL, BACK	
27	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
28	3-354-984-01	PLATE (AZIMUTH L), ORNAMENTAL	
29	7-682-547-04	SCREW +BVTT 3X6 (S)	
30	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S	
31	7-685-870-01	SCREW +BVTT 3X5 (S)	
32	3-354-985-01	PLATE (AZIMUTH R), ORNAMENTAL	
901	*A-2006-231-A	MOUNTED PCB, AUDIO	
IC701	8-759-604-86	IC M5F7807	
IC702	8-759-604-90	IC M5F7907	

4-2. MECHANICAL BLOCK (1)
(DECK A: TCM-170RA1)
(DECK B: TCM-170RB7)



Ref.No	Part No.	Description	Remarks	Ref.No	Part No.	Description	Remarks
51	X-3343-439-1	CHASSIS ASSY, MECHANICAL		59	3-343-439-01	CAP (REEL TABLE)	
52	3-343-477-01	SPRING, TORSION (EJECT SAFTY)		60	X-3343-401-1	TABEL ASSY, REEL	
53	3-343-476-01	LEVER (EJECT SAFETY LEVER)		61	3-343-420-01	SPRING, LEAF	
54	7-685-102-19	SCREW +P 2X4 NON-SLIT TYPE 2		62	3-343-411-01	GEAR (FF GEAR)	
55	X-3343-456-1	LEVER (PINCH R) ASSY		63	X-3343-455-1	LEVER (PINCH F) ASSY	
56	7-621-773-86	SCREW +BVT 2.6X4 (S)		HP11	A-2003-503-A	(DECK A)...PC BOARD ASSY, HEAD	
57	3-343-401-01	SPRING, TORSION		HRP11	A-2003-504-A	(DECK B)...CHASSIS ASSY, HEAD	
58	X-3343-415-1	TABEL (REV) ASSY, REEL					

4-3. MECHANICAL BLOCK (2)
(DECK A: TCM-170RA1)
(DECK B: TCM-170RB7)



Ref.No	Part No.	Description	Remarks
101	3-343-453-01	SLIDER (BRAKE PLATE)	
102	3-343-429-01	SPRING, TORSION	
103	X-3343-454-1	LEVER (TU-R) ASSY	
104	3-343-470-01	GEAR (CAM GEAR)	
105	3-343-461-01	SLIDER	
106	3-343-430-01	SPRING, TORSION	
107	7-627-556-28	SCREW +P 2.6X3.5	
108	X-3343-414-1	LAVER (FR ARM) ASSY	
109	3-355-801-01	SCREW (BTP 2X18)	
110	3-343-473-01	WASHER, NYLON	
111	*X-3343-407-1	BASE (THRUST RETAINER) ASSY	
112	4-605-835-11	WASHER (2.6), POLYSLIDER	
113	3-307-482-00	WASHER, LUMILER	
114	X-3343-411-6	FLYWHEEL COMPLETE ASSY	
115	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT	
116	3-343-480-01	PLATE, SHIELD	
117	3-343-457-01	SLIDER (REVERSE SLIDER)	

Ref.No	Part No.	Description	Remarks
118	3-343-462-01	LEVER	
119	3-313-816-02	BELT (CAPSTAN BELT SQUARE)	
120	3-343-493-01	LEVER (PM LEVER)	
121	X-3343-453-1	LEVER (TU-F) ASSY	
122	*3-343-425-01	ARBOR(MOVABLE IRON ARBOR),IRON	
123	*3-343-424-01	ARBOR (FIXED IRON ARBOR), IRON	
124	3-343-404-01	SCREW (PTPWH 2X12)	
125	3-343-419-01	HOLDER (S SENSER A)	
126	X-3343-416-7	FLYWHEEL (REV) COMPLETE ASSY	
902	*1-624-146-11	(DESK B)...PC BOARD,MD-B	
902	*1-624-147-11	(DECK A)...PC BOARD, MD-A	
903	*1-624-148-11	PC BOARD, LEAF SW	
M11A	X-3343-447-1	(DECK A)...MOTOR ASSY	
M11B	X-3343-447-1	(DECK B)...MOTOR ASSY	
PM11A	1-454-456-11	(DECK A)...SOLENOID, PLUNGER	
PM11B	1-454-456-11	(DECK B)...SOLENOID, PLUNGER	

SECTION 5

ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:MF: μ F, PF: μ MF.**RESISTORS**

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH: μ H

SEMICONDUCTORSIn each case, U: μ , for example:UA...: μ A..., UPA...: μ PA...,UPC...: μ PC, UPD...: μ PD...

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No	Part No.	Description				Ref.No	Part No.	Description			
901	*A-2006-231-A	MOUNTED PCB, AUDIO				C115	1-136-161-00	FILM	0.047MF	5%	50V
902	*1-624-146-11	(DESK B)...PC BOARD,MD-B				C116	1-130-481-00	MYLAR	0.0068MF	5%	50V
902	*1-624-147-11	(DECK A)...PC BOARD, MD-A				C117	1-136-153-00	FILM	0.01MF	5%	50V
903	*1-624-148-11	PC BOARD, LEAF SW				C118	1-124-927-11	ELECT	4.7MF	20%	50V
CAPACITOR											
C41A	1-162-289-31	CERAMIC	390PF	10%	50V	C119	1-124-464-11	ELECT	0.22MF	20%	50V
C41B	1-162-289-31	CERAMIC	390PF	10%	50V	C120	1-124-927-11	ELECT	4.7MF	20%	50V
C42A	1-136-157-00	FILM	0.022MF	5%	50V	C121	1-123-875-11	ELECT	10MF	20%	50V
C42B	1-136-157-00	FILM	0.022MF	5%	50V	C122	1-126-233-11	ELECT	22MF	20%	50V
C43A	1-124-282-00	ELECT	22MF	20%	25V	C124	1-123-875-11	ELECT	10MF	20%	50V
C43B	1-124-282-00	ELECT	22MF	20%	25V	C125	1-162-217-31	CERAMIC	56PF	5%	50V
C44	1-162-288-31	CERAMIC	330PF	10%	50V	C126	1-126-233-11	ELECT	22MF	20%	50V
C45	1-136-273-91	FILM	75PF	5%	630V	C201	1-124-925-11	ELECT	2.2MF	20%	50V
C47	1-162-209-31	CERAMIC	27PF	5%	50V	C202	1-162-294-31	CERAMIC	0.001MF	10%	50V
C48A	1-162-217-31	CERAMIC	56PF	5%	50V	C203	1-124-443-00	ELECT	100MF	20%	10V
C48B	1-162-217-31	CERAMIC	56PF	5%	50V	C204	1-123-875-11	ELECT	10MF	20%	50V
C61A	1-162-289-31	CERAMIC	390PF	10%	50V	C205	1-161-375-00	CERAMIC	0.0022MF	20%	16V
C61B	1-162-289-31	CERAMIC	390PF	10%	50V	C206	1-136-162-00	FILM	0.056MF	5%	50V
C62A	1-136-157-00	FILM	0.022MF	5%	50V	C207	1-123-875-11	ELECT	10MF	20%	50V
C62B	1-136-157-00	FILM	0.022MF	5%	50V	C208	1-161-375-00	CERAMIC	0.0022MF	20%	16V
C63A	1-124-282-00	ELECT	22MF	20%	25V	C209	1-130-479-00	MYLAR	0.0047MF	5%	50V
C63B	1-124-282-00	ELECT	22MF	20%	25V	C210	1-136-173-00	FILM	0.47MF	5%	50V
C64	1-162-288-31	CERAMIC	330PF	10%	50V	C211	1-136-167-00	FILM	0.15MF	5%	50V
C65	1-136-273-91	FILM	75PF	5%	630V	C212	1-136-155-00	FILM	0.015MF	5%	50V
C67	1-162-209-31	CERAMIC	27PF	5%	50V	C213	1-136-169-00	FILM	0.22MF	5%	50V
C68A	1-162-217-31	CERAMIC	56PF	5%	50V	C214	1-136-163-00	FILM	0.068MF	5%	50V
C68B	1-162-217-31	CERAMIC	56PF	5%	50V	C215	1-136-161-00	FILM	0.047MF	5%	50V
C81A	1-126-101-11	ELECT	100MF	20%	16V	C216	1-130-481-00	MYLAR	0.0068MF	5%	50V
C81B	1-126-101-11	ELECT	100MF	20%	16V	C217	1-136-153-00	FILM	0.01MF	5%	50V
C82A	1-126-101-11	ELECT	100MF	20%	16V	C218	1-124-927-11	ELECT	4.7MF	20%	50V
C82B	1-126-101-11	ELECT	100MF	20%	16V	C219	1-124-464-11	ELECT	0.22MF	20%	50V
C83	1-124-791-11	ELECT	1MF	20%	50V	C220	1-124-927-11	ELECT	4.7MF	20%	50V
C84	1-124-925-11	ELECT	2.2MF	20%	50V	C221	1-123-875-11	ELECT	10MF	20%	50V
C85	1-130-480-00	MYLAR	0.0056MF	5%	50V	C222	1-126-233-11	ELECT	22MF	20%	50V
C86	1-130-476-00	MYLAR	0.0027MF	5%	50V	C224	1-123-875-11	ELECT	10MF	20%	50V
C87	1-130-476-00	MYLAR	0.0027MF	5%	50V	C225	1-162-217-31	CERAMIC	56PF	5%	50V
C88	1-136-562-11	FILM	0.0082MF	5%	630V	C226	1-126-233-11	ELECT	22MF	20%	50V
C89	1-136-554-11	FILM	0.0018MF	5%	630V	C301	1-123-875-11	ELECT	10MF	20%	50V
C89	1-161-494-00	CERAMIC	0.022MF	25V		C302	1-123-875-11	ELECT	10MF	20%	50V
C90	1-136-553-11	FILM	0.0015MF	5%	630V	C303	1-123-875-11	ELECT	10MF	20%	50V
C101	1-124-925-11	ELECT	2.2MF	20%	50V	C304	1-123-875-11	ELECT	10MF	20%	50V
C102	1-162-294-31	CERAMIC	0.001MF	10%	50V	C305	1-124-477-11	ELECT	47MF	20%	25V
C103	1-124-443-00	ELECT	100MF	20%	10V	C306	1-124-477-11	ELECT	47MF	20%	25V
C104	1-123-875-11	ELECT	10MF	20%	50V	C307	1-124-120-11	ELECT	220MF	20%	16V
C105	1-161-375-00	CERAMIC	0.0022MF	20%	16V	C308	1-124-120-11	ELECT	220MF	20%	16V
C106	1-136-162-00	FILM	0.056MF	5%	50V	C309	1-123-875-11	ELECT	10MF	20%	50V
C107	1-123-875-11	ELECT	10MF	20%	50V	C310	1-123-875-11	ELECT	10MF	20%	50V
C108	1-161-375-00	CERAMIC	0.0022MF	20%	16V	C311	1-124-443-00	ELECT	100MF	20%	10V
C109	1-130-479-00	MYLAR	0.0047MF	5%	50V	C312	1-126-233-11	ELECT	22MF	20%	50V
C110	1-136-173-00	FILM	0.47MF	5%	50V	C313	1-123-875-11	ELECT	10MF	20%	50V
C111	1-136-167-00	FILM	0.15MF	5%	50V	C314	1-123-875-11	ELECT	10MF	20%	50V
C112	1-136-155-00	FILM	0.015MF	5%	50V	C315	1-124-791-11	ELECT	1MF	20%	50V
C113	1-136-169-00	FILM	0.22MF	5%	50V	C316	1-124-902-00	ELECT	0.47MF	20%	50V
C114	1-136-163-00	FILM	0.068MF	5%	50V	C317	1-162-217-31	CERAMIC	56PF	5%	50V
						C318	1-136-157-00	FILM	0.022MF	5%	50V
						C319	1-124-925-11	ELECT	2.2MF	20%	50V

REVISED

Ref.No	Part No.	Description				Ref.No	Part No.	Description
C320	1-124-925-11	ELECT	2.2MF	20%	50V	D711	8-719-210-21	DIODE 11EQS04
C321	1-124-927-11	ELECT	4.7MF	20%	50V	D801	8-719-200-82	DIODE 11ES2
C701	1-164-159-11	CERAMIC	0.1MF		50V	D802	8-719-200-82	DIODE 11ES2
C702	1-164-159-11	CERAMIC	0.1MF		50V	D803	8-719-200-82	DIODE 11ES2
C703	1-124-563-11	ELECT	2200MF	20%	25V	D804	8-719-912-20	DIODE 1SS120
C704	1-124-480-11	ELECT	470MF	20%	25V	D805	8-719-912-20	DIODE 1SS120
C705	1-124-120-11	ELECT	220MF	20%	16V	D806	8-719-942-15	DIODE MPG3877S
C706	1-124-360-00	ELECT	1000MF	20%	16V	D807	8-719-942-15	DIODE MPG3877S
C707	1-124-477-11	ELECT	47MF	20%	25V	D808	8-719-942-15	DIODE MPG3877S
C708	1-124-472-11	ELECT	470MF	20%	10V	D809	8-719-942-15	DIODE MPG3877S
C709	1-164-159-11	CERAMIC	0.1MF		50V	D810	8-719-310-04	DIODE SEL4925A-D
C710	1-164-159-11	CERAMIC	0.1MF		50V	D811	8-719-312-38	DIODE SEL4225C-D
C711	1-124-472-11	ELECT	470MF	20%	10V	D812	8-719-942-15	DIODE MPG3877S
C712	1-164-159-11	CERAMIC	0.1MF		50V	D813	8-719-311-05	DIODE SEL3213C-D
C713	1-164-159-11	CERAMIC	0.1MF		50V	D815	8-719-311-05	DIODE SEL3213C-D
C714	1-124-472-11	ELECT	470MF	20%	10V	HP11	A-2003-503-A	(DECK A)....PC BOARD ASSY, HEAD
C715	1-124-791-11	ELECT	1MF	20%	50V	HRP11	A-2003-504-A	(DECK B)....CHASSIS ASSY, HEAD
C716	1-124-482-11	ELECT	33MF	20%	25V	IC81A	8-759-111-44	IC UPC4570C-1
C717	1-162-294-31	CERAMIC	0.001MF	10%	50V	IC81B	8-759-111-44	IC UPC4570C-1
C801	1-161-494-00	CERAMIC	0.022MF		25V	IC301	8-759-939-73	IC BA3308
C802	1-161-494-00	CERAMIC	0.022MF		25V	IC302	8-752-018-70	IC CX20187
C803	1-124-443-00	ELECT	100MF	20%	10V	IC303	8-752-033-61	IC CXA1198AP
C804	1-161-494-00	CERAMIC	0.022MF		25V	IC304	8-759-208-06	IC TC4051BPHB
C805	1-161-494-00	CERAMIC	0.022MF		25V	IC305	8-759-040-53	IC MC14053BCP
C806	1-162-199-31	CERAMIC	10PF	5%	50V	IC306	8-759-945-58	IC RC4558P
C807	1-162-199-31	CERAMIC	10PF	5%	50V	IC307	8-759-945-58	IC RC4558P
C808	1-162-199-31	CERAMIC	10PF	5%	50V	IC308	8-759-040-53	IC MC14053BCP
C809	1-126-176-11	ELECT	220MF	20%	10V	IC701	8-759-604-86	IC M5F7807
C810	1-124-925-11	ELECT	2.2MF	20%	50V	IC702	8-759-604-90	IC M5F7907
C811	1-124-927-11	ELECT	4.7MF	20%	50V	IC801	8-759-635-01	IC M50964-223SP
C812	1-124-925-11	ELECT	2.2MF	20%	50V	L41	1-410-780-11	INDUCTOR 27MMH
C813	1-164-159-11	CERAMIC	0.1MF		50V	L61	1-410-780-11	INDUCTOR 27MMH
C814	1-162-199-31	CERAMIC	10PF	5%	50V	L801	1-408-080-00	INDUCTOR 100UH
CN84	*1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P				LPF101	1-236-087-11	FILTER, LOW PASS
CNP11A	1-564-501-11	PIN, CONNECTOR 8P				LPF201	1-236-087-11	FILTER, LOW PASS
CNP11B	1-506-615-11	PIN, CONNECTOR 9P				M11A	X-3343-447-1	(DECK A)....MOTOR ASSY
CNP12A	*1-564-337-00	PIN, CONNECTOR 3P				M11B	X-3343-447-1	(DECK B)....MOTOR ASSY
CNP12B	*1-564-337-61	PIN, CONNECTOR 3P				PM11A	1-454-456-11	(DECK A)....SOLENOID, PLUNGER
CNP13A	*1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P				PM11B	1-454-456-11	(DECK B)....SOLENOID, PLUNGER
CNP13B	*1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P				Q11A	8-729-119-76	TRANSISTOR 2SA1175-HFE
CNP81A	*1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P				Q11B	8-729-119-76	TRANSISTOR 2SA1175-HFE
CNP81B	*1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P				Q12A	8-719-939-23	PHOTO TRANSISTOR GP2S09-C
CNP82A	*1-564-339-00	PIN, CONNECTOR 5P				Q12B	8-719-939-23	PHOTO TRANSISTOR GP2S09-C
CNP82B	*1-564-339-61	PIN, CONNECTOR 5P				Q81	8-729-111-29	TRANSISTOR 2SD1616A-K
CNP83	*1-564-338-61	PIN, CONNECTOR 4P				Q82	8-729-100-13	TRANSISTOR 2SC2001
CNP84	*1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P				Q83	8-729-100-13	TRANSISTOR 2SC2001
CNP301	*1-569-624-11	SOCKET, CONNECTOR 17P				Q101	8-729-900-74	TRANSISTOR DTC143TS
CNP801	*1-564-338-00	PIN, CONNECTOR 4P				Q102	8-729-620-05	TRANSISTOR 2SC2603-EF
CNP802	*1-564-337-00	PIN, CONNECTOR 3P				Q103	8-729-900-74	TRANSISTOR DTC143TS
CNP803	*1-564-338-61	PIN, CONNECTOR 4P				Q201	8-729-900-74	TRANSISTOR DTC143TS
CNP804	*1-564-337-71	PIN, CONNECTOR 3P				Q202	8-729-620-05	TRANSISTOR 2SC2603-EF
D11A	8-719-107-94	DIODE 1SS132				Q203	8-729-900-74	TRANSISTOR DTC143TS
D11B	8-719-107-94	DIODE 1SS132				Q301	8-729-900-80	TRANSISTOR DTA114ES
D81	8-719-107-94	DIODE 1SS132				Q302	8-729-900-61	TRANSISTOR DTA114ES
D301	8-719-912-20	DIODE 1SS120				Q303	8-729-900-74	TRANSISTOR DTC143TS
D304	8-719-912-20	DIODE 1SS120				Q304	8-729-119-76	TRANSISTOR 2SA1175-HFE
D701	8-719-200-82	DIODE 11ES2				Q305	8-729-900-61	TRANSISTOR DTA114ES
D702	8-719-200-82	DIODE 11ES2				Q306	8-729-900-61	TRANSISTOR DTA114ES
D703	8-719-200-82	DIODE 11ES2				Q307	8-729-900-61	TRANSISTOR DTA114ES
D704	8-719-200-82	DIODE 11ES2				Q308	8-729-900-61	TRANSISTOR DTA114ES
D705	8-719-912-20	DIODE 1SS120				Q701	8-729-620-05	TRANSISTOR 2SC2603-EF
D706	8-719-912-20	DIODE 1SS120				Q702	8-729-920-98	TRANSISTOR 2SD1761-EF
D709	8-719-910-25	DIODE HZ12B2L						
D710	8-719-933-41	DIODE HZS6C3L						

Ref.No	Part No.	Description			
Q703	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q704	8-729-920-98	TRANSISTOR 2SD1761-EF			
Q705	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q706	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q801	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q802	8-729-801-84	TRANSISTOR 2SB1013-4			
Q803	8-729-801-84	TRANSISTOR 2SB1013-4			
Q804	8-729-801-84	TRANSISTOR 2SB1013-4			
Q805	8-729-801-84	TRANSISTOR 2SB1013-4			
Q806	8-729-801-84	TRANSISTOR 2SB1013-4			
Q807	8-729-900-61	TRANSISTOR DTA114ES			
Q808	8-729-900-61	TRANSISTOR DTA114ES			
Q811	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q812	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q813	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q814	8-729-900-80	TRANSISTOR DTC114ES			
Q816	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q817	8-729-900-61	TRANSISTOR DTA114ES			
Q818	8-729-900-80	TRANSISTOR DTC114ES			
RESISTOR					
R11B	1-247-834-11	CARBON	1.3K	5%	1/4W
R12B	1-249-414-11	CARBON	560	5%	1/4W
R13B	1-247-818-11	CARBON	300	5%	1/4W
R14A	1-249-408-11	CARBON	180	5%	1/4W
R14B	1-249-408-11	CARBON	180	5%	1/4W
R17A	1-249-437-11	CARBON	47K	5%	1/4W
R17B	1-249-437-11	CARBON	47K	5%	1/4W
R18A	1-249-437-11	CARBON	47K	5%	1/4W
R18B	1-249-437-11	CARBON	47K	5%	1/4W
R41A	1-247-881-00	CARBON	120K	5%	1/4W
R41B	1-247-881-00	CARBON	120K	5%	1/4W
R42A	1-249-405-11	CARBON	100	5%	1/4W
R42B	1-249-405-11	CARBON	100	5%	1/4W
R43A	1-247-882-11	CARBON	130K	5%	1/4W
R43B	1-247-882-11	CARBON	130K	5%	1/4W
R44A	1-249-426-11	CARBON	5.6K	5%	1/4W
R44B	1-249-426-11	CARBON	5.6K	5%	1/4W
R45	1-249-430-11	CARBON	12K	5%	1/4W
R61A	1-247-881-00	CARBON	120K	5%	1/4W
R61B	1-247-881-00	CARBON	120K	5%	1/4W
R62A	1-249-405-11	CARBON	100	5%	1/4W
R62B	1-249-405-11	CARBON	100	5%	1/4W
R63A	1-247-882-11	CARBON	130K	5%	1/4W
R63B	1-247-882-11	CARBON	130K	5%	1/4W
R64A	1-249-426-11	CARBON	5.6K	5%	1/4W
R64B	1-249-426-11	CARBON	5.6K	5%	1/4W
R65	1-249-430-11	CARBON	12K	5%	1/4W
R81A	1-249-409-11	CARBON	220	5%	1/4W
R81B	1-249-409-11	CARBON	220	5%	1/4W
R82A	1-249-409-11	CARBON	220	5%	1/4W
R82B	1-249-409-11	CARBON	220	5%	1/4W
R83	1-249-429-11	CARBON	10K	5%	1/4W
R84	1-212-849-00	FUSIBLE	4.7	5%	1/4W
R85	1-249-435-11	CARBON	33K	5%	1/4W
R86	1-249-435-11	CARBON	33K	5%	1/4W
R101	1-247-866-11	CARBON	30K	5%	1/4W
R102	1-249-417-11	CARBON	1K	5%	1/4W
R103	1-249-437-11	CARBON	47K	5%	1/4W
R104	1-249-417-11	CARBON	1K	5%	1/4W
R105	1-249-423-11	CARBON	3.3K	5%	1/4W
R106	1-249-426-11	CARBON	5.6K	5%	1/4W
R107	1-247-834-11	CARBON	1.3K	5%	1/4W
R108	1-249-418-11	CARBON	1.2K	5%	1/4W
R109	1-249-423-11	CARBON	3.3K	5%	1/4W
R110	1-247-834-11	CARBON	1.3K	5%	1/4W

Ref.No	Part No.	Description			
R111	1-247-887-00	CARBON	220K	5%	1/4W
R112	1-249-417-11	CARBON	1K	5%	1/4W
R113	1-249-441-11	CARBON	100K	5%	1/4W
R114	1-249-441-11	CARBON	100K	5%	1/4W
R115	1-249-424-11	CARBON	3.9K	5%	1/4W
R116	1-247-842-11	CARBON	3K	5%	1/4W
R117	1-247-822-11	CARBON	430	5%	1/4W
R118	1-249-427-11	CARBON	6.8K	5%	1/4W
R119	1-249-415-11	CARBON	680	5%	1/4W
R120	1-249-429-11	CARBON	10K	5%	1/4W
R121	1-249-428-11	CARBON	8.2K	5%	1/4W
R122	1-249-421-11	CARBON	2.2K	5%	1/4W
R123	1-249-429-11	CARBON	10K	5%	1/4W
R124	1-249-417-11	CARBON	1K	5%	1/4W
R125	1-249-420-11	CARBON	1.8K	5%	1/4W
R126	1-247-842-11	CARBON	3K	5%	1/4W
R127	1-249-411-11	CARBON	330	5%	1/4W
R128	1-249-441-11	CARBON	100K	5%	1/4W
R129	1-249-417-11	CARBON	1K	5%	1/4W
R130	1-249-441-11	CARBON	100K	5%	1/4W
R131	1-249-436-11	CARBON	39K	5%	1/4W
R132	1-249-420-11	CARBON	1.8K	5%	1/4W
R133	1-249-441-11	CARBON	100K	5%	1/4W
R201	1-247-866-11	CARBON	30K	5%	1/4W
R202	1-249-417-11	CARBON	1K	5%	1/4W
R203	1-249-437-11	CARBON	47K	5%	1/4W
R204	1-249-417-11	CARBON	1K	5%	1/4W
R205	1-249-423-11	CARBON	3.3K	5%	1/4W
R206	1-249-426-11	CARBON	5.6K	5%	1/4W
R207	1-247-834-11	CARBON	1.3K	5%	1/4W
R208	1-249-418-11	CARBON	1.2K	5%	1/4W
R209	1-249-423-11	CARBON	3.3K	5%	1/4W
R210	1-247-834-11	CARBON	1.3K	5%	1/4W
R211	1-247-887-00	CARBON	220K	5%	1/4W
R212	1-249-417-11	CARBON	1K	5%	1/4W
R213	1-249-441-11	CARBON	100K	5%	1/4W
R214	1-249-441-11	CARBON	100K	5%	1/4W
R215	1-249-424-11	CARBON	3.9K	5%	1/4W
R216	1-247-842-11	CARBON	3K	5%	1/4W
R217	1-247-822-11	CARBON	430	5%	1/4W
R218	1-249-427-11	CARBON	6.8K	5%	1/4W
R219	1-249-415-11	CARBON	680	5%	1/4W
R220	1-249-429-11	CARBON	10K	5%	1/4W
R221	1-249-428-11	CARBON	8.2K	5%	1/4W
R222	1-249-421-11	CARBON	2.2K	5%	1/4W
R223	1-249-429-11	CARBON	10K	5%	1/4W
R224	1-249-417-11	CARBON	1K	5%	1/4W
R225	1-249-420-11	CARBON	1.8K	5%	1/4W
R226	1-247-842-11	CARBON	3K	5%	1/4W
R227	1-249-411-11	CARBON	330	5%	1/4W
R228	1-249-441-11	CARBON	100K	5%	1/4W
R229	1-249-417-11	CARBON	1K	5%	1/4W
R230	1-249-441-11	CARBON	100K	5%	1/4W
R231	1-249-436-11	CARBON	39K	5%	1/4W
R232	1-249-420-11	CARBON	1.8K	5%	1/4W
R233	1-249-441-11	CARBON	100K	5%	1/4W
R301	1-212-849-00	FUSIBLE	4.7	5%	1/4W
R302	1-249-429-11	CARBON	10K	5%	1/4W
R303	1-249-423-11	CARBON	3.3K	5%	1/4W
R304	1-247-834-11	CARBON	1.3K	5%	1/4W
R305	1-249-435-11	CARBON	33K	5%	1/4W
R306	1-249-433-11	CARBON	22K	5%	1/4W
R307	1-249-409-11	CARBON	220	5%	1/4W
R308	1-249-409-11	CARBON	220	5%	1/4W
R309	1-249-429-11	CARBON	10K	5%	1/4W

Note:

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Note:

Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No	Part No.	Description				
R310	1-249-417-11	CARBON	1K	5%	1/4W	
R311	1-259-880-11	CARBON	2.2M	5%	1/4W	
R313	1-249-405-11	CARBON	100	5%	1/4W	
R314	1-249-409-11	CARBON	220	5%	1/4W	
R315	1-249-441-11	CARBON	100K	5%	1/4W	
R316	1-249-441-11	CARBON	100K	5%	1/4W	
R317	1-249-411-11	CARBON	330	5%	1/4W	
R318	1-249-437-11	CARBON	47K	5%	1/4W	
R319	1-215-469-00	METAL	100K	1%	1/6W	
R320	1-249-433-11	CARBON	22K	5%	1/4W	
R321	1-249-441-11	CARBON	100K	5%	1/4W	
R322	1-249-429-11	CARBON	10K	5%	1/4W	
R323	1-249-429-11	CARBON	10K	5%	1/4W	
R325	1-247-864-11	CARBON	24K	5%	1/4W	
R332	1-247-862-11	CARBON	20K	5%	1/4W	
R333	1-247-868-11	CARBON	36K	5%	1/4W	
R334	1-249-434-11	CARBON	27K	5%	1/4W	
R335	1-247-874-11	CARBON	62K	5%	1/4W	
R336	1-247-870-11	CARBON	43K	5%	1/4W	
R337	1-247-881-00	CARBON	120K	5%	1/4W	
R338	1-249-437-11	CARBON	47K	5%	1/4W	
R339	1-247-872-11	CARBON	51K	5%	1/4W	
R340	1-249-437-11	CARBON	47K	5%	1/4W	
R341	1-249-438-11	CARBON	56K	5%	1/4W	
R342	1-249-437-11	CARBON	47K	5%	1/4W	
R343	1-247-881-00	CARBON	120K	5%	1/4W	
R344	1-247-872-11	CARBON	51K	5%	1/4W	
R345	1-247-874-11	CARBON	62K	5%	1/4W	
R346	1-249-434-11	CARBON	27K	5%	1/4W	
R347	1-249-437-11	CARBON	47K	5%	1/4W	
R348	1-249-438-11	CARBON	56K	5%	1/4W	
R349	1-247-880-11	CARBON	110K	5%	1/4W	
R350	1-249-435-11	CARBON	33K	5%	1/4W	
R351	1-249-435-11	CARBON	33K	5%	1/4W	
R352	1-249-439-11	CARBON	68K	5%	1/4W	
R353	1-247-885-00	CARBON	180K	5%	1/4W	
R354	1-247-874-11	CARBON	62K	5%	1/4W	
R355	1-249-441-11	CARBON	100K	5%	1/4W	
R356	1-249-439-11	CARBON	68K	5%	1/4W	
R357	1-249-437-11	CARBON	47K	5%	1/4W	
R358	1-247-880-11	CARBON	110K	5%	1/4W	
R359	1-247-885-00	CARBON	180K	5%	1/4W	
R360	1-247-874-11	CARBON	62K	5%	1/4W	
R361	1-247-883-00	CARBON	150K	5%	1/4W	
R362	1-249-439-11	CARBON	68K	5%	1/4W	
R363	1-249-438-11	CARBON	56K	5%	1/4W	
R364	1-249-437-11	CARBON	47K	5%	1/4W	
R365	1-247-876-11	CARBON	75K	5%	1/4W	
R366	1-247-880-11	CARBON	110K	5%	1/4W	
R367	1-247-887-00	CARBON	220K	5%	1/4W	
R368	1-247-887-00	CARBON	220K	5%	1/4W	
R369	1-247-887-00	CARBON	220K	5%	1/4W	
R370	1-249-441-11	CARBON	100K	5%	1/4W	
R371	1-249-429-11	CARBON	10K	5%	1/4W	
R372	1-249-428-11	CARBON	8.2K	5%	1/4W	
R373	1-249-423-11	CARBON	3.3K	5%	1/4W	
R374	1-249-441-11	CARBON	100K	5%	1/4W	
R375	1-249-441-11	CARBON	100K	5%	1/4W	
R376	1-249-417-11	CARBON	1K	5%	1/4W	
R377	1-249-429-11	CARBON	10K	5%	1/4W	
R378	1-249-441-11	CARBON	100K	5%	1/4W	
R379	1-249-417-11	CARBON	1K	5%	1/4W	
R701	△.1-219-108-11	FUSIBLE	1.5	5%	1W	F
R702	1-249-423-11	CARBON	3.3K	5%	1/4W	
R703	1-249-417-11	CARBON	1K	5%	1/4W	

Ref.No	Part No.	Description				
R704	△.1-219-109-11	FUSIBLE	3.9	5%	1W	F
R705	△.1-219-110-11	FUSIBLE	150	5%	1W	F
R706	△.1-219-110-11	FUSIBLE	150	5%	1W	F
R707	1-249-425-11	CARBON	4.7K	5%	1/4W	
R708	1-249-417-11	CARBON	1K	5%	1/4W	
R709	1-249-419-11	CARBON	1.5K	5%	1/4W	
R710	1-249-428-11	CARBON	8.2K	5%	1/4W	
R711	1-249-420-11	CARBON	1.8K	5%	1/4W	
R712	1-249-431-11	CARBON	15K	5%	1/4W	
R713	1-249-399-11	CARBON	33	5%	1/4W	
R715	1-249-405-11	CARBON	100	5%	1/4W	
R716	1-249-405-11	CARBON	100	5%	1/4W	
R800	1-249-407-11	CARBON	150	5%	1/4W	
R801	1-249-429-11	CARBON	10K	5%	1/4W	
R802	1-247-903-00	CARBON	1M	5%	1/4W	
R803	1-249-420-11	CARBON	1.8K	5%	1/4W	
R804	1-249-425-11	CARBON	4.7K	5%	1/4W	
R805	1-249-417-11	CARBON	1K	5%	1/4W	
R806	1-249-433-11	CARBON	22K	5%	1/4W	
R807	1-249-421-11	CARBON	2.2K	5%	1/4W	
R808	1-249-425-11	CARBON	4.7K	5%	1/4W	
R809	1-249-393-11	CARBON	10	5%	1/4W	
R810	1-249-420-11	CARBON	1.8K	5%	1/4W	
R811	1-249-425-11	CARBON	4.7K	5%	1/4W	
R812	1-249-421-11	CARBON	2.2K	5%	1/4W	
R813	1-249-425-11	CARBON	4.7K	5%	1/4W	
R814	1-249-393-11	CARBON	10	5%	1/4W	
R815	1-249-420-11	CARBON	1.8K	5%	1/4W	
R816	1-249-425-11	CARBON	4.7K	5%	1/4W	
R817	1-249-417-11	CARBON	1K	5%	1/4W	
R818	1-249-421-11	CARBON	2.2K	5%	1/4W	
R819	1-249-421-11	CARBON	2.2K	5%	1/4W	
R820	1-249-421-11	CARBON	2.2K	5%	1/4W	
R824	1-249-425-11	CARBON	4.7K	5%	1/4W	
R825	1-249-425-11	CARBON	4.7K	5%	1/4W	
R826	1-249-425-11	CARBON	4.7K	5%	1/4W	
R827	1-249-425-11	CARBON	4.7K	5%	1/4W	
R828	1-249-437-11	CARBON	47K	5%	1/4W	
R829	1-249-425-11	CARBON	4.7K	5%	1/4W	
R830	1-249-437-11	CARBON	47K	5%	1/4W	
R831	1-249-425-11	CARBON	4.7K	5%	1/4W	
R832	1-249-437-11	CARBON	47K	5%	1/4W	
R833	1-249-429-11	CARBON	10K	5%	1/4W	
R834	1-247-895-00	CARBON	470K	5%	1/4W	
R835	1-247-895-00	CARBON	470K	5%	1/4W	
R836	1-249-413-11	CARBON	470	5%	1/4W	
R838	1-249-413-11	CARBON	470	5%	1/4W	
R839	1-249-407-11	CARBON	150	5%	1/4W	
R840	1-249-407-11	CARBON	150	5%	1/4W	
R841	1-249-407-11	CARBON	150	5%	1/4W	
R842	1-249-407-11	CARBON	150	5%	1/4W	
R843	1-249-407-11	CARBON	150	5%	1/4W	
R844	1-249-411-11	CARBON	330	5%	1/4W	
R845	1-249-413-11	CARBON	470	5%	1/4W	
R846	1-249-429-11	CARBON	10K	5%	1/4W	
R847	1-249-429-11	CARBON	10K	5%	1/4W	
R848	1-249-429-11	CARBON	10K	5%	1/4W	
R849	1-249-412-11	CARBON	390	5%	1/4W	
R851	1-249-416-11	CARBON	820	5%	1/4W	
R852	1-249-412-11	CARBON	390	5%	1/4W	
R853	1-249-411-11	CARBON	330	5%	1/4W	
R854	1-249-418-11	CARBON	1.2K	5%	1/4W	
R855	1-249-417-11	CARBON	1K	5%	1/4W	
R856	1-249-426-11	CARBON	5.6K	5%	1/4W	
R857	1-249-430-11	CARBON	12K	5%	1/4W	

Note:
The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

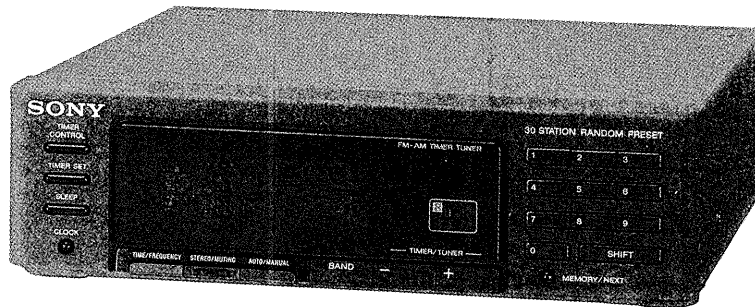
<u>Ref.No</u>	<u>Part No.</u>	<u>Description</u>
R858	1-249-407-11	CARBON 150 5% 1/4W
R859	1-249-409-11	CARBON 220 5% 1/4W
R860	1-249-411-11	CARBON 330 5% 1/4W
R862	1-247-832-11	CARBON 1.1K 5% 1/4W
R863	1-249-417-11	CARBON 1K 5% 1/4W
R864	1-249-420-11	CARBON 1.8K 5% 1/4W
R865	1-249-424-11	CARBON 3.9K 5% 1/4W
R866	1-249-430-11	CARBON 12K 5% 1/4W
R867	1-249-425-11	CARBON 4.7K 5% 1/4W
RV41A	1-228-989-00	RES, ADJ, CARBON 470
RV41B	1-228-989-00	RES, ADJ, CARBON 470
RV42	1-230-500-11	RES, ADJ, CARBON 220K
RV61A	1-228-989-00	RES, ADJ, CARBON 470
RV61B	1-228-989-00	RES, ADJ, CARBON 470
RV62	1-230-500-11	RES, ADJ, CARBON 220K
RV101	1-228-995-00	RES, ADJ, CARBON 22K
RV201	1-228-995-00	RES, ADJ, CARBON 22K
RY81	1-515-614-11	RELAY
S11A	1-571-281-21	SWITCH, LEAF (HALF DET)
S11B	1-571-281-21	SWITCH, LEAF (HALF DET)
S12B	1-571-281-21	SWITCH, LEAF (ERASE PROOF (A))
S13B	1-571-281-21	SWITCH, LEAF (ERASE PROOF (B))
S14A	1-571-281-21	SWITCH, LEAF (CrO ₂)
S14B	1-571-281-21	SWITCH, LEAF (CrO ₂)
S15B	1-571-281-21	SWITCH, LEAF (METAL)
S301	1-554-798-31	SWITCH, SLIDE (ISS)
S302	1-570-835-11	SWITCH, SLIDE (DOLBY NR)
S801	1-572-184-11	SWITCH, KEYBOARD (DECK A : □)
S802	1-572-184-11	SWITCH, KEYBOARD (DECK A : ▷)
S803	1-572-184-11	SWITCH, KEYBOARD (DECK A : ◁)
S804	1-572-184-11	SWITCH, KEYBOARD (DECK A : ◀◀)
S805	1-572-184-11	SWITCH, KEYBOARD (DECK A : ▶▶)
S806	1-572-184-11	SWITCH, KEYBOARD (DECK B : □)
S807	1-572-184-11	SWITCH, KEYBOARD (PAUSE)
S808	1-572-184-11	SWITCH, KEYBOARD (DECK B : ▷)
S809	1-572-184-11	SWITCH, KEYBOARD (DECK B : ◁)
S811	1-572-184-11	SWITCH, KEYBOARD (DECK B : ◀◀)
S812	1-572-184-11	SWITCH, KEYBOARD (DECK B : ▶▶)
S813	1-572-184-11	SWITCH, KEYBOARD (REC)
S814	1-572-184-11	SWITCH, KEYBOARD (ASM/BLANK SKIP)
S815	1-572-184-11	SWITCH, KEYBOARD (HIGH SPEED)
S817	1-572-184-11	SWITCH, KEYBOARD (CD SYNCHRO)
S818	1-570-835-11	SWITCH, SLIDE (DIRECTION MODE)
SPK101	1-235-186-00	ENCAPSULATED COMPONENT
SPK201	1-235-186-00	ENCAPSULATED COMPONENT
T81	1-433-337-11	TRANSFORMER, BIAS OSCILLATION
X801	1-577-358-21	VIBRATOR, CERAMIC (4MHz)

ST-H500

SERVICE MANUAL

*AEP Model
UK Model*

This set is the tuner section in MHC-5500.



SPECIFICATIONS

System FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range 87.5 – 108 MHz

Antenna terminals

75 ohms unbalanced

Intermediate frequency

10.7 MHz

AM tuner section

	MW	LW
Tuning range	531 – 1602 kHz (except Italian model) 522 – 1611 kHz (for the Italian model)	153 – 279 kHz (except Italian model) 144 – 288 kHz (for the Italian model)

Antenna AM loop antenna, External antenna terminals

Intermediate frequency
450 kHz

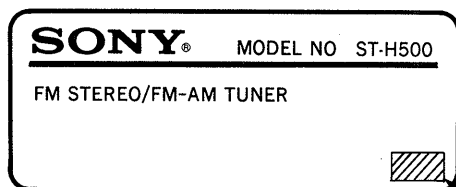
Dimensions Approx. 225 × 65 × 230 mm
(w/h/d)

Weight 1.1 kg

FM-AM TIMER TUNER
SONY®

MODEL IDENTIFICATION

—Model Number Label—



{ AEP, UK, Model : (AE)
Italian (IT) Model : (IT)

• Power supply for service

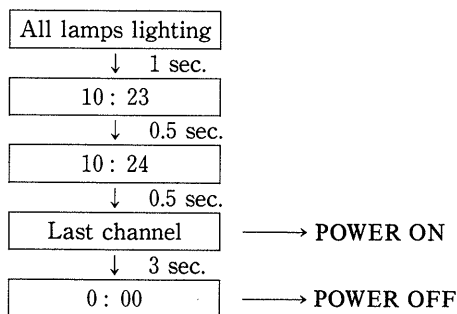
Since this machine has no power source in itself, the power is supplied from AMP TA-H500 used for this series. As shown in the following table, this machine requires 4 types of voltage, and supplying each type of voltage separately makes complicated connections.

Accordingly, make connection with TA-H500 at time of service, such as electrifying repair.

AC 3.9V	FL-tube filament voltage
DC -24V	Display controller IC701, grid voltage
DC 5V	Display controller IC701, V_{CC}
DC 13V	PLL control voltage

• Service mode for checking the timer ON/OFF

- 1) Connect with AMP TA-H500 and set the power switch of TA-H500 to the state of STANDBY.
- 2) Set the time of tuner to a proper time (any time).
- 3) Press 3 switches simultaneously, namely, PRESET $\overset{1}{\circ}$, $\overset{6}{\circ}$ and $\circ$ BAND.
- 4) FL-tube display



- 5) End

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

—Caution for Service—

• Reset of IC701

The display controller IC701 is reset by short-circuiting both edges of C702 (0.47 μ F) while power OFF and discharging electricity.

After resetting, the following frequencies are pre-set to the memory.

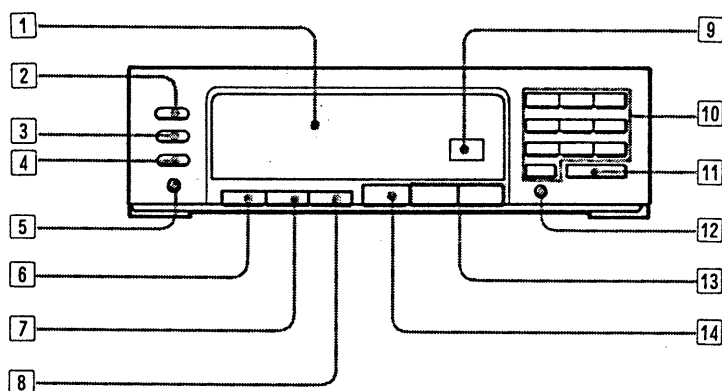
When the repair is completed, return the memory to the preceding state (content).

FM	AM/MW		LW	
	AEP, UK model	Italian model	AEP, UK model	Italian model
A1 87.5 MHz	A6 531 kHz	A6 522 kHz	B1 153 kHz	B1 144 kHz
A2 88.0 MHz	A7 603 kHz	A7 603 kHz	B2 171 kHz	B2 162 kHz
A3 98.0 MHz	A8 999 kHz	A8 999 kHz	B3 216 kHz	B3 216 kHz
A4 100.0 MHz	A9 1404 kHz	A9 1404 kHz	B4 261 kHz	B4 270 kHz
A5 108.0 MHz	A0 1602 kHz	A0 1611 kHz	B5 281 kHz	B5 288 kHz

SECTION 1

GENERAL

1-1. PARTS IDENTIFICATION



- 1 Display window
- 2 TIMER CONTROL button
- 3 SLEEP timer button
- 4 TIMER SET button
- 5 CLOCK button
- 6 TIME/FREQUENCY button
- 7 STEREO/MUTING button
- 8 AUTO/MANUAL tuning button
- 9 Remote control sensor
- 10 Preset stations buttons
- 11 SHIFT (memory page select) button
- 12 MEMORY/NEXT button
- 13 TUNING/TIMER +/- buttons
- 14 BAND selector

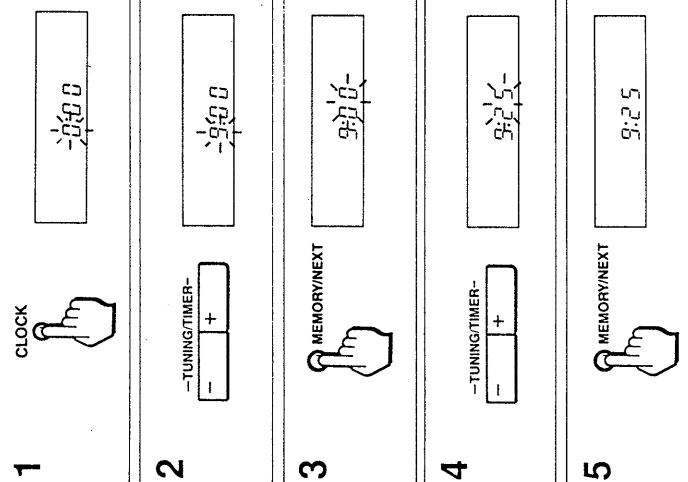
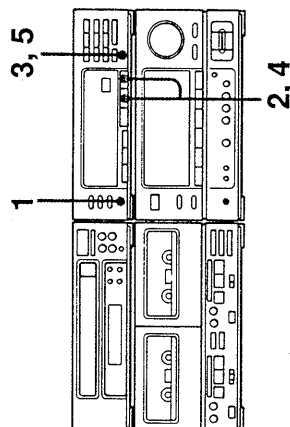
1-2. CLOCK SETTING

Setting the Clock

Example: Set to 9:25 in the morning.

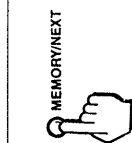
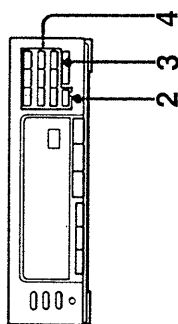
- 1 Press **CLOCK**.
- 2 Set the hour with the **TUNING/TIMER** +/- buttons.
- 3 Press **MEMORY/NEXT**.
- 4 Set the minute with the **TUNING/TIMER** +/- buttons.
- 5 Press **MEMORY/NEXT**.

The clock starts operating.

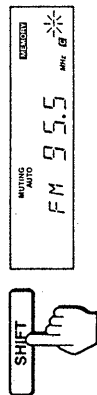


1-3. RADIO

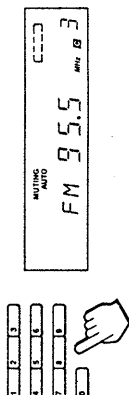
A



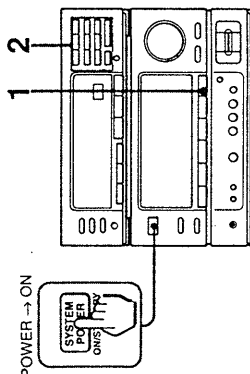
3



4



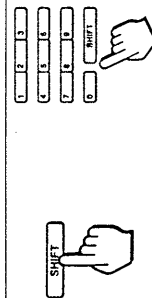
B



1



2



Storing Stations A

A total of 30 stations can be stored in any desired sequence, so that you can tune in the stored station directly by entering the memory page and number.

- 1 Tune in the desired station.
- 2 Press **MEMORY/NEXT**. **MEMORY** appears for several seconds.
- 3 While **MEMORY** is on, press **SHIFT** to select the memory page (A, B or C). The memory pages (A, B or C) can be classified according to the music category, station band, etc.
- 4 While **MEMORY** is on, select the number (1, 2, 3 ... 8, 9, 0) with the numeric buttons. **MEMORY** disappears, and the station is stored.
- 5 Repeat 1 to 4 for each station to be stored.

To Tune in a Preset Station B

- 1 Press **TUNER**.
- 2 Press **SHIFT** and the numeric buttons to select the desired code.

If you cannot store a station successfully Press **MEMORY/NEXT** again so that **MEMORY** appears, and then select the desired page and number. Be sure to do this while **MEMORY** is on (approx. 4 seconds.)

When you have selected the wrong page and number Press **MEMORY/NEXT** and then select the correct one.

Can a previously stored station be erased?

No. Erasing only is not possible, but storing a new station erases the previous one.

Important

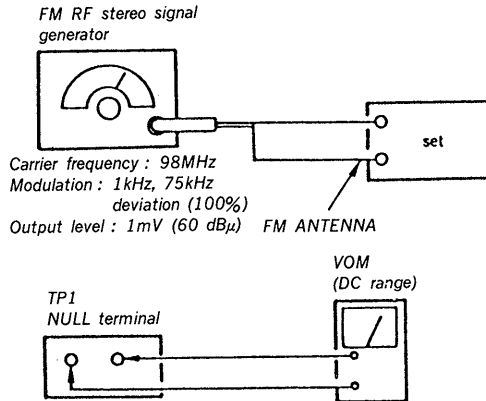
The stored stations remain for approximately 2-3 weeks even if no power is supplied (e.g. the power cord is disconnected, etc.). If the stations are erased, store them again.

SECTION 2 ELECTRICAL ADJUSTMENTS

FM SECTION

• FM Discriminator Alignment (NULL check)

Setting :

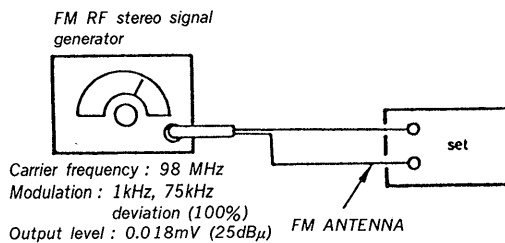


Procedure :

1. Tune the set to 98 MHz.
 2. Adjust T21 for 0 V reading on the VOM.
- Note: FM TUNING LEVEL adjustment should be made after FM discriminator alignment.

• FM TUNING LEVEL Adjustment

Setting :

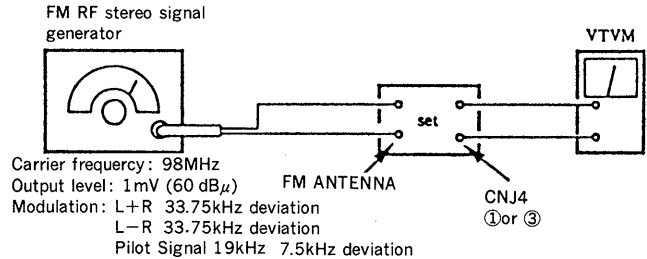


Procedure :

1. Tune the set to 98 MHz.
2. Adjust RV24 so that the TUNED LED goes on.

• FM Stereo Separation Adjustment

Setting :



Procedure :

Tune the set to 98 MHz

FM stereo Signal generator Output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV21 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV21 for minimum reading.

L-CH Stereo separation : Ⓐ-Ⓑ

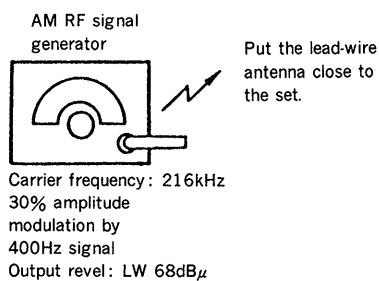
R-CH Stereo separation : Ⓒ-Ⓓ

The separations of both channels should be equal.

AM SECTION

• AM TUNING LEVEL Adjustment

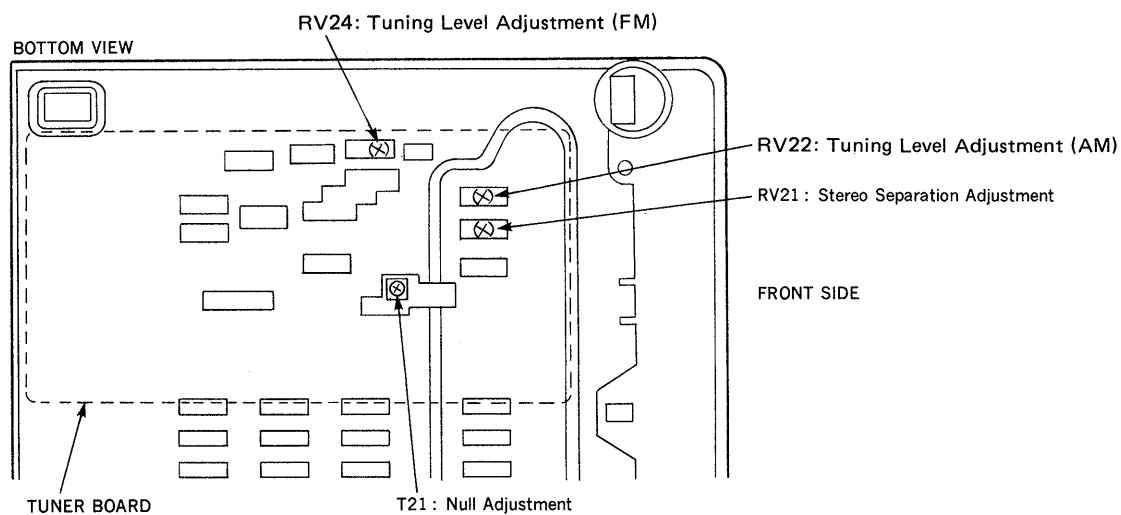
Setting :



Procedure :

1. Tune the set to 216 kHz.
2. Adjust the RV22 so that the TUNED LED goes on.

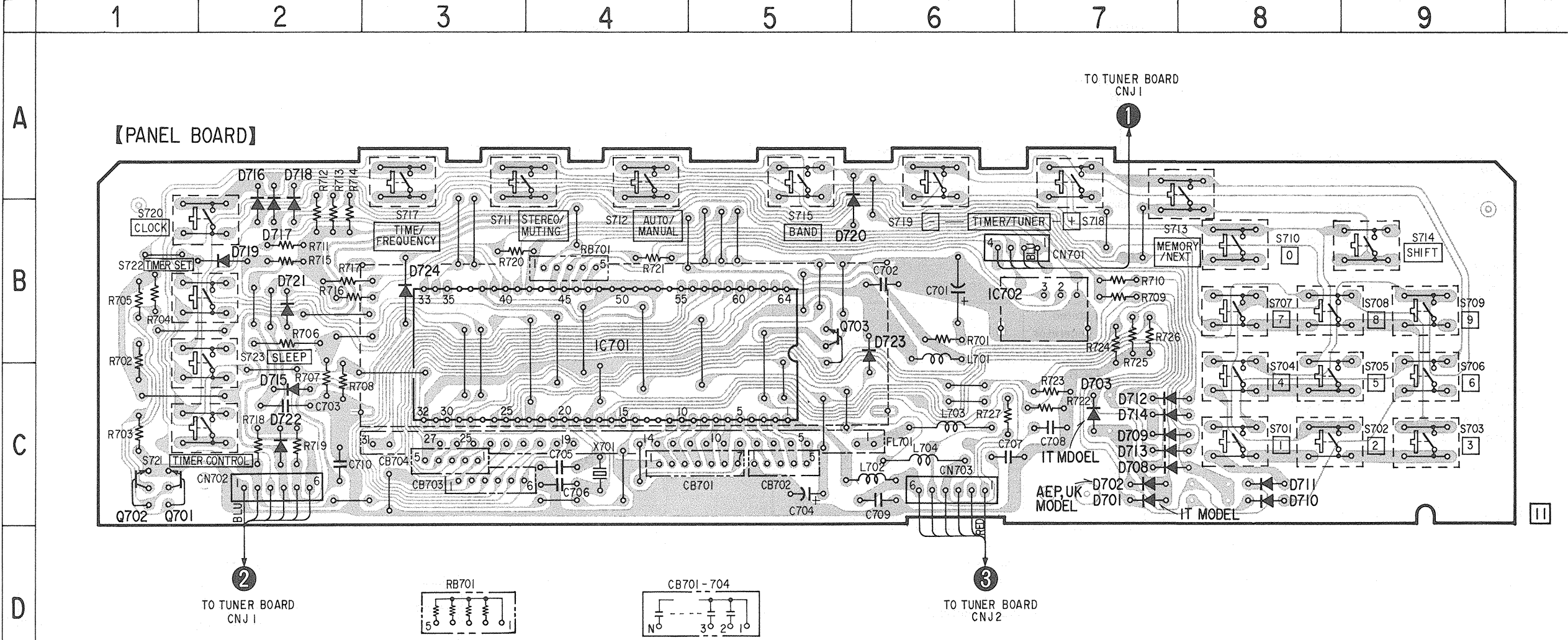
[Parts Arrangement Diagram for Adjustments]



SECTION 3
DIAGRAMS

• Semiconductor Location 3-1. PRINTED WIRING BOARD—PANEL BOARD—

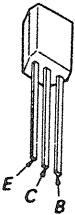
Ref. No.	Location
D701	C-7
D702	C-7
D703	C-7
D708	C-7
D709	C-7
D710	C-8
D711	C-8
D712	C-7
D713	C-7
D714	C-7
D715	C-2
D716	B-2
D717	B-2
D718	B-2
D719	B-2
D720	B-6
D721	B-2
D722	C-2
D723	B-6
D724	B-3
IC701	B-4
IC702	B-7
Q701	C-1
Q702	C-1
Q703	B-5



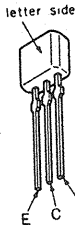
Note:
• — : parts extracted from the component side.
• IT: Italian Model

3-2. SEMICONDUCTOR LEAD LAYOUTS

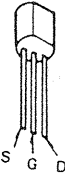
DTA114ES
DTC114ES
DTC144ES
2SC1317-SU
2SC2669-0Y
2SC3113-AB
2SC3330-T



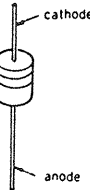
2SC2785-HFE



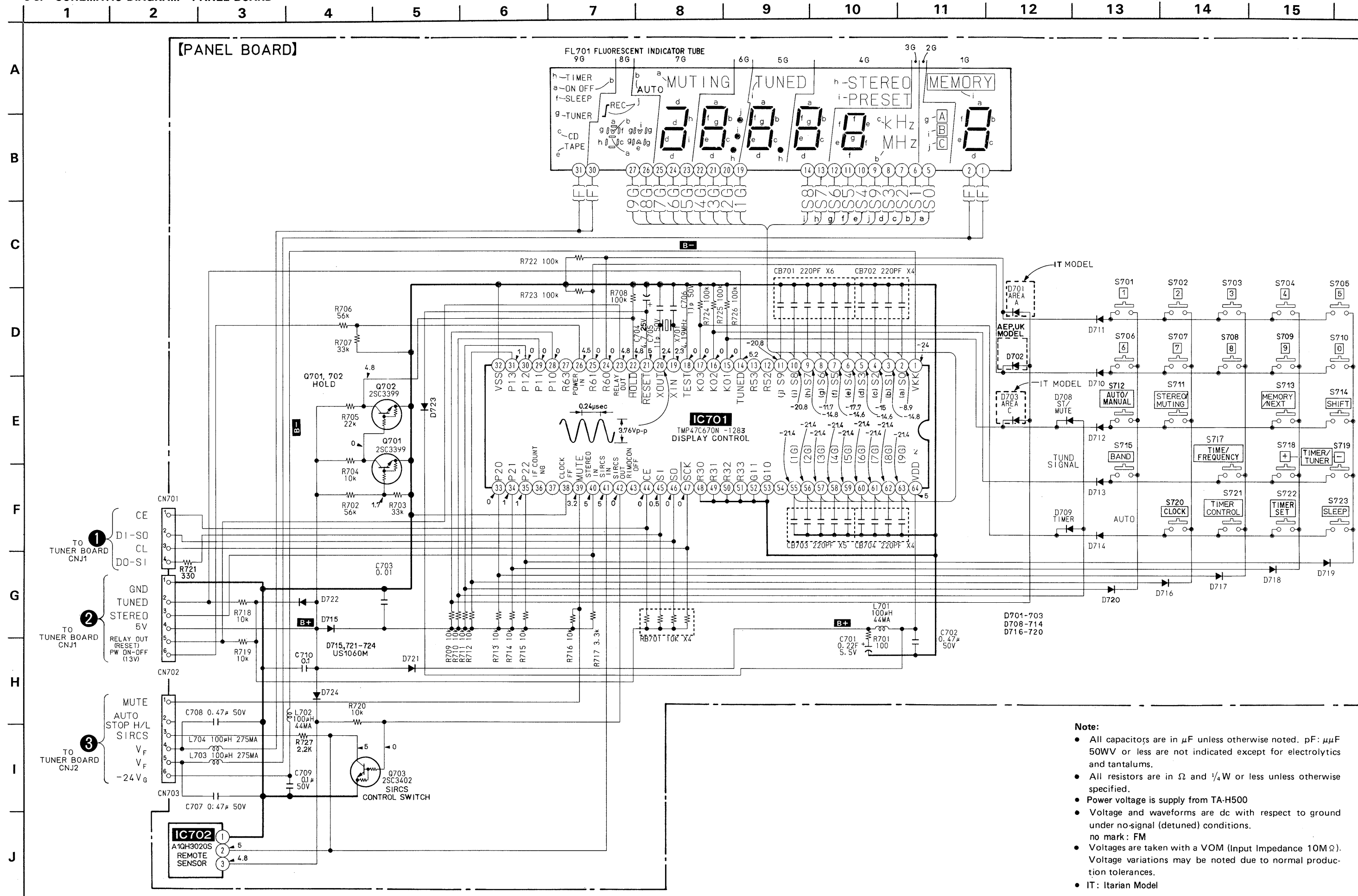
2SK246-GR3



1SS120

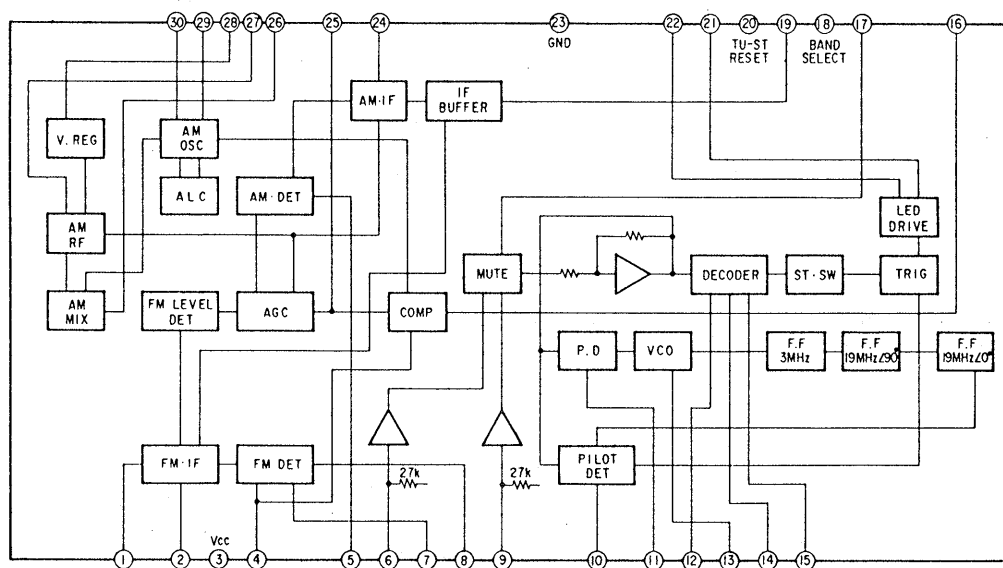


3-3. SCHEMATIC DIAGRAM—PANEL BOARD—

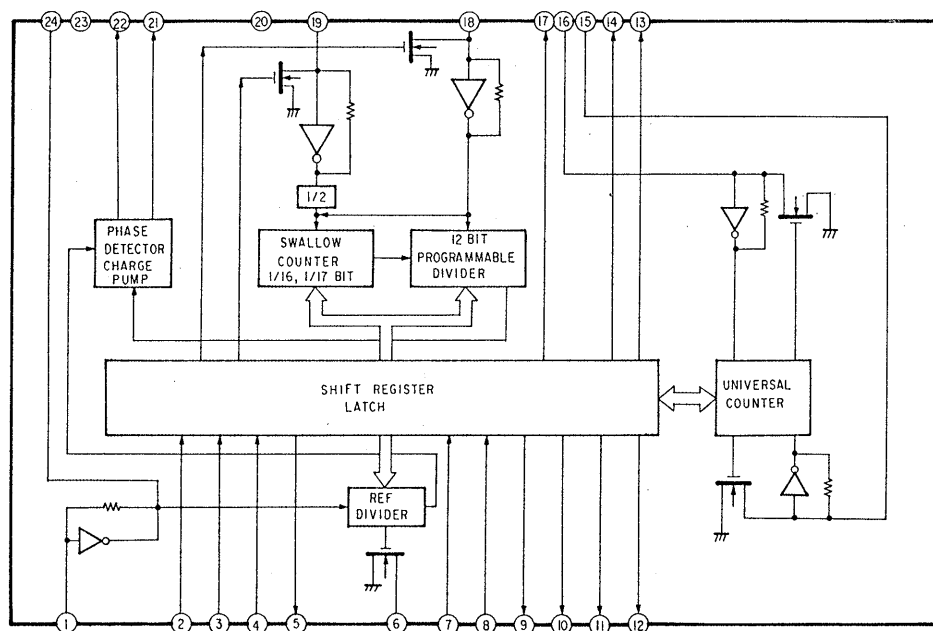


• IC Block Diagrams

IC21 LA1851N

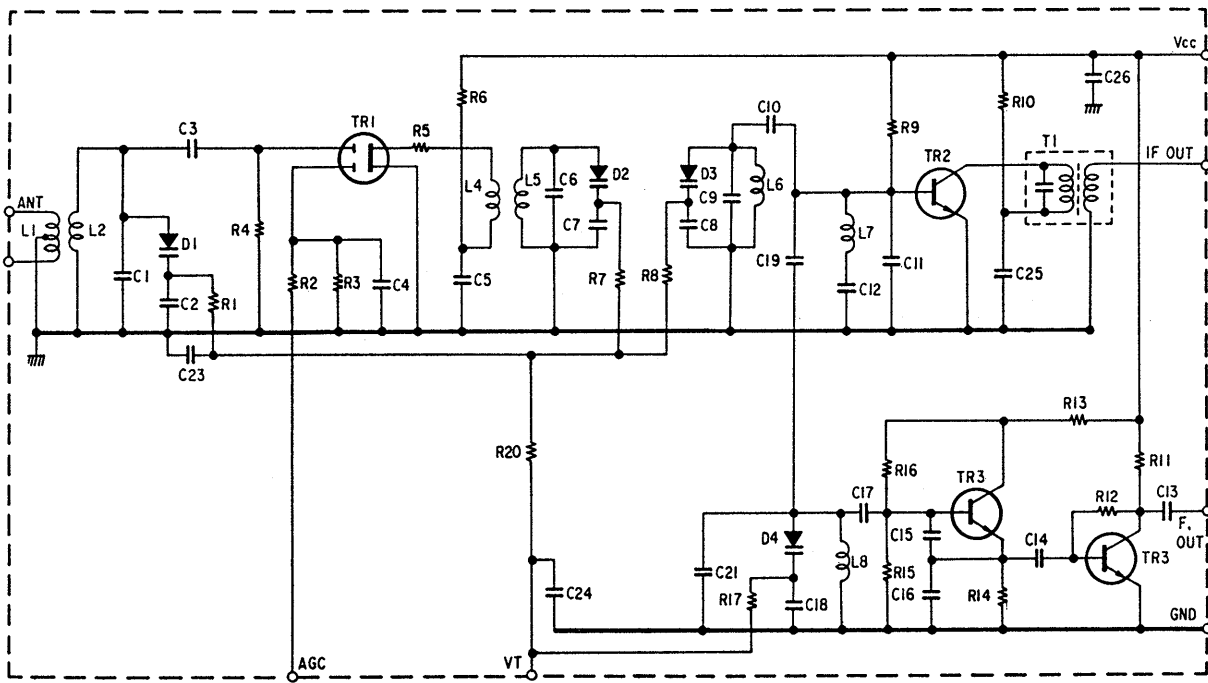


IC81 LC7218

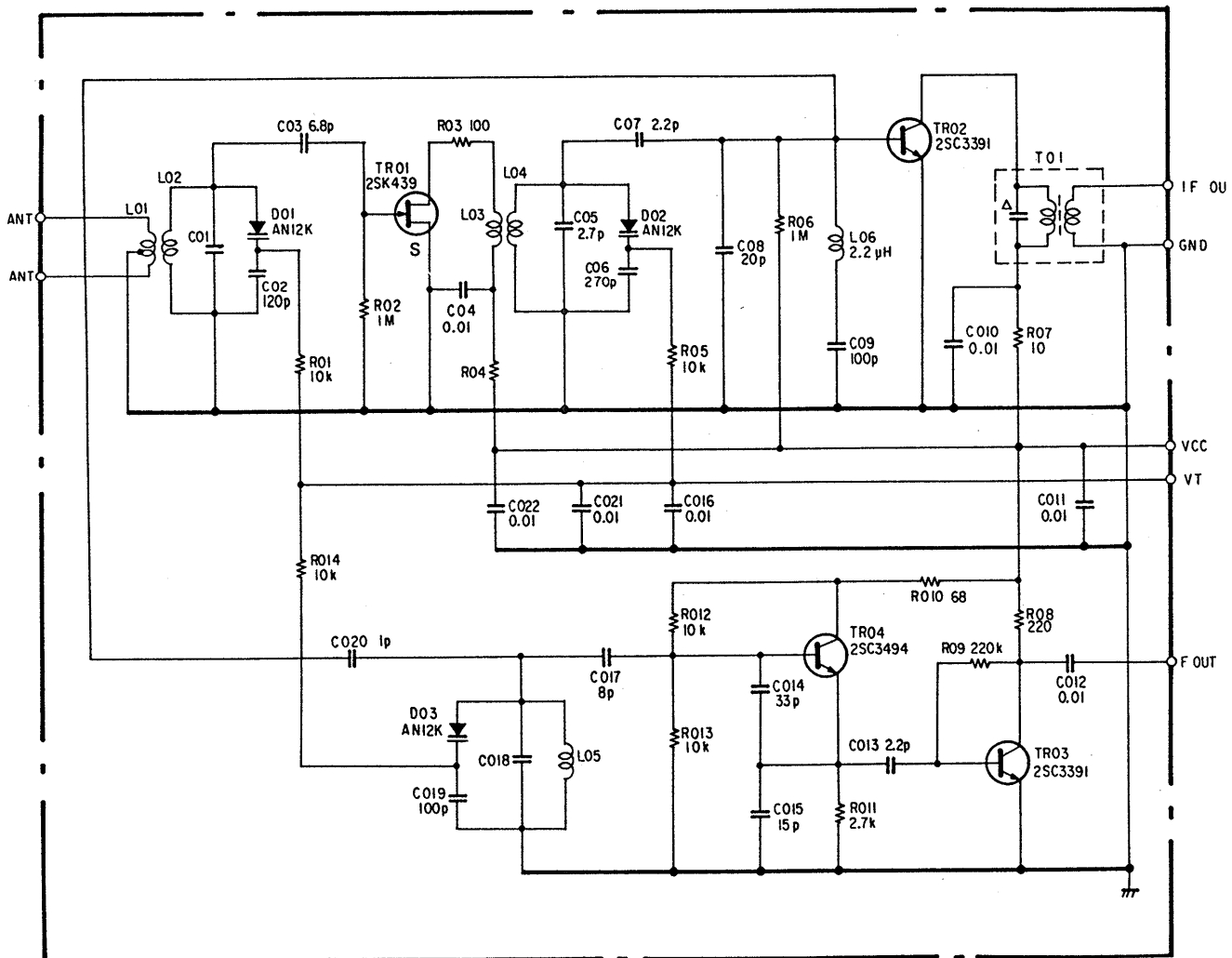


3-4. FM FRONT-END SCHEMATIC DIAGRAMS

FE1 (IT Model)

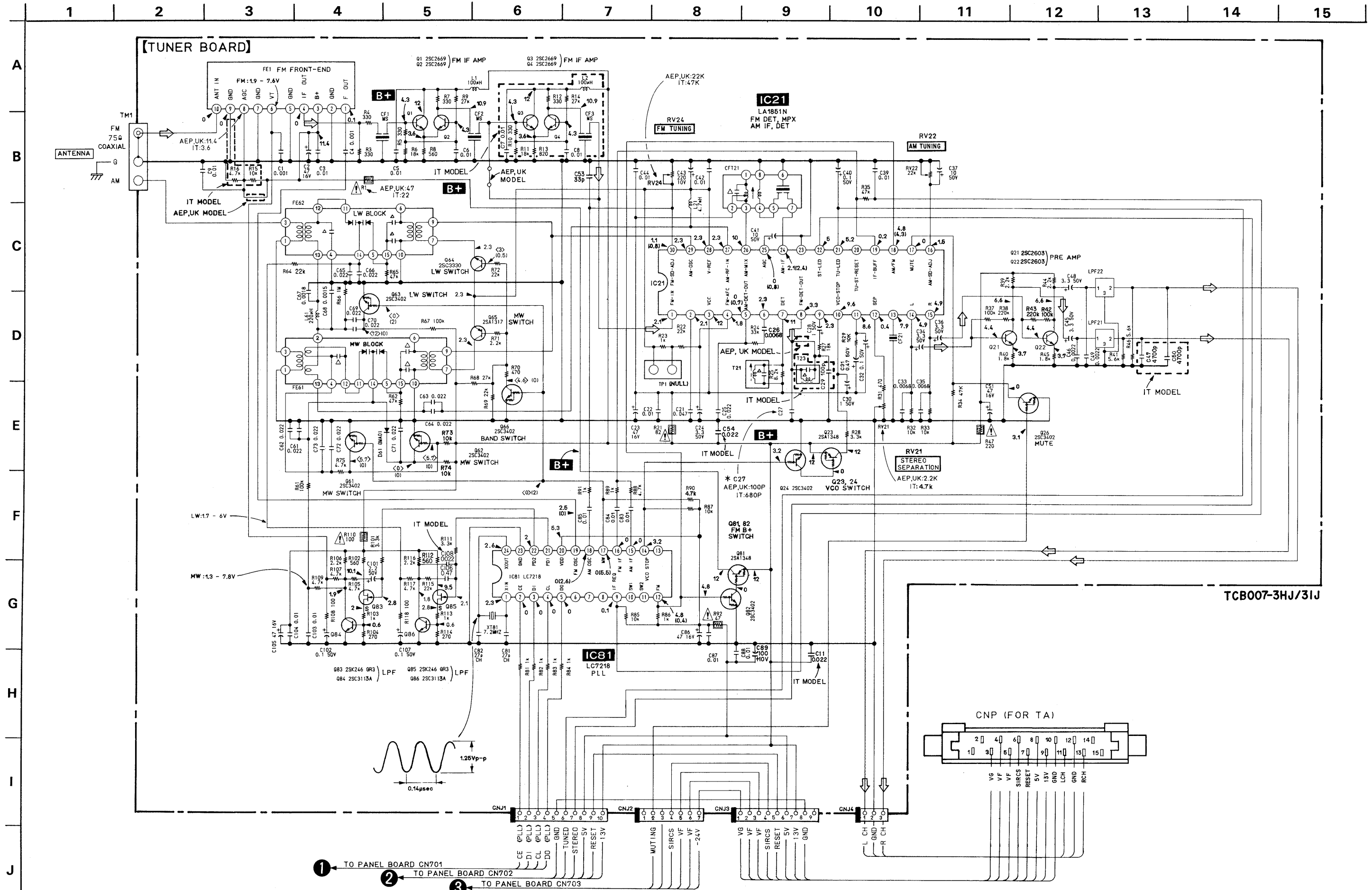


FE1 (AEP, UK Model)

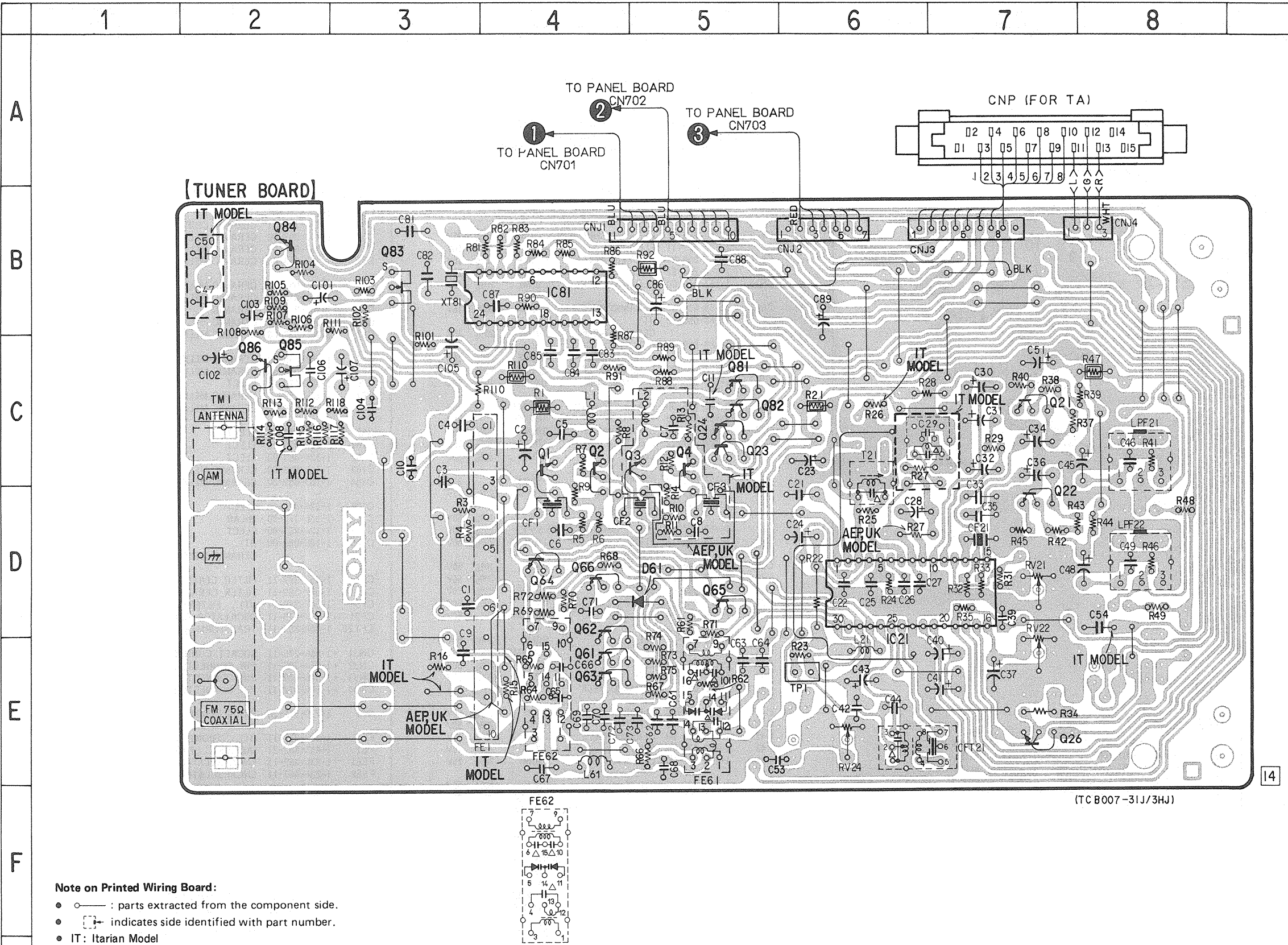


3-5. SCHEMATIC DIAGRAM—TUNER BOARD—

• Refer to page 11 for IC Block Diagrams.



3-6. PRINTED WIRING BOARD—TUNER BOARD—



• Semiconductor Location

Ref. No.	Location
D61	D-5
IC21	D-6
IC81	B-4
Q1	C-4
Q2	C-4
Q3	C-5
Q4	C-5
Q21	C-7
Q22	D-7
Q23	C-5
Q24	C-5
Q26	E-7
Q61	E-4
Q62	E-4
Q63	E-4
Q64	D-4
Q65	D-5
Q66	D-4
Q81	C-5
Q82	C-5
Q83	B-3
Q84	B-2
Q85	C-2
Q86	C-2

Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF : μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- $\triangle$: internal component.
- $\square$: nonflammable resistor.
- $\square$: adjustment for repair.
- Power voltage is supply from TA-H500
- Voltage are dc with respect to ground under no-signal (detuned) conditions.
 - no mark: FM
 - (): MW
 - < >: LW
- Voltages are taken with a VOM (Input Impedance $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
- Signal path.
 - $\Rightarrow$: FM
- IT: Italian Model

Note: The components identified by mark $\triangle$ or dotted line with mark $\triangle$ are critical for safety. Replace only with part number specified.

SECTION 4 EXPLODED VIEW

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.

- Color Indication of Appearance Parts
Example:

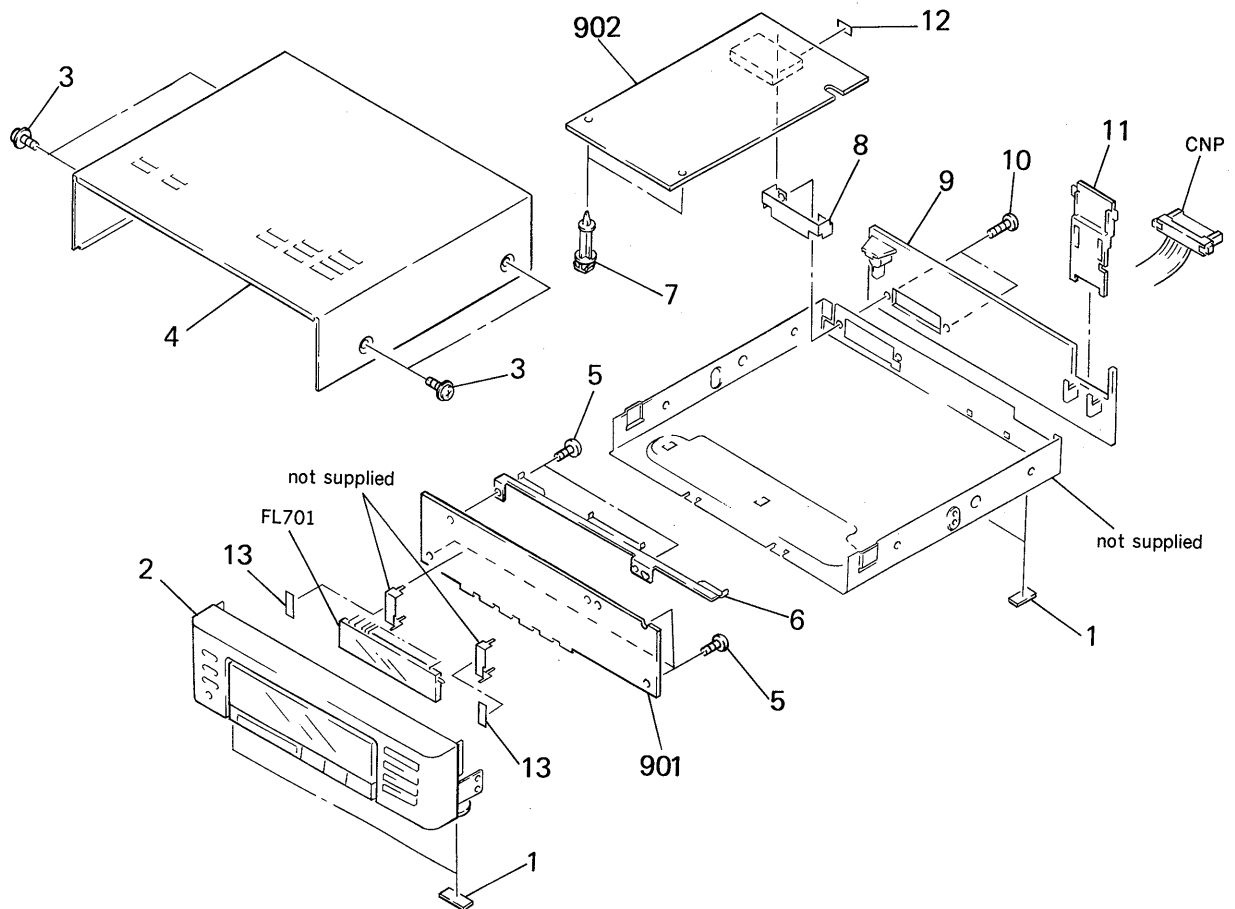
(RED) ... KNOB, BALANCE (WHITE)

↑
Cabinet's Color

↑
Parts Color

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

- IT: Italian Model



Ref.No	Part No.	Description	Remarks
1	4-930-336-01	FOOT (FELT)	
2	X-4930-314-1	PANEL ASSY, FRONT	
3	3-704-366-01	SCREW (CASE) (M3X8)	
4	4-932-844-11	CASE	
5	4-928-635-01	(IT)...SCREW, +BV (2.6X8) TAPPING	
5	7-685-534-19	(AEP,UK)...SCREW +BTP 2.6X8 TYPE2 N-S	
6	*4-932-859-01	BRACKET (CASE)	
7	*4-914-008-01	HOLDER, PCB	
8	*4-924-988-11	PLATE (ST), GROUND	
9	*4-930-346-01	PANEL (ST), BACK	

Ref.No	Part No.	Description	Remarks
10	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
11	*4-930-344-01	HOLDER (CONNECTION CORD)	
12	*4-612-009-01	(IT)... SPACER (A)	
13	*4-932-856-01	CUSHION (FL)	
901	*A-4334-432-A	(AEP,UK)...MOUNTED PCB, PANEL	
901	*A-4334-843-A	(IT)...MOUNTED PCB, PANEL	
902	*A-4303-187-A	(AEP, UK)...MOUNTED PCB, TUNER (TCB007-3HJ)	
902	*A-4303-188-A	(IT)...MOUNTED PCB, TUNER (TCB007-3IJ)	
CNP	1-575-679-11	CORD (WITH CONNECTOR)	
FL701	1-519-517-11	INDICATOR TUBE, FLUORESCENT	

SECTION 5 ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:MF: μ F, PF: μ F.**RESISTORS**

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH: μ H

SEMICONDUCTORSIn each case, U: μ , for example:UA....: μ A...., UPA....: μ PA....,UPC....: μ PC, UPD....: μ PD....

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

- IT: Italian Model

TUNER

Ref.No	Part No.	Description					Ref.No	Part No.	Description				
CAPACITOR							C67	1-102-120-00	CERAMIC	0.0018MF	10%	50V	
C1	1-162-294-31	CERAMIC CHIP	0.001MF	20%	25V		C68	1-163-111-11	CERAMIC CHIP	0.0015MF	20%	25V	
C2	1-124-477-11	ELECT	47MF	20%	16V		C69	1-163-063-00	CERAMIC MELF	0.022MF		25V	
C3	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V		C70	1-163-063-00	CERAMIC MELF	0.022MF		25V	
C4	1-162-294-31	CERAMIC CHIP	0.001MF	20%	25V		C71	1-163-063-00	CERAMIC MELF	0.022MF		25V	
C5	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V		C72	1-163-063-00	CERAMIC MELF	0.022MF		25V	
C6	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V		C73	1-163-063-00	CERAMIC MELF	0.022MF		25V	
C7	1-163-059-00	(IT).... CERAMIC MELF	0.01MF	20%	16V		C81	1-102-961-00	CERAMIC	27PF	5%	50V	
C8	1-163-059-00	(IT).... CERAMIC MELF	0.01MF	20%	16V		C82	1-102-961-00	CERAMIC	27PF	5%	50V	
C9	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V		C83	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V	
C10	1-162-516-11	CERAMIC CHIP	100PF	10%	50V		C84	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V	
C11	1-101-005-00	(IT).... CERAMIC	0.022MF		50V		C85	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V	
C21	1-101-006-00	CERAMIC	0.047MF		50V		C86	1-124-477-11	ELECT	47MF	20%	16V	
C22	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V		C87	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V	
C23	1-124-477-11	ELECT	47MF	20%	16V		C88	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V	
C24	1-123-382-00	ELECT	3.3MF	20%	50V		C89	1-124-443-00	ELECT	100MF	20%	10V	
C25	1-163-063-00	CERAMIC MELF	0.022MF		25V		C101	1-124-925-11	ELECT	2.2MF	20%	50V	
C26	1-163-019-00	CERAMIC CHIP	0.0068MF	20%	12V		C102	1-124-463-00	ELECT	0.1MF	20%	50V	
C27	1-162-516-11	(AEP,UK).... CERAMIC CHIP	100PF	10%	50V		C103	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V	
C27	1-163-007-11	(IT).... CERAMIC CHIP	680PF	20%	50V		C104	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V	
C28	1-124-791-11	ELECT	1.0MF	20%	50V		C105	1-124-477-11	ELECT	47MF	20%	16V	
C29	1-162-516-11	(IT).... CERAMIC CHIP	100PF	10%	50V		C106	1-136-173-00	MILAR	0.47MF	5%	50V	
C30	1-124-791-11	ELECT	1.0MF	20%	50V		C107	1-124-463-00	ELECT	0.1MF	20%	50V	
C31	1-124-902-00	ELECT	0.47MF	20%	50V		C108	1-163-063-00	(IT).... CERAMIC MELF	0.022MF		25V	
C32	1-124-463-00	ELECT	0.1MF	20%	50V		CF1	1-567-389-11	FILTER, CERAMIC				
C33	1-130-481-00	FILM	0.0068MF	5%	50V		CF2	1-567-389-11	FILTER, CERAMIC				
C34	1-123-382-00	ELECT	3.3MF	20%	50V		CF3	1-567-389-11	(IT).... FILTER, CERAMIC				
C35	1-130-481-00	FILM	0.0068MF	5%	50V		CF21	1-577-075-11	OSCILLATOR, CERAMIC (19KHz)				
C36	1-123-382-00	ELECT	3.3MF	20%	50V		CFT21	1-404-853-11	TRANSFORMER, IF (CERAMIC FILTER)				
C37	1-123-875-11	ELECT	10MF	20%	50V		CNJ1	*1-568-276-11	SOCKET, CONNECTOR 10P				
C39	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V		CNJ2	*1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P				
C40	1-124-463-00	ELECT	0.1MF	20%	50V		CNJ3	*1-568-419-11	PIN, CONNECTOR 9P				
C41	1-123-875-11	ELECT	10MF	20%	50V		CNJ4	*1-568-372-11	PIN, CONNECTOR 3P				
C42	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V		D61	8-719-912-20	DIODE 1SS120				
C43	1-126-176-11	ELECT	220MF	20%	10V		FE1	1-463-857-11	(IT).... FRONT END (FM)				
C44	1-163-059-00	CERAMIC MELF	0.01MF	20%	16V		FE1	1-463-862-21	(AEP,UK).... FRONT END, FM				
C45	1-123-382-00	ELECT	3.3MF	20%	50V		FE61	1-236-462-11	ENCAPSULATED COMPONENT (MW RF)				
C46	1-161-375-00	CERAMIC CHIP	0.0022MF	20%	25V		FE62	1-236-463-11	ENCAPSULATED COMPONENT (LW RF)				
C47	1-163-170-00	(IT).... CERAMIC CHIP	0.0047MF	20%	25V		IC21	8-759-821-45	IC LA1851N				
C48	1-123-382-00	ELECT	3.3MF	20%	50V		IC81	8-759-820-91	IC LC7218				
C49	1-161-375-00	CERAMIC CHIP	0.0022MF	20%	25V		L1	1-410-645-31	MICRO INDUCTOR 100UH				
C50	1-163-170-00	(IT).... CERAMIC CHIP	0.0047MF	20%	25V		L2	1-410-645-31	(IT).... MICRO INDUCTOR 100UH				
C51	1-124-477-11	ELECT	47MF	20%	16V		L21	1-407-500-00	MICRO INDUCTOR 4.7MMH				
C53	1-163-105-00	CERAMIC CHIP	33PF	5%	50V		L61	1-410-525-11	MICRO INDUCTOR 220UF				
C54	1-101-005-00	(IT).... CERAMIC	0.022MF		50V		LPF21	1-235-164-00	FILTER, LOW PASS				
C61	1-163-063-00	CERAMIC MELF	0.022MF		25V		LPF22	1-235-164-00	FILTER, LOW PASS				
C62	1-163-063-00	CERAMIC MELF	0.022MF		25V		Q1	8-729-230-99	TRANSISTOR 2SC2669-OY				
C63	1-163-063-00	CERAMIC MELF	0.022MF		25V		Q2	8-729-230-99	TRANSISTOR 2SC2669-OY				
C64	1-163-063-00	CERAMIC MELF	0.022MF		25V		Q3	8-129-230-99	(IT).... TRANSISTOR 2SC2669-OY				
C65	1-163-063-00	CERAMIC MELF	0.022MF		25V		Q4	8-129-230-99	(IT).... TRANSISTOR 2SC2669-OY				
C66	1-163-063-00	CERAMIC MELF	0.022MF		25V		Q21	8-729-119-78	TRANSISTOR 2SC2785-HFE				

Ref.No	Part No.	Description
Q22	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q23	8-729-900-61	TRANSISTOR DTA114ES
Q24	8-729-900-80	TRANSISTOR DTC114ES
Q26	8-729-900-80	TRANSISTOR DTC114ES
Q61	8-729-900-80	TRANSISTOR DTC114ES

Q62	8-729-900-80	TRANSISTOR DTC114ES
Q63	8-729-900-80	TRANSISTOR DTC114ES
Q64	8-729-820-24	TRANSISTOR 2SC3330-T
Q65	8-729-820-10	TRANSISTOR 2SA1317-SU
Q66	8-729-900-80	TRANSISTOR DTC114ES

Q81	8-729-900-61	TRANSISTOR DTA114ES
Q82	8-729-900-80	TRANSISTOR DTC114ES
Q83	8-729-202-67	TRANSISTOR 2SK246GR3
Q84	8-729-230-93	TRANSISTOR 2SC3113-AB
Q85	8-729-202-67	TRANSISTOR 2SK246GR3

Q86	8-729-230-93	TRANSISTOR 2SC3113-AB
-----	--------------	-----------------------

RESISTOR

R1	△.1-249-397-11	(IT)....				
		CARBON (SMALL) 22	5%	1/4W	F	
R1	△.1-249-401-11	(AEP,UK)....				
		CARBON (SMALL) 47	5%	1/4W	F	
R3	1-249-329-11	CARBON MELF	330	5%	1/8W	
R4	1-249-329-11	CARBON MELF	330	5%	1/8W	
R5	1-249-329-11	CARBON MELF	330	5%	1/8W	
R6	1-249-350-11	CARBON MELF	18K	5%	1/8W	
R7	1-249-329-11	CARBON MELF	330	5%	1/8W	
R8	1-249-332-11	CARBON MELF	560	5%	1/8W	
R9	1-249-352-11	CARBON MELF	27K	5%	1/8W	
R10	1-249-329-11	(IT)....				
		CARBON MELF	330	5%	1/8W	
R11	1-249-350-11	(IT)....				
		CARBON MELF	18K	5%	1/8W	
R12	1-249-329-11	(IT)....				
		CARBON MELF	330	5%	1/8W	
R13	1-249-334-11	(IT)....				
		CARBON MELF	820	5%	1/8W	
R14	1-249-352-11	(IT)....				
		CARBON MELF	27K	5%	1/8W	
R15	1-249-347-11	(IT)....				
		CARBON MELF	10K	5%	1/8W	
R16	1-249-343-11	(IT)....				
		CARBON MELF	4.7K	5%	1/8W	
R21	△.1-249-404-00	CARBON (SMALL) 82	5%	1/4W	F	
R22	1-249-433-11	CARBON (SMALL) 22K	5%	1/4W		
R23	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R24	1-249-353-11	CARBON MELF	33K	5%	1/8W	
R25	1-249-346-11	CARBON MELF	8.2K	5%	1/8W	
R26	1-249-340-11	(IT)....				
		CARBON MELF	2.7K	5%	1/8W	
R27	1-249-432-11	CARBON (SMALL) 18K	5%	1/4W		
R28	1-249-423-11	CARBON (SMALL) 3.3K	5%	1/4W		
R29	1-249-347-11	CARBON MELF	10K	5%	1/8W	
R31	1-249-331-11	CARBON MELF	470	5%	1/8W	
R32	1-249-347-11	CARBON MELF	10K	5%	1/8W	
R33	1-249-347-11	CARBON MELF	10K	5%	1/8W	
R34	1-249-437-11	CARBON (SMALL) 47K	5%	1/4W		
R35	1-249-355-11	CARBON MELF	47K	5%	1/8W	
R37	1-249-359-11	CARBON MELF	100K	5%	1/8W	
R38	1-249-363-11	CARBON MELF	220K	5%	1/8W	
R39	1-249-339-11	CARBON MELF	2.2K	5%	1/8W	
R40	1-249-338-11	CARBON MELF	1.8K	5%	1/8W	
R41	1-249-344-11	CARBON MELF	5.6K	5%	1/8W	
R42	1-249-359-11	CARBON MELF	100K	5%	1/8W	
R43	1-249-363-11	CARBON MELF	220K	5%	1/8W	
R44	1-249-339-11	CARBON MELF	2.2K	5%	1/8W	
R45	1-249-338-11	CARBON MELF	1.8K	5%	1/8W	

Ref.No.	Part No.	Description				
R46	1-249-344-11	CARBON MELF	5.6K	5%	1/8W	
R47	△.1-249-409-11	CARBON (SMALL)	220	5%	1/4W	F
R48	1-249-359-11	CARBON MELF	100K	5%	1/8W	
R49	1-249-359-11	CARBON MELF	100K	5%	1/8W	
R61	1-249-359-11	CARBON MELF	100K	5%	1/8W	
R62	1-249-355-11	CARBON MELF	47K	5%	1/8W	
R64	1-249-351-11	CARBON MELF	22K	5%	1/8W	
R65	1-249-355-11	CARBON MELF	47K	5%	1/8W	
R66	1-215-493-00	CARBON MELF	1M	5%	1/5W	
R67	1-249-359-11	CARBON MELF	100K	5%	1/8W	
R68	1-249-352-11	CARBON MELF	27K	5%	1/8W	
R69	1-249-351-11	CARBON MELF	22K	5%	1/8W	
R70	1-249-331-11	CARBON MELF	470	5%	1/8W	
R71	1-249-339-11	CARBON MELF	2.2K	5%	1/8W	
R72	1-249-351-11	CARBON MELF	22K	5%	1/8W	
R73	1-249-347-11	CARBON MELF	10K	5%	1/8W	
R74	1-249-347-11	CARBON MELF	10K	5%	1/8W	
R75	1-249-343-11	CARBON MELF	4.7K	5%	1/8W	
R81	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R82	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R83	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R84	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R85	1-249-347-11	CARBON MELF	10K	5%	1/8W	
R86	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R87	1-249-347-11	CARBON MELF	10K	5%	1/8W	
R88	1-249-343-11	CARBON MELF	4.7K	5%	1/8W	
R89	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R90	1-249-343-11	CARBON MELF	4.7K	5%	1/8W	
R91	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R92	△.1-249-401-11	CARBON (SMALL)	47	5%	1/4W	F
R101	1-249-341-11	CARBON MELF	3.3K	5%	1/8W	
R102	1-249-332-11	CARBON MELF	560	5%	1/8W	
R103	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R104	1-249-328-11	CARBON MELF	270	5%	1/8W	
R105	1-249-343-11	CARBON MELF	4.7K	5%	1/8W	
R106	1-249-339-11	CARBON MELF	2.2K	5%	1/8W	
R107	1-249-343-11	CARBON MELF	4.7K	5%	1/8W	
R108	1-249-323-11	CARBON MELF	100	5%	1/8W	
R109	1-249-343-11	CARBON MELF	4.7K	5%	1/8W	
R110	△.1-249-405-11	CARBON (SMALL)	100	5%	1/4W	F
R111	1-249-341-11	CARBON MELF	3.3K	5%	1/8W	
R112	1-249-332-11	CARBON MELF	560	5%	1/8W	
R113	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R114	1-249-328-11	CARBON MELF	270	5%	1/8W	
R115	1-249-351-11	CARBON MELF	22K	5%	1/8W	
R116	1-249-339-11	CARBON MELF	2.2K	5%	1/8W	
R117	1-249-343-11	CARBON MELF	4.7K	5%	1/8W	
R118	1-249-323-11	CARBON MELF	100	5%	1/8W	
RV21	1-238-013-11	(AEP,UK).... RES, ADJ, CARBON	2.2K			
RV21	1-238-015-11	(IT).... RES, ADJ, CARBON	4.7K			
RV22	1-238-017-11	RES, ADJ, CARBON	22K			
RV24	1-238-017-11	(AEP,UK).... RES, ADJ, CARBON	22K			
RV24	1-238-019-11	(IT).... RES, ADJ, CARBON	47K			
T21	1-404-807-11	TRANSFORMER, DISCRIMINATOR				
T23	1-236-465-11	(IT).... ENCAPSULATED COMPONENT				
TM1	*1-537-138-31	TERMINAL BOARD (ANTENNA)				
TP1	*1-560-060-00	PIN, CONNECTOR 2P				
XT81	1-577-126-11	VIBRATOR, CRYSTAL (7.2MHz)				

Note: The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

EXCEPT FOR TUNER

Ref.No	Part No.	Description
901	*A-4334-432-A	(AEP,UK)....MOUNTED PCB, PANEL
901	*A-4334-843-A	(IT)....MOUNTED PCB, PANEL
902	*A-4303-187-A	(AEP, UK)....MOUNTED PCB, TUNER (TCB007-3HJ)
902	*A-4303-188-A	(IT)....MOUNTED PCB, TUNER (TCB007-3IJ)

CAPACITOR

C701	1-125-486-11	DOUBLE LAYERS	0.22F		5.5V
C702	1-136-173-00	FILM	0.47MF	5%	50V
C703	1-162-306-11	CERAMIC	0.01MF	20%	16V
C704	1-126-094-11	ELECT	4.7MF	20%	25V
C705	1-162-200-31	CERAMIC	11PF	5%	50V
C706	1-162-200-31	CERAMIC	11PF	5%	50V
C707	1-136-173-00	FILM	0.47MF	5%	50V
C708	1-136-173-00	FILM	0.47MF	5%	50V
C709	1-164-159-11	CERAMIC	0.1MF		50V
C710	1-164-159-11	CERAMIC	0.1MF		50V

CB701	1-233-130-11	COMPOSITION CIRCUIT BLOCK
CB702	1-233-148-11	COMPOSITION CIRCUIT BLOCK
CB703	1-233-187-11	COMPOSITION CIRCUIT BLOCK
CB704	1-233-148-11	COMPOSITION CIRCUIT BLOCK

CN701	*1-568-279-11	SOCKET, CONNECTOR 4P
CN702	*1-568-281-11	SOCKET, CONNECTOR 6P
CN703	*1-568-281-11	SOCKET, CONNECTOR 6P

CNP	*1-575-679-11	CORD (WITH CONNECTOR)
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D701	8-719-912-20	(IT)....DIODE ISS120
D702	8-719-912-20	(AEP, UK)....DIODE ISS120
D703	8-719-912-20	(IT)....DIODE ISS120
D708	8-719-912-20	DIODE ISS120
D709	8-719-912-20	DIODE ISS120

D710	8-719-912-20	DIODE ISS120
D711	8-719-912-20	DIODE ISS120
D712	8-719-912-20	DIODE ISS120
D713	8-719-912-20	DIODE ISS120
D714	8-719-912-20	DIODE ISS120

D715	8-719-912-20	DIODE ISS120
D716	8-719-912-20	DIODE ISS120
D717	8-719-912-20	DIODE ISS120
D718	8-719-912-20	DIODE ISS120
D719	8-719-912-20	DIODE ISS120

D720	8-719-912-20	DIODE ISS120
D721	8-719-912-20	DIODE ISS120
D722	8-719-912-20	DIODE ISS120
D723	8-719-912-20	DIODE ISS120
D724	8-719-912-20	DIODE ISS120

FL701	1-519-517-11	INDICATOR TUBE, FLUORESCENT
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IC701	8-759-234-35	IC TMP47C670N-1283
IC702	8-749-920-59	IC A1QH3020S

L701	1-410-521-11	INDUCTOR	100UH
L702	1-410-521-11	INDUCTOR	100UH
L703	1-408-080-00	INDUCTOR	100UH
L704	1-408-080-00	INDUCTOR	100UH

Q701	8-729-900-89	TRANSISTOR DTC144ES
Q702	8-729-900-89	TRANSISTOR DTC144ES
Q703	8-729-900-80	TRANSISTOR DTC114ES

Ref.No	Part No.	Description
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RESISTOR

R701	1-249-405-11	CARBON	100	5%	1/4W
R702	1-249-438-11	CARBON	56K	5%	1/4W
R703	1-249-435-11	CARBON	33K	5%	1/4W
R704	1-249-429-11	CARBON	10K	5%	1/4W
R705	1-249-433-11	CARBON	22K	5%	1/4W

R706	1-249-438-11	CARBON	56K	5%	1/4W
R707	1-249-435-11	CARBON	33K	5%	1/4W
R708	1-249-441-11	CARBON	100K	5%	1/4W
R709	1-249-429-11	CARBON	10K	5%	1/4W
R710	1-249-429-11	CARBON	10K	5%	1/4W

R711	1-249-429-11	CARBON	10K	5%	1/4W
R712	1-249-429-11	CARBON	10K	5%	1/4W
R713	1-249-429-11	CARBON	10K	5%	1/4W
R714	1-249-429-11	CARBON	10K	5%	1/4W
R715	1-249-429-11	CARBON	10K	5%	1/4W

R716	1-249-429-11	CARBON	10K	5%	1/4W
R717	1-249-423-11	CARBON	3.3K	5%	1/4W
R718	1-249-429-11	CARBON	10K	5%	1/4W
R719	1-249-429-11	CARBON	10K	5%	1/4W
R720	1-249-429-11	CARBON	10K	5%	1/4W

R721	1-249-411-11	CARBON	330	5%	1/4W
R722	1-249-441-11	CARBON	100K	5%	1/4W
R723	1-249-441-11	CARBON	100K	5%	1/4W
R724	1-249-441-11	CARBON	100K	5%	1/4W
R725	1-249-441-11	CARBON	100K	5%	1/4W

R726	1-249-441-11	CARBON	100K	5%	1/4W
R727	1-249-421-11	CARBON	2.2K	5%	1/4W

RB701	1-233-125-11	COMPOSITION CIRCUIT BLOCK
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S701	1-554-303-21	SWITCH, KEY BOARD (1)
S702	1-554-303-21	SWITCH, KEY BOARD (2)
S703	1-554-303-21	SWITCH, KEY BOARD (3)
S704	1-554-303-21	SWITCH, KEY BOARD (4)
S705	1-554-303-21	SWITCH, KEY BOARD (5)

S706	1-554-303-21	SWITCH, KEY BOARD (6)
S707	1-554-303-21	SWITCH, KEY BOARD (7)
S708	1-554-303-21	SWITCH, KEY BOARD (8)
S709	1-554-303-21	SWITCH, KEY BOARD (9)
S710	1-554-303-21	SWITCH, KEY BOARD (10)

S711	1-554-303-21	SWITCH, KEY BOARD (STEREO/MUTING)
S712	1-554-303-21	SWITCH, KEY BOARD (AUTO/MANUAL)
S713	1-554-303-21	SWITCH, KEY BOARD (MEMORY/NEXT)
S714	1-554-303-21	SWITCH, KEY BOARD (SHIFT)
S715	1-554-303-21	SWITCH, KEY BOARD (BAND)

S717	1-554-303-21	SWITCH, KEY BOARD (TIME/FREQUENCY)
S718	1-554-303-21	SWITCH, KEY BOARD (TIMER/TUNER +)
S719	1-554-303-21	SWITCH, KEY BOARD (TIMER/TUNER -)
S720	1-554-303-21	SWITCH, KEY BOARD (CLOCK)
S721	1-554-303-21	SWITCH, KEY BOARD (TIMER CONTROL)

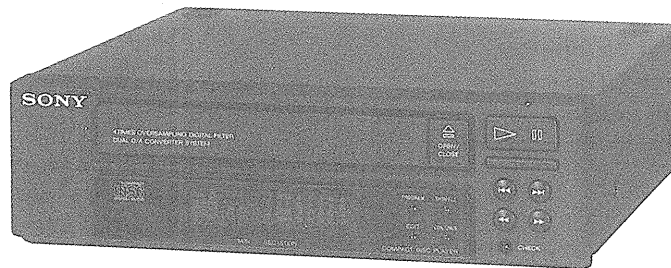
S722	1-554-303-21	SWITCH, KEY BOARD (TIMER SET)
S723	1-554-303-21	SWITCH, KEY BOARD (SLEEP)

X701	1-567-821-21	VIBRATOR, CRYSTAL (4.19MHz)
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CDP-H500

SERVICE MANUAL

AEP Model
UK Model



This set is the CD player section
in MHC-5500.

SPECIFICATIONS

Dimensions	Approx. 225 × 65 × 220 mm (w/h/d)
Weight	1.8 kg

Model Name Using Similar Mechanism	CDP-H300
CD Transport Mechanism Type	CDM13A-5BD3
Optical Pick-Up Block Type	BU-5BD3

SERVICING NOTE

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.

The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30cm away from the objective lens.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.



COMPACT DISC PLAYER
SONY®

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

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

CAUTION

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

1. Laser Diode Properties

- Material: GaAlAs
 - Wavelength: 780 nm
 - Emission Duration: continuous
 - Laser Output Power: less than 44.6 μ W*
- * This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.

2. During service, do not take the Optical Pick-up Block apart, and do not adjust the APC circuit. If there is a breakdown in the APC circuit (including laser diode), replace the entire Optical Pick-up Block (including APC board).

BESKYTTELSE AF ØJNE MOD LASERSTRÅLING UNDER SERVICE

I dette apparat anvendes laserlys. Derfor skal nedenstående instruktioner nøje følges under service.

Følg iøvrigt instruktionerne i servicemanualen.

ADVARSEL!!

Under service må øjnene ikke komme nær objektiv-linsen på den optiske pick-up enhed. I tilfælde af at det er nødvendigt at kontrollere udsendelsen af laserlys, skal det ske i en afstand af mere end 25 cm fra den optiske pick-up.

1. Laser-dioe data

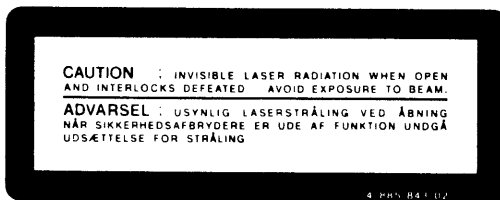
- Materiale: GaAlAs
 - Bølgelængde: 780 nm
 - Udstråling: Kontinuerlig
 - Laseroutput: Max. 0,4 mW*
- * Målt i 1,6 mm afstand fra overfladen af objektiv-linsen på den optiske pick-up enhed.
- Klassifikation: Klasse IIIb.

2. Adskil aldrig den optiske pick-up enhed under service, og juster ikke APC kredsløbet (Automatic Power Control). Hvis APC kredsløbet (incl. laser-dioden) bryder ned, skal hele den optiske pick-up enhed (incl. APC printkortet) udskiftes.

LASER ADVARSEL MÆRKNING

Følgende mærkning findes indvendig i apparatet:

1. Advarsel Mærkning

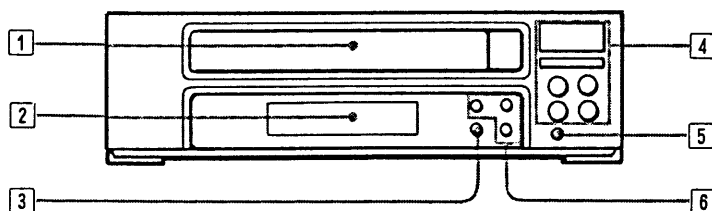


VAROITUS: Laite sisältää, laserdiodin, joka lähettää (näkyvätöntä) silmille vaarallista lasersäteilyä.

SECTION 1

GENERAL

1-1. LOCATION OF CONTROLS



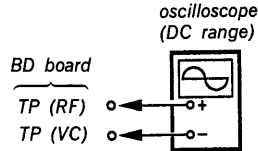
- 1 Disc tray
- 2 Display window
- 3 EDIT button
- 4 CD operation buttons
 - △ OPEN/CLOSE button
 - ▷|| (play/pause) button
 - (stop) button
 - ◀◀/▶▶ (manual search) buttons
 - ◀◀/▶▶ (Automatic Music Sensor) buttons
- 5 REPEAT button
- 6 Play mode selectors
 - CONTINUE play button
 - SHUFFLE play button
 - PROGRAM play button

SECTION 2 ELECTRICAL ADJUSTMENTS

1. Perform adjustments in the order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10M Ω impedance.

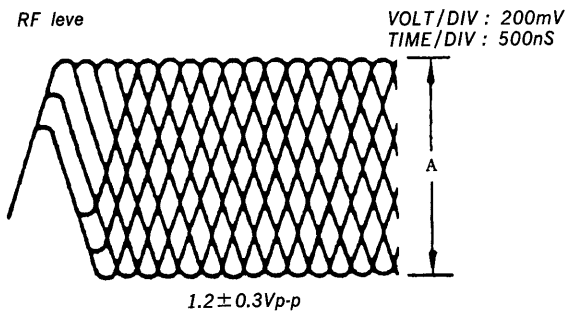
RF Level Check

Procedure :



1. Connect oscilloscope to test point TP (RF) and TP (VC) on BD board.
2. Confirm that RF level and eye pattern is optimum. Optimum eye pattern means that shape "◇" can be clearly distinguished at the center of the wave form.

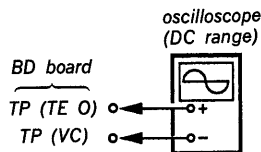
RF signal Reference Waveform (eye pattern)



REFERENCE

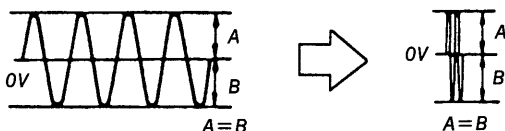
E-F Balance Check

Procedure :



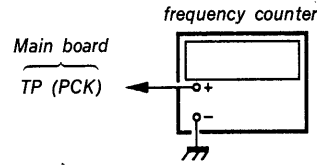
1. Connect test point TP (ADJ) and TP (TES) to ground with lead wire.
2. Connect oscilloscope to test point TP (TE O) and TP (VC) on BD board.
3. Turn POWER switch on.
4. Put disc (YEDS-18) in and play back.
5. Confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0V.
6. After check, remove the lead wire connected in step 1.

Note : Take sweep time as long as possible to obtain best waveform.



RF PLL Free-run Frequency Check

Procedure :



1. Turn POWER switch on.
2. Put disc (YEDS-18) in and play back.
3. Confirm that reading on frequency counter is 4.3218MHz.

Focus/Tracking Gain Adjustment

A frequency response analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.

However, as these reciprocate, the adjustment is the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

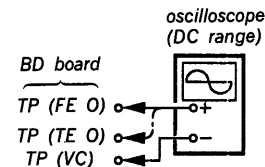
	Gain	Focus	Tracking
Symptoms			
• The time until music starts becomes longer for STOP →▷ PLAY or automatic selection. (◀◀, ▶▶ buttons pressed.) (Normally takes about 1 seconds.)		low	low or high
• Music does not start and disc continues to rotate for STOP →▷ PLAY or automatic selection. (◀◀, ▶▶ buttons pressed.)		—	low
• Sound is interrupted during PLAY. Or time counter display stops progressing.		—	low
• More noise during 2-axis device operation.		high	high

The following is a simple adjustment method.

—Primary Adjustment—

Note : Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment.

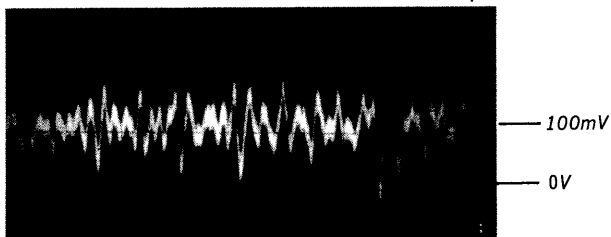
If the positions after the primary adjustment are only a little different, return the controls to the original position.



Procedure :

1. Keep the set horizontal.
(If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2-axis device.)
2. Insert disc (YEDS-18) and press ▷ PLAY button.
3. Connect oscilloscope to TP (FEO) and TP (VC) on BD board.
4. Adjustment RV101 on BD board so that the waveform is as shown in the figure below. (focus gain adjustment)

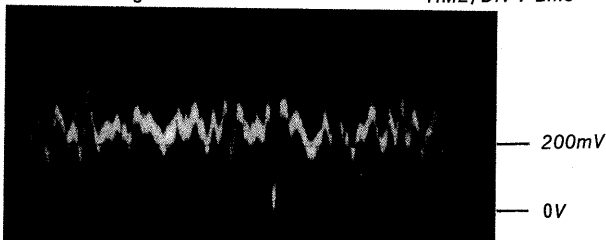
VOLT/DIV : 100mV
TIME/DIV : 2mS



- Incorrect Examples (DC level changes more than on adjusted waveform)

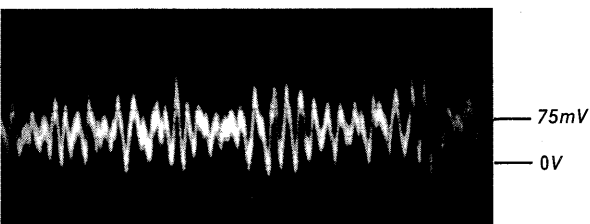
low focus gain

VOLT/DIV : 100mV
TIME/DIV : 2mS



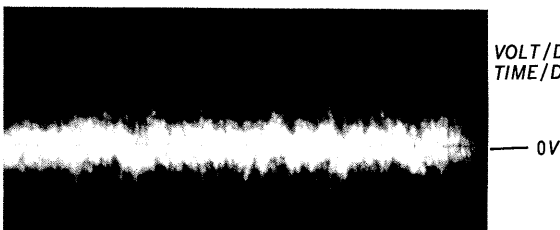
high focus gain

VOLT/DIV : 100mV
TIME/DIV : 2mS



5. Connect oscilloscope to TP (TEO) and TP (VC) on BD board.
6. Adjusted MV102 on BD board so that the waveform is as shown the figure below. (tracking gain adjustment)

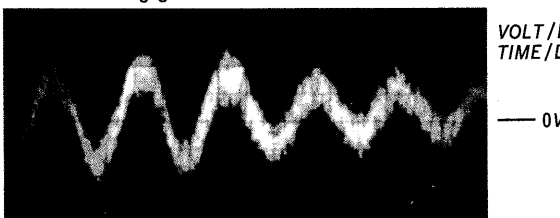
VOLT/DIV : 1V
TIME/DIV : 2mS



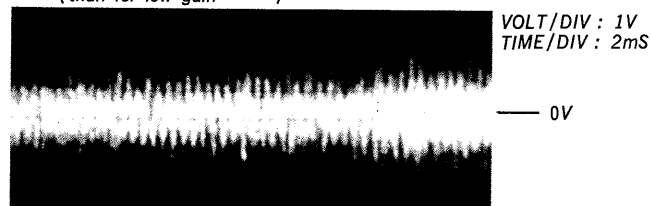
- Incorrect Examples (fundamental wave appears)

low tracking gain

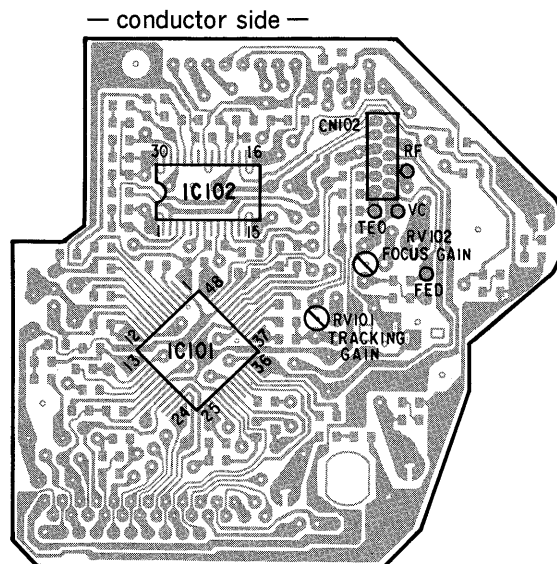
VOLT/DIV : 1V
TIME/DIV : 2mS



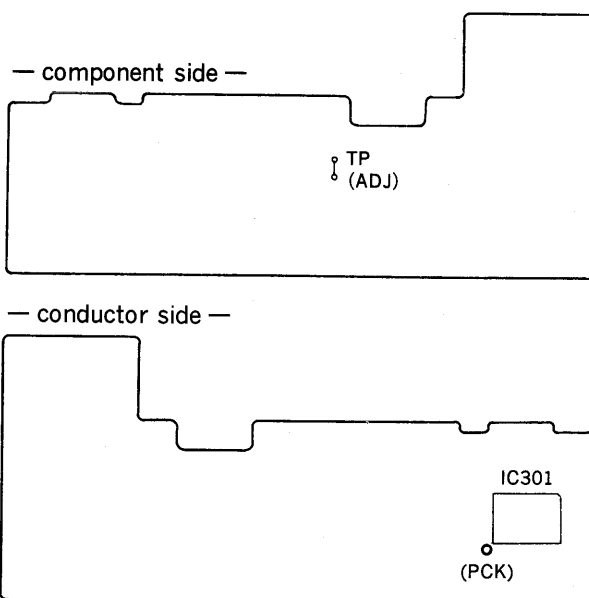
high tracking gain
(high fundamental wave)
than for low gain



Adjustment Locations :
[BD board]



[Main board]

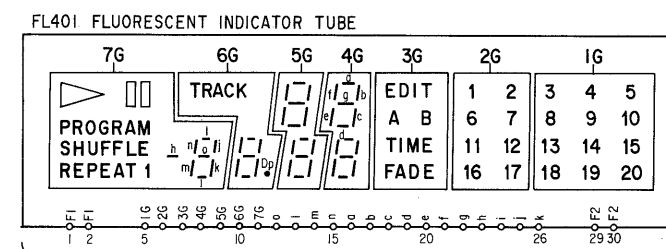


3-2. PRINTED WIRING BOARDS

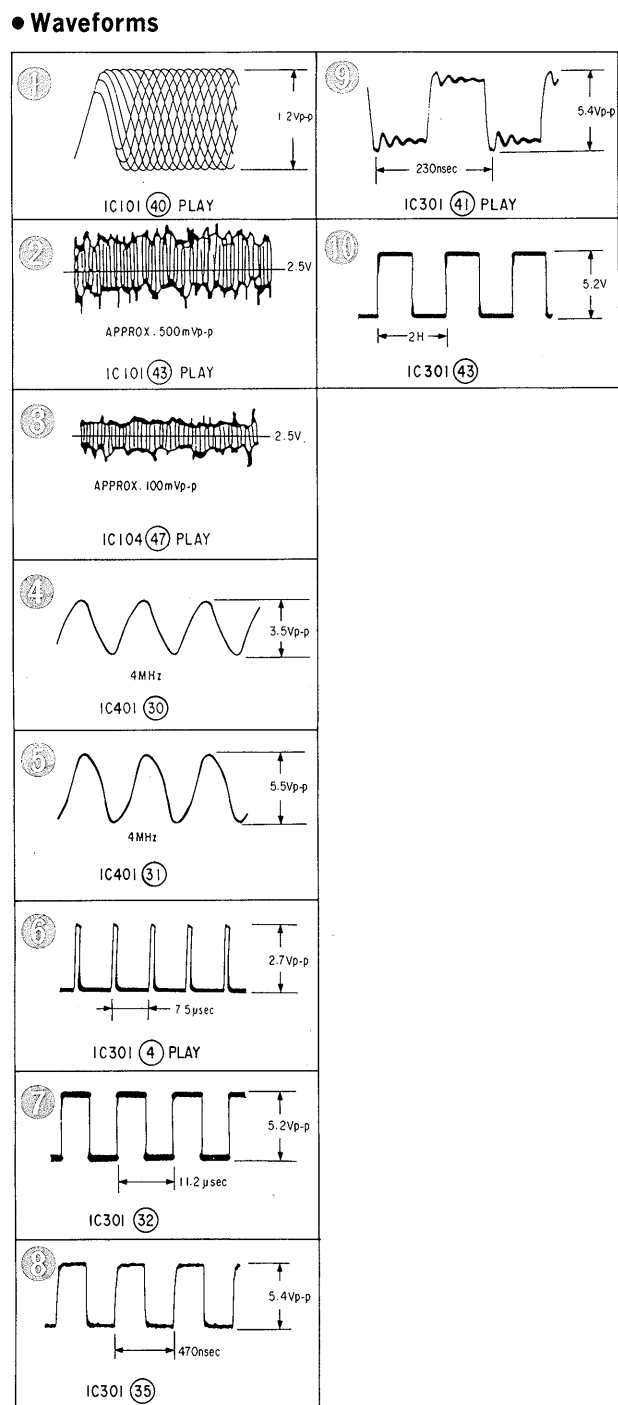
- **Semiconductor Location**

Note:

- ○ — : parts extracted from the component side.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ▩ : Pattern of the rear side.



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----



Note: The components identified by mark  or dotted line with mark are critical for safety. Replace only with part number specified.

- 
- : CD

IC301 CXD25000

The block diagram illustrates the internal architecture of the EFM demodulator, showing the following components and their connections to the pins:

- EFM DEMODULATOR:** Receives inputs MIRR (80), CLKO (79), XLT0 (78), DAT0 (77), CNIN (76), SEIN (75), CLOK (74), VDD (73), XLAT (72), DATA (71), XRST (70), SENS (69), and MUTE (68). It outputs FSW (2), MON (3), MDP (4), MDS (5), LOCK (7), VCOO (8), VCOI (9), TEST (10), PDO (11), VSS (13), NC (14), NC (15), VPCO (16), VCKI (17), FILO (18), FILI (19), PCO (20), AVSS (21), CLTV (22), AVDD (23), and RF (24).
- AUTO SEQUENCER:** Receives inputs SCK (67), SOS0 (66), and EXCK (65). It outputs SBS0 (64), SCOR (63), WFCK (62), and EMPH (61).
- DIGITAL OUT:** Receives input MUTE (68) and outputs DOUT (60) and MD2 (59).
- VARIABLE PITCH CONTROL:** Receives input MUTE (68) and outputs C16M (58) and C4M (57).
- CLK GENERATOR:** Receives input MUTE (68) and outputs FSTT (56), XTSL (55), XTA0 (54), and VSS (53).
- DATA:** Receives input MUTE (68) and outputs APTL (51), APTR (50), DA01 (49), DA02 (48), DA03 (47), DA04 (46), DA05 (45), DA06 (44), DA07 (43), DA08 (42), and DA09 (41).
- RAM:** Receives input MUTE (68) and outputs APTL (51), APTR (50), DA01 (49), DA02 (48), DA03 (47), DA04 (46), DA05 (45), DA06 (44), DA07 (43), DA08 (42), and DA09 (41).
- ERROR CODE CORRECTOR:** Receives input MUTE (68) and outputs APTL (51), APTR (50), DA01 (49), DA02 (48), DA03 (47), DA04 (46), DA05 (45), DA06 (44), DA07 (43), DA08 (42), and DA09 (41).
- VCO:** Receives input MUTE (68) and outputs APTL (51), APTR (50), DA01 (49), DA02 (48), DA03 (47), DA04 (46), DA05 (45), DA06 (44), DA07 (43), DA08 (42), and DA09 (41).
- ASYMMETRY CORRECTOR:** Receives input MUTE (68) and outputs APTL (51), APTR (50), DA01 (49), DA02 (48), DA03 (47), DA04 (46), DA05 (45), DA06 (44), DA07 (43), DA08 (42), and DA09 (41).
- DIGITAL AUDIO INTERFACE, ADDRESS GENERATOR:** Receives input MUTE (68) and outputs APTL (51), APTR (50), DA01 (49), DA02 (48), DA03 (47), DA04 (46), DA05 (45), DA06 (44), DA07 (43), DA08 (42), and DA09 (41).

[illegible][illegible]

SECTION 4 EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.

- Color Indication of Appearance Parts
Example:

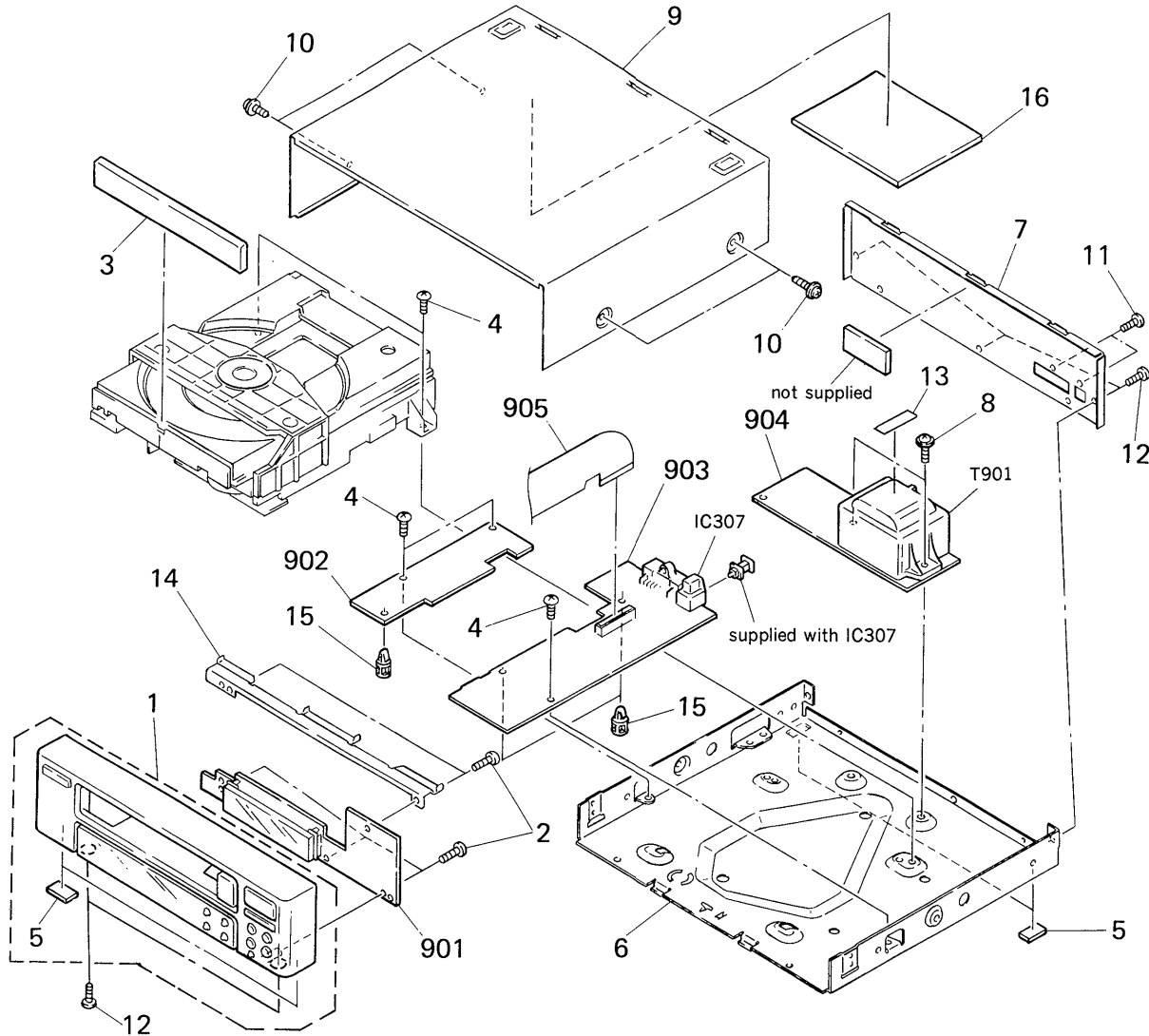
(RED) ... KNOB, BALANCE (WHITE)

↑ Cabinet's Color

↑ Parts Color

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

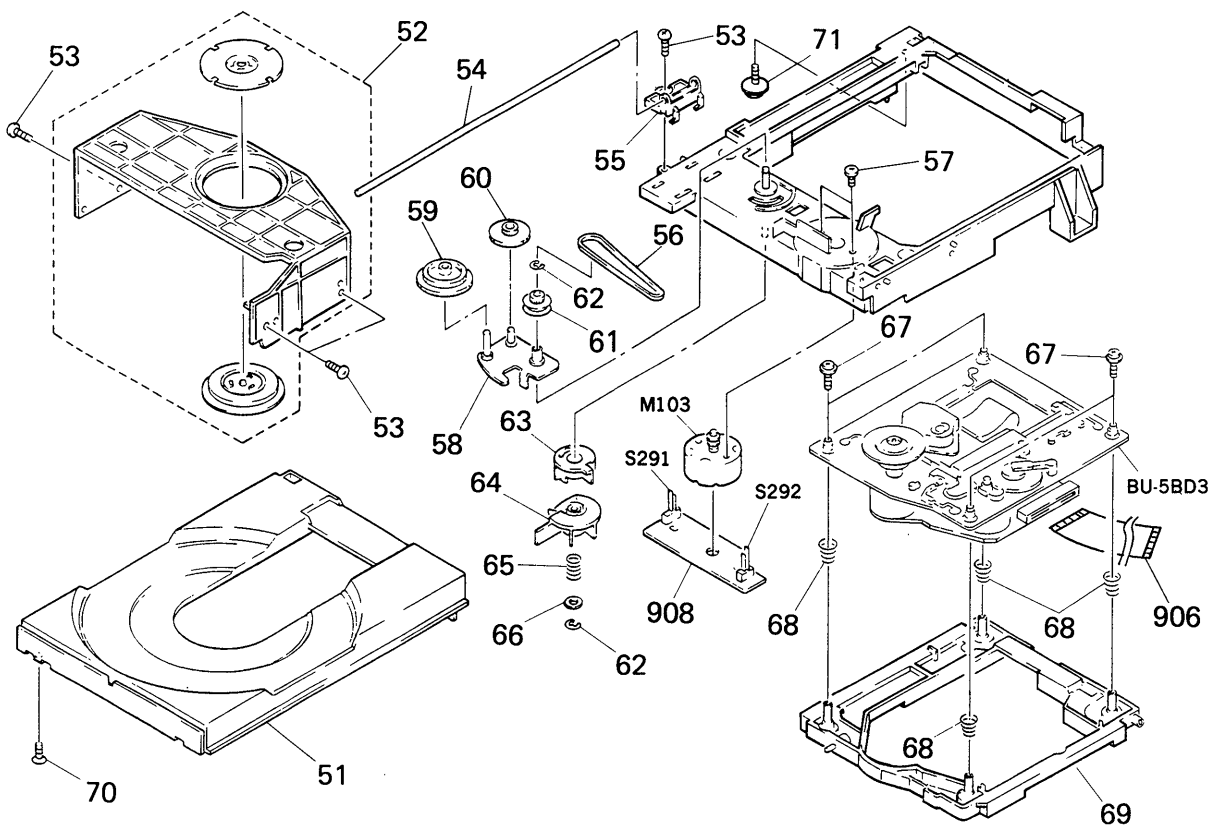
4-1. CHASSIS BLOCK



Ref.No	Part No.	Description	Remarks
1	X-4929-711-1	PANEL ASSY, FRONT	5
2	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	
3	4-929-753-01	PANEL, LOADING	
4	7-682-547-04	SCREW +BVTT 3X6 (S)	
5	4-930-336-01	FOOT (FELT)	
6	★4-929-757-01	CHASSIS	
7	★4-929-750-11	PANEL, BACK	
8	4-929-742-01	SCREW (3X10), +P TTWH	
9	4-932-844-31	CASE	
10	3-704-366-01	SCREW (CASE) (M3X8)	
11	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
12	7-682-547-09	SCREW +BVTT 3X6 (S)	

Ref.No	Part No.	Description	Remarks
13	3-831-441-XX	CUSHION (B), CABINET	
14	★4-929-752-01	REINFORCEMENT	
15	3-682-057-11	SPACER (SMALL)	
16	★4-922-943-01	DUMPER	
901	★A-4617-397-A	MOUNTED PCB, DISPLAY	
902	★A-4617-390-A	MOUNTED PCB, POWER	
903	★A-4617-389-A	MOUNTED PCB, MAIN	
904	★1-634-469-11	PC BOARD, TRANS	
905	1-535-833-11	JUMPER, FILM (WITH TERMINAL)	
IC307	8-749-921-12	IC GP1F32T	
T901	 1-449-977-11	TRANSFORMER, POWER	

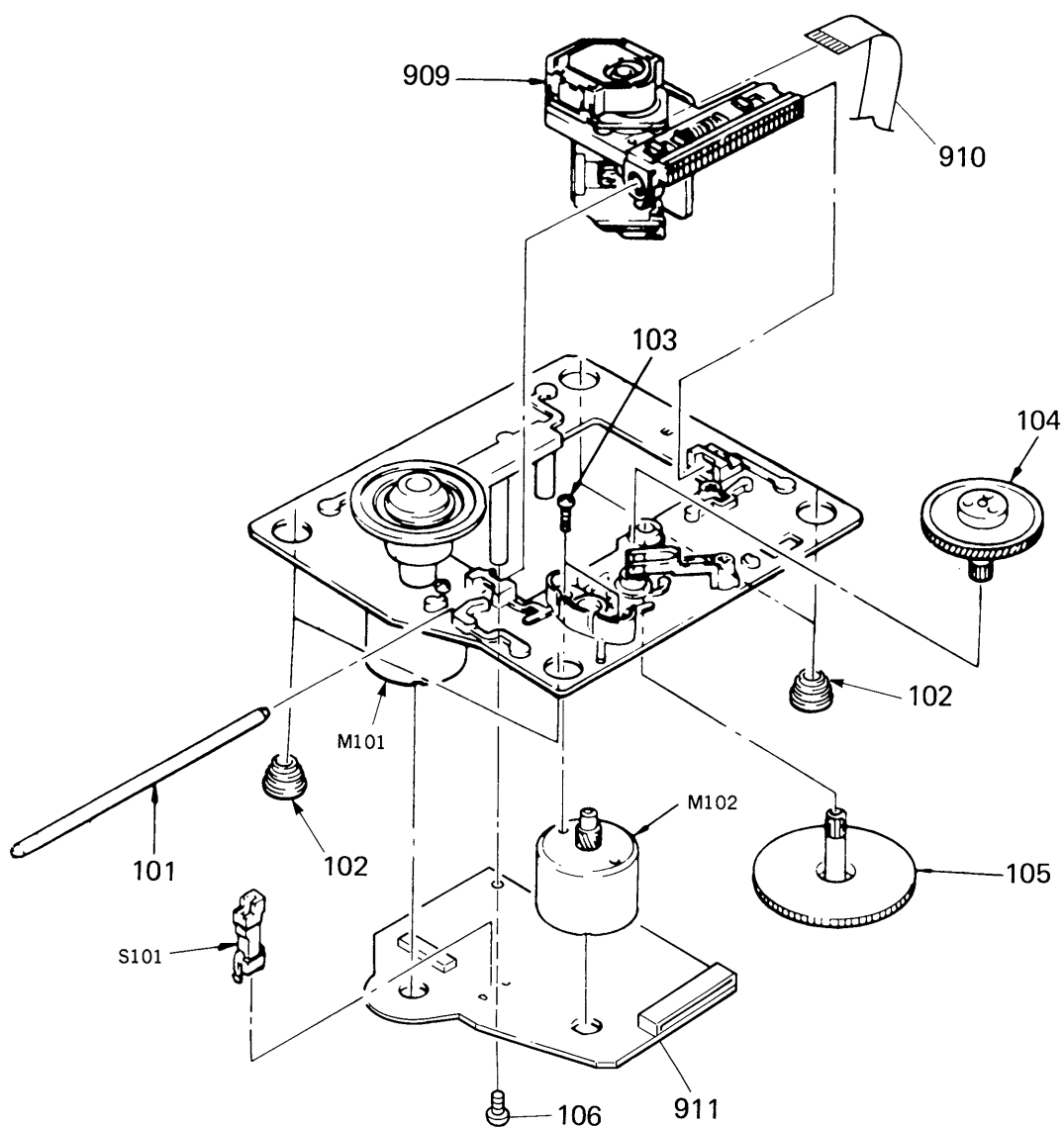
4-2. CD MECHANISM SECTION (CDM13A-5BD3)



Ref.No	Part No.	Description	Remarks
51	4-929-732-01	TABLE, DISK	
52	A-4604-219-A	HOLDER (MG) ASSY	
53	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
54	4-929-721-01	SHAFT	
55	4-929-723-01	GUIDE (T)	
56	4-927-649-01	BELT	
57	7-621-775-10	SCREW +B 2.6X4	
58	X-4929-703-1	ARM ASSY, SWING	
59	4-927-620-01	GEAR (P)	
60	4-927-628-01	GEAR (C)	
61	4-929-724-01	PULLEY (B)	
62	7-624-105-04	STOP RING 2.3, TYPE -E	
63	4-929-727-01	CAM (A)	

Ref.No	Part No.	Description	Remarks
64	4-929-729-01	CAM (B)	
65	3-659-338-00	SPRING, COMPRESSION	
66	4-927-654-01	WASHER (LIMITER)	
67	4-933-134-01	SCREW (+PTPWH M2.6X6)	
68	4-917-541-01	SPRING (B)	
69	4-929-747-01	HOLDER (BU)	
70	7-685-234-19	SCREW +KTP 2.6X8 TYPE2NON-SLIT	
71	4-917-583-21	BRACKET, YOKE	
906	1-535-845-11	JUMPER, FILM (WITH TERMINAL)	
908	1-634-461-11	PC BOARD LOADING	
M103	A-4608-362-A	MOTOR (L) ASSY	
S291	1-571-924-11	SWITCH, LEAF (LOAD OUT)	
S292	1-571-924-11	SWITCH, LEAF (LOAD IN)	

4-3. OPTICAL PICK-UP BLOCK (BU-5BD3)



Note: The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Ref.No	Part No.	Description	Remarks
101	4-917-565-01	SHAFT, SLED	
102	4-933-126-01	INSULATOR (A)	
103	7-621-255-15	SCREW +P 2X3	
104	4-917-567-01	GEAR (M)	
105	4-917-564-01	GEAR (P), FLATNESS	
106	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	

Ref.No	Part No.	Description	Remarks
909	 8-848-144-11	DEVICE, OPTICAL KSS-240A	
910	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
911	*A-4617-371-A	MOUNTED PCB, BD	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
S101	1-572-085-11	SWITCH, LEAF (LIMIT IN)	

SECTION 5 ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:MF: μ F, PF: μ μ F.**RESISTORS**

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH: μ H

SEMICONDUCTORSIn each case, U: μ , for example:
 UA...: μ A..., UPA...: μ PA...,
 UPC...: μ PC, UPD...: μ PD...

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Ref.No	Part No.	Description					Ref.No	Part No.	Description				
901	*A-4617-397-A	MOUNTED PCB, DISPLAY					C405	1-163-038-00	CERAMIC CHIP	0.1MF		25V	
902	*A-4617-390-A	MOUNTED PCB, POWER					C901	1-126-939-11	ELECT	10000MF	20%	16V	
903	*A-4617-389-A	MOUNTED PCB, MAIN					C902	1-124-572-11	ELECT	100MF	20%	63V	
904	*1-634-469-11	PC BOARD, TRANS					C903	1-123-875-11	ELECT	10MF	20%	50V	
905	1-535-833-11	JUMPER, FILM (WITH TERMINAL)					C904	1-136-165-00	FILM	0.1MF	5%	50V	
906	1-535-845-11	JUMPER, FILM (WITH TERMINAL)					C905	1-123-875-11	ELECT	10MF	20%	50V	
908	*1-436-461-11	PC, BOARD LOADING					C906A	1-124-443-00	ELECT	100MF	20%	10V	
909	Δ 8-848-144-11	DEVICE, OPTICAL KSS-240A					C906B	1-163-038-00	CERAMIC CHIP	0.1MF		25V	
910	1-575-001-11	WIRE, FLAT TYPE (12 CORE)					C907	1-126-923-11	ELECT	220MF	20%	10V	
911	*A-4617-371-A	MOUNTED PCB, BD					C908	1-124-791-11	ELECT	1MF	20%	50V	
CAPACITOR													
C101	1-163-038-00	CERAMIC CHIP	0.1MF		25V		C910	1-124-472-11	ELECT	470MF	20%	10V	
C102	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V		C911	1-124-927-11	ELECT	4.7MF	20%	50V	
C103	1-126-094-11	ELECT	4.7MF	20%	16V		C914	1-163-038-00	CERAMIC CHIP	0.1MF		25V	
C104	1-163-038-00	CERAMIC CHIP	0.1MF		25V		C174	1-163-038-00	CERAMIC CHIP	0.1MF		25V	
C105	1-126-154-11	ELECT	47MF	20%	6.3V								
C106	1-126-154-11	ELECT	47MF	20%	6.3V		CN101	1-568-796-11	SOCKET, CONNECTOR 22P				
C107	1-126-154-11	ELECT	47MF	20%	6.3V		CN102	1-568-795-11	SOCKET, CONNECTOR 12P				
C108	1-163-038-00	CERAMIC CHIP	0.1MF		25V		CN291	*1-564-498-11	PIN, CONNECTOR 5P				
C109	1-163-038-00	CERAMIC CHIP	0.1MF		25V		CN201	1-568-838-11	SOCKET, CONNECTOR 21P				
C110	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V		CN202	1-568-802-11	SOCKET, CONNECTOR 19P				
C111	1-131-367-00	TANTALUM	22MF	20%	16V		CN253	*1-564-339-00	PIN, CONNECTOR 5P				
C112	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V		CN301	*1-565-291-11	SOCKET, CONNECTOR 13P				
C113	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V		CN302	*1-564-339-00	PIN, CONNECTOR 5P				
C114	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V		CN303	*1-564-341-11	PIN, CONNECTOR 7P				
C115	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V		CN305	*1-564-339-00	PIN, CONNECTOR 5P				
C116	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V		CN401	1-569-566-11	SOCKET, CONNECTOR 20P				
C117	1-163-038-00	CERAMIC CHIP	0.1MF		25V		CN801	1-568-668-11	CONNECTOR, BOARD TO BOARD 6P				
C118	1-163-038-00	CERAMIC CHIP	0.1MF		25V		CN802	*1-564-336-00	PIN, CONNECTOR 2P				
C119	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V		CN901	1-568-662-11	CONNECTOR, BOARD TO BOARD 6P				
C120	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V		CN902	*1-564-341-11	PIN, CONNECTOR 7P				
C151	1-163-019-00	CERAMIC CHIP	0.0068MF	10%	50V		D201	8-719-010-34	DIODE UZ-4.7BSC				
C152	1-163-038-00	CERAMIC CHIP	0.1MF		25V		D205	8-719-912-20	DIODE 1SS120				
C153	1-163-006-11	CERAMIC CHIP	560PF	10%	50V		D401	8-719-400-18	DIODE MA152WK				
C154	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V		D402	8-719-400-18	DIODE MA152WK				
C155	1-163-023-00	CERAMIC CHIP	0.015MF	10%	50V		D403	8-719-400-18	DIODE MA152WK				
C171	1-163-038-00	CERAMIC CHIP	0.1MF		25V		D404	8-719-400-18	DIODE MA152WK				
C172	1-163-038-00	CERAMIC CHIP	0.1MF		25V		D412	8-719-106-36	DIODE RD8.2M-B3				
C173	1-163-038-00	CERAMIC CHIP	0.1MF		25V		D901	8-719-210-33	DIODE EC10DS2				
C223	1-124-443-00	ELECT	100MF	20%	10V		D902	8-719-210-33	DIODE EC10DS2				
C301	1-124-443-00	ELECT	100MF	20%	10V		D903	8-719-210-33	DIODE EC10DS2				
C302	1-124-791-11	ELECT	1MF	20%	50V		D904	8-719-210-33	DIODE EC10DS2				
C304	1-163-035-00	CERAMIC CHIP	0.047MF		50V		D905	8-719-210-33	DIODE EC10DS2				
C305	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V		D909	8-719-106-17	DIODE RD6.8M-B2				
C306	1-163-038-00	CERAMIC CHIP	0.1MF		25V		FLD401	1-519-600-11	INDICATOR TUBE, FLUORESCENT				
C307	1-164-232-11	CERAMIC CHIP	0.01MF		50V		IC101	8-752-037-33	IC CXA1372Q				
C308	1-124-902-00	ELECT	0.47MF	20%	50V		IC102	8-759-821-94	IC LA6532M				
C309	1-163-038-00	CERAMIC CHIP	0.1MF		25V		IC253	8-759-633-65	IC M54641L				
C310	1-163-101-00	CERAMIC CHIP	22PF	5%	50V		IC301	8-752-333-31	IC CXD2500Q				
C312	1-163-038-00	CERAMIC CHIP	0.1MF		25V		IC307	8-749-921-12	IC GP1F32T				
C320	1-163-101-00	CERAMIC CHIP	22PF	5%	50V		IC401	8-759-150-20	IC UPD75212ACW-204				
C329	1-163-038-00	CERAMIC CHIP	0.1MF		25V		IC901	8-759-821-93	IC LA5601				
C332	1-163-038-00	CERAMIC CHIP	0.1MF		25V		IC902	8-759-633-42	IC M5293L				
C401	1-163-038-00	CERAMIC CHIP	0.1MF		25V		IC903	8-759-604-86	IC M5F7807L				
							J101	1-216-295-00	METAL GLAZE	0	5%	1/10W	

Ref.No	Part No.	Description			
J102	1-216-295-00	METAL GLAZE	0	5%	1/10W
JW401	1-216-295-00	METAL GLAZE	0	5%	1/10W
JW402	1-216-295-00	METAL GLAZE	0	5%	1/10W
JW403	1-216-295-00	METAL GLAZE	0	5%	1/10W

M101	X-4917-523-3	MOTOR ASSY (SPINDLE)			
M102	X-4917-504-1	MOTOR ASSY (SLED)			
M103	A-4608-362-A	MOTOR (L) ASSY			

Q101	8-729-901-01	TRANSISTOR DTC144EK			
Q201	8-729-100-66	TRANSISTOR 2SC1623			
Q252	8-729-112-97	TRANSISTOR FA1L4M-L31			
Q253	8-729-112-97	TRANSISTOR FA1L4M-L31			
Q903	8-729-113-66	TRANSISTOR FN1L4M-M31			

Q904	8-729-113-13	TRANSISTOR FA1A4M-L33			
Q906	8-729-216-22	TRANSISTOR 2SA1162			

RESISTOR

R101	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R102	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R103	1-216-091-00	METAL GLAZE	56K	5%	1/10W
R104	1-216-099-00	METAL GLAZE	120K	5%	1/10W
R105	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W

R106	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R107	1-216-114-00	METAL GLAZE	510K	5%	1/10W
R108	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R109	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R110	1-216-049-00	METAL GLAZE	1K	5%	1/10W

R111	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R112	1-216-083-00	METAL GLAZE	27K	5%	1/10W
R113	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W
R114	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R152	1-216-073-00	METAL GLAZE	10K	5%	1/10W

R153	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R154	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R155	1-216-093-00	METAL GLAZE	68K	5%	1/10W
R156	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R157	1-216-079-00	METAL GLAZE	18K	5%	1/10W

R158	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R159	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R160	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R171	1-216-001-00	METAL GLAZE	10	5%	1/10W
R172	1-216-001-00	METAL GLAZE	10	5%	1/10W

R173	1-216-001-00	METAL GLAZE	10	5%	1/10W
R174	1-216-001-00	METAL GLAZE	10	5%	1/10W
R231	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R232	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R233	1-216-073-00	METAL GLAZE	10K	5%	1/10W

R234	1-216-001-00	METAL GLAZE	10	5%	1/10W
R249	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R250	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R301	1-216-037-00	METAL GLAZE	330	5%	1/10W
R303	1-216-049-00	METAL GLAZE	1K	5%	1/10W

R304	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R305	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R308	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R309	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R310	1-216-073-00	METAL GLAZE	10K	5%	1/10W

R311	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R312	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R401	1-216-093-00	METAL GLAZE	68K	5%	1/10W
R402	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R403	1-216-085-00	METAL GLAZE	33K	5%	1/10W

R404	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R405	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R406	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W

R407	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R412	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R903	1-216-091-00	METAL GLAZE	56K	5%	1/10W
R904	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R908	1-216-001-00	METAL GLAZE	10	5%	1/10W
R909	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R912	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
RV101	1-238-016-11	RES, ADJ, CARBON 10K			
RV102	1-238-016-11	RES, ADJ, CARBON 10K			
S101	1-572-085-11	SWITCH, LEAF (LIMIT IN)			
S291	1-571-924-11	SWITCH, LEAF (LOAD OUT)			
S292	1-571-924-11	SWITCH, LEAF (LOAD IN)			
S402	1-554-596-21	SWITCH, KEY BOARD (SHUFFLE)			
S403	1-554-596-21	SWITCH, KEY BOARD (EDIT)			
S405	1-554-596-21	SWITCH, KEY BOARD (OPEM/CLOSE $\triangle$)			
S406	1-554-596-21	SWITCH, KEY BOARD (PROGRAM)			
S407	1-554-596-21	SWITCH, KEY BOARD (CONTINUE)			
S409	1-554-596-21	SWITCH, KEY BOARD (■)			
S410	1-554-596-21	SWITCH, KEY BOARD (◀◀)			
S411	1-554-596-21	SWITCH, KEY BOARD (◀◀)			
S413	1-554-596-21	SWITCH, KEY BOARD (▶▶)			
S414	1-554-596-21	SWITCH, KEY BOARD (▶▶)			
S415	1-554-596-21	SWITCH, KEY BOARD (▶▶)			
S416	1-572-184-11	SWITCH, KEYBOARD (REPEAT)			
T901	$\triangle$ 1-449-977-11	TRANSFORMER, POWER			
X252	1-567-926-11	VIBRATOR, CRYSTAL (16.39MHz)			
X401	1-577-358-21	VIBRATOR, CERAMIC (4MHz)			

Note: The components identified by mark $\triangle$ or dotted line with mark $\triangle$ are critical for safety. Replace only with part number specified.

CDP-H500

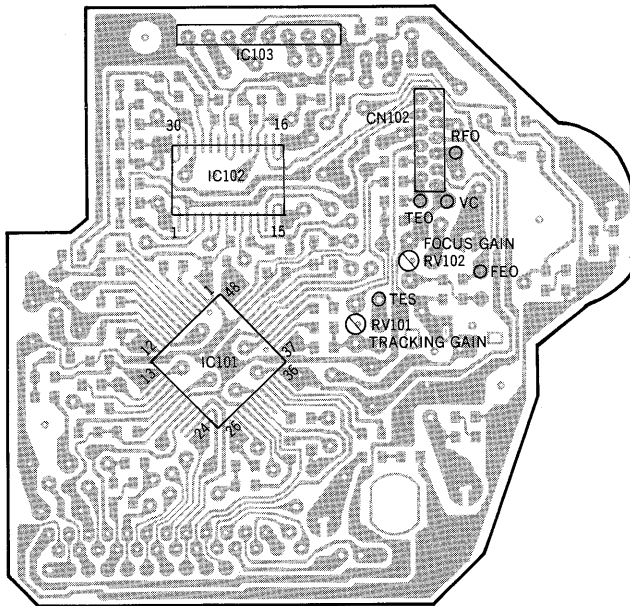
SONY SERVICE MANUAL

AEP Model
UK Model

CORRECTION-1

Correct your service manual as shown below.

 : indicates corrected portion.

Page	INCORRECT	CORRECT
4	E-F Balance Check Procedure : 1. Connect test point TP (ADJ) and TP (TES) to ground with lead wire.	E-F Balance Check Procedure : 1. Connect test point <u>TP (ADJ)</u> to ground and <u>TP (TES)</u> to <u>TP (VC)</u> with lead wire.
5	Focus/Tracking Gain Adjustment 4. Adjustment RV101 on BD board so that the waveform is as shown in the figure below. (focus gain adjustment) 6. Adjusted MV102 on BD board so that the waveform is as shown the figure below. (tracking gain adjustment)	Focus/Tracking Gain Adjustment 4. <u>Adjust RV102</u> on BD board so that the waveform is as shown in the figure below. (focus gain adjustment) 6. <u>Adjust RV101</u> on BD board so that the waveform is as shown <u>in</u> the figure below. (tracking gain adjustment)
5		Adjustment Location : [BD board] 

SS-H5500

SERVICE MANUAL

AEP Model
UK Model

SPECIFICATIONS

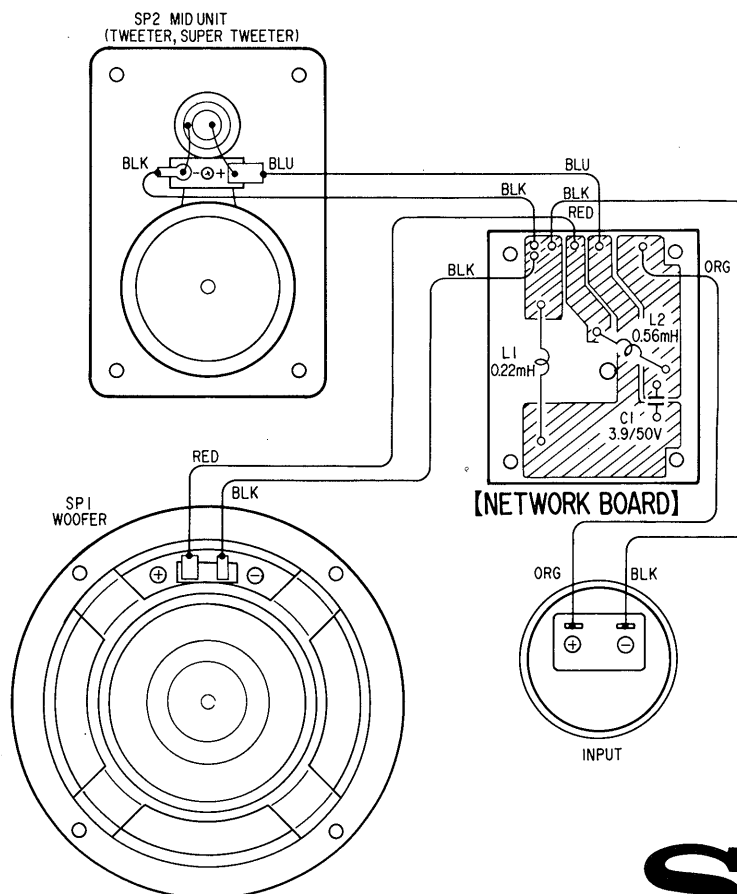
Speaker system	3-way
Speaker units	Woofer: 15 cm (6 in.) cone type Tweeter: 2.5 cm (1 in.), soft dome type Super tweeter: 2 cm ($1\frac{3}{16}$ in.), dome type
Power handling capacity	Maximum input power 45 W
Sensitivity	89 dB/W/m
Effective frequency range	40 Hz to 20,000Hz
Rated impedance	6 ohms
Dimensions	Approx. 185 × 300 × 220 mm (w/h/d) ($7\frac{3}{8}$ × $11\frac{7}{8}$ × $8\frac{3}{4}$ inches)
Weight	Approx. 4.0 kg (8 lb 13 oz) net per speaker

Design and specifications subject to change without notice.



This set is the speaker system in MHC-5500.

1. WIRING DIAGRAM

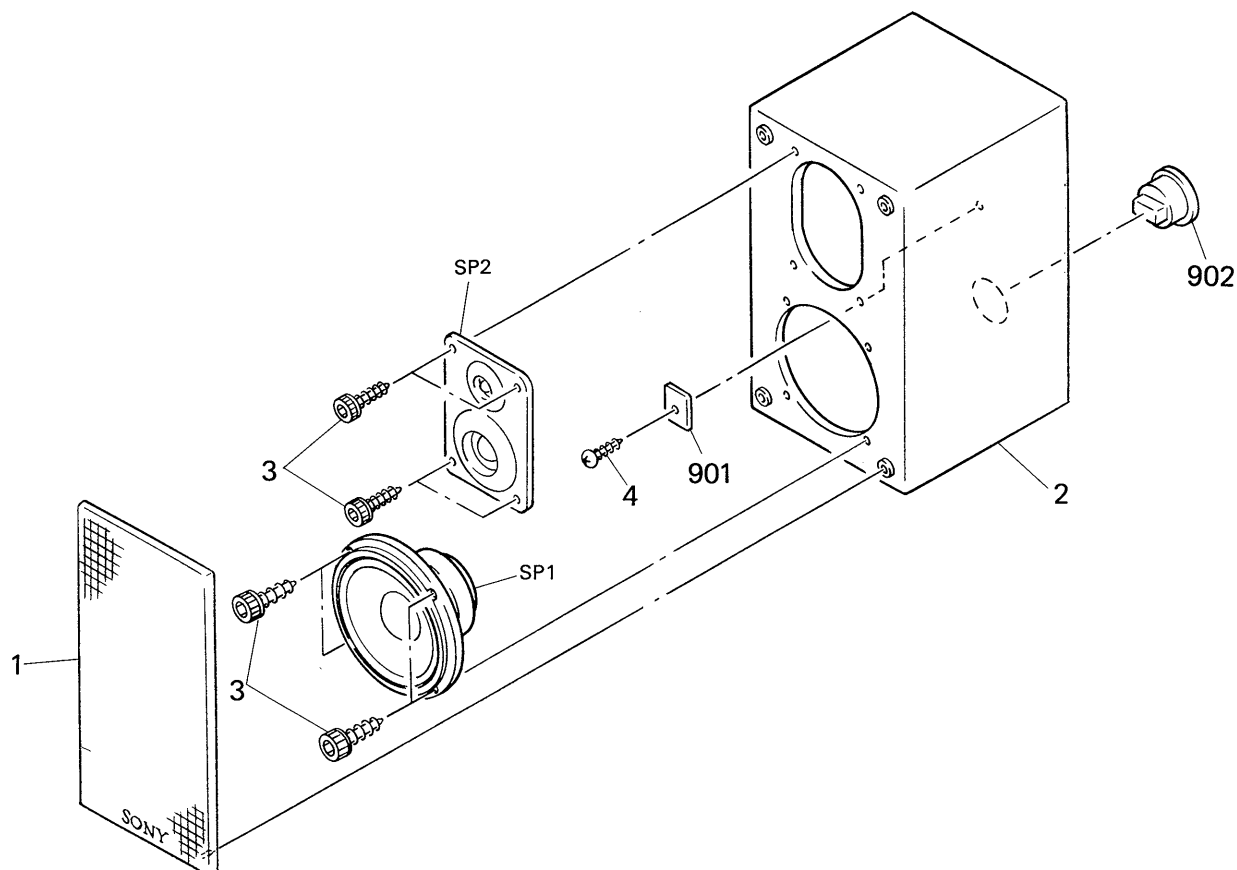


SPEAKER SYSTEM
SONY®

2. EXPLODED VIEW AND PARTS LIST

NOTE:

- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.



No.	Part No.	Description	Remarks
1	X-4929-630-1	FRAME ASSY, GRILLE	
2	X-4929-634-1 X-4929-635-2	(AEP,UK).....CABINET ASSY, SPEAKER (West Germany)...CABINET ASSY, SPEAKER	
3	4-932-425-01	SCREW (3.5X20), TAPPING	
4	4-874-614-31	SCREW (4) (3.5X12), TAPPING	

ACCESSORY & PACKING MATERIAL

1-575-495-11	CORD, SPEAKER
3-751-693-11	MANUAL, INSTRUCTION
*4-857-137-01	CUSHION
*4-938-404-01	INDIVIDUAL CARTON

Ref.No	Part No.	Description
901	*1-635-350-11	PC BOARD, NETWORK
902	1-537-145-11	TERMINAL BOARD (SPEAKER)
C1	1-123-547-00	CAP, ELECT (NONPOLAR) 3.9MF
L1	*1-459-176-00	COIL, NETWORK (CHLS TYPE)(0.22MH)
L2	1-459-866-11	COIL, NETWORK (0.56MH)
SP1	1-544-273-11	WOOFER
SP2	1-544-274-11	MID UNIT (TWEETER,SUPER TWEETER)