HCD-H6800

SERVICE MANUAL

AEP Model
UK Model
E Model
Australian Model
Tourist Model

This set is the Tuner CD Player section in FH-E9X, MHC-6800.

SPECIFICATIONS

Tuner Section

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

Tuning range:
AEP, UK model:
MW: 531—1,602 kHz
LW: 153—279 kHz
German model:
MW: 531—1,602 kHz
Italian model:
MW: 522—1,611 kHz
E, AUS, EA, JE, MY, SP model:
MW: 531 — 1,602 kHz (with the MW tuning interval set at 9 kHz)
MW: 530 — 1,710 kHz (with the MW tuning interval set at 10 kHz) (except the model for Middle East)
SW: 5.95 — 17.90 MHz
Antenna: AM loop antenna, External antenna terminals
Intermediate frequency: 450 kHz

Compact Disc Player Section

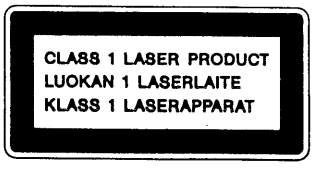
System: Compact disc digital audio system
Laser: Semiconductor laser
Wave length: 780 — 790 nm
Outputs: DIGITAL OPTICAL OUT (optical output connector): wave length 660 nm, output level –18 dBm

Design and specifications subject to change without notice.

Model Name Using Similar Mechanism	CDP-H6700/H7700
CD Mechanism Type	CDM13BA-5BD3
Optical Pick-Up Block Type	BU-5BD3

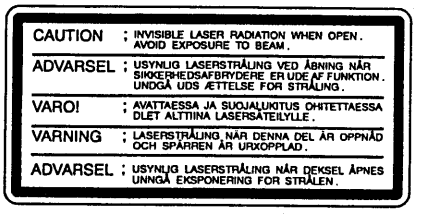
- AUS: Australian model
- EA : Saudi Arabia model
- JE : Tourist model
- MY : Malaysia model
- SP : Singapore model

For the United kingdom and European countries.



This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

The following caution label is located inside the unit.

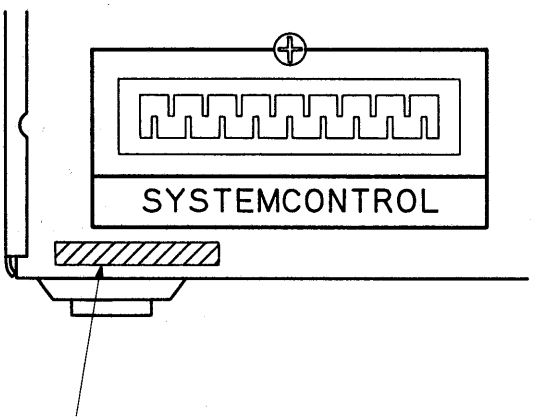


TUNER CD PLAYER

SONY®

MODEL IDENTIFICATION

—BACK PANEL—



4-954-196-11 AE : AEP, UK model
4-954-196-21 E : E, AUS, EA, JE, MY, SP model
4-954-196-31 AE4: German (G) model
4-954-196-41 IT : Italian (IT) model

- AUS: Australian model
- EA : Saudi Arabia model
- JE : Tourist model
- MY : Malaysia model
- SP : Singapore model

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.

TABLE OF CONTENTS

SECTION 1
SERVICING NOTES

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

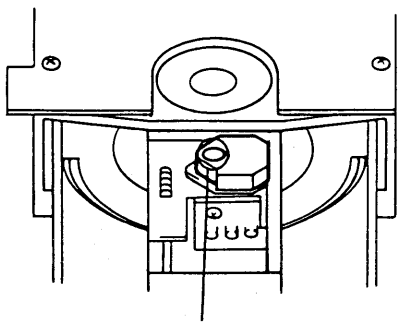
The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential diference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter 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.

LASER DIODE AND FOCUS SERCH OPERATION CHECK

1. Make POWER switch on with no disc inserted and disc table closed.
2. Confirm that the following operation is performed while observing the objective lens.



- Confirm that laser beam is spread.
- Up and down motion of the objective lens. (3 times)

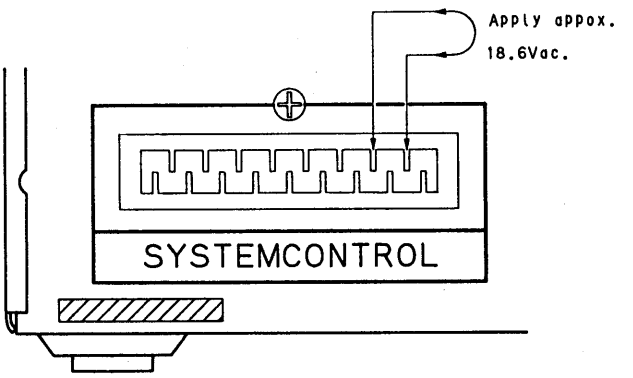
• POWER SUPPLY FOR SERVICING

This set does not have its own power unit. It is operated by power supply from the amplifier (TA-H6800E, TA-H6800N) used in this series. Therefore, when performing service such as continuity repair, connect the set with the amplifier (TA-H6800E, TA-H6800N).

• HOW TO FORCEFULLY TURN POWER ON

The equipment is not provided with any power switch. Therefore, power ON/OFF is controlled in the amplifier side. However, even without an amplifier, power is supplyable to the equipment according to the following methods provided any type of power is available, e.g. using a special jig or supplying the 4 types of voltages individually.

- To activate the compact disc unit, simultaneously press "MODE" switch and "▷▷| " switch. (The tuner unit will stop its function.)
- To activate the tuner unit, simultaneously press "STEREO/MONO" switch and " |◁◁ " switch. (The CD unit will stop its function.)



〔Connection with the connector on "CDP/TC" unit of the jig (PFJ-1) for CDP-H4600, H6600) allows power supply to the set.〕

• SERVICE MODE FOR FL TUBE CHECK

By pressing "BAND" switch and "⏏ OPEN/CLOSE" switch at the same time, the FL display tube is totally lit.

• VOLTAGE MEASUREMENT OF THE TUNER/TCB011 BOARD

When performing voltage measurement of the TUNER and TCB011 boards, prepare the following jigs (extension cables) :

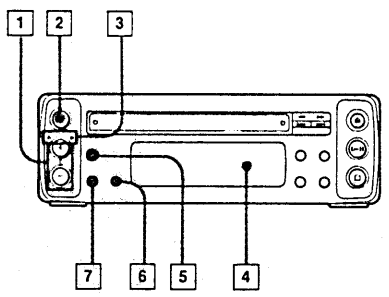
1) Extension cable for 4-pin application (J-8000-026-A)×3 lines.
2) Extension cable for 8-pin application (J-8000-027-A)×1 lines.

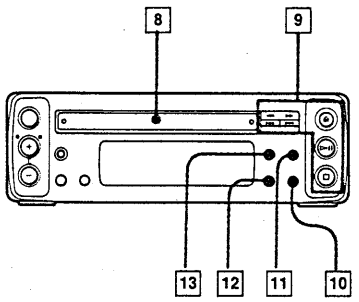
SECTION 2
GENERAL

This section is extracted from instruction manual.

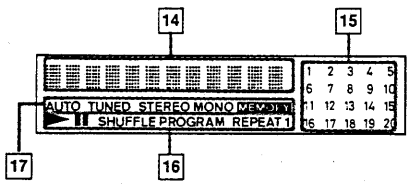
Parts Identification

A





B



Refer to the pages indicated in ( ) for use of the buttons.

Tuner/CD Player Section A

Tuner

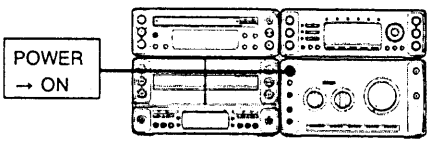
1 +/– buttons (54, 56, 58, 60, 62)
2 BAND selector (54, 56, 60)
3 PRESET/TUNING indicators (54, 56, 60)
4 Display window
5 MODE button (54, 56, 60)
6 MEMORY button (58, 62)
7 STEREO/MONO (stereo/monaural) button (56)

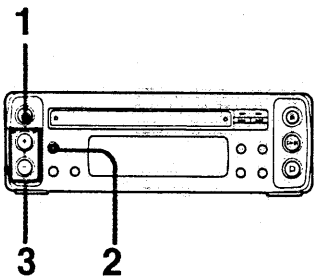
CD-player

8 Disc table
9 CD operation buttons
⏏: Open/close of the disc tray
▷II : Play/pause
⏮◀◀ ▶▶⏭: Manual search (when kept depressed)/Automatic Music Sensor (when pressed)
□: Stop
10 SHUFFLE button (46, 48)
11 CONTINUE button (46, 48, 50)
12 PROGRAM button (50, 100)
13 EDIT button (92, 96)

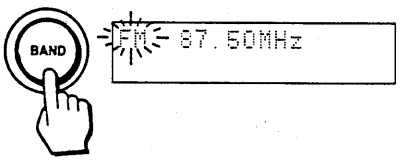
Display window B

14 Frequency and playing time display
15 CD selection numbers display
Preset station number display
16 CD status display
17 Tuner status display

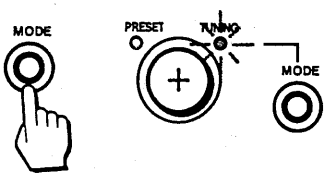




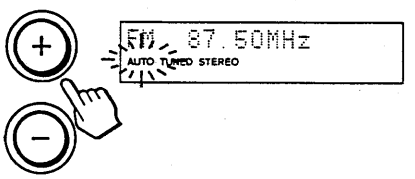
1



2



3



Radio Reception

Automatic tuning allows you to receive stations whose signal is strong enough. When the signal is too weak, use manual tuning.

Tuning in Automatically

This operation is not possible with the remote commander.

1 Press BAND repeatedly until the desired band appears.
As you press BAND, the band changes as follows:

Model for U.K. and Europe (except Germany and Italy):
FM → MW → LW

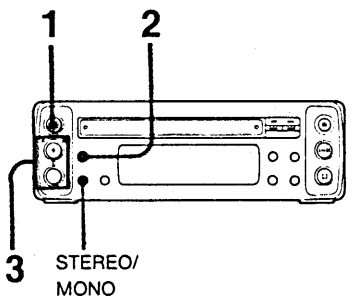
Model for Germany and Italy:
FM ↔ MW

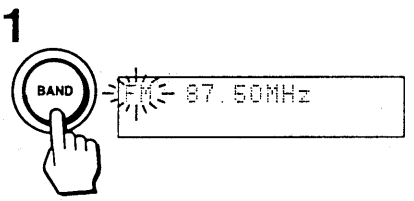
Model for other countries:
FM → MW → SW

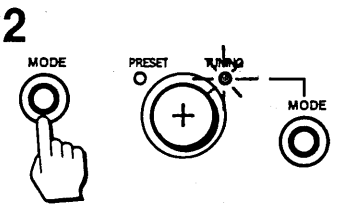
2 Press MODE so that the TUNING indicator lights up.

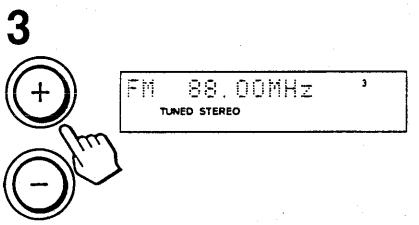
3 Keep + or – depressed for more than 1 second.
"AUTO" appears on the display and the unit tunes in a station automatically.

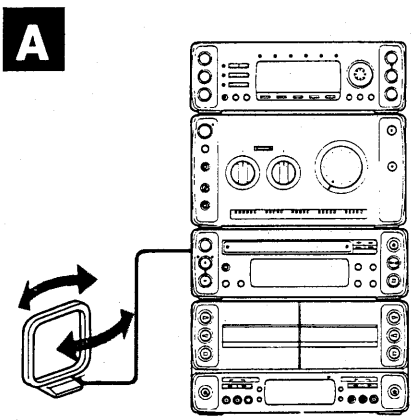
Repeat step 3 until the desired station appears.











Radio Reception

Tuning in Manually

This operation is not possible with the remote commander.

1 Press BAND repeatedly until the desired band appears.

2 Press MODE so that the TUNING indicator lights up.

3 Press + or – repeatedly until the desired station appears.

Indications on the display

TUNED: Appears when a station with sufficient signal strength is tuned in.
STEREO: Appears when an FM stereo program with sufficient signal strength is received.

Antenna adjustment A

For MW/LW/SW reception, find the best location for the supplied AM loop antenna.

When an FM program is noisy or hard to receive

Press STEREO/MONO so that "MONO" appears on the display. There will be no stereo effect, but the reception will be improved. Press the button again to restore the stereo effect.

Changing the MW tuning interval (except for the European and U.K. model and Middle Eastern model)

The MW tuning interval is preset at the factory to 9 kHz.
If you use the system where the frequency allocation system is different from the preset interval, change the interval as follows.

1 Turn on the power.
2 Tune in an MW station.
3 Turn off the power.
4 Turn the power back on while pressing TUNING +.

To reset the interval, follow the same procedure.

Important

When the interval is changed, stored stations will be erased from the memory.

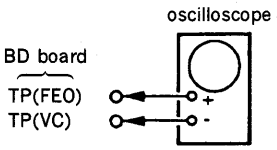
SECTION 3
ELECTRICAL ADJUSTMENTS

CD SECTION

Note :

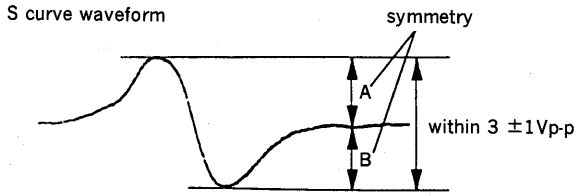
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S Curve Check



Procedure :

1. Connect oscilloscope to test point TP (FEO) on BD board.
2. Connect between test point TP (FES) and TP (VC) by lead wire.
3. Turned Power switch on and actuate the focus serch. (actuate the focus serch when disc table is moving in and out.)
4. Check the oscilloscope waveform (S curve) is symmetrical between A and B. And confirm peak to peak level within 3±1Vp-p.

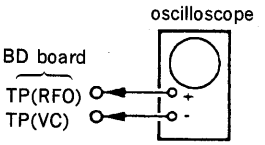


5. After check, remove the lead wire connected in step 2.

Note : • Try to mesure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.

• Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check

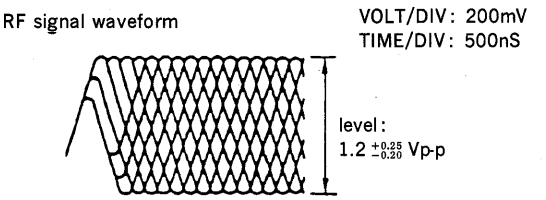


Procedure :

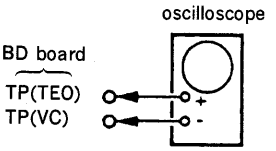
1. Connect oscilloscope to test point TP (RFO) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note :

Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

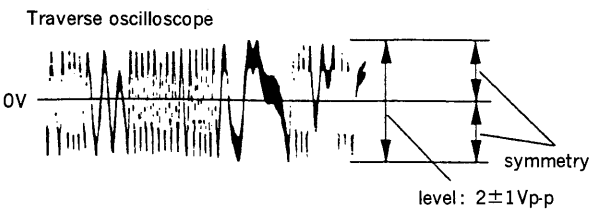


E-F Balance Check



Procedure :

1. Connect test point TP (ADJ) to ground and TP (TES) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TEO) on BD board.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the osilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

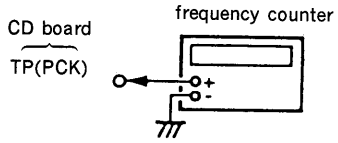


6. Remove the lead wire connected in step 1.

RF PLL Free-run Frequency Check

Procedure :

1. Connect frequency counter to test point (PCK) with lead wire.



2. Turn Power switch on.
3. Confirm that reading on frequency counter is 4.3218MHz.

Focus/Tracking Gain

This gain has a margin, so even if it is slightly off.
There is no problem.
Therefore, do not perform, this adjustment.
Please note that it should be fixed to mechanical center position when you moved and do not know original position.

TUNER SECTION

Precautions in Repairing

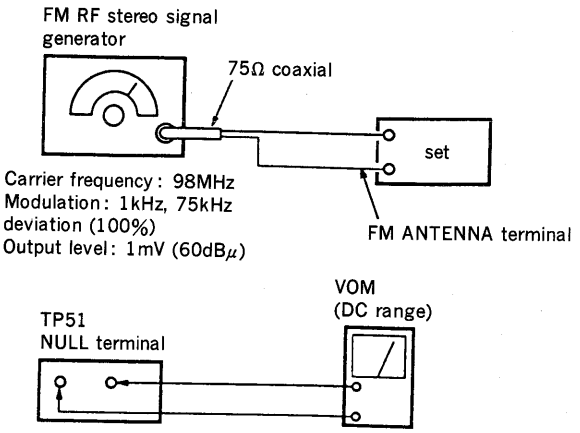
If the front end unit fails, it is difficult to repair the inner circuits, so replace the entire front end unit.

• FM SECTION

FM Discriminator Adjustment (NULL Adjustment)

Setting :

BAND : FM



Procedure :

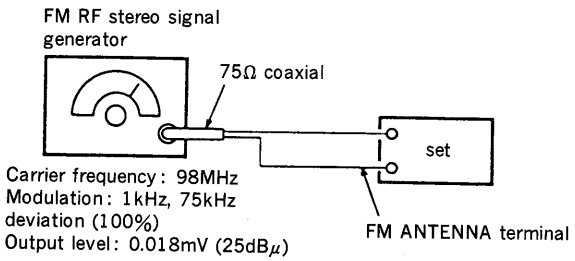
1. Tune the set to 98MHz.
2. Adjust IFT51 for 0V reading on the VOM.

Note : FM Tuning Level adjustment should be made after FM discriminator alignment.

FM Tuning Level Adjustment

Setting :

BAND : FM



Procedure :

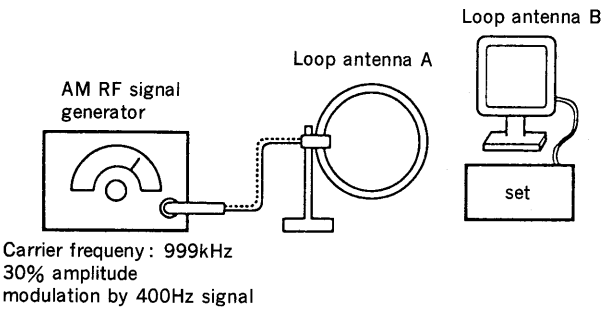
1. Tune the set to 98MHz.
2. Adjust RV52 so that the TUNED indicator goes on.

• AM SECTION

AM Tuning Level Adjustment

Setting :

BAND : MW



Procedure :

1. Set loop antenna A so that the loop antenna B input level becomes 58dBμ/m (0.8m V/m)
2. Tune the set to 999kHz.
3. Adjust the RV51 so that the TUNED indicator goes on.

• SW SECTION (EXCEPT AEP, UK, G, IT MODEL)

SW OSC Voltage Adjustment

Setting :

BAND : SW

Procedure :

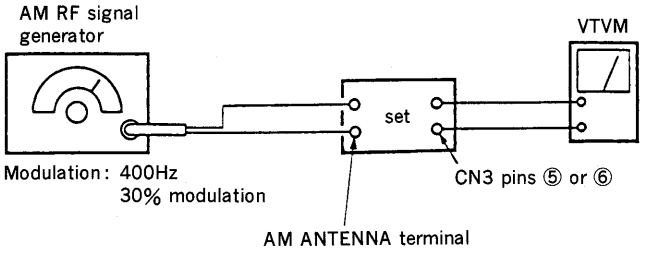
1. Connect digital voltmeter to front end FE1 pin ⑤ (VT) and ground.
2. Adjust for a following value reading on digital voltmeter.

Set frequency	Adjustment part	Reading on digital voltmeter
f min. 5.95MHz	T2	0.9 to 1.1V
f max. 17.9MHz	CV2	8.3 to 8.7V

SW Tracking Adjustment

Setting :

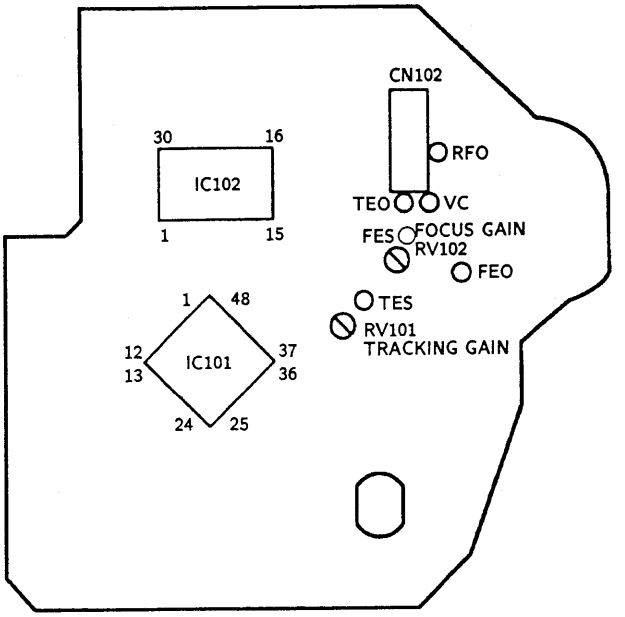
BAND : SW



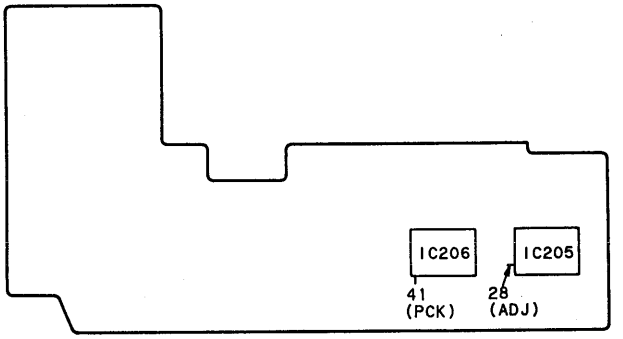
Adjust for a maximum reading on VTVM.	
7MHz	T1
17MHz	CV1

Adjustment Location :

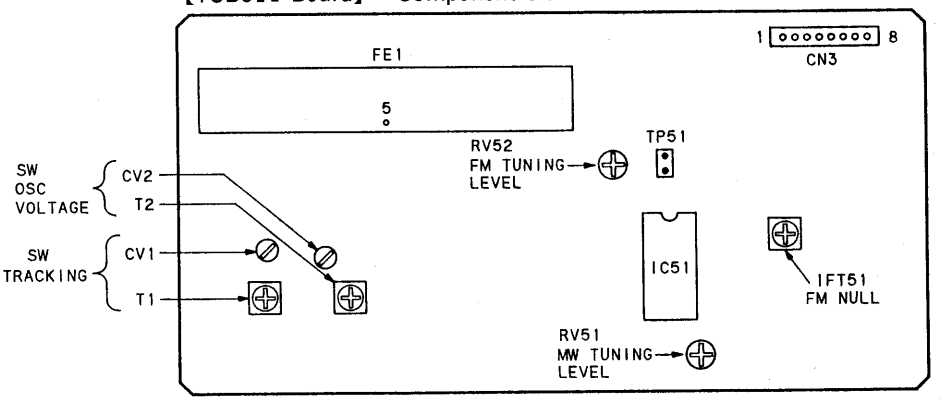
【BD Board】 —Conductor Side—



【CD Board】 —Conductor Side—

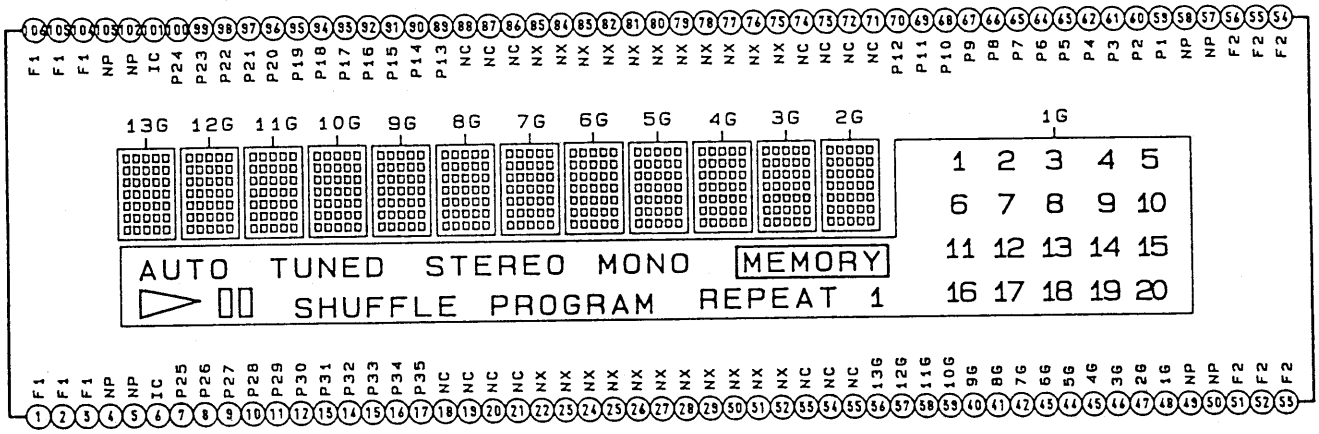


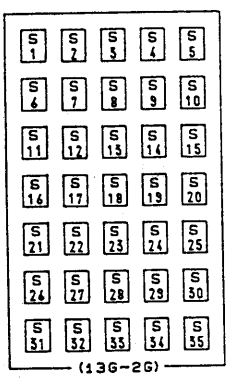
【TCB011 Board】 —Component Side—



SECTION 4
DIAGRAMS

4-1. FL601 (Fluorescent Indicator Tube)



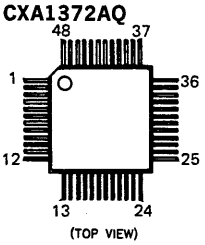


• Positive pole connect table

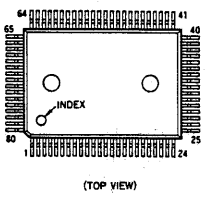
	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	1
P2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	2
P3	S3	S3	S3	S3	S3	S3	S3	S3	S3	S3	S3	S3	3
P4	S4	S4	S4	S4	S4	S4	S4	S4	S4	S4	S4	S4	4
P5	S5	S5	S5	S5	S5	S5	S5	S5	S5	S5	S5	S5	5
P6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	6
P7	S7	S7	S7	S7	S7	S7	S7	S7	S7	S7	S7	S7	7
P8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	8
P9	S9	S9	S9	S9	S9	S9	S9	S9	S9	S9	S9	S9	9
P10	S10	S10	S10	S10	S10	S10	S10	S10	S10	S10	S10	S10	10
P11	S11	S11	S11	S11	S11	S11	S11	S11	S11	S11	S11	S11	11
P12	S12	S12	S12	S12	S12	S12	S12	S12	S12	S12	S12	S12	12
P13	S13	S13	S13	S13	S13	S13	S13	S13	S13	S13	S13	S13	13
P14	S14	S14	S14	S14	S14	S14	S14	S14	S14	S14	S14	S14	14
P15	S15	S15	S15	S15	S15	S15	S15	S15	S15	S15	S15	S15	15
P16	S16	S16	S16	S16	S16	S16	S16	S16	S16	S16	S16	S16	16
P17	S17	S17	S17	S17	S17	S17	S17	S17	S17	S17	S17	S17	17
P18	S18	S18	S18	S18	S18	S18	S18	S18	S18	S18	S18	S18	18
P19	S19	S19	S19	S19	S19	S19	S19	S19	S19	S19	S19	S19	19
P20	S20	S20	S20	S20	S20	S20	S20	S20	S20	S20	S20	S20	20
P21	S21	S21	S21	S21	S21	S21	S21	S21	S21	S21	S21	S21	▷
P22	S22	S22	S22	S22	S22	S22	S22	S22	S22	S22	S22	S22	▯▯
P23	S23	S23	S23	S23	S23	S23	S23	S23	S23	S23	S23	S23	SHUFFLE
P24	S24	S24	S24	S24	S24	S24	S24	S24	S24	S24	S24	S24	PROGRAM
P25	S25	S25	S25	S25	S25	S25	S25	S25	S25	S25	S25	S25	REPEAT
P26	S26	S26	S26	S26	S26	S26	S26	S26	S26	S26	S26	S26	1 (REPEAT)
P27	S27	S27	S27	S27	S27	S27	S27	S27	S27	S27	S27	S27	AUTO
P28	S28	S28	S28	S28	S28	S28	S28	S28	S28	S28	S28	S28	TUNED
P29	S29	S29	S29	S29	S29	S29	S29	S29	S29	S29	S29	S29	STEREO
P30	S30	S30	S30	S30	S30	S30	S30	S30	S30	S30	S30	S30	MONO
P31	S31	S31	S31	S31	S31	S31	S31	S31	S31	S31	S31	S31	MEMORY
P32	S32	S32	S32	S32	S32	S32	S32	S32	S32	S32	S32	S32	—
P33	S33	S33	S33	S33	S33	S33	S33	S33	S33	S33	S33	S33	—
P34	S34	S34	S34	S34	S34	S34	S34	S34	S34	S34	S34	S34	—
P35	S35	S35	S35	S35	S35	S35	S35	S35	S35	S35	S35	S35	—

4-2. SEMICONDUCTOR LEAD LAYOUTS

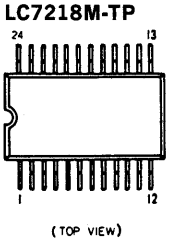
CXA1372AQ



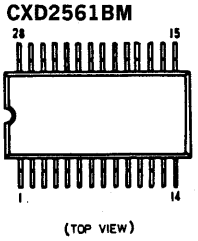
CXD2500BQ



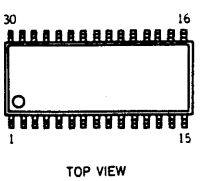
CXD2560M
LC7218M-TP



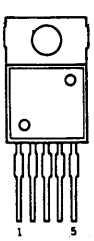
CXD2561BM



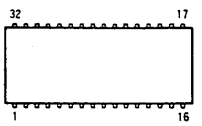
LA1851NM-TP1
LA6532M



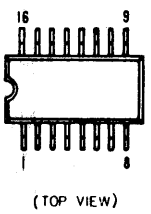
L78MR05



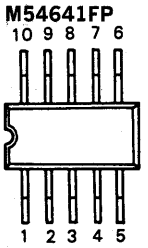
M5218AFP



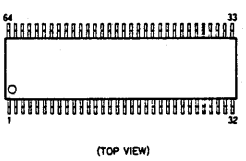
M5290FP
TC9215F-TP1



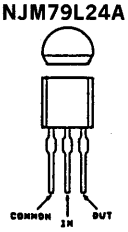
M54641FP



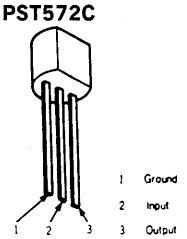
M66004M4FP



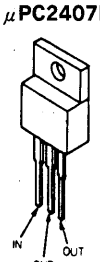
NJM79L24A



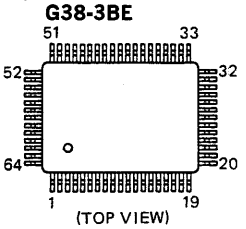
PST572C



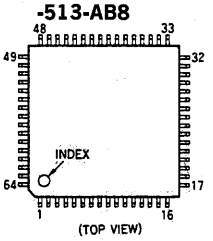
μPC2407HF



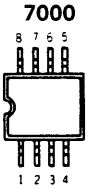
μPD75116GF-G38-3BE



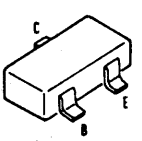
μPD78011GC-513-AB8



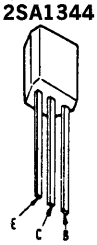
X24C08SC
7000



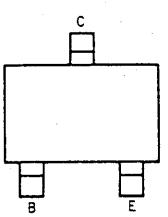
DTC144EK
2SA1602
2SC1623-L5L6
2SC2814-F4
2SC3398
2SC3900
2SC4154-F
2SC4666B



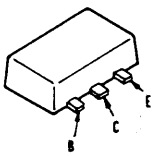
2SA1344



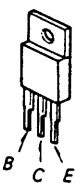
2SA1678
2SC4398



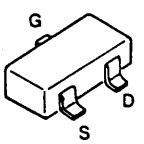
2SB798-DL
2SD999-CLCK



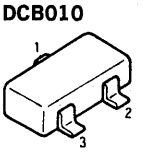
2SB1094-LK
2SD2012



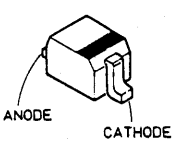
2SK208-GR3



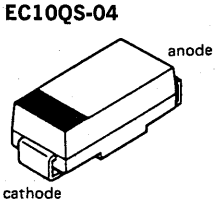
DCB010



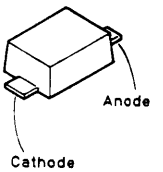
DTZ5.6B
1SS355



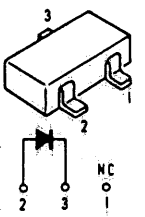
EC10QS-04



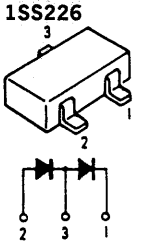
MA8056



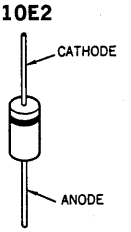
UZM10X
UZM11B
UZM3.9B
UZM4.7B



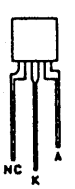
1SS226



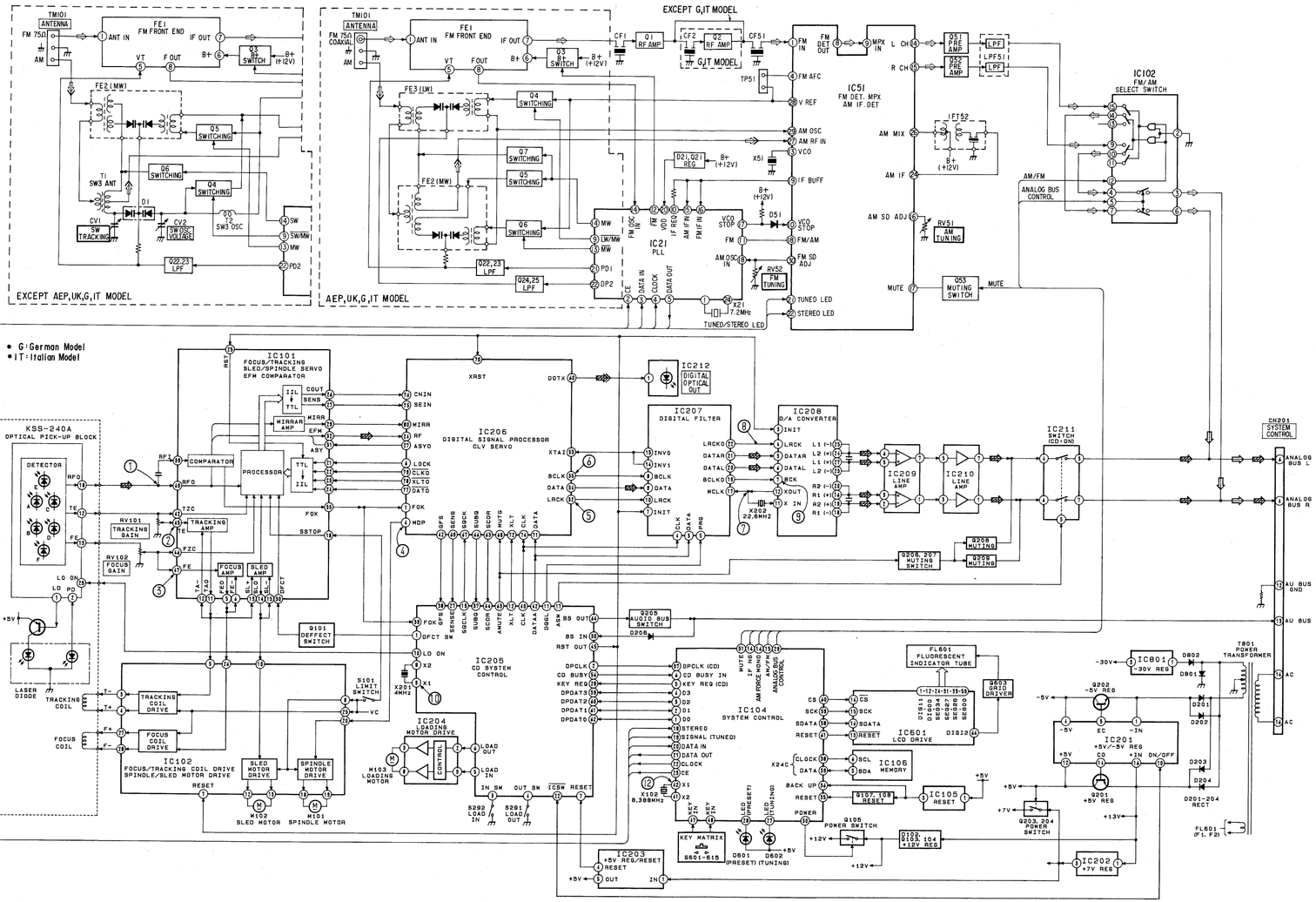
10E2



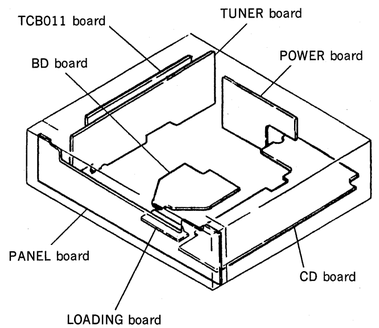
SML1260S



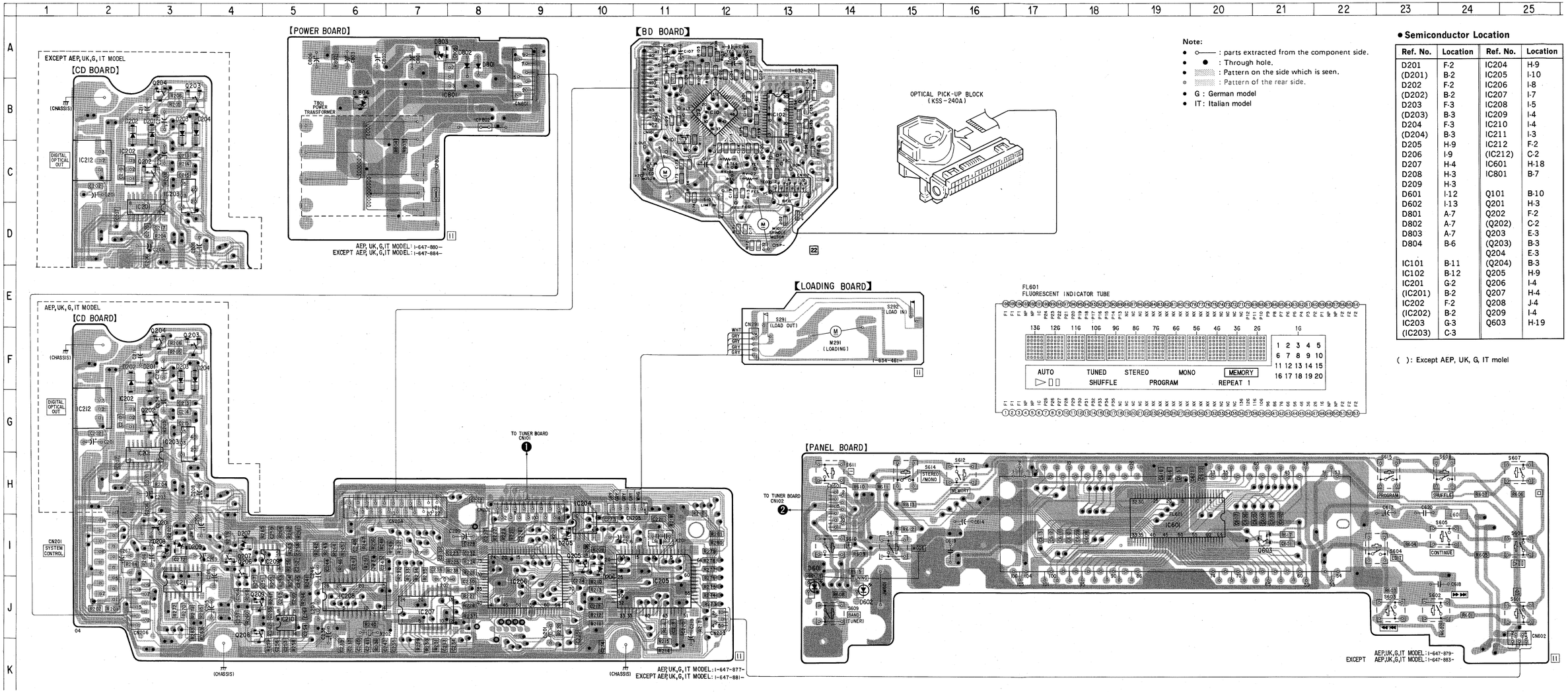
4-3. BLOCK DIAGRAM



4-4. CIRCUIT BOARDS LOCATION



4-5. PRINTED WIRING BOARDS —CD SECTION— • Refer to page 10 for Semiconductor Lead Layouts.



Note:
- ○—— : parts extracted from the component side.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ▨ : Pattern of the rear side.
- G : German model
- IT : Italian model

• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D201	F-2	IC204	H-9
(D201)	B-2	IC205	I-10
D202	F-2	IC206	I-8
(D202)	B-2	IC207	I-7
D203	F-3	IC208	I-5
(D203)	B-3	IC209	I-4
D204	F-3	IC210	I-4
(D204)	B-3	IC211	I-3
D205	H-9	IC212	F-2
D206	I-9	(IC212)	C-2
D207	H-4	IC601	H-18
D208	H-3	IC801	B-7
D209	H-3		
D601	I-12	Q101	B-10
D602	I-13	Q201	H-3
D801	A-7	Q202	F-2
D802	A-7	(Q202)	C-2
D803	A-7	Q203	E-3
D804	B-6	(Q203)	B-3
		Q204	E-3
IC101	B-11	(Q204)	B-3
IC102	B-12	Q205	H-9
IC201	G-2	Q206	I-4
(IC201)	B-2	Q207	H-4
IC202	F-2	Q208	J-4
(IC202)	B-2	Q209	I-4
IC203	G-3	Q603	H-19
(IC203)	C-3		

( ): Except AEP, UK, G, IT molel

Note:
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : internal component.

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.

- ⏚ : B+ Line
- ⏚ : B− Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions. no mark : STOP
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.

- Signal path.
  - ⇨ : FM
  - ⇨ : CD
  - ⇨ : digital out

4-6. SCHEMATIC DIAGRAM —CD SECTION— • Refer to page 31 for IC Block Diagrams.

• Waveforms

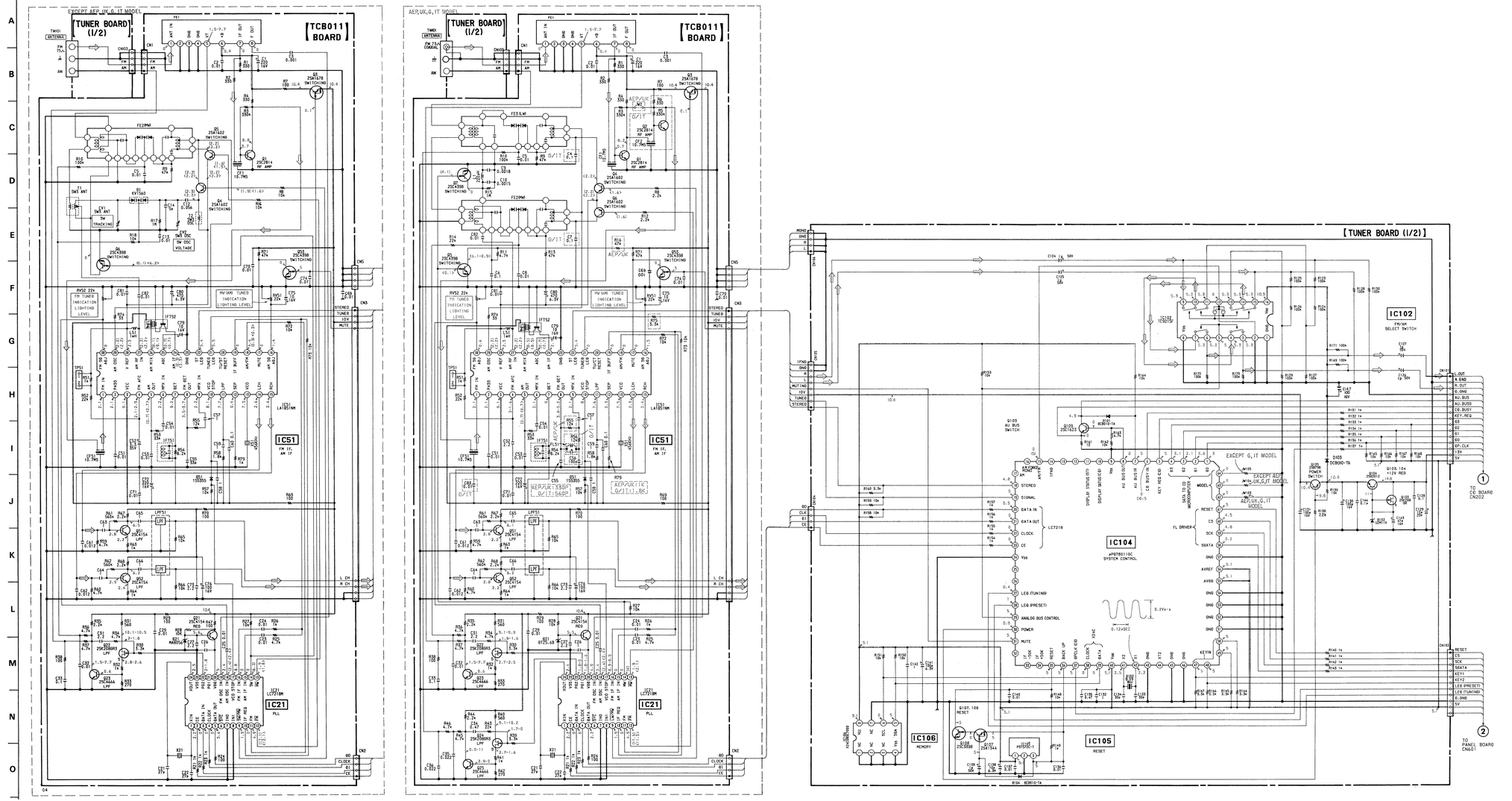
① IC101 ⑩ PLAY — 1.2Vp-p
② IC101 ⑩ PLAY — APPROX.500mVp-p — 2.5V
③ IC101 ⑩ PLAY — APPROX.100mVp-p — 2.5V
④ IC205 ⑥ PLAY — 7.5×5ℓC — 2.6Vp-p
⑤ IC206 ⑩ — 23×5ℓC — 5Vp-p
⑥ IC206 ⑭ — 0.46×5ℓC — 5.4Vp-p
⑦ IC208 ⑭ — 0.048×5ℓC — 4.2Vp-p
⑧ IC208 ⑤ — 2.83×5ℓC — 5Vp-p
⑨ IC208 ⑦ — 0.09×5ℓC — 2.8Vp-p
⑩ IC208 ⑨ — 0.25×5ℓC — 3.6Vp-p

【PANEL BOARD】
【BD BOARD】
【CD BOARD】
【POWER BOARD】
【LOADING BOARD】

IC601 FL DRIVE
IC101 CXA1372AQ FOCUS/TRACKING /SLED SERVO EFM COMPARATOR
IC102 FOCUS/TRACKING COIL DRIVE SPINDLE/SLED MOTOR DRIVE
IC205 μPD61120GC CD SYSTEM CONTROL
IC206 CXD2500BQ DIGITAL SIGNAL PROCESSOR, CLV SERVO
IC207 DIGITAL FILTER
IC208 D/A CONVERTER
IC209 IC210 LINE AMP
IC211 SWITCH IC8120N
IC212 DIGITAL OPTICAL OUT
IC801 +5V REG
IC201 +5V/-5V REG
IC202 +7V REG
IC203 +5V REG RESET
IC204 LOADING MOTOR DRIVE

OPTICAL PICK-UP BLOCK KSS-240A

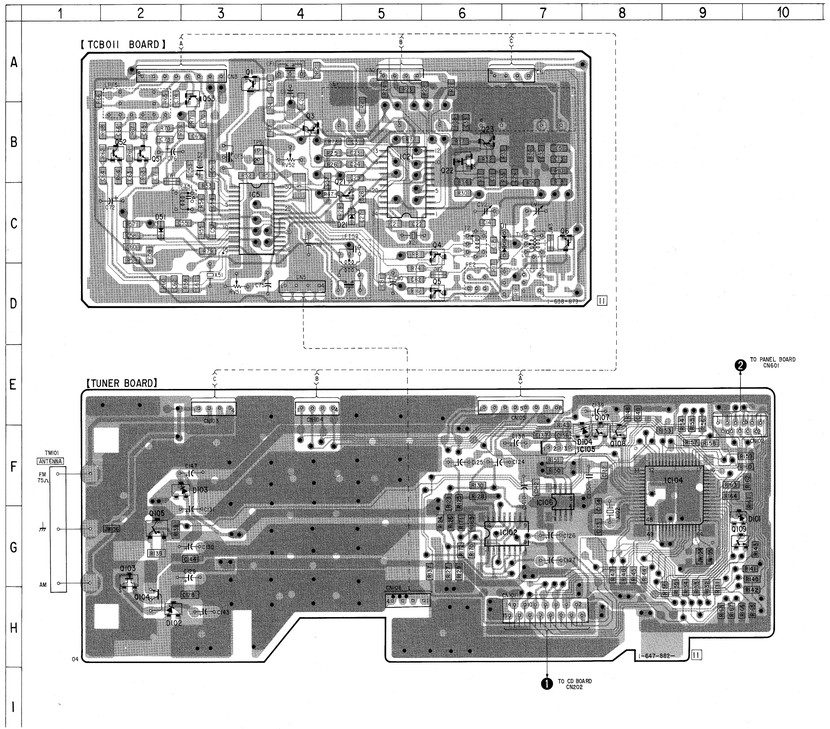
4-7. SCHEMATIC DIAGRAM —TUNER SECTION— • Refer to page 31 for IC Block Diagrams.



Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- ▲ : internal component.
- ○ ═══ : B+ Line
- ○ ▭ : adjustment for repair.
- ○ Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : MW
  < > : LW (AEP, UK, G, IT model)
  < > : SW (Except AEP, UK, G, IT model)
- ○ Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- ○ Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
- ○ G : German model
- ○ IT : Italian model

4-8. PRINTED WIRING BOARDS —TUNER SECTION (EXCEPT AEP, UK, G, IT MODEL)— • Refer to page 10 for Semiconductor Lead Layouts.

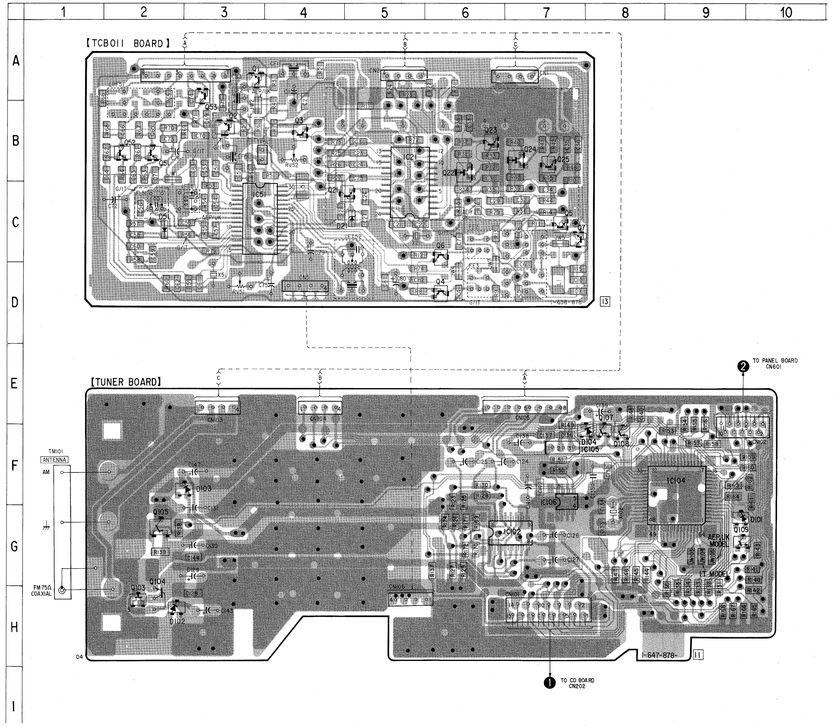


• Semiconductor Location

Ref. No.	Location
D1	C-6
D21	C-4
D51	C-2
D101	G-10
D102	H-2
D103	F-3
D104	F-8
IC21	B-5
IC51	C-3
IC102	G-7
IC104	F-9
IC105	F-8
IC106	F-7
Q1	A-3
Q3	B-4
Q4	C-6
Q5	D-6
Q6	C-7
Q21	C-4
Q22	B-6
Q23	B-6
Q51	B-2
Q52	B-2
Q53	A-3
Q103	G-2
Q104	H-2
Q105	G-2
Q107	E-8
Q108	F-8
Q109	G-9

Note:
- ○—— : parts extracted from the component side.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ▨ : Pattern of the rear side.
- G : German model
- IT : Italian model

4-9. PRINTED WIRING BOARDS —TUNER SECTION (AEP, UK, G, IT MODEL)—



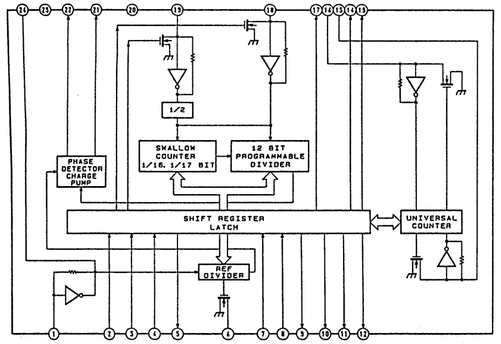
• Semiconductor Location

Ref. No.	Location
D21	C-4
D51	C-2
D101	G-9
D102	H-2
D103	F-3
D104	F-8
IC21	B-5
IC51	C-3
IC102	G-7
IC104	F-9
IC105	F-8
IC106	F-7
Q1	A-3
Q2	B-3
Q3	B-4
Q4	D-6
Q5	C-7
Q6	C-6
Q7	C-7
Q21	C-4
Q22	B-6
Q23	B-6
Q24	B-7
Q25	B-7
Q51	B-2
Q52	B-2
Q53	B-3
Q103	H-2
Q104	G-2
Q105	G-2
Q107	E-8
Q108	F-8
Q109	G-9

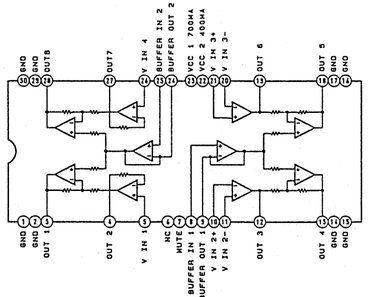
Note:
- ○—— : parts extracted from the component side.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ▨ : Pattern of the rear side.
- G : German model
- IT : Italian model

• IC Block Diagrams

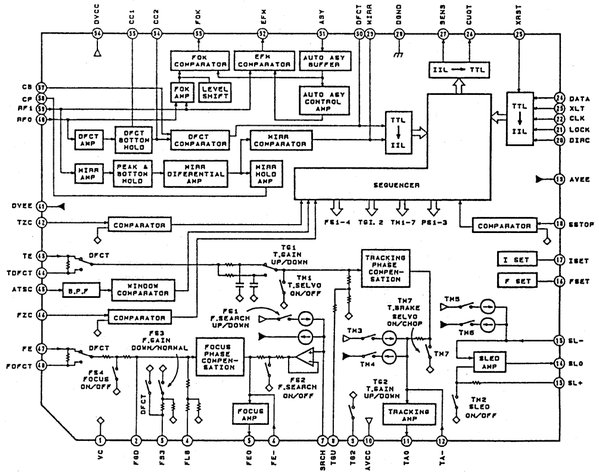
IC21 LC7218M



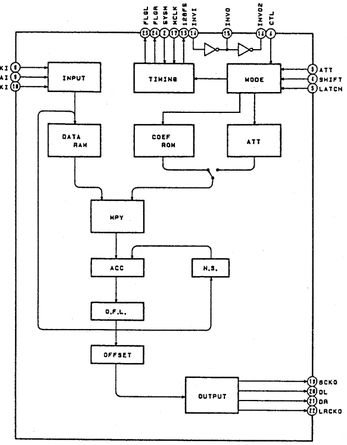
IC102 LA6532M



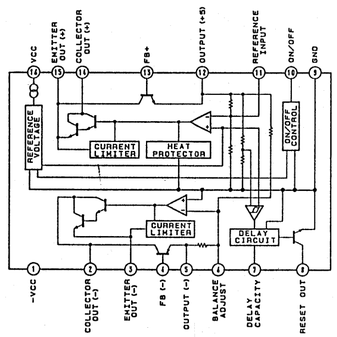
IC101 CXA1372AQ



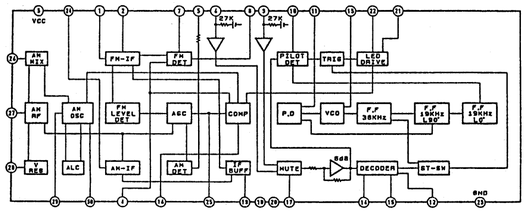
IC207 CXD2560M



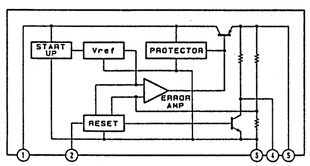
IC201 M5290FP



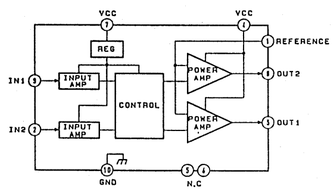
IC51 LA1851NM



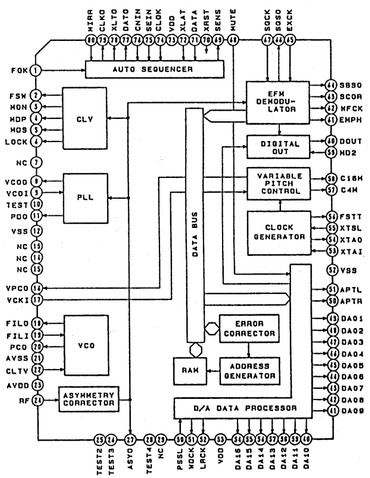
IC203 L78MR05



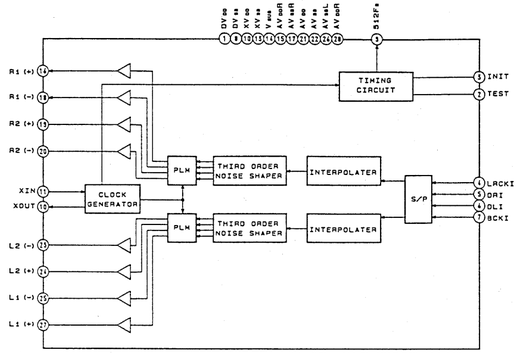
IC204 M54641FP



IC206 CXD2500BQ



IC208 CXD2561BM



4-10. IC PIN DESCRIPTION

● IC104 tuner system controller (μPD78011GC-508-AB8)

Pin No.	Signal Name	I/O	Function
1	D0	I/O	Pin for data input/output from and to IC205 (CD system controller).
2	D1	I/O	Pin for data input/output from and to IC205 (CD system controller).
3	D2	I/O	Pin for data input/output from and to IC205 (CD system controller).
4	D3	I/O	Pin for data input/output from and to IC205 (CD system controller).
5	KEY REQ (CD)	O	Key data output timing. (CD)
6	CD BUSY Input	I	Input of CD state.
7	AU BUS Input	I	Audio bus input.
8	AU BUS Output	O	Audio bus output.
9	V_{SS}	—	Grounding pin.
10	Display Status (CD)	O	Not used in this set (open).
11	Display Status (ST)	O	Not used in this set (open).
12			Not used in this set (open).
13			Not used in this set (open).
14	IFOK	O	Not used in this set (open).
15	AM/FM	O	FM/AM changeover output. "L" for FM, "H" for AM.
16	AM Forced Monaural	O	Not used in this set (open).
17	AM	O	Not used in this set (open).
18	STEREO	I	STEREO input.
19	SIGNAL	I	SIGNAL input.
20	DATA Input	I	Data input from IC21 (PLL).
21	DATA Output	O	Data output to IC21 (PLL).
22	CLOCK	O	CLOCK output to IC21 (PLL).
23	CE	O	CE output to IC21 (PLL).
24	V_{SS}	—	Grounding pin.
25			Not used in this set (open).
26			Not used in this set (open).
27	LED (TUNING)	O	Tuner "+"/"−" key mode LED output.
28	LED (PRESET)	O	Tuner "+"/"−" key mode LED output.
29	Analog Bus Control	O	Analog bust control output to IC102 (TC9215F-TP1).
30	POWER	O	Power output. "L" for ON, "H" for OFF.
31	MUTE	O	Muting output. "L" for ON, "H" for OFF.
32			Not used in this set (open).
33	IF −50K	I	IF offset input.
34	IF +50K	I	IF offset input.
35	RESET	I	Reset input.
36	BACK UP	I	Backup input.
37	DPCLK (CD)	I	CD display data timing input.
38	CLOCK	O	CLOCK output to IC106 (MEMORY).
39	DATA	I/O	Data input/output from and to IC106 (MEMORY).
40	V_{DD}	—	Power pin (+5V).
41	X2		Main clock.
42	X1	I	Main clock (8.38MHz).
43	GND	—	Grounding pin.

Pin No.	Signal Name	I/O	Function
44	XT2	—	Not used in this set (open).
45	GND	—	Grounding pin.
46	GND	—	Grounding pin.
47	Key Input	I	Key input.
48	Key Input	I	Key input.
49	Key Input	I	Not used in this set (+5V).
50	Key Input	I	Not used in this set (+5V).
51	GND	—	Grounding pin.
52	GND	—	Grounding pin.
53	GND	—	Grounding pin.
54	GND	—	Grounding pin.
55	AV_{DD}	—	Power pin (+5V).
56	AV_{REF}	—	Power pin (+5V).
57	GND	—	Grounding pin.
58	SDATA	O	Data output to IC601 (FL driver).
59	SCK	O	CLOCK output to IC601 (FL driver).
60	CS	O	CS output to IC601 (FL driver).
61	RESET	O	Reset output to IC601 (FL driver).
62	Destination	I	Destination discrimination input
63	Destination	I	Destination discrimination input
64	Destination	I	Destination discrimination input

• IC205 CD system controller (μPD75116GF-G38-3BE)

This controller provides control of the CD unit IC101 (RF signal processing, servo), IC102 (DSP, digital filter) and loading, data exchange with IC104 (system controller), and audio bus input.

Pin No.	Signal Name	I/O	Function
1	DFCTSW	O	IC101 (CXA1372Q) DEFECT circuit ON/OFF switching output.
2	DPCLK	O	Display data load clock output to IC104 (μPD76011CC-506-AB6).
3	INSW	I	S292 (loading-in switch) input.
4	OUTSW	I	S291 (loading-out switch) input.
5	LODIN	O	Output used to rotate M291 (loading motor) in the loading-in direction. *1
6	LODOUT	O	Output used to rotate M291 (loading motor) in the loading-out direction. *1
7	RESET	I	System reset input.
8	X2	I	Clock input.
9	X1	I	Clock input. (4MHz)
10	LDON	O	Optical pickup laser diode ON/OFF switching output. "H" for ON.
11	PRGL	O	Latch output to IC207 (digital filter).
12	XLT	O	Serial data latch output to IC206 (CXD2500BQ).
13	SQCLK	O	Subcode Q data read clock output to IC206 (CXD2500BQ).
14			Not used in this set (open).
15			Not used in this set (open).
16			Not used in this set (open).
17	ANASW	O	IC211 (TC9215F-TP1) analog bus control signal output.
18	ICSW	I/O	CD power control pin. OFF by 0 output, ON by input (high impedance state).
19			Not used in this set (open). (The same function as ICSW.)

Pin No.	Signal Name	I/O	Function
20			Not used in this set (open). (The same function as ICSW.)
21			Not used in this set (open). (The same function as ICSW.)
22	IVICSW	I/O	CD power control pin. OFF by input (high impedance state), ON by 0 output.
23			Not used in this set (open). (The same function with IVICSW.)
24			Not used in this set (open). (The same function with IVICSW.)
25			Not used in this set (open). (The same function with IVICSW.)
26	Vss		Grounding pin.
27	SENSE	I	SENSE input from IC206 (CXD2500BQ).
28	ADJ	I	CD test mode input 1, "L" to inhibit GFS check to allow the spindle to rotate even if the frame sync does not appear during PLAY, PAUSE and SEARCH.
29	KEYRQ	I	Key code fetch trigger for key code from IC104 (μPD78012GC-508-AB8). (One key allows four falls.)
30	BSIN	I	Audio bus input.
31	ADKEY	I	AD key input pin.
32	ADSEL	I	AD key input permission select pin.
			It is assumed that electrical adjustment is made with a CD only (without tuner microcomputer). (Usually 5V pull-up)
33			Not used in this set (GND).
34			Not used in this set (GND).
35			Not used in this set (GND).
36			Not used in this set (GND).
37	SUBQ	I	Subcode Q data input from IC206 (CXD2500BQ).
38	GFS	I	GFS signal input from IC206 (CXD2500BQ). "L" for NG, "H" for OK.
39	FOK	I	Focus OK signal input from IC101 (CXA1372Q). "H" for OK.
40	AFADJ	I	CD test mode input 2.
41	DACSW	I	IC208 (D/A converter) select pin. Set DACSW to 1 to select CXD2561. Set DACSW to 0 to select CXD2562.
42	DATAA	O	Serial data output to IC206 (CXD2500BQ), IC207 (CXD2560M).
43	CLK	O	Serial data load clock output to IC206 (CXD2500BQ), IC207 (CXD2560M).
44	SCOR	I	Subcode sync S0 plus S1 detection input from IC206 (CXD2500BQ).
45	RSTOUT	O	Reset output to peripheral ICs.
46			Not used in this set (open).
47			Not used in this set (open).
48			Not used in this set (open).
49			Not used in this set (open).
50			Not used in this set (open).
51			Not used in this set (open).
52			Not used in this set (open).
53			Not used in this set (open).
54			Not used in this set (open).
55			Not used in this set (open).
56	CDBUSY	O	CD ON sets this "H".
57	NC	—	Not used in this set (+5V).
58	V_{DD}	—	Power pin (+5V).
59	DPDAT 3	I/O	Data input from and display data output to IC104 (μPD78012GC-AB8).
60	DPDAT 2	I/O	Data input from and display data output to IC104 (μPD78012GC-AB8).
61	DPDAT 1	I/O	Data input from and display data output to IC104 (μPD78012GC-AB8).
62	DPDAT 0	I/O	Data input from and display data output to IC104 (μPD78012GC-AB8).

Pin No.	Signal Name	I/O	Function
63	AMUTE	O	Muting control output. "H" for muting.
64	BSOUT	O	Audio bus output pin.

*1 Loading motor control

	IN	OUT	BRAKE
LOG OUT ⑥	L	H	H
LOG IN ⑤	H	L	H

SECTION 5
EXPLODED VIEWS

NOTE:

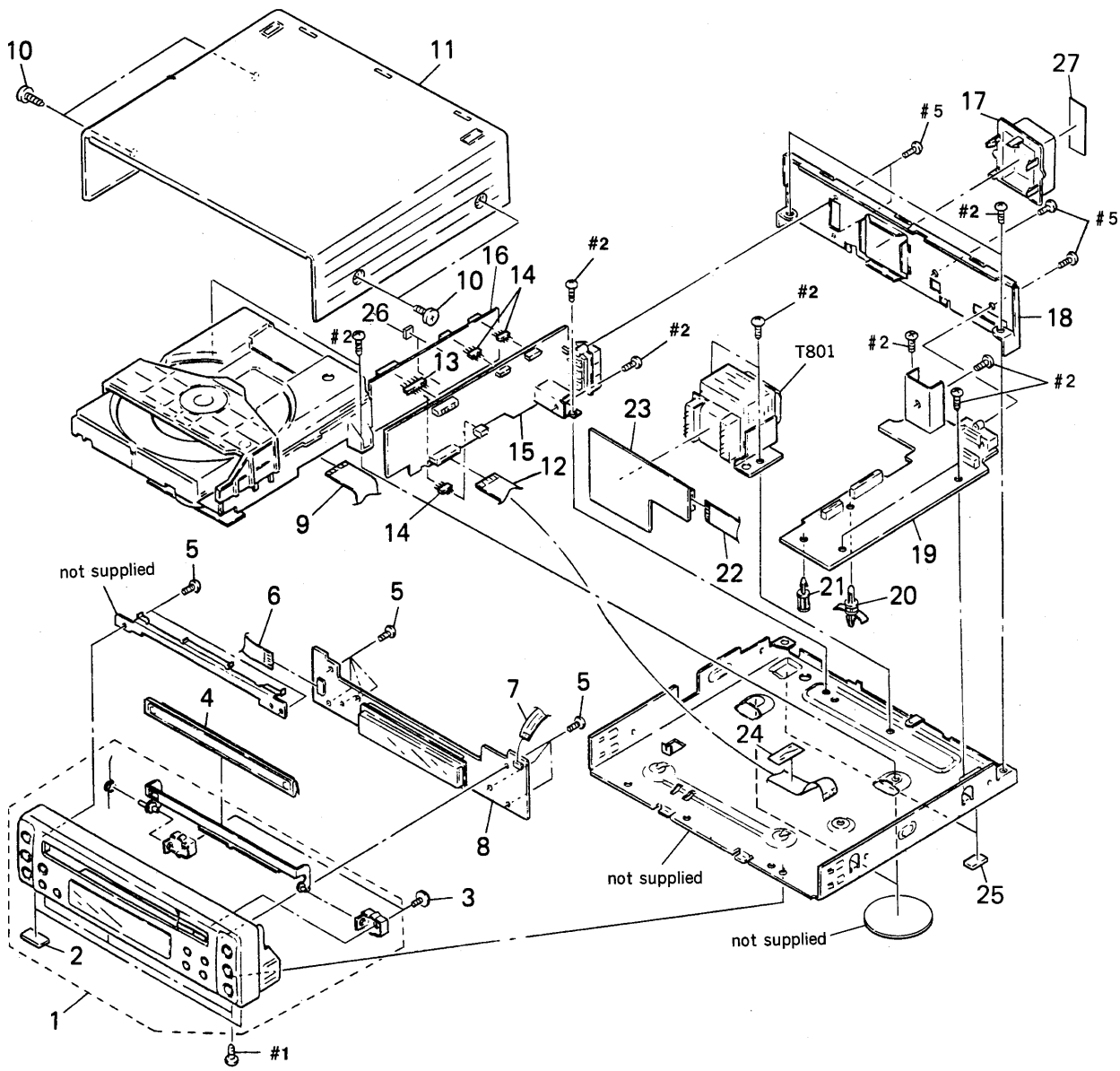
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE)... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Hardware (# mark) list is given in the last of this parts list.

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.

- G : German
  IT : Italian

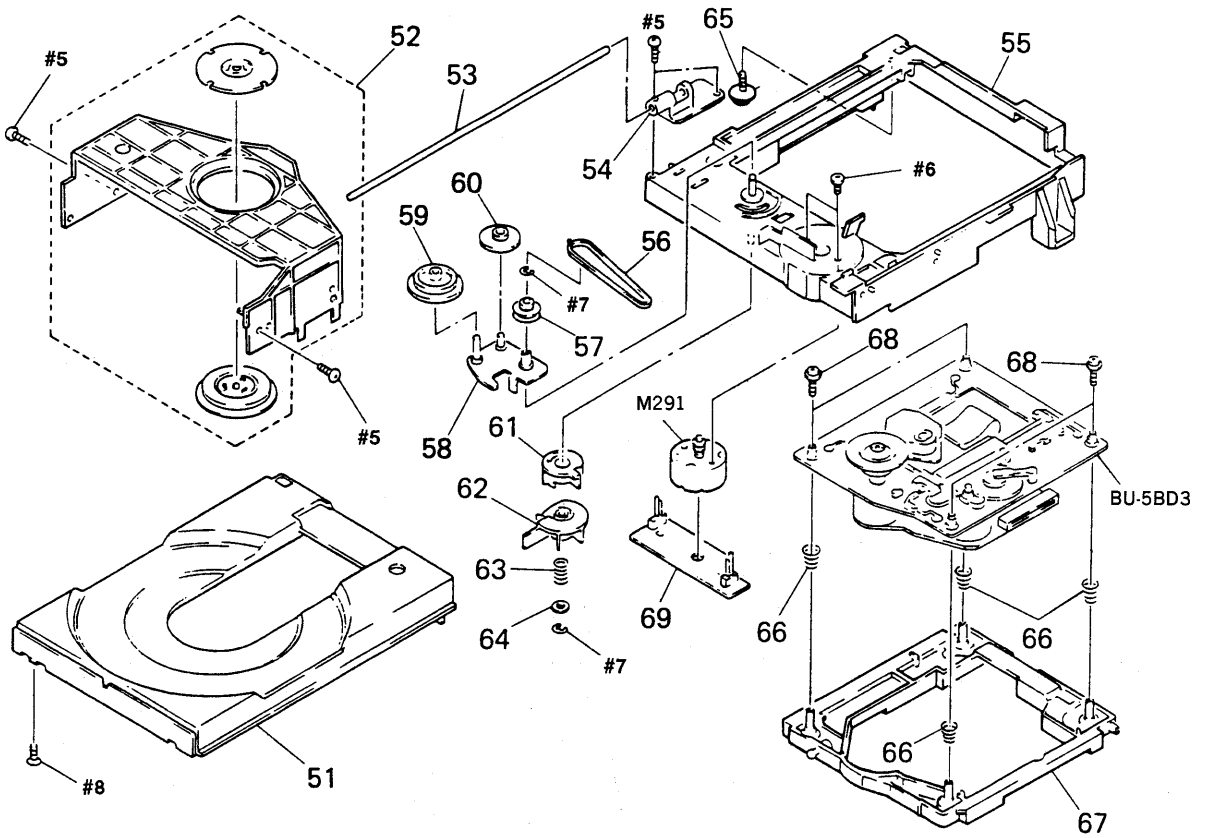
5-1. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
1	X-4942-891-1	PANEL ASSY, FRONT	
2	4-930-336-31	FOOT (FELT)	
3	4-933-134-01	SCREW (+PTPWH M2.6X6)	
4	4-954-211-01	PANEL, LOADING	
5	4-951-620-01	SCREW (2.6X8), +BVTP	
6	1-696-739-11	WIRE (FLAT TYPE) (11 CORE)	
7	1-696-738-11	WIRE (FLAT TYPE) (5 CORE)	
* 8	A-4360-267-A	PANEL BOARD, COMPLETE (AEP, UK)	
* 8	A-4360-271-A	PANEL BOARD, COMPLETE (IT)	
* 8	A-4360-275-A	PANEL BOARD, COMPLETE (G)	
* 8	A-4360-279-A	PANEL BOARD, COMPLETE (EXCEPT AEP, UK, G, IT)	
9	1-690-753-11	WIRE (FLAT TYPE) (22 CORE)	
10	3-363-099-21	SCREW (CASE 3 TP2)	
* 11	4-954-198-01	CASE	
12	1-696-740-11	WIRE (FLAT TYPE) (15 CORE)	
* 13	1-695-810-11	CONNECTOR, PC BOARD (PLUG) 8P	
* 14	1-695-809-11	CONNECTOR, PC BOARD (PLUG) 4P	
* 15	A-4360-266-A	TUNER BOARD, COMPLETE (AEP, UK)	
* 15	A-4360-270-A	TUNER BOARD, COMPLETE (IT)	
* 15	A-4360-274-A	TUNER BOARD, COMPLETE (G)	
* 15	A-4360-278-A	TUNER BOARD, COMPLETE (EXCEPT AEP, UK, G, IT)	

Ref. No.	Part No.	Description	Remark
* 16	A-4303-343-A	TCB011 BOARD, COMPLETE (AEP, UK)	
* 16	A-4303-344-A	TCB011 BOARD, COMPLETE (G, IT)	
* 16	A-4303-345-A	TCB011 BOARD, COMPLETE (EXCEPT AEP, UK, G, IT)	
* 17	4-954-186-01	COVER (T)	
* 18	4-954-196-11	PANEL (HCD), BACK (AEP, UK)	
* 18	4-954-196-21	PANEL (HCD), BACK (EXCEPT AEP, UK, G, IT)	
* 18	4-954-196-31	PANEL (HCD), BACK (G)	
* 18	4-954-196-41	PANEL (HCD), BACK (IT)	
* 19	A-4360-265-A	CD BOARD, COMPLETE (AEP, UK)	
* 19	A-4360-269-A	CD BOARD, COMPLETE (IT)	
* 19	A-4360-273-A	CD BOARD, COMPLETE (G)	
* 19	A-4360-277-A	CD BOARD, COMPLETE (EXCEPT AEP, UK, G, IT)	
* 20	4-924-098-11	HOLDER, PC BOARD	
* 21	3-669-610-00	SPACER	
22	1-696-750-11	WIRE (FLAT TYPE) (9 CORE)	
* 23	1-647-880-11	POWER BOARD (AEP, UK, G, IT)	
* 23	1-647-884-11	POWER BOARD (EXCEPT AEP, UK, G, IT)	
24	4-860-518-00	CUSHION	
25	4-930-336-21	FOOT (FELT)	
* 26	3-561-427-21	CUSHION	
* 27	4-941-548-01	LABEL, CLASS 1	
⚠T801	1-423-378-11	TRANSFORMER, POWER	

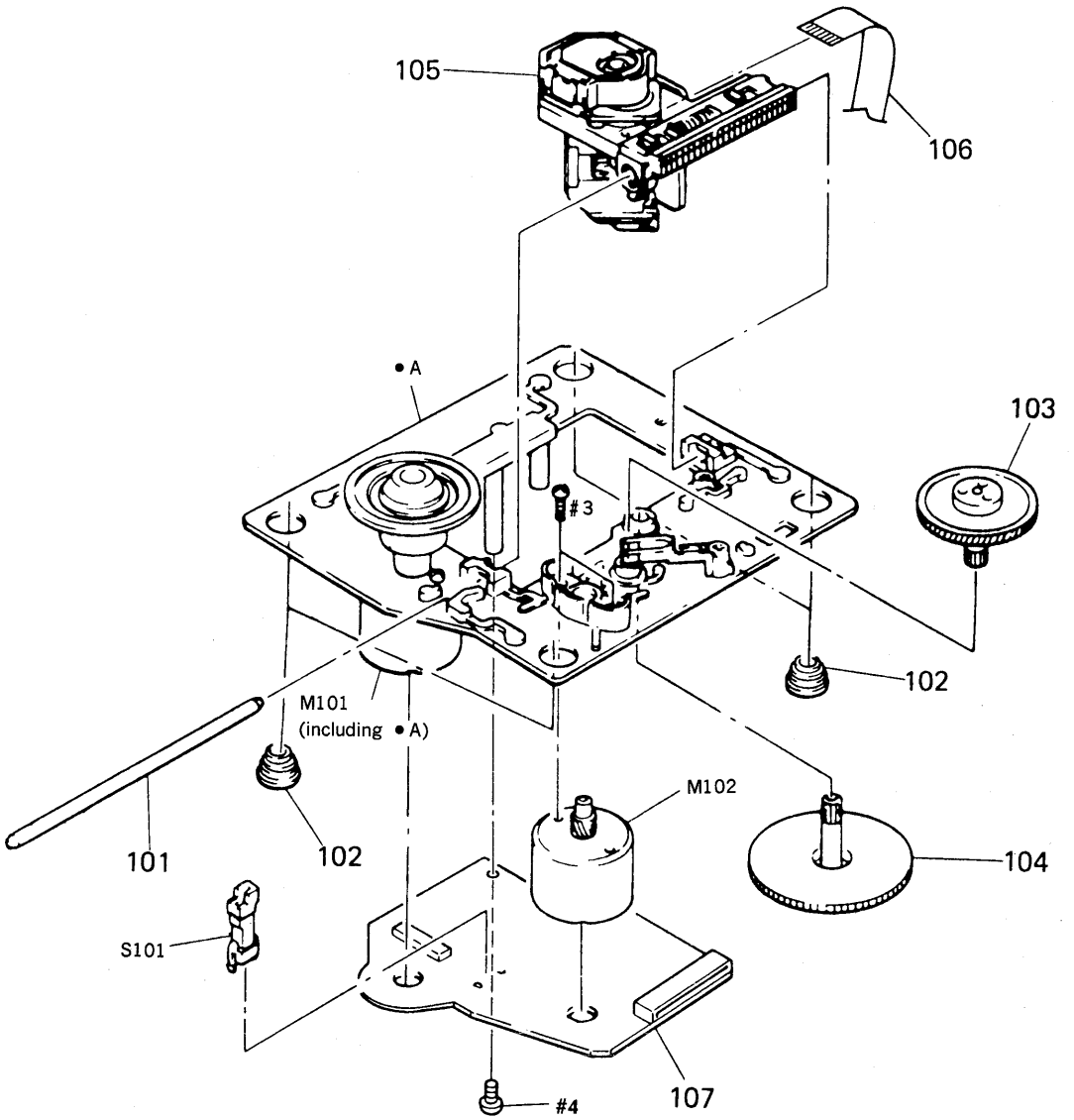
5-2. CD MECHANISM SECTION (CDM13B-5BD3)



Ref. No.	Part No.	Description	Remark
51	4-944-012-01	TABLE, DISC	
52	A-4604-752-A	HOLDER (MG) ASSY	
53	4-929-764-01	SHAFT (TABLE GUIDE)	
54	4-944-006-01	BEARING	
55	X-4941-462-1	CHASSIS (MD) ASSY	
56	4-927-649-01	BELT	
57	4-929-724-01	PULLEY (B)	
58	X-4929-703-1	ARM ASSY, SWING	
59	4-927-620-01	GEAR (P)	
60	4-927-628-01	GEAR (C)	

Ref. No.	Part No.	Description	Remark
61	4-929-727-01	CAM (A)	
62	4-929-729-01	CAM (B)	
63	3-659-338-00	SPRING, COMPRESSION	
64	4-927-654-01	WASHER (LIMITER)	
* 65	4-917-583-21	BRACKET, YOKE	
66	4-917-541-01	SPRING (B)	
67	4-929-747-01	HOLDER (BU)	
68	4-933-134-01	SCREW (+PTPWH M2.6X6)	
* 69	1-634-461-11	LOADING BOARD	
M291	A-4608-362-A	MOTOR (L) ASSY	

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



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	Remark
101	4-917-565-01	SHAFT, SLED	
102	4-933-126-01	INSULATOR (A)	
103	4-917-567-01	GEAR (M)	
104	4-917-564-01	GEAR (P), FLATNESS	
⚠105	8-848-144-11	DEVICE, OPTICAL KSS-240A	
106	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
* 107	A-4617-371-A	BD BOARD, COMPLETE	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
S101	1-572-085-11	SWITCH, LEAF	

BD

SECTION 6
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.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA . . : μA. . uPA. . : μPA. .
  uPB. . : μPB. . uPC. . : μPC. . uPD. . : μPD. .
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

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.

- G : German
  IT : Italian

Ref. No.	Part No.	Description			Remark
*	A-4617-371-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C102	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C103	1-126-163-11	ELECT	4.7uF	20%	50V
C104	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C105	1-126-154-11	ELECT	47uF	20%	6.3V
C106	1-126-154-11	ELECT	47uF	20%	6.3V
C107	1-126-154-11	ELECT	47uF	20%	6.3V
C108	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C109	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C110	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C111	1-131-367-00	TANTALUM	22uF	10%	20V
C112	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C113	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C114	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C115	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C117	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C118	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C119	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C120	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C151	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C152	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C153	1-163-006-11	CERAMIC CHIP	560PF	10%	50V
C154	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C155	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C171	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C172	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C173	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C174	1-163-038-00	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN101	1-568-796-11	SOCKET, CONNECTOR 22P			
CN102	1-568-795-11	SOCKET, CONNECTOR 12P			
		< IC >			
IC101	8-752-058-77	IC CXA1372AQ			
IC102	8-759-822-36	IC LA6532M			
		< JACK >			
J101	1-216-295-00	METAL CHIP	0	5%	1/10W
J102	1-216-295-00	METAL CHIP	0	5%	1/10W
		< TRANSISTOR >			
Q101	8-729-901-01	TRANSISTOR DTC144EK			
		< RESISTOR >			
R101	1-216-097-00	METAL CHIP	100K	5%	1/10W
R102	1-216-095-00	METAL CHIP	82K	5%	1/10W
R103	1-216-091-00	METAL CHIP	56K	5%	1/10W
R104	1-216-099-00	METAL CHIP	120K	5%	1/10W
R105	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R106	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R107	1-216-114-00	METAL GLAZE	510K	5%	1/10W
R108	1-216-105-00	METAL CHIP	220K	5%	1/10W
R109	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R110	1-216-049-00	METAL CHIP	1K	5%	1/10W
R111	1-216-049-00	METAL CHIP	1K	5%	1/10W
R112	1-216-083-00	METAL CHIP	27K	5%	1/10W
R113	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R114	1-216-105-00	METAL CHIP	220K	5%	1/10W
R152	1-216-073-00	METAL CHIP	10K	5%	1/10W
R153	1-216-085-00	METAL CHIP	33K	5%	1/10W
R154	1-216-085-00	METAL CHIP	33K	5%	1/10W
R155	1-216-093-00	METAL CHIP	68K	5%	1/10W
R156	1-216-081-00	METAL CHIP	22K	5%	1/10W
R157	1-216-079-00	METAL CHIP	18K	5%	1/10W
R158	1-216-079-00	METAL CHIP	18K	5%	1/10W
R159	1-216-079-00	METAL CHIP	18K	5%	1/10W
R160	1-216-049-00	METAL CHIP	1K	5%	1/10W
R171	1-216-001-00	METAL CHIP	10	5%	1/10W
R172	1-216-001-00	METAL CHIP	10	5%	1/10W
R173	1-216-001-00	METAL CHIP	10	5%	1/10W
R174	1-216-001-00	METAL CHIP	10	5%	1/10W

BD CD

Ref. No.	Part No.	Description			Remark
		< VARIABLE RESISTOR >			
RV101	1-238-600-11	RES, ADJ, CARBON 10K			
RV101	1-241-630-11	RES, ADJ, CARBON 10K			
RV102	1-238-600-11	RES, ADJ, CARBON 10K			
RV102	1-241-630-11	RES, ADJ, CARBON 10K			
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF (LIMIT IN)			
**********					
*	A-4360-265-A	CD BOARD, COMPLETE (AEP, UK)			
*	A-4360-269-A	CD BOARD, COMPLETE (IT)			
*	A-4360-273-A	CD BOARD, COMPLETE (G)			
*	A-4360-277-A	CD BOARD, COMPLETE (EXCEPT AEP, UK, G, IT)			
		**********			
*	4-880-403-21	HEAT SINK			
*	4-904-446-01	PLATE, GROUND			
	7-685-871-01	SCREW +BVTT 3X6 (S)			
		< CAPACITOR >			
C201	1-124-915-11	ELECT	10uF	20%	63V
C202	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C203	1-124-564-11	ELECT	4700uF	20%	25V
C204	1-126-947-11	ELECT	47uF	20%	35V
C206	1-164-346-11	CERAMIC CHIP	1uF		16V
C207	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C208	1-126-925-11	ELECT	470uF	20%	10V
C209	1-126-925-11	ELECT	470uF	20%	10V
C210	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C211	1-126-933-11	ELECT	100uF	20%	16V
C212	1-126-933-11	ELECT	100uF	20%	16V
C213	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C214	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C215	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C216	1-124-584-00	ELECT	100uF	20%	10V
C217	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C218	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C219	1-124-584-00	ELECT	100uF	20%	10V
C220	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C221	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C222	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C223	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C224	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C225	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C226	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C227	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C228	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C229	1-126-923-11	ELECT	220uF	20%	10V
C230	1-164-005-11	CERAMIC CHIP	0.47uF		25V

Ref. No.	Part No.	Description			Remark
C231	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C232	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C233	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C234	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C235	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C236	1-163-102-00	CERAMIC CHIP	24PF	5%	50V
C237	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C238	1-126-923-11	ELECT	220uF	20%	10V
C239	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C240	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C241	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C242	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C244	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C245	1-163-115-00	CERAMIC CHIP	82PF	5%	50V
C246	1-126-923-11	ELECT	220uF	20%	10V
C247	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C248	1-163-115-00	CERAMIC CHIP	82PF	5%	50V
C249	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C251	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C252	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C253	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C254	1-163-143-00	CERAMIC CHIP	0.0012uF	5%	50V
C255	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C256	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C257	1-163-139-00	CERAMIC CHIP	820PF	5%	50V
C258	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C259	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C260	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C261	1-163-143-00	CERAMIC CHIP	0.0012uF	5%	50V
C262	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C263	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C264	1-163-139-00	CERAMIC CHIP	820PF	5%	50V
C265	1-124-925-11	ELECT	2.2uF	20%	100V
C266	1-124-925-11	ELECT	2.2uF	20%	100V
C267	1-124-925-11	ELECT	2.2uF	20%	100V
C268	1-124-925-11	ELECT	2.2uF	20%	100V
C269	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C270	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C272	1-126-933-11	ELECT	100uF	20%	16V
C273	1-164-346-11	CERAMIC CHIP	1uF		16V
C274	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
		< CONNECTOR >			
* CN201	1-569-624-11	SOCKET, CONNECTOR 17P (SYSTEM CONTROL)			
* CN202	1-568-834-11	SOCKET, CONNECTOR 15P			
CN203	1-695-830-11	HOUSING, CONNECTOR 5P			
* CN204	1-568-822-11	SOCKET, CONNECTOR 22P			
* CN205	1-564-339-51	PIN, CONNECTOR 5P			

CD

Ref. No.	Part No.	Description	Remark
CN206	1-695-693-11	CONNECTOR, FFC/FPC 9P	
		< DIODE >	
D201	8-719-210-39	DIODE EC10QS-04	
D202	8-719-210-39	DIODE EC10QS-04	
D203	8-719-210-39	DIODE EC10QS-04	
D204	8-719-210-39	DIODE EC10QS-04	
D205	8-719-021-09	DIODE UZM3.9B	
D206	8-719-800-76	DIODE 1SS226	
D207	8-719-800-76	DIODE 1SS226	
D208	8-719-021-89	DIODE UZM10X	
D209	8-719-800-76	DIODE 1SS226	
		< IC >	
IC201	8-759-636-24	IC M5290FP	
IC202	8-759-148-80	IC uPC2407HF	
IC203	8-759-820-84	IC L78MR05	
IC204	8-759-636-20	IC M54641FP	
IC205	8-759-163-41	IC uPD75116GF-G38-3BE	
IC206	8-752-352-93	IC CXD2500BQ	
IC207	8-752-342-65	IC CXD2560M	
IC208	8-752-351-19	IC CXD2561BM	
IC209	8-759-636-55	IC M5218AFP	
IC210	8-759-636-55	IC M5218AFP	
IC211	8-759-051-64	IC TC9215F-TP1	
IC212	8-749-923-04	IC TOTX178	
		< JUMPER RESISTOR >	
JW1	1-216-295-00	METAL CHIP 0 5% 1/10W	
JW2	1-216-295-00	METAL CHIP 0 5% 1/10W	
		< COIL >	
L201	1-410-397-21	FERRITE BEAD INDUCTOR	
L202	1-410-464-11	INDUCTOR 3.3uH	
L203	1-410-397-21	FERRITE BEAD INDUCTOR	
L204	1-410-397-21	FERRITE BEAD INDUCTOR	
		< TRANSISTOR >	
Q201	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q202	8-729-140-75	TRANSISTOR 2SD999-CLCK	
Q203	8-729-101-07	TRANSISTOR 2SB798-DL	
Q204	8-729-805-41	TRANSISTOR 2SC3398	
Q205	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q206	8-729-805-41	TRANSISTOR 2SC3398	
Q207	8-729-805-65	TRANSISTOR 2SA1344	
Q208	8-729-805-40	TRANSISTOR 2SC3900	
Q209	8-729-805-40	TRANSISTOR 2SC3900	

Ref. No.	Part No.	Description	Remark
		< RESISTOR >	
R201	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R202	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R203	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R204	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R205	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R206	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R207	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R208	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R209	1-216-001-00	METAL CHIP 10 5% 1/10W	
R210	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R211	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R212	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R213	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R214	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R215	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R216	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R217	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R218	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R219	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R220	1-216-037-00	METAL CHIP 330 5% 1/10W	
R221	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R222	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R223	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R224	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R225	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R226	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R227	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R228	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R229	1-216-025-00	METAL CHIP 100 5% 1/10W	
R230	1-216-025-00	METAL CHIP 100 5% 1/10W	
R231	1-216-025-00	METAL CHIP 100 5% 1/10W	
R232	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R233	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R234	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R235	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R236	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R237	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R238	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R239	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R240	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R241	1-216-689-11	METAL CHIP 39K 0.5% 1/10W	
R242	1-216-082-00	METAL GLAZE 24K 5% 1/10W	
R243	1-216-689-11	METAL CHIP 39K 0.5% 1/10W	
R244	1-216-689-11	METAL CHIP 39K 0.5% 1/10W	
R245	1-216-689-11	METAL CHIP 39K 0.5% 1/10W	
R246	1-216-082-00	METAL GLAZE 24K 5% 1/10W	
R247	1-216-689-11	METAL CHIP 39K 0.5% 1/10W	

Ref. No.	Part No.	Description			Remark
R248	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R249	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R250	1-216-082-00	METAL GLAZE	24K	5%	1/10W
R251	1-216-082-00	METAL GLAZE	24K	5%	1/10W
R252	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R253	1-216-079-00	METAL CHIP	18K	5%	1/10W
R254	1-216-079-00	METAL CHIP	18K	5%	1/10W
R255	1-216-088-00	METAL CHIP	43K	5%	1/10W
R256	1-216-088-00	METAL CHIP	43K	5%	1/10W
R257	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R258	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R259	1-216-041-00	METAL CHIP	470	5%	1/10W
R260	1-216-097-00	METAL CHIP	100K	5%	1/10W
R261	1-216-079-00	METAL CHIP	18K	5%	1/10W
R262	1-216-079-00	METAL CHIP	18K	5%	1/10W
R263	1-216-088-00	METAL CHIP	43K	5%	1/10W
R264	1-216-088-00	METAL CHIP	43K	5%	1/10W
R265	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R266	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R267	1-216-041-00	METAL CHIP	470	5%	1/10W
R268	1-216-097-00	METAL CHIP	100K	5%	1/10W
R269	1-216-097-00	METAL CHIP	100K	5%	1/10W
R270	1-216-097-00	METAL CHIP	100K	5%	1/10W
R271	1-216-097-00	METAL CHIP	100K	5%	1/10W
R272	1-216-097-00	METAL CHIP	100K	5%	1/10W
R273	1-216-049-00	METAL CHIP	1K	5%	1/10W
R274	1-216-049-00	METAL CHIP	1K	5%	1/10W
R275	1-216-049-00	METAL CHIP	1K	5%	1/10W
R276	1-216-049-00	METAL CHIP	1K	5%	1/10W
R277	1-216-049-00	METAL CHIP	1K	5%	1/10W
R278	1-216-049-00	METAL CHIP	1K	5%	1/10W
R279	1-216-049-00	METAL CHIP	1K	5%	1/10W
R280	1-216-049-00	METAL CHIP	1K	5%	1/10W
R281	1-216-049-00	METAL CHIP	1K	5%	1/10W
R282	1-216-049-00	METAL CHIP	1K	5%	1/10W
R283	1-216-097-00	METAL CHIP	100K	5%	1/10W
R284	1-216-097-00	METAL CHIP	100K	5%	1/10W
R285	1-216-097-00	METAL CHIP	100K	5%	1/10W
R286	1-216-097-00	METAL CHIP	100K	5%	1/10W

< VIBRATOR >

X201	1-577-358-21	VIBRATOR, CERAMIC (4MHz)
X202	1-567-965-11	VIBRATOR, CRYSTAL (22.6MHz)

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Ref. No.	Part No.	Description			Remark
*	1-634-461-11	LOADING BOARD			
		**********			
		< CONNECTOR >			
* CN291	1-564-498-11	PIN, CONNECTOR 5P			
		< SWITCH >			
S291	1-571-924-11	SWITCH, LEAF (LOAD OUT)			
S292	1-571-924-11	SWITCH, LEAF (LOAD IN)			

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*	A-4360-267-A	PANEL BOARD, COMPLETE (AEP, UK)			
*	A-4360-271-A	PANEL BOARD, COMPLETE (IT)			
*	A-4360-275-A	PANEL BOARD, COMPLETE (G)			
*	A-4360-279-A	PANEL BOARD, COMPLETE (EXCEPT AEP, UK, G, IT)			
		**********			
*	4-954-187-01	HOLDER (FL)			
		< CAPACITOR >			
C601	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C602	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C603	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C604	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C605	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C606	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C607	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C608	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C609	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C610	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C611	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C612	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C613	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C614	1-124-584-00	ELECT	100uF	20%	10V
C615	1-164-346-11	CERAMIC CHIP	1uF		16V
C616	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C617	1-124-248-00	ELECT	22uF	20%	35V
C618	1-136-173-00	FILM	0.47uF	5%	50V
C619	1-136-173-00	FILM	0.47uF	5%	50V
C620	1-136-173-00	FILM	0.47uF	5%	50V
C621	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C622	1-164-232-11	CERAMIC CHIP	0.01uF		50V
		< CONNECTOR >			
CN601	1-695-829-11	HOUSING, CONNECTOR 11P			
CN602	1-580-918-11	HOUSING, CONNECTOR 5P			

PANEL POWER

Ref. No.	Part No.	Description			Remark
		< DIODE >			
D601	8-719-026-64	DIODE SML1260S (PRESET)			
D602	8-719-026-64	DIODE SML1260S (TUNING)			
		< FLUORESCENT INDICATOR >			
FL601	1-517-115-11	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC601	8-759-077-16	IC M66004M4FP			
		< COIL >			
L601	1-408-793-21	INDUCTOR CHIP 220uH			
		< TRANSISTOR >			
Q603	8-729-805-41	TRANSISTOR 2SC3398			
		< RESISTOR >			
R601	1-216-041-00	METAL CHIP	470	5%	1/10W
R602	1-216-045-00	METAL CHIP	680	5%	1/10W
R603	1-216-049-00	METAL CHIP	1K	5%	1/10W
R604	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R605	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R606	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R607	1-216-075-00	METAL CHIP	12K	5%	1/10W
R608	1-216-041-00	METAL CHIP	470	5%	1/10W
R609	1-216-045-00	METAL CHIP	680	5%	1/10W
R610	1-216-049-00	METAL CHIP	1K	5%	1/10W
R611	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R612	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R613	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R615	1-216-043-00	METAL CHIP	560	5%	1/10W
R616	1-216-083-00	METAL CHIP	27K	5%	1/10W
R617	1-216-097-00	METAL CHIP	100K	5%	1/10W
		< SWITCH >			
S601	1-554-303-21	SWITCH, TACTILE (⏏)			
S602	1-554-303-21	SWITCH, TACTILE (⏩ ⏭)			
S603	1-554-303-21	SWITCH, TACTILE (⏮ ⏪)			
S604	1-554-303-21	SWITCH, TACTILE (EDIT)			
S605	1-554-303-21	SWITCH, TACTILE (CONTINUE)			
S606	1-554-303-21	SWITCH, TACTILE (▷ ⏸)			
S607	1-554-303-21	SWITCH, TACTILE (□)			
S608	1-554-303-21	SWITCH, TACTILE (SHUFFLE)			
S609	1-554-303-21	SWITCH, TACTILE (BAND)			
S610	1-554-303-21	SWITCH, TACTILE (+)			
S611	1-554-303-21	SWITCH, TACTILE (-)			
S612	1-554-303-21	SWITCH, TACTILE (MEMORY)			
S613	1-554-303-21	SWITCH, TACTILE (MODE)			
S614	1-554-303-21	SWITCH, TACTILE (STEREO/MONO)			
S615	1-554-303-21	SWITCH, TACTILE (PROGRAM)			
**********					
*	1-647-880-11	POWER BOARD (AEP, UK, G, IT)			
*	1-647-884-11	POWER BOARD (EXCEPT AEP, UK, G, IT)			
		**********			
		< CAPACITOR >			
C801	1-126-949-11	ELECT	220uF	20%	35V
C802	1-124-122-11	ELECT	100uF	20%	50V
C803	1-126-948-11	ELECT	100uF	20%	35V
C805	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C806	1-126-157-11	ELECT	10uF	20%	16V
		< CONNECTOR >			
CN801	1-695-729-11	CONNECTOR, FFC/FPC 9P			
		< DIODE >			
D801	8-719-200-02	DIODE 10E2			
D802	8-719-200-02	DIODE 10E2			
D803	8-719-021-23	DIODE UZM4.7B			
D804	8-719-021-23	DIODE UZM4.7B			
		< IC >			
IC801	8-759-700-72	IC NJM79L24A			
		< IC LINK >			
⚠ICP801	1-532-838-11	LI NK, IC			
⚠ICP802	1-532-838-11	LI NK, IC			
		< RESISTOR >			
R802	1-216-097-00	METAL CHIP	100K	5%	1/10W
R803	1-216-041-00	METAL CHIP	470	5%	1/10W
R804	1-216-041-00	METAL CHIP	470	5%	1/10W
		< TRANSFORMER >			
⚠T801	1-423-378-11	TRANSFORMER, POWER			
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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			Remark
*	A-4303-343-A	TCB011 BOARD, COMPLETE (AEP, UK)			
*	A-4303-344-A	TCB011 BOARD, COMPLETE (G, IT)			
*	A-4303-345-A	TCB011 BOARD, COMPLETE (EXCEPT AEP, UK, G, IT)			
		**********			
		< CAPACITOR >			
C1	1-124-120-11	ELECT	220uF	20%	25V
C2	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C3	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C4	1-163-038-00	CERAMIC CHIP	0.1uF		25V (G, IT)
C5	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C6	1-163-038-00	CERAMIC CHIP	0.1uF		25V (AEP, UK, G, IT)
C7	1-163-038-00	CERAMIC CHIP	0.1uF		25V (G, IT)
C8	1-164-232-11	CERAMIC CHIP	0.01uF		50V (AEP, UK, G, IT)
C9	1-163-012-00	CERAMIC CHIP	0.0018uF		50V (AEP, UK, G, IT)
C10	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V (AEP, UK, G, IT)
C12	1-164-343-91	CERAMIC CHIP	0.056uF	10%	50V (EXCEPT AEP, UK, G, IT)
C13	1-164-232-11	CERAMIC CHIP	0.01uF		50V (EXCEPT AEP, UK, G, IT)
C14	1-163-577-91	CERAMIC CHIP	5PF	0.25PF	50V (EXCEPT AEP, UK, G, IT)
C21	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C22	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C23	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C24	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C25	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C26	1-164-346-11	CERAMIC CHIP	1.0uF		16V
C27	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C29	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C31	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C32	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C33	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C34	1-164-005-11	CERAMIC CHIP	0.47uF		25V (AEP, UK, G, IT)
C35	1-163-033-00	CERAMIC CHIP	0.022uF		50V (AEP, UK, G, IT)
C36	1-163-033-00	CERAMIC CHIP	0.022uF		50V (AEP, UK, G, IT)
C51	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C52	1-123-613-91	ELECT	3.3uF		35V (EXCEPT AEP, UK, G, IT)
C52	1-164-505-11	CERAMIC CHIP	2.2uF		16V (AEP, UK, G, IT)
C53	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C54	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C55	1-163-105-00	CERAMIC CHIP	33PF	5%	50V (EXCEPT G, IT)
C55	1-163-135-00	CERAMIC CHIP	560PF	5%	50V (G, IT)
C56	1-163-117-00	CERAMIC CHIP	100PF	5%	50V (G, IT)
C57	1-164-346-11	CERAMIC CHIP	1.0uF		16V
C58	1-164-346-11	CERAMIC CHIP	1.0uF		16V
C59	1-164-346-11	CERAMIC CHIP	1.0uF		16V
C60	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C61	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V
C62	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V
C63	1-164-346-11	CERAMIC CHIP	1.0uF		16V
C64	1-164-346-11	CERAMIC CHIP	1.0uF		16V
C65	1-164-346-11	CERAMIC CHIP	1.0uF		16V
C66	1-164-346-11	CERAMIC CHIP	1.0uF		16V
C69	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C70	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C71	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C72	1-124-120-11	ELECT	220uF	20%	25V
C73	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C74	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C75	1-126-157-11	ELECT	10uF	20%	16V
C76	1-126-101-11	ELECT	100uF	20%	16V
C79	1-126-157-11	ELECT	10uF	20%	16V
C80	1-124-472-11	ELECT	470uF	20%	10V
C81	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C82	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C83	1-164-232-11	CERAMIC CHIP	0.01uF		50V (G, IT)
		< FILTER >			
CF1	1-567-389-11	FILTER, CERAMIC (AEP, UK, G, IT)			
CF1	1-527-968-11	FILTER, CERAMIC (EXCEPT AEP, UK, G, IT)			
CF2	1-567-389-11	FILTER, CERAMIC (G, IT)			
CF51	1-567-389-11	FILTER, CERAMIC			
		< CONNECTOR >			
CN1	1-573-105-11	CONNECTOR, PC BOARD (RECEPTACLE)			
CN2	1-573-105-11	CONNECTOR, PC BOARD (RECEPTACLE)			
* CN3	1-659-808-11	CONNECTOR, PC BOARD (RECEPTACLE)			
CN5	1-573-105-11	CONNECTOR, PC BOARD (RECEPTACLE)			
		< TRIMER >			
CV1	1-141-265-31	TRIMER CAPACITOR (EXCEPT AEP, UK, G, IT)			
CV2	1-141-265-31	TRIMER CAPACITOR (EXCEPT AEP, UK, G, IT)			

TCB011

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D1	8-719-975-10	KV1560NT	(EXCEPT AEP, UK, G, IT)
D21	8-719-977-03	DIODE DTZ5.6B	(AEP, UK, G, IT)
D21	8-719-422-46	DIODE MA8056	(EXCEPT AEP, UK, G, IT)
D51	8-719-988-62	DIODE 1SS355	
		< FRONT END >	
FE1	1-463-957-11	FRONT END (FM 4 GANG)	(G, IT)
FE1	1-465-673-11	FRONT END (2 BAND)	(EXCEPT G, IT)
FE2	1-239-030-11	ENCAPSULATED COMPONENT (MW)	(AEP, UK, G, IT)
FE2	1-239-032-11	ENCAPSULATED COMPONENT (MW)	(EXCEPT AEP, UK, G, IT)
FE3	1-239-049-11	ENCAPSULATED COMPONENT (LW)	(AEP, UK, G, IT)
		< FILTER >	
FL51	1-239-029-11	ENCAPSULATED COMPONENT	(G, IT)
		< IC >	
IC21	8-759-821-43	IC LC7218M	
IC51	8-759-823-68	IC LA1851NM	
		< TRANSFORMER >	
IFT51	1-404-954-11	TRANSFORMER, DISCRIMINATOR	
IFT52	1-404-713-11	TRANSFORMER, IF	
		< CHIP JUMPER >	
JW1	1-216-295-00	METAL CHIP 0 5% 1/10W	
JW2	1-216-295-00	METAL CHIP 0 5% 1/10W	(EXCEPT G, IT)
JW3	1-216-295-00	METAL CHIP 0 5% 1/10W	(EXCEPT AEP, UK, G, IT)
JW4	1-216-295-00	METAL CHIP 0 5% 1/10W	(AEP, UK, G, IT)
JW5	1-216-295-00	METAL CHIP 0 5% 1/10W	(AEP, UK, G, IT)
JW7	1-216-295-00	METAL CHIP 0 5% 1/10W	(AEP, UK, G, IT)
		< COIL >	
L1	1-408-793-21	INDUCTOR, CHIP 220uH	(AEP, UK, G, IT)
L51	1-408-798-00	CHIP INDUCTOR 1mH	
		< LPF >	
LPF51	1-235-221-00	FILTER, LOW PASS	

Ref. No.	Part No.	Description	Remark
		< TRANSISTOR >	
Q1	8-729-804-72	TRANSISTOR 2SC2814-F4	
Q2	8-729-804-72	TRANSISTOR 2SC2814-F4	(G, IT)
Q3	8-729-810-16	TRANSISTOR 2SA1678	
Q4	8-729-602-36	TRANSISTOR 2SA1602	
Q5	8-729-810-28	TRANSISTOR 2SC4398	(AEP, UK, G, IT)
Q5	8-729-602-36	TRANSISTOR 2SA1602	(EXCEPT AEP, UK, G, IT)
Q6	8-729-602-36	TRANSISTOR 2SA1602	(AEP, UK, G, IT)
Q6	8-729-810-28	TRANSISTOR 2SC4398	(EXCEPT AEP, UK, G, IT)
Q7	8-729-810-28	TRANSISTOR 2SC4398	(AEP, UK, G, IT)
Q21	8-729-602-21	TRANSISTOR 2SC4154-F	
Q22	8-729-232-71	TRANSISTOR 2SK208-GR3	
Q23	8-729-232-59	TRANSISTOR 2SC4666B	
Q24	8-729-232-71	TRANSISTOR 2SK208-GR3	(AEP, UK, G, IT)
Q25	8-729-232-59	TRANSISTOR 2SC4666B	(AEP, UK, G, IT)
Q51	8-729-602-21	TRANSISTOR 2SC4154-F	
Q52	8-729-602-21	TRANSISTOR 2SC4154-F	
Q53	8-729-810-28	TRANSISTOR 2SC4398	
		< RESISTOR >	
R1	1-216-037-00	METAL CHIP 330 5% 1/10W	
R2	1-216-037-00	METAL CHIP 330 5% 1/10W	
R3	1-216-109-00	METAL CHIP 330K 5% 1/10W	
R4	1-216-037-00	METAL CHIP 330 5% 1/10W	
R5	1-216-109-00	METAL CHIP 330K 5% 1/10W	(G, IT)
R6	1-216-037-00	METAL CHIP 330 5% 1/10W	(G, IT)
R7	1-216-025-00	METAL CHIP 100 5% 1/10W	
R8	1-216-037-00	METAL CHIP 330 5% 1/10W	(EXCEPT AEP, UK, G, IT)
R8	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	(AEP, UK, G, IT)
R9	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R10	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R11	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	(AEP, UK, G, IT)
R12	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	(AEP, UK, G, IT)
R13	1-216-089-00	METAL CHIP 47K 5% 1/10W	(AEP, UK, G, IT)
R14	1-216-081-00	METAL CHIP 22K 5% 1/10W	(AEP, UK, G, IT)
R15	1-216-121-00	METAL CHIP 1M 5% 1/10W	(AEP, UK, G, IT)
R16	1-216-073-00	METAL CHIP 10K 5% 1/10W	(EXCEPT AEP, UK, G, IT)
R16	1-216-089-00	METAL CHIP 47K 5% 1/10W	(AEP, UK)

Ref. No.	Part No.	Description				Remark
R17	1-216-121-00	METAL CHIP	1M	5%	1/10W	(EXCEPT AEP, UK, G, IT)
R18	1-216-073-00	METAL CHIP	10K	5%	1/10W	(EXCEPT AEP, UK, G, IT)
R21	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R22	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R23	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R24	1-216-025-00	METAL CHIP	100	5%	1/10W	
R25	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R26	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R27	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R28	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R29	1-216-025-00	METAL CHIP	100	5%	1/10W	
R30	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R31	1-216-043-00	METAL CHIP	560	5%	1/10W	
R32	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R33	1-216-035-00	METAL CHIP	270	5%	1/10W	
R34	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R35	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R36	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R37	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R38	1-216-025-00	METAL CHIP	100	5%	1/10W	
R39	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	(AEP, UK, G, IT)
R40	1-216-043-00	METAL CHIP	560	5%	1/10W	(AEP, UK, G, IT)
R41	1-216-049-00	METAL CHIP	1K	5%	1/10W	(AEP, UK, G, IT)
R42	1-216-035-00	METAL CHIP	270	5%	1/10W	(AEP, UK, G, IT)
R43	1-216-081-00	METAL CHIP	22K	5%	1/10W	(AEP, UK, G, IT)
R44	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	(AEP, UK, G, IT)
R45	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	(AEP, UK, G, IT)
R46	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	(AEP, UK, G, IT)
R47	1-216-025-91	METAL CHIP	100	5%	1/10W	(EXCEPT AEP, UK, G, IT)
R51	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R52	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R53	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R54	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	
R55	1-216-075-00	METAL CHIP	12K	5%	1/10W	(EXCEPT G, IT)
R56	1-216-075-00	METAL CHIP	12K	5%	1/10W	(G, IT)
R57	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R58	1-216-066-00	METAL CHIP	5.1K	5%	1/10W	
R59	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R60	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R61	1-216-115-00	METAL CHIP	560K	5%	1/10W	
R62	1-216-115-00	METAL CHIP	560K	5%	1/10W	
R63	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R64	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R65	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R66	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R67	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R68	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R69	1-216-025-00	METAL CHIP	100	5%	1/10W	
R70	1-216-025-00	METAL CHIP	100	5%	1/10W	
R71	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R72	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R73	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R74	1-216-013-00	METAL CHIP	33	5%	1/10W	
R75	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	(AEP, UK, G, IT)
R79	1-216-049-00	METAL CHIP	1K	5%	1/10W	(EXCEPT G, IT)
R79	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	(G, IT)

< VARIABLE RESISTOR >

RV51	1-238-601-11	RES, ADJ, CARBON	22K		
RV52	1-238-601-11	RES, ADJ, CARBON	22K		

< COIL >

T1	1-402-547-11	COIL (ANT FOR SW3)	(EXCEPT AEP, UK, G, IT)
T2	1-406-415-11	COIL (OSC FOR SW3)	(EXCEPT AEP, UK, G, IT)

< CONNECTOR >

* TP51	1-564-336-00	PIN, CONNECTOR 2P	(EXCEPT G, IT)
* TP51	1-568-449-11	HOUSING, CONNECTOR (PC BOARD) 3P	(G, IT)

< CRYSTAL >

X21	1-577-126-11	VIBRATOR, CRYSTAL (7.2MHz)	
X51	1-577-075-11	OSCILLATOR, CERAMIC 456kHz	

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*	A-4360-266-A	TUNER BOARD, COMPLETE	(AEP, UK)
*	A-4360-270-A	TUNER BOARD, COMPLETE	(IT)
*	A-4360-274-A	TUNER BOARD, COMPLETE	(G)
*	A-4360-278-A	TUNER BOARD, COMPLETE	(EXCEPT AEP, UK, G, IT)

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< CAPACITOR >

C124	1-126-160-11	ELECT	1uF	20%	50V
C125	1-126-160-11	ELECT	1uF	20%	50V
C126	1-126-160-11	ELECT	1uF	20%	50V
C127	1-126-160-11	ELECT	1uF	20%	50V
C128	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V

TUNER

Ref. No.	Part No.	Description			Remark
C129	1-126-096-11	ELECT	10uF	20%	35V
C130	1-126-933-11	ELECT	100uF	20%	16V
C131	1-126-933-11	ELECT	100uF	20%	16V
C132	1-164-346-11	CERAMIC CHIP	1uF		16V
C133	1-163-104-00	CERAMIC CHIP	30PF	5%	50V
C134	1-163-104-00	CERAMIC CHIP	30PF	5%	50V
C135	1-136-173-00	FILM	0.47uF	5%	50V
C136	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C137	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C138	1-126-157-11	ELECT	10uF	20%	16V
C139	1-126-160-11	ELECT	1uF	20%	50V
C140	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C141	1-124-584-00	ELECT	100uF	20%	10V
C142	1-164-346-11	CERAMIC CHIP	1uF		16V
C143	1-124-589-11	ELECT	47uF	20%	16V
C144	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C147	1-126-933-11	ELECT	100uF	20%	16V
		< CONNECTOR >			
* CN101	1-568-834-11	SOCKET, CONNECTOR 15P			
CN102	1-695-829-11	HOUSING, CONNECTOR 11P			
CN103	1-573-105-11	CONNECTOR, PC BOARD (RECEPTACLE)			
CN104	1-573-105-11	CONNECTOR, PC BOARD (RECEPTACLE)			
* CN105	1-695-808-11	CONNECTOR, PC BOARD (RECEPTACLE)			
CN106	1-573-105-11	CONNECTOR, PC BOARD (RECEPTACLE)			
		< DIODE >			
D101	8-719-990-39	DIODE DCB010			
D102	8-719-021-95	DIODE UZM11B			
D103	8-719-990-39	DIODE DCB010			
D104	8-719-990-39	DIODE DCB010			
		< IC >			
IC102	8-759-051-64	IC TC9215F-TP1			
IC104	8-759-163-39	IC uPD78011GC-513-AB8			
IC105	8-759-510-43	IC PST572C			
IC106	8-759-095-56	IC X24C08SC7000			
		< JUMPER RESISTOR >			
JW103	1-216-295-00	METAL CHIP	0	5%	1/10W (AEP, UK, G, IT)
JW104	1-216-295-00	METAL CHIP	0	5%	1/10W (EXCEPT AEP, UK, G)
JW105	1-216-295-00	METAL CHIP	0	5%	1/10W (EXCEPT G, IT)
		< TRANSISTOR >			
Q103	8-729-232-69	TRANSISTOR 2SK208-GR3			
Q104	8-729-209-15	TRANSISTOR 2SD2012			
Q105	8-729-101-07	TRANSISTOR 2SB798-DL			
Q107	8-729-805-65	TRANSISTOR 2SA1344			
Q108	8-729-805-41	TRANSISTOR 2SC3398			
Q109	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
		< RESISTOR >			
R123	1-216-097-00	METAL CHIP	100K	5%	1/10W
R124	1-216-097-00	METAL CHIP	100K	5%	1/10W
R125	1-216-097-00	METAL CHIP	100K	5%	1/10W
R126	1-216-097-00	METAL CHIP	100K	5%	1/10W
R127	1-216-097-00	METAL CHIP	100K	5%	1/10W
R128	1-216-097-00	METAL CHIP	100K	5%	1/10W
R129	1-216-097-00	METAL CHIP	100K	5%	1/10W
R130	1-216-097-00	METAL CHIP	100K	5%	1/10W
R131	1-216-049-00	METAL CHIP	1K	5%	1/10W
R132	1-216-049-00	METAL CHIP	1K	5%	1/10W
R133	1-216-049-00	METAL CHIP	1K	5%	1/10W
R134	1-216-049-00	METAL CHIP	1K	5%	1/10W
R135	1-216-049-00	METAL CHIP	1K	5%	1/10W
R136	1-216-049-00	METAL CHIP	1K	5%	1/10W
R137	1-216-049-00	METAL CHIP	1K	5%	1/10W
R138	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R139	1-216-073-00	METAL CHIP	10K	5%	1/10W
R140	1-216-049-00	METAL CHIP	1K	5%	1/10W
R141	1-216-049-00	METAL CHIP	1K	5%	1/10W
R142	1-216-049-00	METAL CHIP	1K	5%	1/10W
R143	1-216-049-00	METAL CHIP	1K	5%	1/10W
R144	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R145	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R146	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R147	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R148	1-216-073-00	METAL CHIP	10K	5%	1/10W
R149	1-216-049-00	METAL CHIP	1K	5%	1/10W
R150	1-216-073-00	METAL CHIP	10K	5%	1/10W
R151	1-216-073-00	METAL CHIP	10K	5%	1/10W
R153	1-216-073-00	METAL CHIP	10K	5%	1/10W
R154	1-216-049-00	METAL CHIP	1K	5%	1/10W
R155	1-216-049-00	METAL CHIP	1K	5%	1/10W
R156	1-216-049-00	METAL CHIP	1K	5%	1/10W
R157	1-216-049-00	METAL CHIP	1K	5%	1/10W
R158	1-216-073-00	METAL CHIP	10K	5%	1/10W
R159	1-216-073-00	METAL CHIP	10K	5%	1/10W
R160	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R161	1-216-001-00	METAL CHIP	10	5%	1/10W
R162	1-216-073-00	METAL CHIP	10K	5%	1/10W
R163	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R164	1-216-073-00	METAL CHIP	10K	5%	1/10W
R165	1-216-073-00	METAL CHIP	10K	5%	1/10W
R166	1-216-073-00	METAL CHIP	10K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R167	1-216-073-00	METAL CHIP	10K	5%	1/10W
R168	1-216-073-00	METAL CHIP	10K	5%	1/10W
R169	1-216-097-00	METAL CHIP	100K	5%	1/10W
R170	1-216-097-00	METAL CHIP	100K	5%	1/10W
R171	1-216-097-00	METAL CHIP	100K	5%	1/10W
R172	1-216-097-00	METAL CHIP	100K	5%	1/10W
		< TERMINAL >			
* TM101	1-537-288-11	TERMINAL BOARD, ANTENNA (PAL) (ANTENNA)			(AEP, UK, G, IT)
TM101	1-537-466-11	TRAMINAL BOARD (ANT) (ANNTENNA)			(EXCEPT AEP, UK, G, IT)
		< VIBRATOR >			
X102	1-579-600-11	VIBRATOR, CERAMIC (8.39MHz)			
**********					
		MISCELLANEOUS			
		**********			
6	1-696-739-11	WIRE (FLAT TYPE) (11 CORE)			
7	1-696-738-11	WIRE (FLAT TYPE) (5 CORE)			
9	1-690-753-11	WIRE (FLAT TYPE) (22 CORE)			
12	1-696-740-11	WIRE (FLAT TYPE) (15 CORE)			
* 13	1-695-810-11	CONNECTOR, PC BOARD (PLUG) 8P			
* 14	1-695-809-11	CONNECTOR, PC BOARD (PLUG) 4P			
22	1-696-750-11	WIRE (FLAT TYPE) (9 CORE)			
⚠105	8-848-144-11	DEVICE, OPTICAL KSS-240A			
106	1-575-001-11	WIRE, FLAT TYPE (12 CORE)			
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)			
M102	X-4917-504-1	MOTOR ASSY (SLED)			
M291	A-4608-362-A	MOTOR (L) ASSY			
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HARDWARE LIST
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#1	7-682-547-09	SCREW +BVTT 3X6 (S)
#2	7-685-871-01	SCREW +BVTT 3X6 (S)
#3	7-621-255-15	SCREW +P 2X3
#4	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S
#5	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#6	7-621-775-10	SCREW +B 2.6X4
#7	7-624-105-04	STOP RING 2.3, TYPE -E
#8	7-685-234-19	SCREW +KTP 2.6X8 TYPE2NON-SLIT

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.

English
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