

# CDP-S41

## SERVICE MANUAL

Canadian Model  
AEP Model  
E Model  
Australian Model



### SPECIFICATIONS

#### Compact disc player

Frequency response	5 Hz—20 kHz ( $\pm 0.5$ dB)
Signal to noise ratio	More than 93 dB
Dynamic range	More than 88 dB
Harmonic distortion	Less than 0.05% (at 1 kHz)
Channel separation	More than 90 dB

#### Outputs

LINE OUT (FIXED) (phono jacks)	Output level 2 V (at 50 kilohms) Load impedance over 10 kilohms
HEADPHONES (stereo phone jack)	Output level max. 1 mW Load impedance 32 ohms

#### General

Power requirements	AEP model 220~230 V AC, 50/60 Hz Canadian model 120 V AC, 60Hz Australian model 240 V AC, 50Hz E, Saudi Arabia model 110~120 or 220~240 AC adjustable, 50/60Hz
Power consumption	10 W
Dimensions (approx., including projections)	225×65×230 mm (w/h/d) (8 $\frac{3}{8}$ ×4 $\frac{3}{4}$ ×9 $\frac{1}{8}$ inches)
Weight (approx.)	2.0 kg (4 lb 7 oz)

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

#### Supplied accessories

Audio cord	1 (2 phono plugs—2 phono plugs)
Connecting cord	1
Remote commander	1
Sony SUM-3(NS) batteries	2

#### Remote commander

##### Remote control system

Infrared control

##### Power requirements

3 V DC with two R6 (size AA)  
batteries

##### Dimensions

Approx. 40 × 20 × 175 mm (w/h/d)  
(1 $\frac{5}{8}$  × 1 $\frac{3}{16}$  × 7 inches)

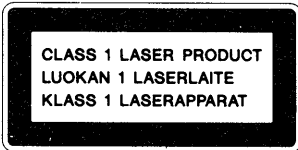
##### Weight

Approx. 100 g (3.5 oz)  
Including batteries

Design and specifications subject to change without  
notice.

COMPACT DISC PLAYER  
**SONY**®

**For the European countries**



This Compact Disc player is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT label is located on the rear exterior.

**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.

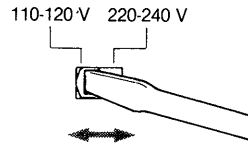
**ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!**

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.

**Adjusting Operating Voltage**

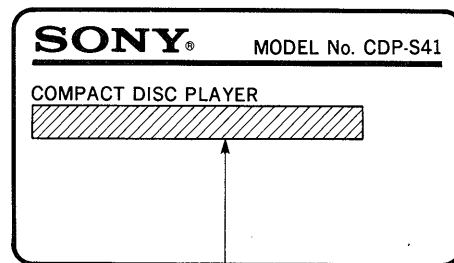
**For the customers of the model equipped with the voltage selector**

Check that the voltage selector is set to the local power line voltage. If not, set the selector to the correct position before connecting AC power cord to a wall outlet.



**MODEL IDENTIFICATION**

—Model Number Label—

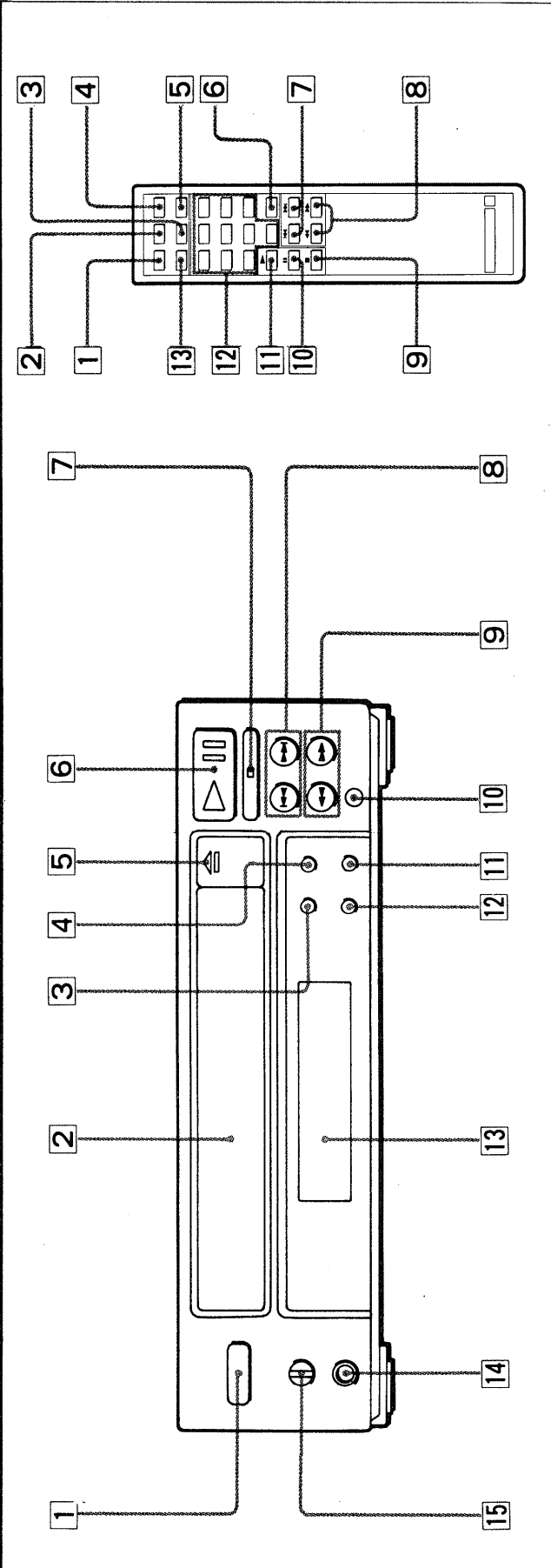


- Candian Model : AC: 120V 60Hz 10W
- AEP Model : AC: 220-230V~50Hz
- E, Saudi Arabia Model: AC: 110-120/220-240V~50/60Hz 10W
- Austrarian Model : AC: 240V~50Hz 10W

SECTION 1  
GENERAL

1-1. LOCATION OF CONTROLS

Front panel and remote commander



Front panel:

- 1 POWER switch
- 2 Disc compartment
- 3 PROGRAM button
- 4 SHUFFLE button
- 5 ▲ (open/close) button
- 6 ►|| (play/pause) button
- 7 ■ (stop) button
- 8 ◀◀◀ (AMS) buttons
- 9 ▶▶▶ (manual search) buttons
- 10 Remote control sensor
- 11 CONTINUE button
- 12 TIME button
- 13 Display window
- 14 HEADPHONES jack
- 15 PHONE LEVEL (headphone Level) control

Remote commander:

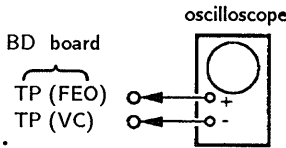
- 1 REPEAT button
- 2 TIME button
- 3 SHUFFLE button
- 4 FADER button
- 5 PGM (program) button
- 6 >10 (over 10) button
- 7 ◀◀◀|AMS buttons
- 8 ▶▶▶ (manual search) buttons
- 9 ■ (stop) button
- 10 || (pause) button
- 11 ▶ (play) button
- 12 Numeric buttons
- 13 CONTINUE button

## SECTION 2 ELECTRICAL BLOCK CHECKING

**Note :**

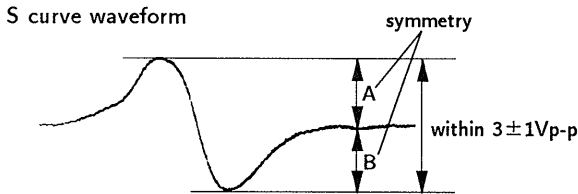
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than  $10M\Omega$  impedance.
4. Clean an object lens by an applicator with neutral detergent when 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  $3 \pm 1V_{p-p}$ .

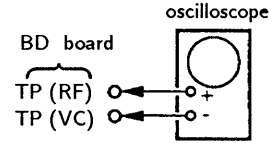


5. After check, remove the lead wire connected in step 2.

**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**

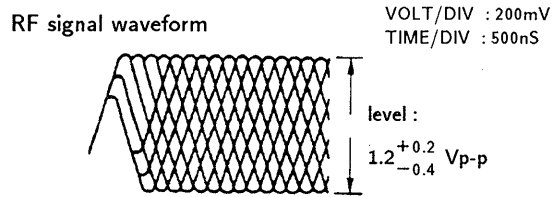


**Procedure :**

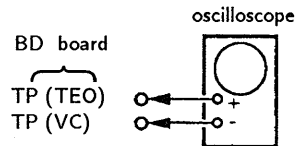
1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

**Note :**

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

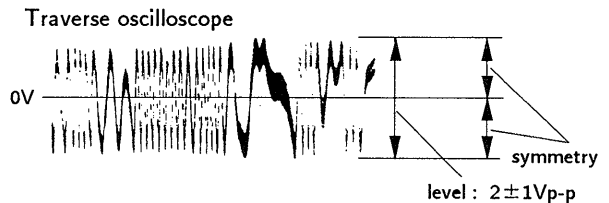


**E-F Balance Check**



**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.

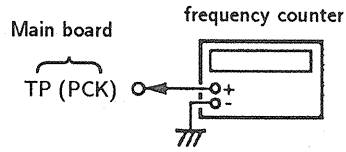


6. Remove the lead wire connected in step 1.

### 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.

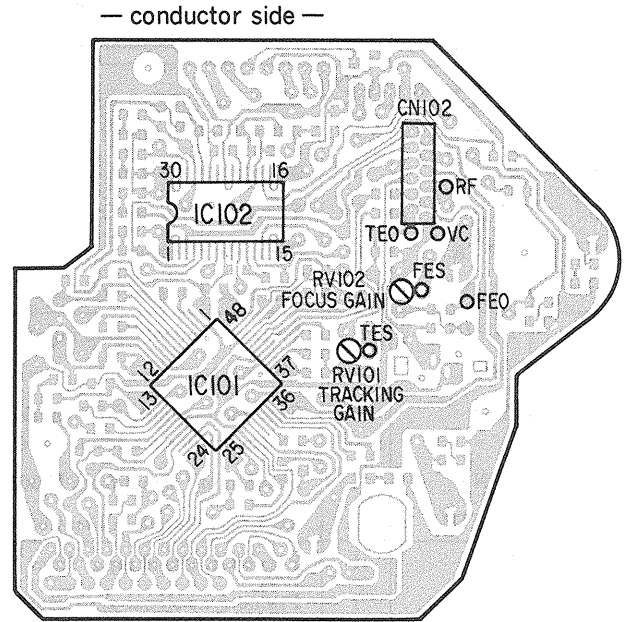
### Focus/Tracking Gain

This gain has a margin, so even if it is slightly off. There is no problem.

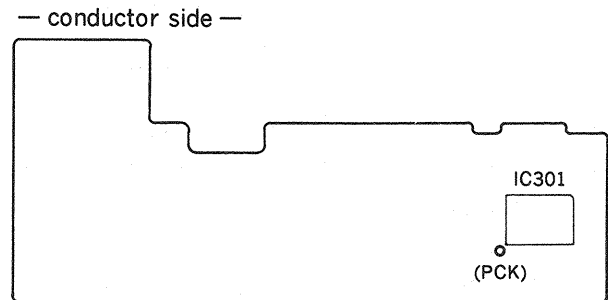
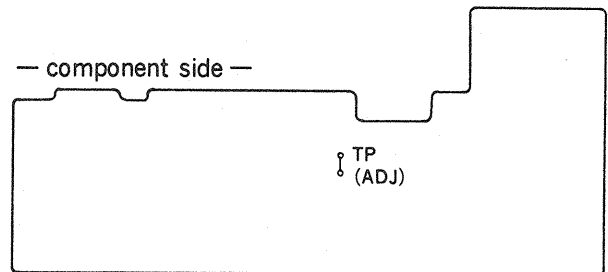
Therefore, do not perform, this adjustment.

Please note that it should be fixed to mechanical center position when you moved and do not know original position.

#### Adjustment Locations : [BD board]



#### [Main board]



## SECTION 3 DIAGRAMS

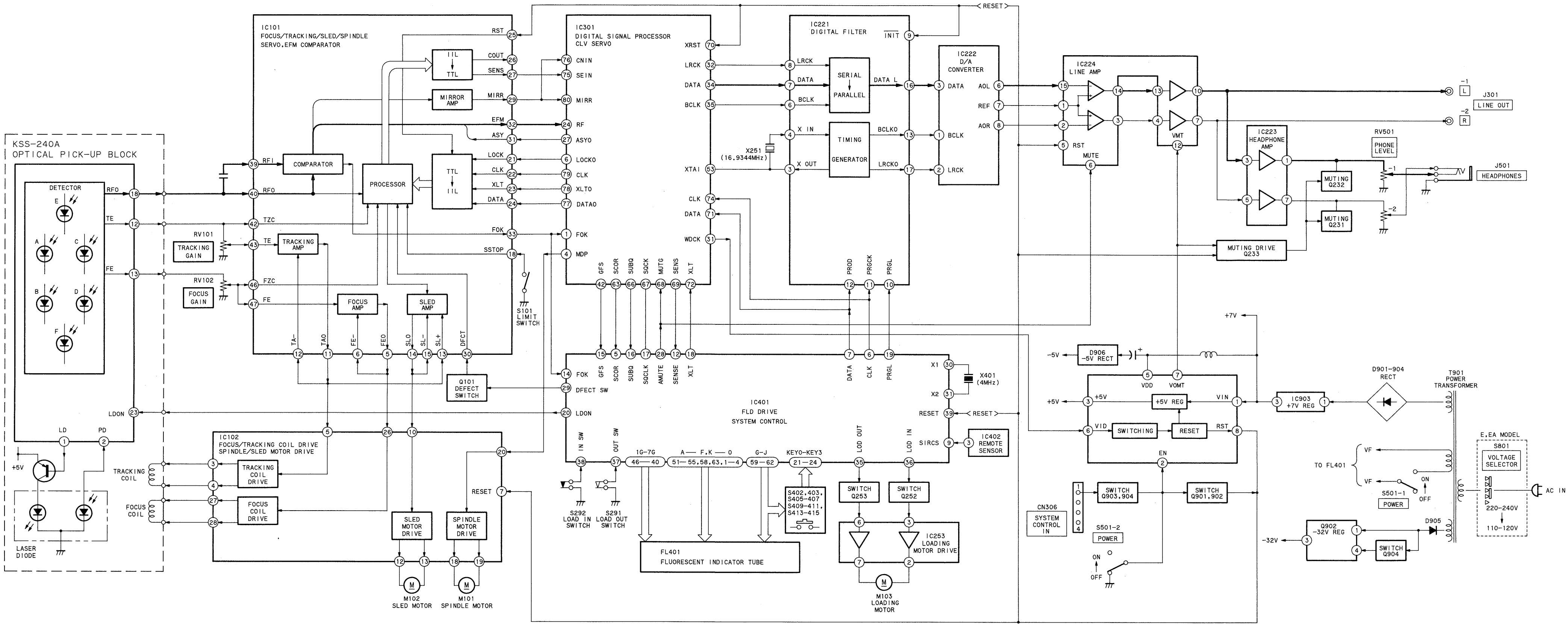
### ● IC PIN FUNCTION

#### • IC401 SYSTEM CONTROLLER ( $\mu$ PD75212ACW-205)

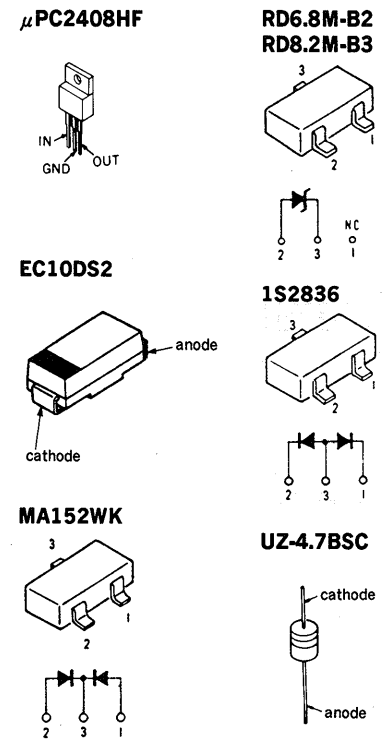
This system control integrated circuit is consisting the control of RF amp, DSP, Servo, loading and digital filter for CD block and also, Key input function, FL tube indication function, remote control signal processor.

Pin No.	Pin Name	I / O	Description
1 - 4	L - O	O	Segment, Key scan output.
5	SCOR	I	Subcode sync signal S <sub>0</sub> + S <sub>1</sub> detection input from IC301 (CXD2500AQ).
6	CLK	O	Serial data transfer clock to IC301 (CXD2500AQ).
7	DATA	O	Serial data output to IC301 (CXD2500AQ).
8	TIMER	—	Not used (always " Ground " ).
9	BUSIN	I	Remote Control signal input.
10	GND	—	Ground.
11	ADJ	I	Test mode input. GFS check will not activate by "L". But, The spindle will be turn continuously even frame sync does not appeared.
12	SENS	I	SENS input signal from IC301 (CXD2500AQ).
13	AFADJ	I	Test mode input. All test operation will be activate " L " mode when power on.
14	FOK	I	Focus OK signal input from IC101 (CXA1372Q)
15	GFS	I	Frame sync signal clock status input from IC301 (CXD2500AQ).
16	SUBQ	I	Sub code (Q data) serial input from IC301 (CXD2500AQ).
17	SQCK	O	Sub code (Q data) readout clock output to IC301 (CXD2500AQ).
18	XLT	O	Serial data latch output.
19	PRGL	O	Attenuate data latch clock output to IC221 (CXD2554P).
20	LDON	O	Laser diode ON/OFF selector output of optical pick-up.
21 - 24	KEY0 - 3	I	Key scan input.
25, 26	—	—	Not used (open).
27	BUS-OUT	O	Not used (Audio bus line signal output).
28	MUTE	O	Muting output for IC224 and IC301. Muting on by " H ", Muting off by " L ".
29	DFCT	O	Defect circuit ON/OFF select output for IC101 (CXA1372Q). The disc scratch detection circuit is shut off when focus search is operated.
30	XOUT	O	Clock output.
31	XIN	I	Clock input. (4MHz)
32	Vss	—	Ground.
33	GND	—	Ground.
34	—	—	Not used (open).
35	LODOUT	O	Output for turn the loading motor to un loading.
36	LODIN	O	Output for turn the loading motor to loading.
37	OUTSW	I	Input for unloading switch.
38	INSW	I	Input for loading switch.
39	RESET	I	Reset input.
40 - 46	7G - 1G	O	Common output for FL tube.
47 - 50	—	—	Not used (open).
51 - 55	A - E	O	Segment, Key scan output.
56	-28V	I	Power voltage -28V for FL tube controller (Built-in).
57	VPRE	I	Power voltage -4V for FL tube predriver (Built-in).
58 - 63	F - K	O	Segment, Key scan output.
64	VDD	—	Power voltage terminal (+5V).

3-1. BLOCK DIAGRAM



3-2. SEMICONDUCTOR LEAD LAYOUTS

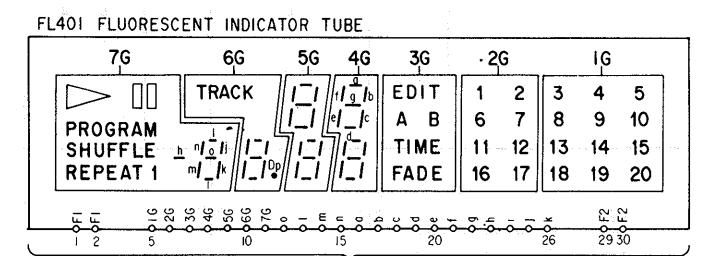
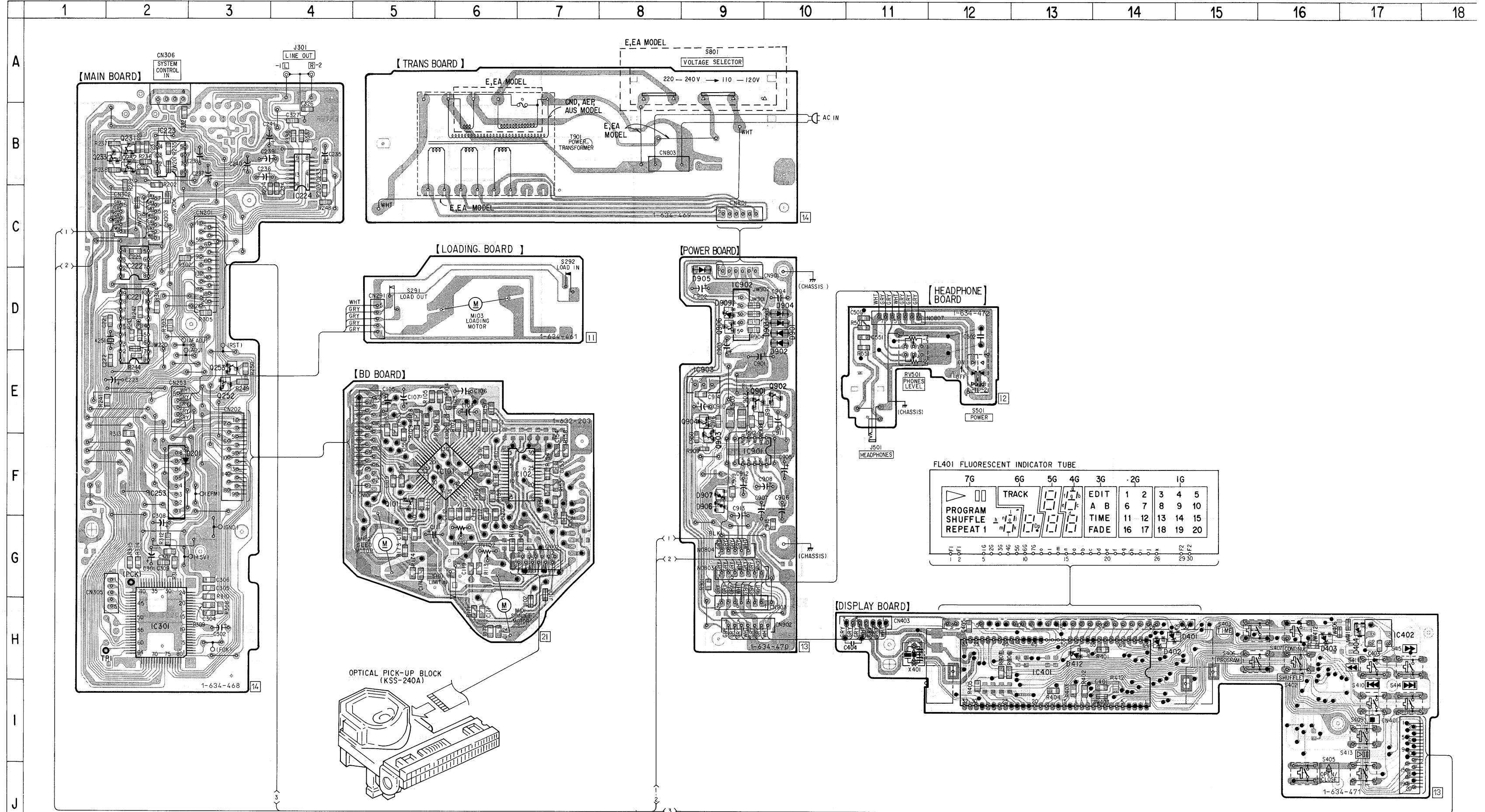


● Semiconductor Location

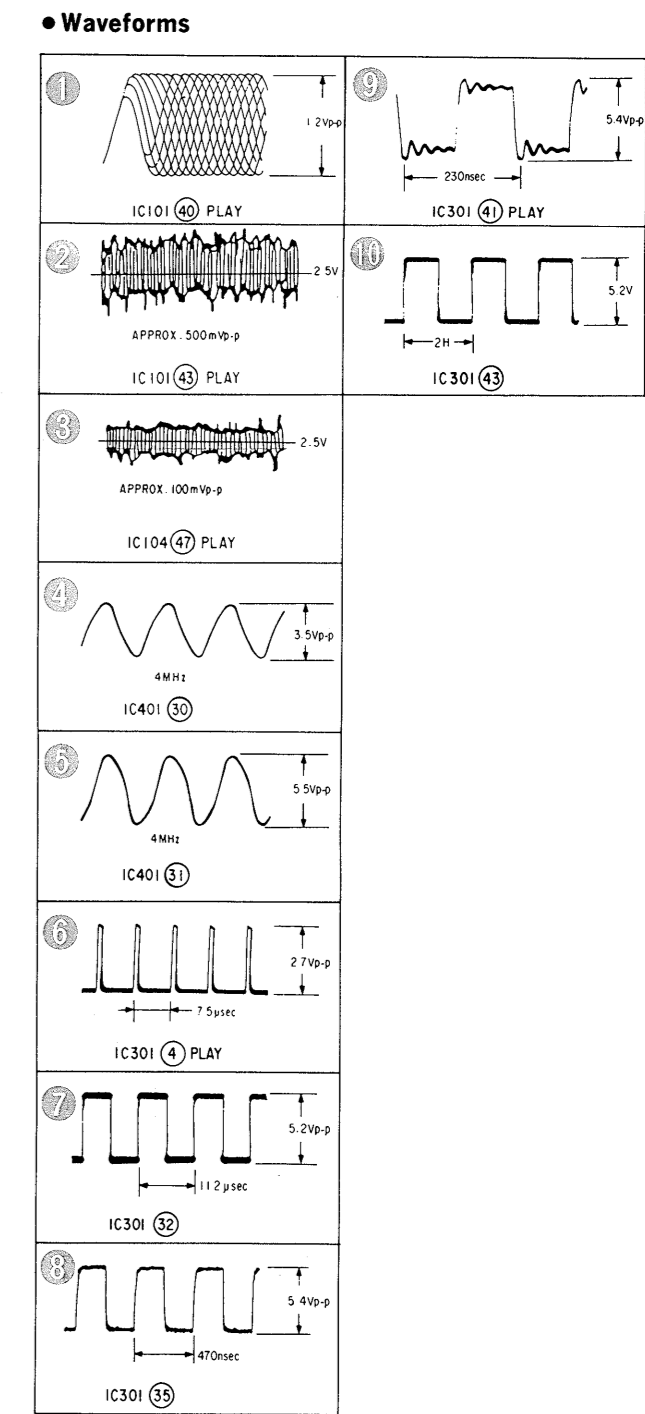
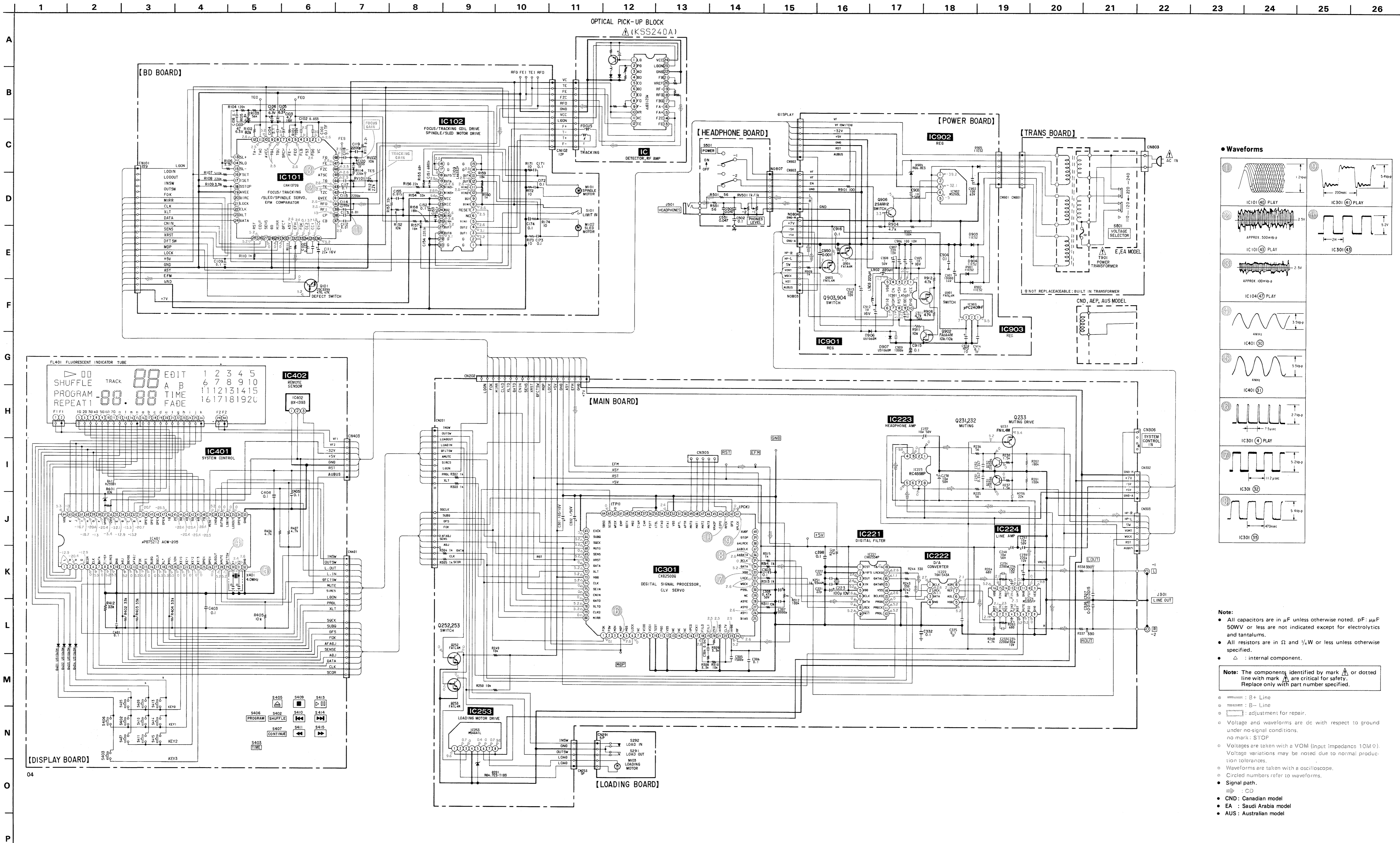
Ref. No.	Location
D201	F-2
D401	H-15
D402	H-14
D403	H-16
D404	H-17
D412	H-13
D901	D-10
D902	D-10
D903	D-10
D904	D-10
D905	D-9
D906	F-9
D907	F-9
D909	D-9
IC101	F-6
IC102	F-7
IC221	D-2
IC222	C-2
IC223	B-2
IC224	B-4
IC253	F-2
IC301	H-2
IC401	H-13
IC901	F-9
IC902	D-9
IC903	E-9
Q101	F-5
Q231	B-2
Q232	B-2
Q233	B-2
Q252	E-3
Q253	E-3
Q901	E-9
Q902	E-10
Q903	E-9
Q904	E-9
Q906	D-9

- Note:
- : parts extracted from the component side.
  - : Through hole.
  - ▨ : Pattern on the side which is seen.
  - ▧ : Pattern of the rear side.
  - : CND: Canadian model
  - : EA : Saudi Arabia model
  - : AUS : Australian model

3-3. PRINTED WIRING BOARDS







**Note:**

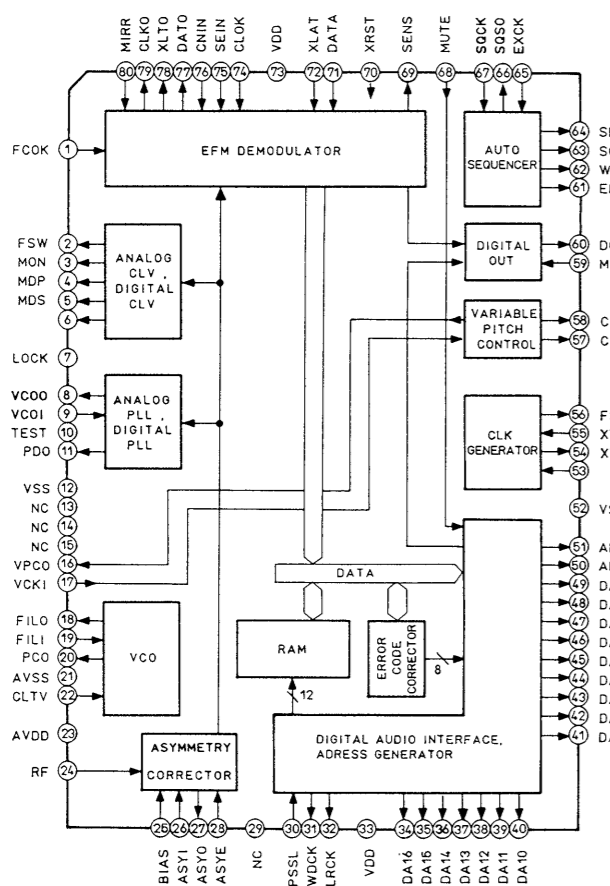
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $1/2\text{W}$  or less unless otherwise specified.
- $\Delta$ : internal component.

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

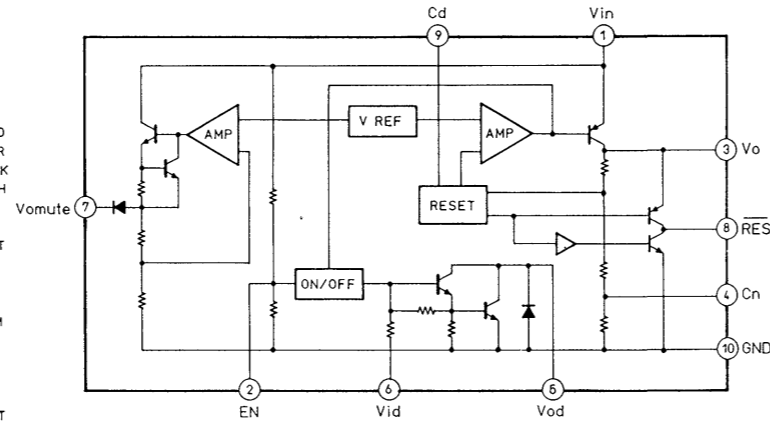
- $\ominus$  : B+ Line
- $\ominus$  : B- Line
- $\text{---}$  : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions. no mark: STOP
- Voltages are taken with a VOM (Input impedance 10M $\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope.
- Circled numbers refer to waveforms.
- Signal path.
- $\text{---}$  : CD
- $\Delta$ : Canadian model
- $\Delta$ : Saudi Arabia model
- $\Delta$ : Australian model

• IC Block Diagrams

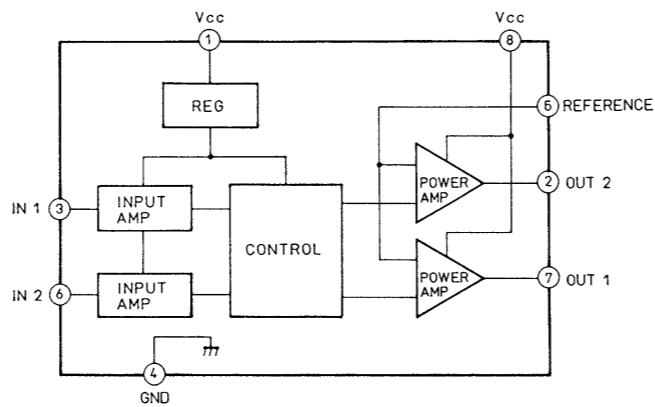
IC301 CXD2500Q



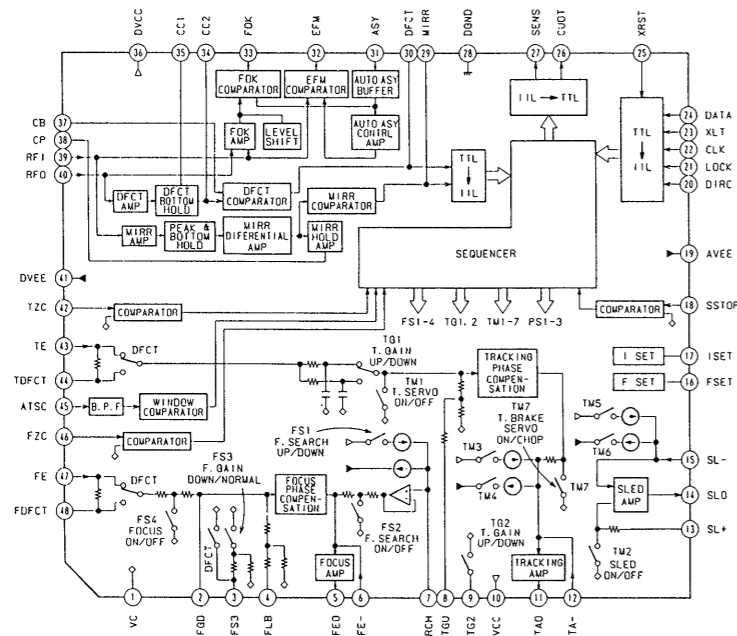
IC901 LA5601



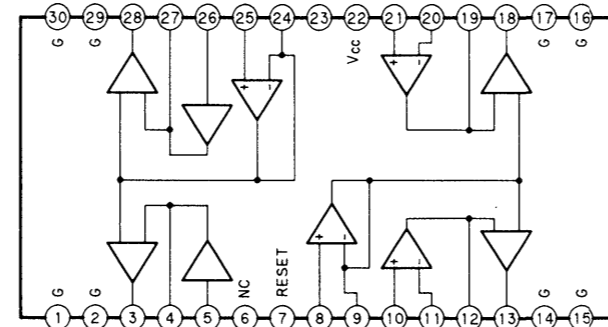
IC253 M54641L



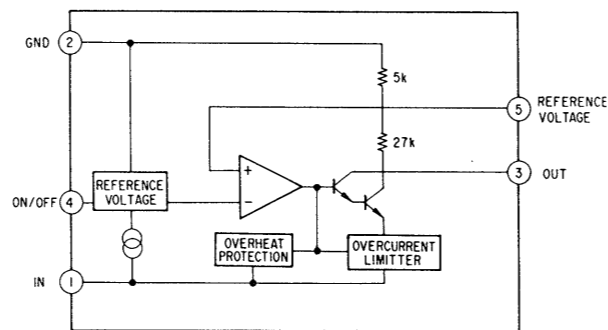
IC101 CXA1372Q



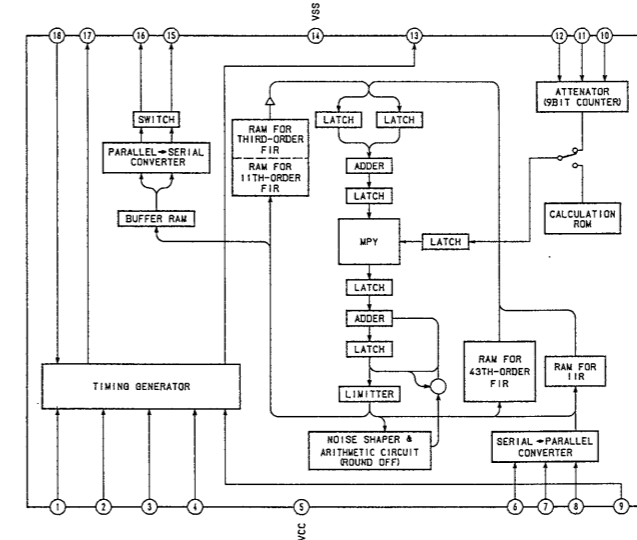
IC102 LA6532M



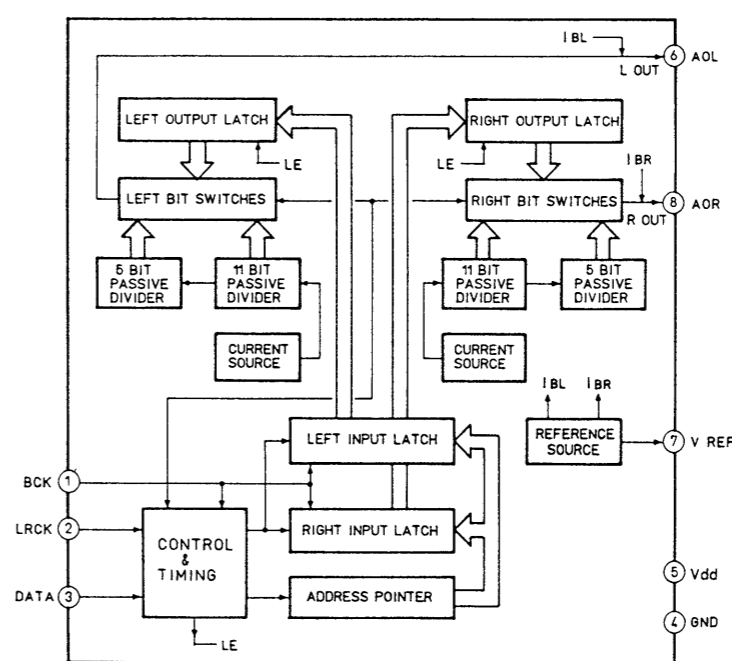
IC902 M5293L



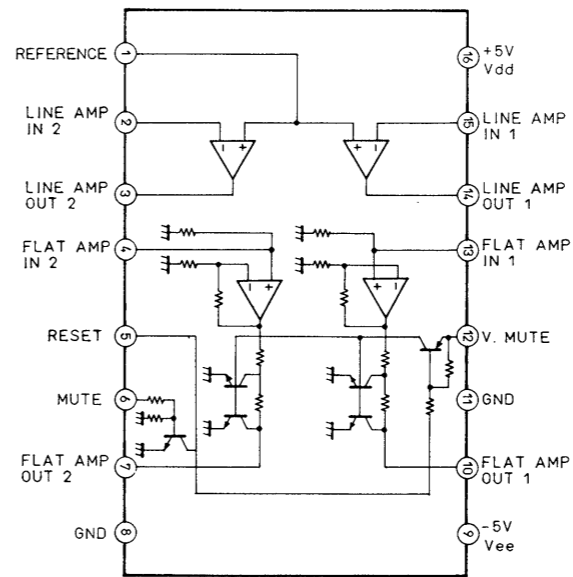
IC221 CXD2554P



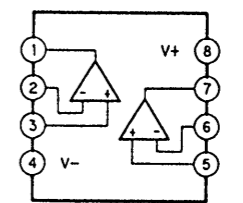
IC222 TDA1543A



IC224 M5285FP



IC223 RC4558P



# SECTION 4 EXPLODED VIEWS

**NOTE:**

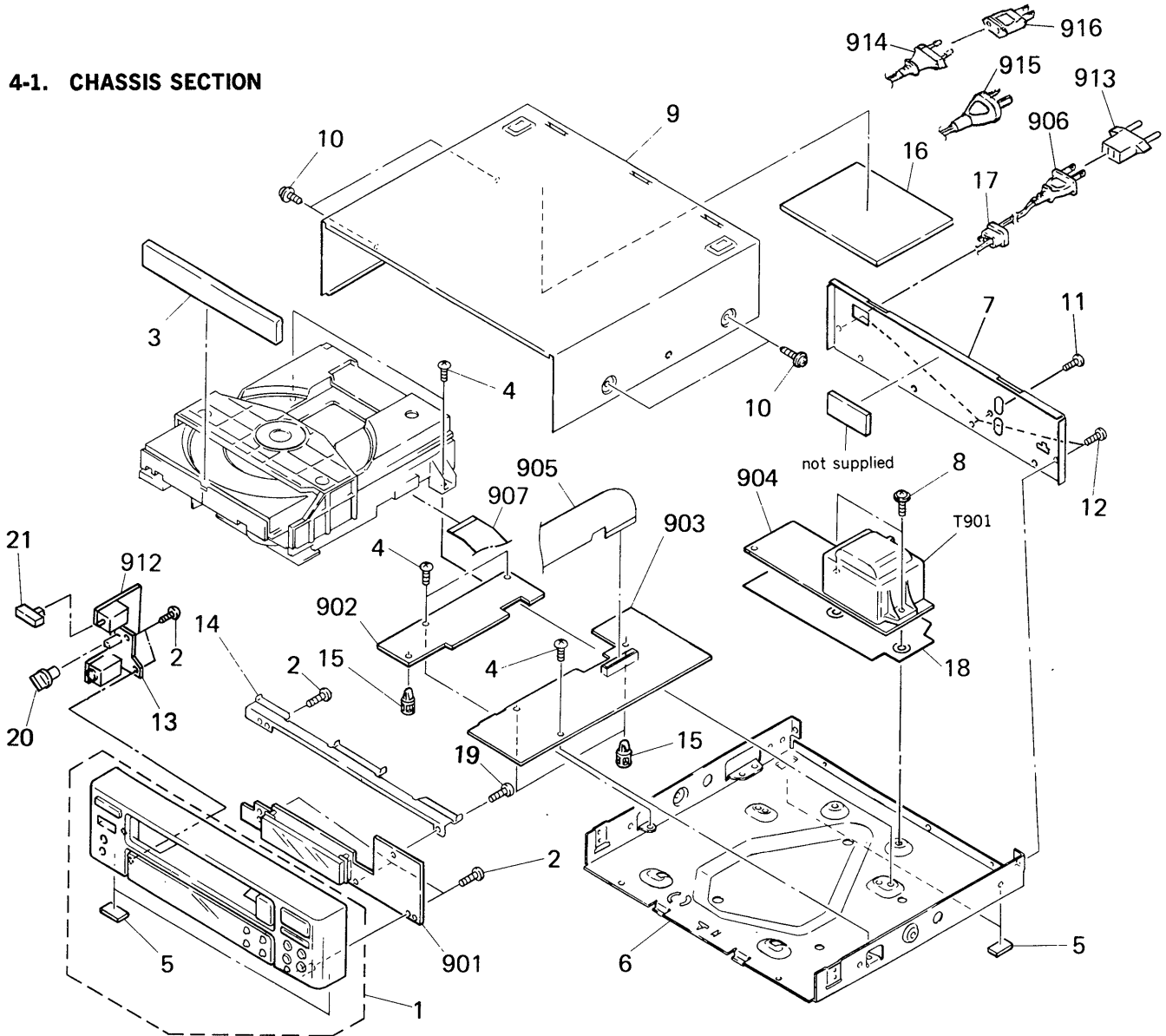
- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked “★” are not stocked since they are seldom required for routine service. Some delay should be 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.
- CND: Canadian model
- EA : Saudi Arabia model
- AUS : Australian model

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

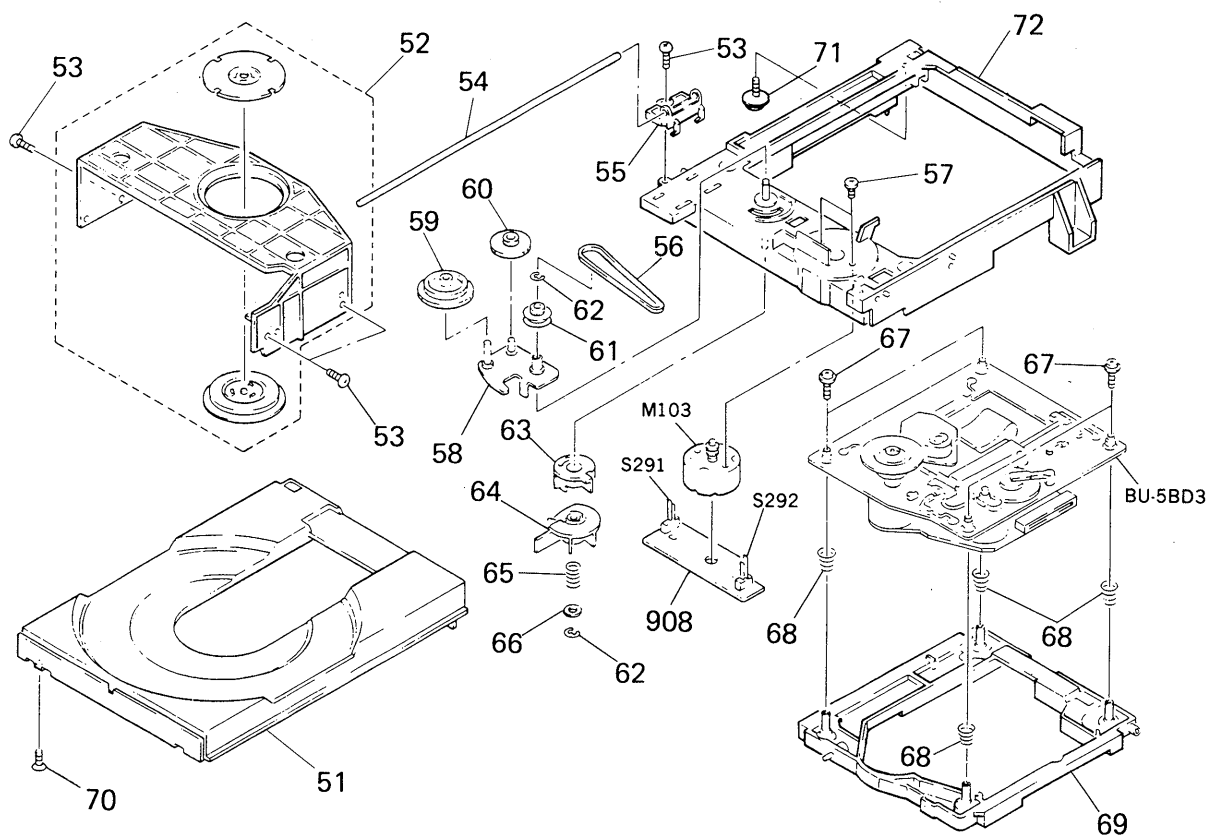
Les composants identifiés par une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

**4-1. CHASSIS SECTION**



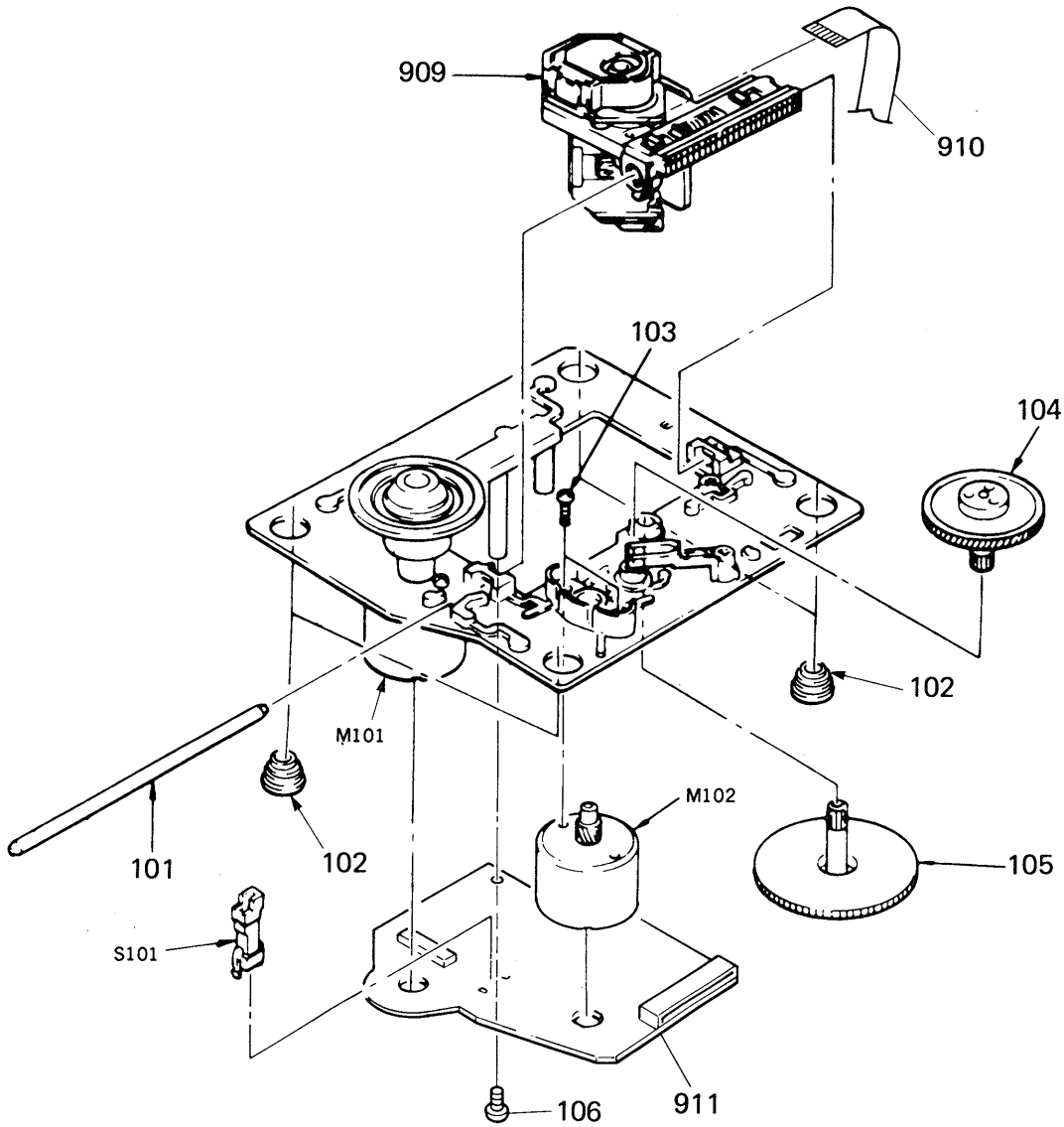
Ref.No	Part No.	Description	Remarks	Ref.No	Part No.	Description	Remarks
1	X-4941-243-1	PANEL ASSY, FRONT	5	19	7-685-135-19	SCREW +BTP 2.6X10 TYPE2 N-S	
2	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S		20	4-929-707-01	KNOB (H.P)	
3	4-929-753-31	PANEL, LOADING		21	4-929-713-01	BUTTON (POWER)	
4	7-682-547-04	SCREW +BVTT 3X6 (S)		901	*1-634-471-11	PC BOARD, DISPLAY	
5	4-930-336-01	FOOT (FELT)		902	*A-4617-484-A	MOUNTED PCB, POWER	
6	*4-929-757-01	CHASSIS		903	*A-4617-483-A	(AUS,E)... MOUNTED PCB, MAIN	
7	*4-941-178-21	(E,EA)... PANEL, BACK		903	*A-4617-766-A	(AEP)... MOUNTED PCB, MAIN	
7	*4-941-178-31	(AEP)... PANEL, BACK		903	*A-4617-768-A	(CND)... MOUNTED PCB, MAIN	
7	*4-941-178-51	(AUS)... PANEL, BACK		904	*1-634-469-11	PC BOARD, TRANS	
7	*4-941-178-61	(CND)... PANEL, BACK		905	1-535-833-11	JUMPER, FILM (WITH TERMINAL)	
8	4-929-742-11	SCREW +P TTWH 3X12		906	△.1-575-104-11	(E)... CORD, POWER	
9	4-930-347-51	CASE		906	△.1-590-551-11	(CND)... CORD, POWER	
10	3-704-366-01	SCREW (CASE) (M3X8)		907	1-535-845-11	JUMPER, FILM (WITH TERMINAL)	
11	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S		912	*1-634-472-11	PC BOARD, HEADPHONE	
12	7-682-547-09	SCREW +BVTT 3X6 (S)		913	△.1-569-007-11	(E)... ADAPTER, CONVERSION 2P	
13	*4-929-706-01	BRACKET (H.P)		914	△.1-575-453-11	(EA,AEP)... CORD, POWER	
14	*4-929-752-01	REINFORCEMENT		915	△.1-575-677-11	(AUS)... CORD, POWER	
15	3-682-057-11	SPACER (SMALL)		916	△.1-506-401-31	(EA)... ADAPTER, CONVERSION	
16	*4-929-740-01	DUMPER		T901	△.1-450-031-11	(E,EA)... TRANSFORMER, POWER	
17	*3-703-244-00	(AEP,AUS,EA)... BUSHING (2104), CORD		T901	△.1-450-032-11	(CND)... TRANSFORMER, POWER	
17	*3-703-571-11	(E,CA)... BUSHING (S) (4516), CORD		T901	△.1-450-349-11	(AUS)... TRANSFORMER, POWER	
18	*4-929-760-01	COVER, POWER		T901	△.1-450-350-11	(AEP)... TRANSFORMER, POWER	

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



Ref.No	Part No.	Description	Remarks	Ref.No	Part No.	Description	Remarks
51	4-929-732-01	TABLE, DISK		64	4-929-729-01	CAM (B)	
52	A-4604-219-A	HOLDER (MG) ASSY		65	3-659-338-00	SPRING, COMPRESSION	
53	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S		66	4-927-654-01	WASHER (LIMITER)	
54	4-929-764-01	SHAFT (TABLE GUIDE)		67	4-933-134-01	SCREW (+PTPWH M2.6X6)	
55	4-929-723-01	GUIDE (T)		68	4-917-541-01	SPRING (B)	
56	4-927-649-01	BELT		69	4-929-747-01	HOLDER (BU)	
57	7-621-775-10	SCREW +B 2.6X4		70	7-685-234-19	SCREW +KTP 2.6X8 TYPE2NON-SLIT	
58	X-4929-703-1	ARM ASSY, SWING		71	*4-917-583-21	BRACKET, YOKE	
59	4-927-620-01	GEAR (P)		72	*X-4929-709-2	CHASSIS (MD)	
60	4-927-628-01	GEAR (C)		908	*1-634-461-11	PC BOARD LOADING	
61	4-929-724-01	PULLEY (B)		M103	A-4608-362-A	MOTOR (L) ASSY	
62	7-624-105-04	STOP RING 2.3, TYPE -E		S291	1-571-924-11	SWITCH, LEAF (LOAD OUT)	
63	4-929-727-01	CAM (A)		S292	1-571-924-11	SWITCH, LEAF (LOAD IN)	

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



<p><b>Note:</b> The components identified by mark <math>\triangle</math> or dotted line with mark <math>\triangle</math> are critical for safety. Replace only with part number specified.</p>	<p><b>Note:</b> Les composants identifiés par une marque <math>\triangle</math> sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p>
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Ref.No	Part No.	Description	Remarks	Ref.No	Part No.	Description	Remarks
101	4-917-565-01	SHAFT, SLED		909	$\triangle$ .8-848-144-11	DEVICE, OPTICAL KSS-240A	
102	4-933-126-01	INSULATOR (A)		910	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
103	7-621-255-15	SCREW +P 2X3		911	*A-4617-371-A	MOUNTED PCB, BD	
104	4-917-567-01	GEAR (M)		M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
105	4-917-564-01	GEAR (P), FLATNESS		M102	X-4917-504-1	MOTOR ASSY (SLED)	
106	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S		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:  $\mu$ F, PF:  $\mu$  $\mu$ F.

**RESISTORS**  
• All resistors are in ohms.  
• F: nonflammable

**COILS**  
• MMH: mH, UH:  $\mu$ H

**SEMICONDUCTORS**  
In each case, U:  $\mu$ , for example:  
UA...:  $\mu$ A..., UPA...:  $\mu$ PA...,  
UPC...:  $\mu$ PC, UPD...:  $\mu$ PD...

- CND: Canadian model
- EA : Saudi Arabia model
- AUS: Australian model

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

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

Ref.No	Part No.	Description			
901	*1-634-471-11	PC BOARD, DISPLAY			
902	*A-4617-484-A	MOUNTED PCB, POWER			
903	*A-4617-483-A	(E,EA,AUS)...MOUNTED PCB, MAIN			
903	*A-4617-766-A	(AEP)...MOUNTED PCB, MAIN			
903	*A-4617-768-A	(CND)...MOUNTED PCB, MAIN			
904	*1-634-469-11	PC BOARD, TRANS			
905	1-535-833-11	JUMPER, FILM (WITH TERMINAL)			
906	$\Delta$ 1-575-104-11	(E)...CORD, POWER			
906	$\Delta$ 1-590-551-11	(CND)...CORD, POWER			
907	1-535-845-11	JUMPER, FILM (WITH TERMINAL)			
908	*1-634-461-11	PC BOARD, LOADING			
909	$\Delta$ 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			
912	*1-634-472-11	PC BOARD, HEADPHONE			
913	$\Delta$ 1-569-007-11	(E)...ADAPTER, CONVERSION 2P			
914	$\Delta$ 1-575-453-11	(EA,AEP)...CORD, POWER			
915	$\Delta$ 1-575-677-11	(AUS)...CORD, POWER			
916	$\Delta$ 1-506-401-31	(EA)...ADAPTER, CONVERSION			
<b>CAPACITOR</b>					
C101	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C102	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V
C103	1-126-163-11	ELECT	4.7MF	20%	16V
C104	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
C107	1-126-154-11	ELECT	47MF	20%	6.3V
C108	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C109	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C110	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V
C111	1-131-367-00	TANTALUM	22MF	20%	16V
C112	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C113	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C114	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C115	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C117	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C118	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C119	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C120	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V
C151	1-163-019-00	CERAMIC CHIP	0.0068MF	10%	50V
C152	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C153	1-163-006-11	CERAMIC CHIP	560PF	10%	50V
C154	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C155	1-163-023-00	CERAMIC CHIP	0.015MF	10%	50V
C171	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C172	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C173	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C174	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C221	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C222	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C223	1-124-443-00	ELECT	100MF	20%	10V
C225	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C231	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C232	1-163-035-00	CERAMIC CHIP	0.047MF		50V

Ref.No	Part No.	Description			
C233	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C234	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C235	1-124-443-00	ELECT	100MF	20%	10V
C236	1-124-443-00	ELECT	100MF	20%	10V
C237	1-123-875-11	ELECT	10MF	20%	50V
C238	1-123-875-11	ELECT	10MF	20%	50V
C239	1-126-923-11	ELECT	220MF	20%	10V
C240	1-123-875-11	ELECT	10MF	20%	50V
C241	1-123-875-11	ELECT	10MF	20%	50V
C301	1-124-443-00	ELECT	100MF	20%	10V
C302	1-124-791-11	ELECT	1MF	20%	50V
C304	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C305	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V
C306	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C307	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C308	1-124-902-00	ELECT	0.47MF	20%	50V
C309	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C326	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V
C327	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V
C332	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C398	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C401	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C403	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C404	1-136-165-00	FILM	0.1MF	5%	50V
C405	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C501	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C502	1-136-165-00	FILM	0.1MF	5%	50V
C551	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C901	1-126-939-11	ELECT	10000MF	20%	16V
C902	1-126-063-11	ELECT	100MF	20%	63V
C903	1-123-875-11	ELECT	10MF	20%	50V
C904	1-136-165-00	FILM	0.1MF	5%	50V
C905	1-126-157-11	ELECT	10MF	20%	16V
C906	1-124-443-00	ELECT	100MF	20%	10V
C907	1-126-923-11	ELECT	220MF	20%	10V
C908	1-126-301-11	ELECT	1MF	20%	50V
C909	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C910	1-126-925-11	ELECT	470MF	20%	10V
C911	1-124-927-11	ELECT	4.7MF	20%	50V
C912	1-126-157-11	ELECT	10MF	20%	16V
C913	1-126-923-11	ELECT	220MF	20%	10V
C914	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C915	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C916	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C950	1-163-009-11	CERAMIC CHIP	0.001M	10%	50V
CN101	1-568-796-11	SOCKET, CONNECTOR 22P			
CN102	1-568-795-11	SOCKET, CONNECTOR 12P			
CN201	1-568-838-11	SOCKET, CONNECTOR 21P			
CN202	1-568-802-11	SOCKET, CONNECTOR 19P			
CN253	*1-564-339-00	PIN, CONNECTOR 5P			
CN291	*1-564-498-11	PIN, CONNECTOR 5P			
CN302	*1-564-339-00	PIN, CONNECTOR 5P			
CN303	*1-564-341-11	PIN, CONNECTOR 7P			
CN305	*1-564-339-00	PIN, CONNECTOR 5P			

Ref.No	Part No.	Description
CN306	1-564-980-11	PIN, CONNECTOR 4P (SYSTEM CONTROL IN)
CN401	1-569-566-11	SOCKET, CONNECTOR 20P
CN801	1-568-668-11	CONNECTOR, BOARD TO BOARD 6P
CN803	*1-564-321-00	PIN, CONNECTOR 2P
CN901	1-568-662-11	CONNECTOR, BOARD TO BOARD 6P
CN902	*1-564-341-11	PIN, CONNECTOR 7P
CN903	*1-564-341-71	PIN, CONNECTOR 7P
D201	8-719-010-34	DIODE UZ-4.7BSC
D401	8-719-400-18	DIODE MA152WK
D402	8-719-400-18	DIODE MA152WK
D403	8-719-400-18	DIODE MA152WK
D404	8-719-400-18	DIODE MA152WK
D412	8-719-106-36	DIODE RD8.2M-B3
D901	8-719-210-33	DIODE EC10DS2
D902	8-719-210-33	DIODE EC10DS2
D903	8-719-210-33	DIODE EC10DS2
D904	8-719-210-33	DIODE EC10DS2
D905	8-719-210-33	DIODE EC10DS2
D906	8-719-104-34	DIODE IS2836
D907	8-719-104-34	DIODE IS2836
D909	8-719-106-17	DIODE RD6.8M-B2
FLD401	1-519-600-11	INDICATOR TUBE, FLUORESCENT
IC101	8-752-037-33	IC CXA1372Q
IC102	8-759-821-94	IC LA6532M
IC221	8-752-337-09	IC CXD2554P
IC222	8-759-990-13	IC TDA1543A
IC223	8-759-945-58	IC RC4558P
IC224	8-759-633-66	IC M5285FP
IC253	8-759-633-65	IC M54641L
IC301	8-752-335-15	IC CXD2500Q
IC401	8-759-150-21	IC UPD75212ACW-205
IC402	8-749-900-36	IC BX-1393
IC901	8-759-821-93	IC LA5601
IC902	8-759-633-42	IC M5293L
IC903	8-759-148-81	IC UPC2408HF
J101	1-216-295-00	METAL GLAZE 0 5% 1/10W
J102	1-216-295-00	METAL GLAZE 0 5% 1/10W
J301	1-565-352-11	JACK, PIN 2P (LINE OUT)
J501	1-507-967-31	JACK (HEADPHONES)
JW201	1-216-295-00	METAL GLAZE 0 5% 1/10W
JW206	1-216-295-00	METAL GLAZE 0 5% 1/10W
JW207	1-216-295-00	METAL GLAZE 0 5% 1/10W
JW220	1-216-295-00	METAL GLAZE 0 5% 1/10W
JW403	1-216-295-00	METAL GLAZE 0 5% 1/10W
JW406	1-216-295-00	METAL GLAZE 0 5% 1/10W
JW411	1-216-295-00	METAL GLAZE 0 5% 1/10W
JW412	1-216-295-00	METAL GLAZE 0 5% 1/10W
JW901	1-216-295-00	METAL GLAZE 0 5% 1/10W
JW902	1-216-295-00	METAL GLAZE 0 5% 1/10W
L902	1-410-658-31	INDUCTOR CHIP 220UH
L903	1-410-658-31	INDUCTOR CHIP 220UH
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)
M102	X-4917-504-1	MOTOR ASSY (SLED)
M103	A-4608-362-A	MOTOR (L) ASSY (LOADING)
Q101	8-729-901-01	TRANSISTOR DTC144EK
Q231	8-729-141-75	TRANSISTOR 2SD596-DV345
Q232	8-729-141-75	TRANSISTOR 2SD596-DV345
Q233	8-729-113-66	TRANSISTOR FN1L4M-M31
Q252	8-729-112-97	TRANSISTOR FA1L4M-L31
Q253	8-729-112-97	TRANSISTOR FA1L4M-L31
Q901	8-729-113-66	TRANSISTOR FN1L4M-M31
Q902	8-729-113-13	TRANSISTOR FA1A4M-L33

Ref.No	Part No.	Description
Q903	8-729-113-66	TRANSISTOR FN1L4M-M31
Q904	8-729-113-13	TRANSISTOR FA1A4M-L33
Q906	8-729-216-22	TRANSISTOR 2SA1162-G
<b>RESISTOR</b>		
R101	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R102	1-216-095-00	METAL GLAZE 82K 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
R201	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R202	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R203	1-216-045-00	METAL GLAZE 680 5% 1/10W
R204	1-216-045-00	METAL GLAZE 680 5% 1/10W
R235	1-216-019-00	METAL GLAZE 56 5% 1/10W
R236	1-216-019-00	METAL GLAZE 56 5% 1/10W
R237	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W
R238	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W
R239	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R241	1-216-041-00	METAL GLAZE 470 5% 1/10W
R242	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R243	1-216-037-00	METAL GLAZE 330 5% 1/10W
R244	1-216-037-00	METAL GLAZE 330 5% 1/10W
R248	1-216-065-00	METAL GLAZE 4.7K 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
R302	1-216-049-00	METAL GLAZE 1K 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
R313	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R314	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R315	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R337	1-216-037-00	METAL GLAZE 330 5% 1/10W
R338	1-216-037-00	METAL GLAZE 330 5% 1/10W
R401	1-216-073-00	METAL GLAZE 10K 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

Ref.No	Part No.	Description
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
R501	1-216-019-00	METAL GLAZE 56 5% 1/10W
R551	1-216-019-00	METAL GLAZE 56 5% 1/10W
R901	1-216-025-00	METAL GLAZE 100 5% 1/10W
R903	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R904	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R908	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R909	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R911	1-216-001-00	METAL GLAZE 10K 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
RV501	1-238-302-11	RES. VAR, CARBON 1K/1K (PHONES LEVEL)
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 (TIME)
S405	1-554-596-21	SWITCH, KEY BOARD (▲ OPEN/CLOSE)
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 (▷▷)
S501	1-552-928-00	SWITCH (POWER)
S801	▲.1-571-722-11	(E,EA)... SWITCH, VOLTAGE SELECTION (VOLTAGE SELECTOR)
T901	▲.1-450-031-11	(E,EA)... TRANSFORMER, POWER
T901	▲.1-450-032-11	(CND)... TRANSFORMER, POWER
T901	▲.1-450-349-11	(AUS)... TRANSFORMER, POWER
T901	▲.1-450-350-11	(AEP)... TRANSFORMER, POWER
X251	1-567-908-11	VIBRATOR, CRYSTAL (16.9344MHz)
X401	1-577-358-21	VIBRATOR, CERAMIC (4MHz)

Ref.No	Part No.	Description
ACCESSORIES & PACKING MATERIALS		
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1-465-299-11		REMOTE COMMANDER (RM-D195)
2-181-754-01		COVER, BATTERY
1-558-233-11		CORD (WITH CONNECTOR)(SIRCS)4P
1-559-533-11		CORD, CONNECTION
3-751-849-12		(CND,AUS,E,EA)... MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, CHINESE)
3-751-849-41		(AEP)... MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, GERMAN)
3-751-849-51		(AEP)... MANUAL, INSTRUCTION (DUTCH, SWEDISH, ITALIAN, PORTUGUESE)
4-920-941-01		SHEET (B), PROTECTION
* 4-929-703-01		CUSHION (LEFT)
* 4-929-704-01		CUSHION (RIGHT)
* 4-941-548-01		LABEL, CLASS 1
* 4-942-084-11		INDIVIDUAL CARTON

<p><b>Note:</b> The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.</p>	<p><b>Note:</b> Les composants identifiés par une marque ▲ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p>
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