CDP-FLX1

SERVICE MANUAL

AEP Model

This set is the CD player section in FLX-1.

SPECIFICATIONS

Outputs

LINE OUT (VARIABLE) (mini-jack)	Output level max. 2 V (at 50 kilohms) Load impedance over 50 kilohms
PHONES (mini-jack)	Output level max. 10 mW Load impedance 32 ohms

Inputs

LINE IN (mini-jack)	Input impedance 2 kohms

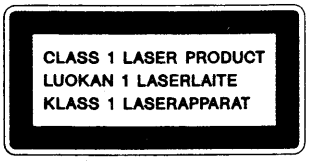
General

Power requirements	220 V – 230 V AC, 50/60 Hz
Power consumption	9 W
Dimensions (approx., including projections)	141×60×220 mm (w/h/d) ($5^5/_8 \times 2^3/_8 \times 8^3/_4$ inches)
Weight (approx.)	1.1 kg (2 lb 3 oz)

Design and specifications subject to change without notice.

Model Name Using Similar Optical Pick-Up Block	New Type
Optical Pick-Up Block Type	BU-5BD6

• 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 bottom exterior.

COMPACT DISC PLAYER

SONY®

TABLE OF CONTENTS

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.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

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

CAUTION

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

1. Laser Diode Properties
   - Material: GaAlAs
   - Wavelength: 780 nm
   - Emission Duration: continuous
   - Laser Output Power: less than 44.6 μW*

     * This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.

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

BESKYTTELSE AF ØJNE MOD LASERSTRÅLING UNDER SERVICE

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

Følg iøvrigt instruktionerne i servicemanualen.

ADVARSEL!!

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

1. Laser-didoe data
   - Materiale: GaAlAs
   - Bølgelængde: 780 nm
   - Udstråling: Kontinuerlig
   - Laseroutput: Max. 0,4 mW*

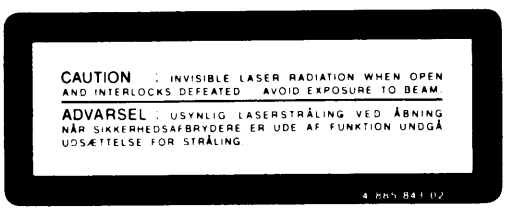
     * Målt i 1,6 mm afstand fra overfladen af objektiv-linsen pa den optiske pick-up enhed.
   - Klassifikation: Klasse IIIb.

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

LASER ADVARSEL MÆRKNING

Følgende mærkning findes indvendig i apparatet:

1. Advarsel Mærkning

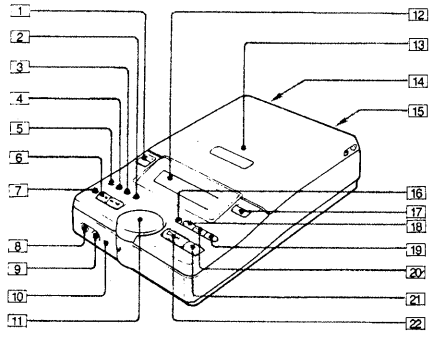


VAROITUS: Laite sisältää, laserdiodin, joka lähettää (näkymätöntä) silmille vaarallista lasersateilyä.

Location of Controls

Emplacement des commandes

Main Unit — Appareil principal



Refer to the pages indicated in ● for details.

1 POWER switch and indicator ●
2 ALARM button ●
3 SLEEP button ●
4 TIMER SELECT button ●
5 TIMER SET button ●
6 I◄◄ ◄◄/►► ►►I (AMS*/manual search) buttons ● ● ● ● ●
7 TIME/NEXT button ● ● ●
8 PHONES jack ●
9 LINE IN jack ●
10 Remote sensor
11 VOLUME control ●
12 Display window
13 Disc holder
14 LINE OUT jack ●
15 AC IN socket ●
16 REPEAT button ● ●
17 OPEN ⏏ button ●
18 CONTINUE button ● ● ●
19 PROGRAM button and indicator ● ●
20 SHUFFLE button and indicator ●
21 ■ (stop) button ●
22 ►II (play/pause) button ●

* AMS is an abbreviation of Automatic Music Sensor.

Pour les détails, prière de consulter les pages indiquées dans un cercle ●.

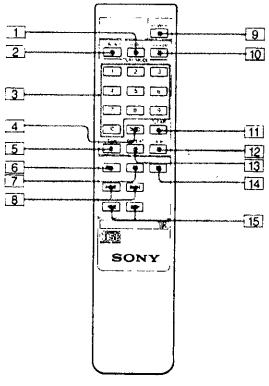
1 Interrupteur d'alimentation et témoin (POWER) ●
2 Touche d'alarme (ALARM) ●
3 Touche de minuterie sommeil (SLEEP) ●
4 Touche de sélection de minuterie (TIMER SELECT) ●
5 Touche de réglage de minuterie (TIMER SET) ●
6 Touches AMS*/recherche manuelle (I◄◄ ◄◄/►► ►►I) ● ● ● ● ●
7 Touche de réglage de l'heure (TIME/NEXT) ● ● ●
8 Prise de casque (PHONES) ●
9 Prise d'entrée de ligne (LINE IN) ●
10 Capteur de télécommande
11 Réglage de volume (VOLUME) ●
12 Fenêtre d'affichage
13 Logement de disque
14 Prise de sortie de ligne (LINE OUT) ●
15 Price secteur (AC IN) ●
16 Touche de répétition (REPEAT) ● ●
17 Touche d'ouverture (OPEN ⏏) ●
18 Touche de lecture continue (CONTINUE) ● ● ●
19 Touche et témoin de programmation (PROGRAM) ● ●
20 Touche et témoin de lecture aléatoire (SHUFFLE) ●
21 Touche d'arrêt ■ ●
22 Touche de lecture/pause ►II ●

* AMS est l'abréviation de capteur automatique de musique

Location of Controls

Emplacement des commandes

Remote commander — Télécommande



Refer to the pages indicated in ● for details

1 SHUFFLE button ●
2 CONTINUE button ● ● ●
3 Numeric buttons ●
4 >10 (over 10) button ●
5 TIME button ● ●
6 ► (play) button ●
7 II (pause) button ●
8 I◄◄ ►►I AMS buttons ●
9 POWER switch
10 PROGRAM button ● ●
11 CLEAR (program clear) button ● ● ●
12 A ⟷ B repeat button ● ●
13 REPEAT button ● ●
14 ■ (stop) button ●
15 ◄◄ ►► (manual search) buttons ●

Pour les détails, prière de consulter les pages indiquées dans un cercle ●.

1 Touche de lecture aléatoire (SHUFFLE) ●
2 Touche de lecture continue (CONTINUE) ● ● ●
3 Touches numériques ●
4 Touche au-delà de 10 (>10) ●
5 Touche heure (TIME) ● ●
6 Touche de lecture ► ●
7 Touche de pause II ●
8 Touche de recherche automatique de plage I◄◄ ►►I (AMS) ●
9 Interrupteur d'alimentation (POWER)
10 Touche de lecture programmée (PROGRAM) ● ●
11 Touche d'annulation de programme (CLEAR) ● ● ●
12 Touche de répétition A ⟷ B ● ●
13 Touche de répétition (REPEAT) ● ●
14 Touche d'arrêt ■ ●
15 Touches de recherche manuelle ◄◄ ►► ●

Setting the Clock

The built-in clock shows the time in the display. Set the clock correctly to enjoy timer-activated features (see pages 42 – 48). The time is shown in the 24-hour system.

Réglage de l'horloge

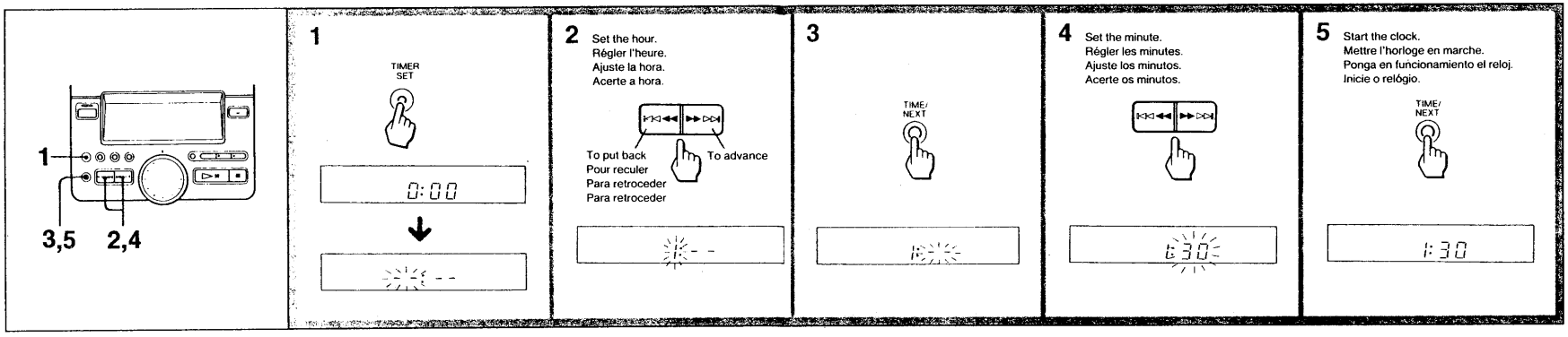
L'horloge intégrée indique l'heure dans l'affichage. Si elle est bien réglée, vous pouvez profiter des avantages de la minuterie (voir pages 42 – 48). L'heure est affichée selon un cycle de 24 heures.

Puesta en hora del reloj

El reloj incorporado mostrará la hora en el visualizador. Ajuste correctamente el reloj a fin de poder disfrutar de las funciones activadas mediante el temporizador (consulte las páginas 43 – 49). La hora se indicará en el sistema de 24 horas.

Acerto do relógio

O relógio incorporado indica a hora no visor. Acerte o relógio para poder desfrutar das funções temporizadas (veja páginas de 43 a 49). A hora é indicada em ciclo de 24 horas.



To reset the clock

1 Hold TIME/NEXT pressed for more than 1 second while turning off the power. The indicated time blinks.
2 Carry out steps 2 to 5.

Réinitialisation de l'horloge

1 Maintenir TIME/NEXT enfoncée pendant plus d'une seconde tout en mettant l'appareil hors tension. L'heure indiquée clignote.
2 Effectuer les étapes 2 à 5.

Para reajustar el reloj

1 Mantenga presionada TIME/NEXT durante más de 1 segundo mientras desconecte la alimentación. La hora indicada parpadeará.
2 Realice los pasos 2 a 5.

Reacerto do relógio

1 Mantenha TIME/NEXT pressionada por mais de 1 segundo enquanto desliga o interruptor da alimentação. A indicação da hora pisca.
2 Siga os passos de 2 a 5.

If a power failure occurs

The clock will be initialized. Reset the clock by following the above procedure.

En cas de panne de courant

L'horloge est initialisée. La réinitialiser en suivant la procédure ci-dessus.

Si se produce un corte del suministro eléctrico

El reloj se inicializará. Vuelva a ponerlo en hora siguiendo el procedimiento arriba mencionado.

Se ocorrer um corte de energia

O relógio será reinicializado. Reacerte o relógio seguindo os passos descritos acima.

Using as an Alarm Clock
-Timer Function

The built-in timer can memorize 2 desired time settings. Therefore, it will be convenient if one is set for weekdays and the other is set for weekends.

Memorizing the time setting

The time setting can be memorized regardless of whether the unit is turned on or off.
Before setting the time, make sure that the built-in clock has been set correctly. (See page 18 – 19.)

Utilisation comme réveil
- Fonction de minuterie

La minuterie incorporée peut mémoriser 2 réglages d'heure. Il est pratique d'effectuer un réglage pour les jours de semaine et un autre pour les week-ends par exemple.

Mémorisation du réglage de l'heure

Le réglage de l'heure peut être mémorisé que l'appareil soit sous tension ou non.
Avant de régler la minuterie, s'assurer que l'horloge intégrée a été réglée correctement. (Voir page 18 – 19.)

Empleo como reloj despertador
- Función de temporizador

El temporizador incorporado puede memorizar 2 ajustes de hora. Por lo tanto será muy útil para emplear un ajuste los días de semana y el otro los festivos.

Programación del temporizador

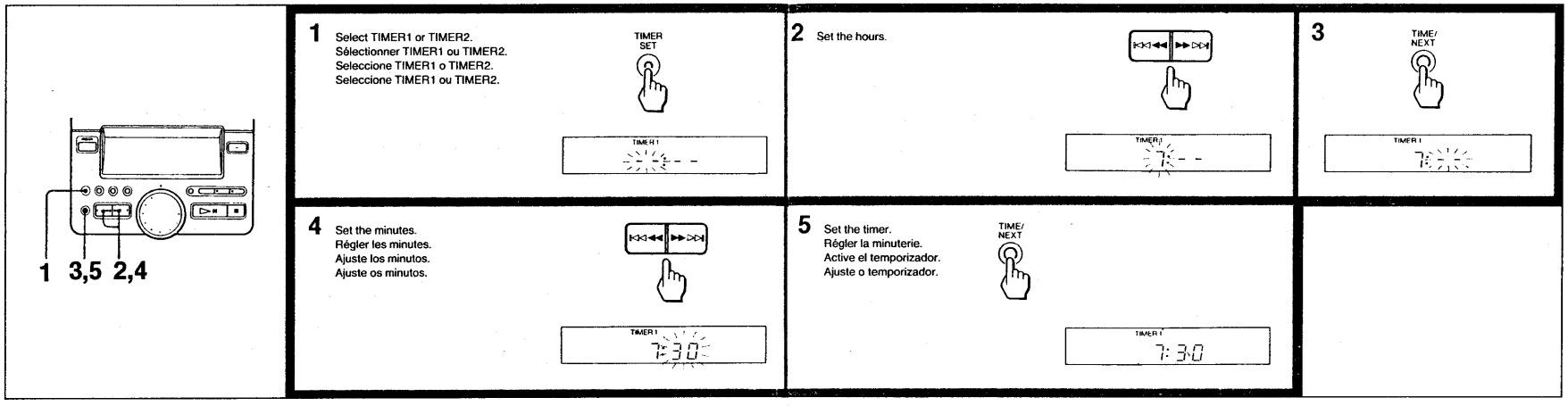
El temporizador podrá programarse independientemente de si la alimentación de la unidad está conectada o desconectada.
Antes de programar el temporizador, cerciórese de que el reloj incorporado esté ajustado a la hora correcta. (Consulte las páginas 18 – 19.)

Utilização como relógio/despertador
- Função do temporizador

O temporizador incorporado pode memorizar até dois ajustes programados.
Poder-se-á, por exemplo, realizar um ajuste para os dias da semana e outro para os fins de semana.

Programaçao do temporizador

O temporizador pode ser programado independente do aparelho estar ligado ou não.
Antes de ajustar o temporizador, certifique-se de que o relógio incorporado indica a hora correcta (veja página 18 – 19).



When the set time disappears after being indicated for 3 seconds (the display returns to the former indication at this time), the selected timer (TIMER1 or TIMER2) starts operating

To disengage the timer
Press TIMER SELECT so that neither "TIMER1" nor "TIMER2" is indicated on the display.

If any button other than TIMER SET and ⏮ ◀◀/▶▶ ⏭ is pressed while setting the time
The setting will be cancelled.

Notes on step 1
- *Press the button once for selecting TIMER1, twice for TIMER2 and three times for cancelling the timer setting.*
- *If the timer was previously set, the set time will be indicated instead of "– – . – –".*

Lorsque l'affichage de l'heure réglée disparaît après 3 secondes (l'affichage revient à l'indication précédente), la minuterie sélectionnée (TIMER1 ou TIMER2) démarre.

Annulation de la minuterie
Appuyer sur TIMER SELECT pour que ni "TIMER1" ni "TIMER2" ne soit indiqué sur l'affichage.

Si une touche autre que TIMER SET et ⏮ ◀◀/▶▶ ⏭ est enclenchée pendant le réglage de la minuterie
Le réglage est annulé.

Remarques sur l'étape 1
- *Appuyer une fois sur la touche pour sélectionner TIMER1, deux fois pour sélectionner TIMER2 et trois fois pour annuler le réglage de la minuterie.*
- *Si la minuterie a déjà été réglée, l'heure réglée est indiquée au lieu de "– – . – –".*

Cuando la hora ajustada desaparezca después de haberse indicado durante 3 segundos (la visualización volverá a la indicación anterior en este momento), el temporizador seleccionado (TIMER1 o TIMER2) comenzará a funcionar.

Para desactivar el temporizador
Presione TIMER SELECT de forma que en el visualizador no se indique "TIMER1" ni "TIMER2".

Si presiona cualquier tecla que no sea TIMER SET ni ⏮ ◀◀/▶▶ ⏭ durante la programación del temporizador
La programación se cancelará.

Notas sobre el paso 1
- *Para seleccionar TIMER1, presione una vez la tecla, dos veces para seleccionar TIMER2, y tres para cancelar la programación del temporizador.*
- *Si ya había programado el temporizador, en vez de "– – . – –" se indicará la hora previamente programada.*

A hora ajustada desaparece do visor após 3 segundos (aparece novamente a indicaçao anterior), e o temporizador seleccionado (TIMER1 ou TIMER2) entra em funcionamento.

Para desactivar o temporizador
Pressione TIMER SELECT de forma a não obter as indicações (TIMER1) ou (TIMER2) no visor.

Se for pressionada outra tecla que não seja TIMER SET e ⏮ ◀◀/▶▶ ⏭ durante o ajuste do temporizador
O ajuste será cancelado.

Notas sobre o passo 1
- *Pressione a tecla uma vez para seleccionar TIMER1, duas vezes para TIMER2 e três vezes para cancelar o ajuste do temporizador.*
- *Se o temporizador já tiver sido ajustado anteriormente, a hora ajustada será indicada no lugar de «– – . – –»*

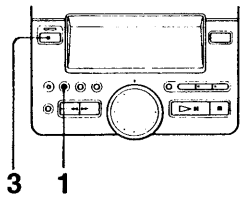
Using as an Alarm Clock
– Timer Function

Utilisation comme réveil
– Fonction de minuterie

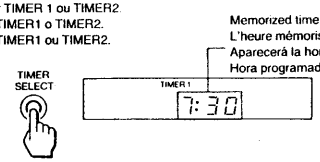
Empleo como reloj temporizador
– Función de temporizador

Utilização como relógio/despertador
– Função do temporizador

Activating the Timer / Mise en marche de la minuterie / Activación del temporizador / Activação do temporizador

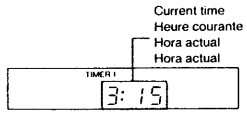


1 Select TIMER1 or TIMER2.
Sélectionner TIMER 1 ou TIMER2.
Seleccione TIMER1 o TIMER2.
Seleccione TIMER1 ou TIMER2.



2 Select the alarm sound.*
Sélectionner le son de l'alarme*
Seleccione el sonido de alarma.*
Seleccione do som do alarme*

3 Turn off the power if it is on.
Mettre l'appareil hors tension.
Desconecte la alimentación, si está conectada.
Desligue a alimentação se esta estiver ligada.



*

Alarm	*Do not insert a disc.*
Disc sound	*Insert a disc and adjust the volume level. Play mode can also be designated from among continuous, shuffle, and program play*

When the set time comes, the unit starts sounding an alarm or playing the disc.

In the following cases, the unit sounds an alarm even though disc sound has been selected for alarm sound in step 2 above.
- If a disc is played when the set time comes.
- If the LINE IN jack is being used when the set time comes.

To stop the alarm
Press any button.

To disengage the timer
Press TIMER SELECT so that neither "TIMER1" nor "TIMER2" is indicated on the display.

*

Alarme	*Ne pas insérer de disque.*
Son du disque	*Insérer un disque et régler le volume. Le mode de lecture peut être désigné parmi la lecture continue, aléatoire et programmée.*

Lorsque l'heure réglée est atteinte, l'appareil fait retentir une alarme ou reproduit un disque.

Dans les cas suivants, l'appareil fait retentir une alarme même si le son du disque a été sélectionné à l'étape 2 ci-dessus.
- Si un disque est en cours de lecture lorsque l'heure réglée est atteinte.
- Si la prise LINE IN est utilisée quand l'heure réglée est atteinte.

Arrêt de l'alarme
Appuyer sur une touche quelconque.

Annulation de la minuterie
Appuyer sur TIMER SELECT pour que ni "TIMER1" ni "TIMER2" ne soit indiqué sur l'affichage.

*

Alarma	*No inserte un disco.*
Sonido de disco	*Inserte un disco y ajuste el nivel del volumen. El modo de reproducción también podrá designarse entre reproducción continua, aleatoria, y programada.*

Cuando llegue la hora programada, la unidad comenzará a emitir la alarma o a reproducir el disco.

En los casos siguientes, la unidad emitirá la alarma, incluso aunque haya seleccionado un disco para el sonido de alarma en el paso 2.
- Si el disco está reproduciéndose cuando llegue la hora programada.
- Si la toma LINE IN está empleándose cuando llegue la hora programada.

Para silenciar la alarma
Presione cualquier tecla.

Para desactivar el temporizador
Presione TIMER SELECT de forma que en el visualizador no se indique "TIMER1" ni "TIMER2".

*

Alarme	*não insira nenhum disco.*
Leitura do disco	*insira um disco e ajuste o volume. O modo de leitura pode também ser especificado para a leitura contínua, aleatória ou programada.*

Na hora especificada soa o alarme ou inicia-se a leitura do disco.

Nos seguintes casos, soará o alarme apesar da leitura de discos ter sido seleccionada para o som do alarme no passo 2 descrito acima:
- Se um disco já estiver em execução na hora especificada para a activação.
- Se a tomada LINE IN estiver a ser utilizada na hora especificada.

Para parar o alarme
Pressione qualquer tecla.

Para desactivar o temporizador
Pressione TIMER SELECT de forma a não obter as indicações (TIMER1) ou (TIMER2) no visor.

Note on step 1
Press the button once for selecting and activating TIMER1, twice for TIMER2 and three times for cancelling the timer.

Note on step 2
If repeat play mode has been designated, it is disengaged when the set time comes. (However it is not disengaged if the unit is playing a disc or is in pause mode at the set time.)

Remarque sur l'étape 1
Appuyer sur la touche une fois pour sélectionner et mettre en marche TIMER1, deux fois pour TIMER2 et trois fois pour annuler la minuterie.

Remarque sur l'étape 2
Si le mode de lecture répétée a été choisi, il est annulé quand l'heure préréglée est atteinte. (Cependant, il n'est pas annulé si l'appareil est en train de reproduire un disque ou est en mode de pause quant l'heure réglée est atteinte.)

Nota sobre el paso 1
Presione la tecla una vez para seleccionar y activar TIMER1, dos veces para TIMER2, y tres para cancelar el temporizador.

Nota sobre el paso 2
Si había designado el modo de reproducción repetida, se desactivará cuando llegue la hora programada. (Sin embargo no se desactivará si la unidad está reproduciendo un disco o se encuentra en el modo de pausa cuando llegue la hora programada.)

Nota sobre o passo 1
Pressione a tecla uma vez para seleccionar e activar TIMER1, duas vezes para TIMER2 e três vezes para cancelar o ajuste do temporizador.

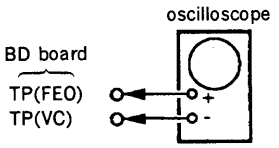
Nota sobre o passo 2
Se o modo de leitura repetida for seleccionado, este será cancelado ao chegar da hora especificada (no entanto, este não será cancelado se o aparelho estiver a efectuar a leitura de um disco ou no modo de pausa na hora especificada para a activação).

SECTION 2
ELECTRICAL BLOCK CHECKING

Note :

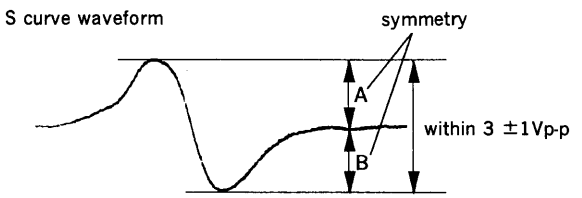
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal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

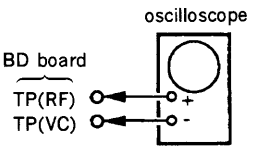


5. After check, remove the lead wire connected in step 2.

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

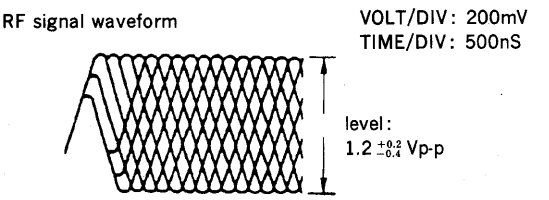


Procedure :

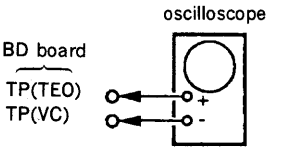
1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note :

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

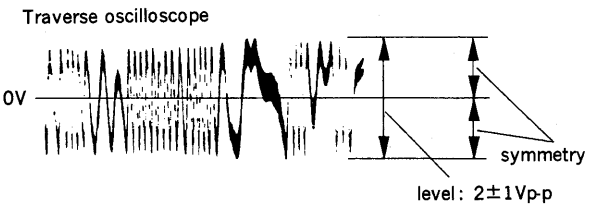


E-F Balance Check



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 osillosc ope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

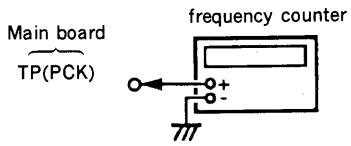


6. Remove the lead wire connected in step 1.

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.

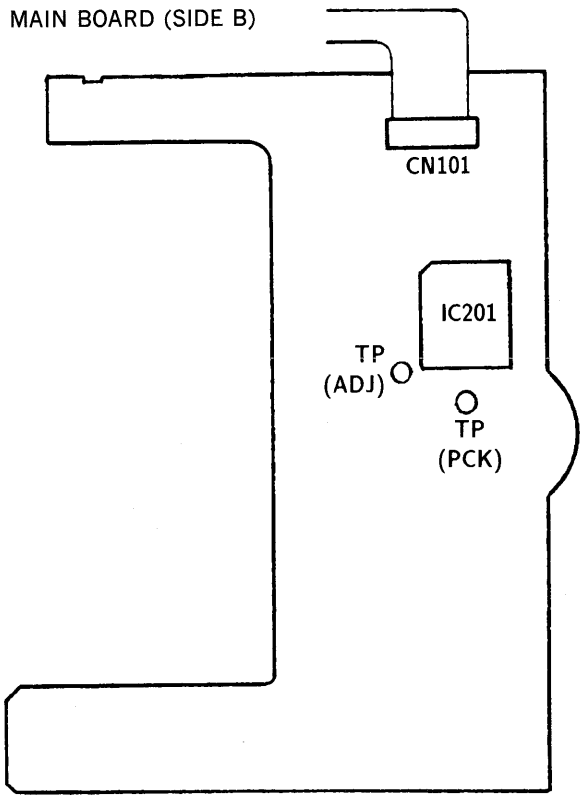
There is no problem.

Therefore, do not perform, this adjustment.

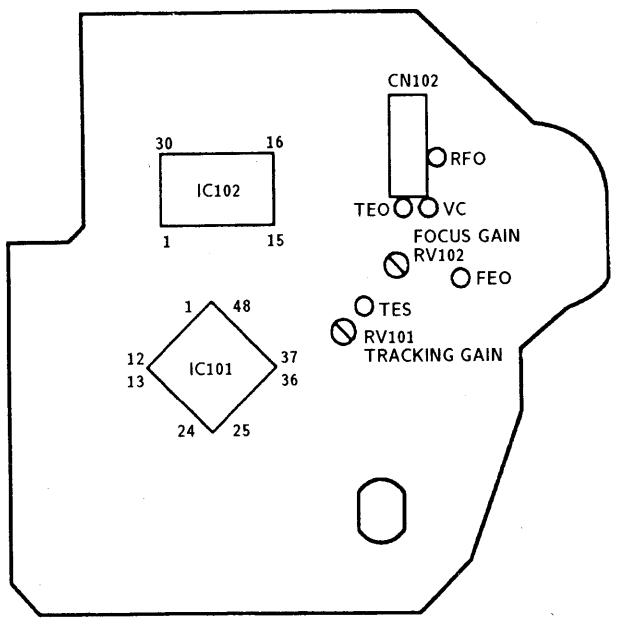
Please note that it should be fixed to mechanical center position when you moved and do not know original position.

Checking Locations :

MAIN BOARD (SIDE B)



BD BOARD (CONDUCTOR SIDE)



SECTION 3
DIAGRAMS

3-1. PIN DESCRIPTION

- **IC301 Digital Filter (CXD2560)**

Pin No.	Name	I/O	Description
1	V_{SS}	–	Power source terminal (GND).
2	SYSTEM	I	System mute input Significant at "H".
3	ATT	I	ATT data input when CTL is "L". EMP input when CLT is "H".
4	SHIFT	I	Shift clock input when CTL is "L". FS32 input when CTL is "H".
5	LATCH	I	Latch clock input when CTL is "L". FS48 input when CTL is "H".
6	CTL	I	Pull-down inside of the IC. Direct input mode at "H". Serial transfer mode at "L".
7	INIT	I	Resynchronization at the pull-up edge of the main signal.
8	BCKI	I	BCK input.
9	DATAI	I	Data input.
10	LACKI	I	LRCK input.
11	TEST	I	Terminal for test. "L" is fixed for normal use.
12	V_{SS}	–	Power source terminal (GND).
13	$128F_S$	O	128Fs clock output.
14	INVI	I	Inverter input.
15	INVO	O	Inverter output.
16	INVO2	O	Inverter output.
17	MCLK	I	Master clock input. (f=512Fs)
18	V_{DD}	–	Power source terminal (+2V).
19	BCKO	O	BCK output.
20	DL	O	L-ch data output.
21	DR	O	R-ch data output.
22	LRCKO	O	LRCK output.
23	FLGL	O	L-ch ϕ mute flag output.
24	FLGR	O	R-ch ϕ mute flag output.

- **IC303 Pulse D/A Converter(CXD2561M)**

Pin No.	Name	I/O	Description
1	DV_{DD}	–	Digital power source.
2	TEST	I	Terminal for test. "L" is fixed for normal use.
3	INIT	I	Resynchronization at the pull-up edge of the main signal.
4	LRCKI	I	LRCK input.
5	DRI	I	R-ch data input.
6	DLI	I	L-ch data input.
7	BCKI	I	BCK input.
8	DV_{SS}	–	Digital GND.
9	$512F_S$	O	512Fs output.
10	XV_{SS}	–	Clock GND.
11	XIN	I	X'tal Oscillation input terminal.
12	XOUT	O	X'tal Oscillation output terminal.
13	XV_{DD}	–	Clock power source.
14	VSUB	–	Substraight. Connection with GND.

Pin No.	Name	I/O	Description
15	AV_{DD} R	–	Analog power source.
16	R1(+)	O	R-ch PLM output 1. (Positive-phase)
17	AV_{SS} R	–	Analog GND.
18	R1(–)	O	R-ch PLM output 1. (Negative-phase)
19	R2(+)	O	R-ch PLM output 2. (Positive-phase)
20	R2(–)	O	R-ch PLM output 2. (Negative-phase)
21	AV_{DD}	–	Analog power source.
22	AV_{SS}	–	Analog GND.
23	L2(–)	O	L-ch PLM output 2. (Negative-phase)
24	L2(+)	O	L-ch PLM output 2. (Positive phase)
25	L1(–)	O	L-ch PLM output 1. (Negative-phase)
26	AV_{SS} L	–	Analog GND.
27	L1(+)	O	L-ch PLM output 1. (Positive-phase)
28	AV_{DD} L	–	Analog power source.

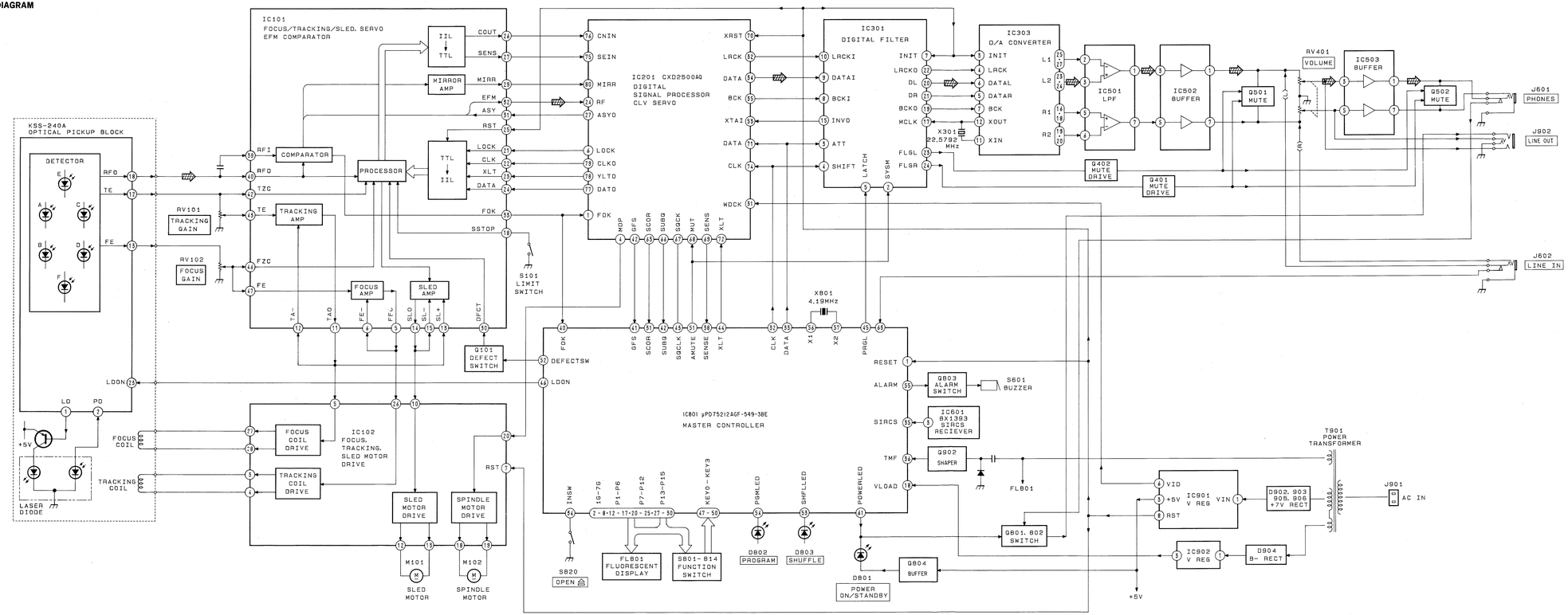
• **IC801 Master Controller (μPD75512-AGF-500)**

This terminal performs the control of CD(RF amplifier, DSP, Servo, Digitalfilter), key - input, display of the FL tube, and the control of the remote controller signal.

Pin No.	Name	I/O	Description
1	RESET	I	Reset input.
2	1G	O	Common output to the FL tube.
3	2G	O	
4	3G	O	
5	4G	O	
6	5G	O	
7	6G	O	
8	7G	O	
9	–	–	Not used in this unit.
10	–	–	
11	–	–	
12	P1	O	Segment output to the FL tube.
13	P2	O	
14	P3	O	
15	P4	O	
16	P5	O	
17	P6	O	
18	VLOAD	I	Power source for the FL tube controller (built-in) (–23V).
19	VPRE	I	Power source for the FL predriver (built-in) (–10V).
20	P7	O	Segment output to the FL tube.
21	P8	O	
22	P9	O	
23	P10	O	
24	P11	O	
25	P12	O	

Pin No.	Name	I/O	Description
26	V_{DD}	–	Power source terminal (+5V).
27	P13	O	Segment to the FL tube, Key scan output.
28	P14	O	
29	P15	O	
30	P16	O	
31	SCOR	I	Subcode sync from IC201(CXD2500AQ) S0+S1 detection input.
32	CLK	O	Serial data transfer clock output to IC201(CXD2500AQ) and IC301 (CXD2560).
33	DATA	O	Serial data output to IC201(CXD2500AQ) and IC301(CXD2560).
34	INSW	I	OPEN (▲) switch input of the disk holder.
35	SIRCS	I	Remote controller data (SIRCS) input.
36	TMF	I	Synchronous signal input for clock.
37	ADJ	I	Test mode input GFS check is not performed at "L".
38	SENSE	I	SENS signal input from IC201(CXD2500AQ).
39	AFADJ	I	Test mode input. Each test operation is performed at "L" when the POWER is turned on.
40	FOK	I	Focus OK signal input from IC101(CXA1372Q).
41	GFS	I	GFS signal input from IC201(CXD2500AQ).
42	SUBQ	I	Subcode Q data input from IC201(CXD2500AQ).
43	SQCLK	O	Subcode Q data reading clock output to IC201(CXD2500AQ).
44	XLT	O	Serial data latch output.
45	PRGL	O	Attenuator data latch clock output to IC301(CXD2560).
46	LDON	O	Laser diode ON/OFF switch selecting output of the light pick-up.
47	KEY0	I	Key scan input.
48	KEY1	I	
49	KEY2	I	
50	KEY3	I	
51	AMUTE	O	MUTE output for IC201(CXD2560) and IC301(CXD2560). Mute is set at "H", and release is performed at "L".
52	DEFECTSW	O	Defect circuit ON/OFF switch selecting output of IC101(CXD1372Q).
53	SHFLLED	O	D803 (SHUFFLE) LED output.
54	PGMLED	O	D802 (PROGRAM) LED output.
55	ALARM	O	Alarm (S601) ON/OFF switch selecting output.
56	X1	–	Ceramic connection terminal for system clock oscillation.
57	X2	–	
58	V_{SS}	–	Power source terminal (GND).
59	XT1	I	Not used in this unit.
60	XT2	I	
61	PWRLED	O	D801(ON/STANDBY) LED output.
62	–	–	Not used in this unit.
63	LINE IN	I	LINE IN (J602) detection input.
64	DFSEL	I	D/F data selection.

3-2. BLOCK DIAGRAM



CDP-FLX1 CDP-FLX1

• Semiconductor Lead Layouts

BX1393

DTZ5.1B
DTZ6.8B
DTZ20B

CXA1372Q

1SS355

CXD2500AQ
μPD75512-AGF-550

11ES2

XN4216
IMD2

BR1102W

2SA1341

MPG3371X-150

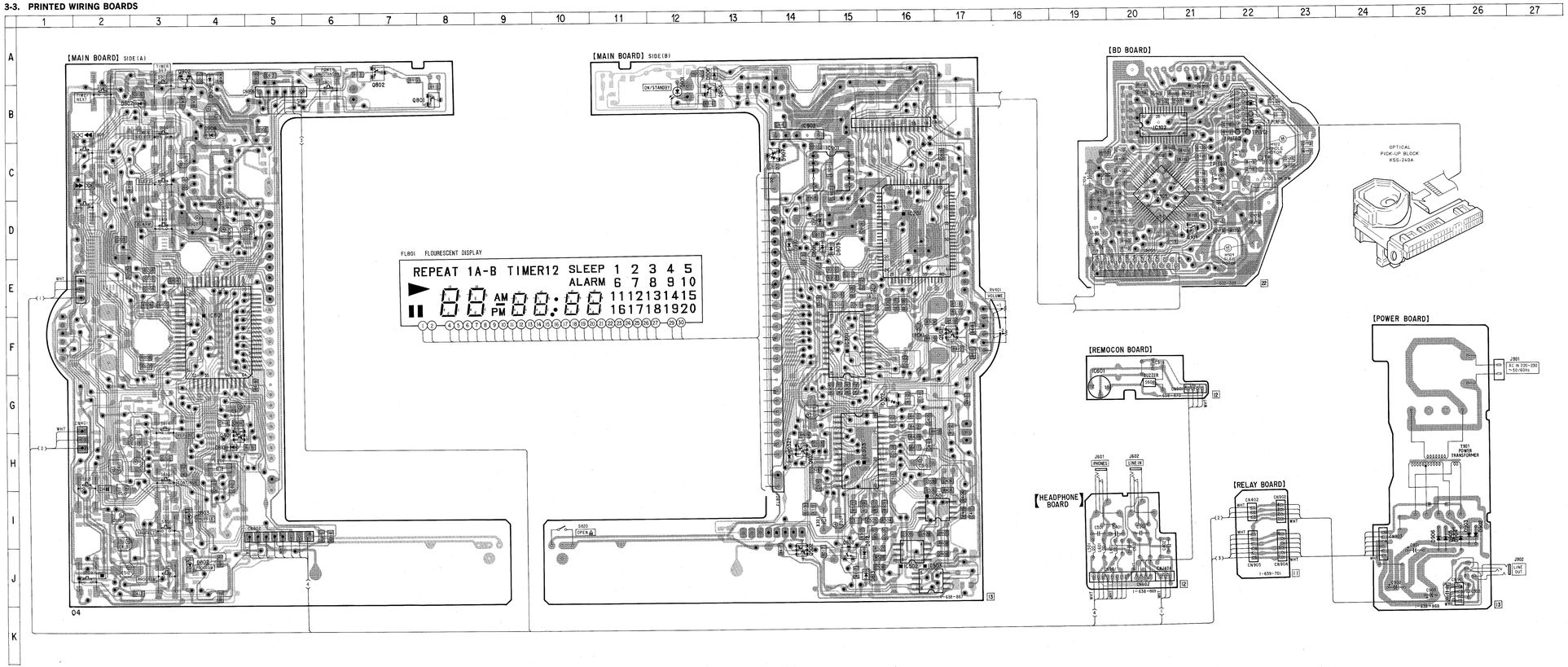
• Semiconductor Location

Ref. No.	Location
D302	G-15
D321	H-14
D801	B-12
D802	J-3
D803	I-3
D806	A-12
D807	B-12
D808	D-14
D809	D-14
D810	H-4
D812	J-15
D813	J-15
D902	I-26
D903	J-25
D904	J-25
D905	J-25
D906	J-25
D907	C-14
D908	B-4
D909	B-4
D910	D-14
D911	D-14
IC101	D-20
IC102	B-20
IC201	D-16
IC301	F-15
IC303	H-15
IC501	I-16
IC502	J-16
IC503	J-16
IC601	G-19
IC801	F-4
IC901	C-14
IC902	B-14
Q101	D-21
Q401	H-4
Q402	H-14
Q501	F-16
Q502	J-14
Q801	B-8
Q802	A-7
Q803	J-15
Q804	B-12
Q902	A-3

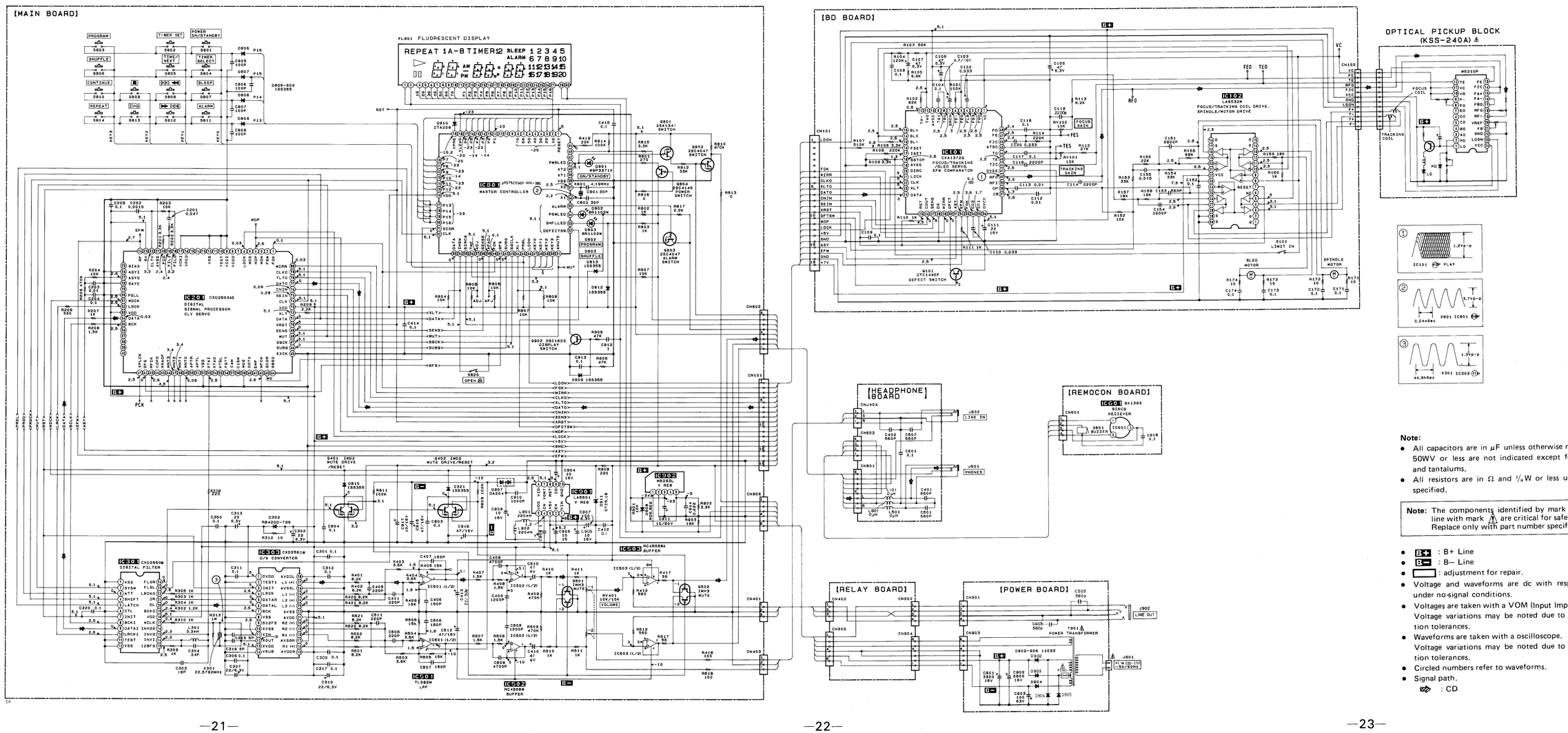
Note:

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

3-3. PRINTED WIRING BOARDS



3-4. SCHEMATIC DIAGRAM • Refer to page 24 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 1/4 W or less unless otherwise specified.

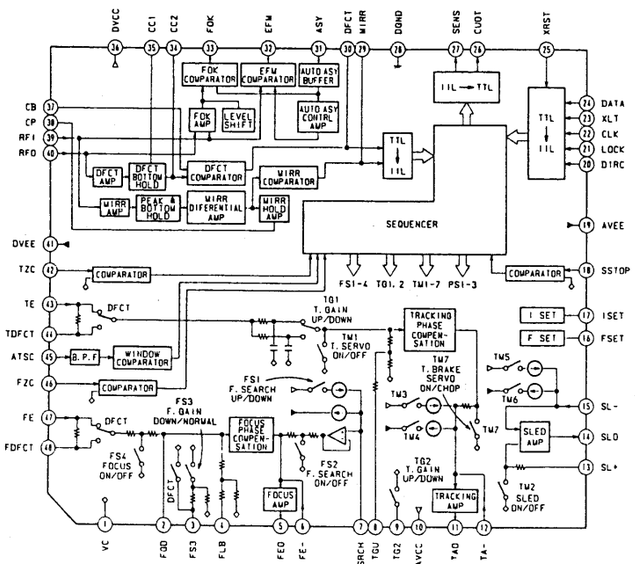
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- B+ : B+ Line
- B− : B− Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- 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.
  ⇨ : CD

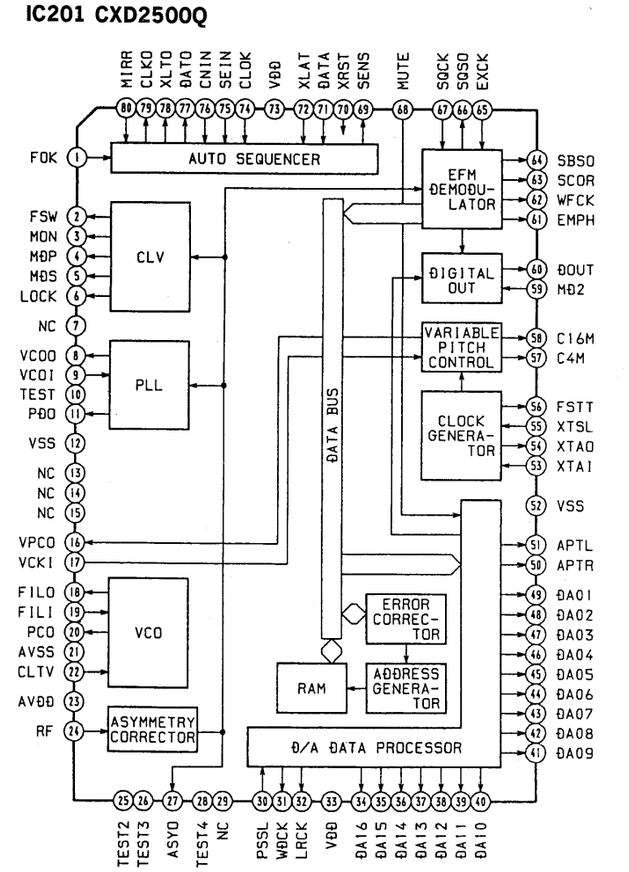
CDP-FLX1

3-5. IC BLOCK DIAGRAMS

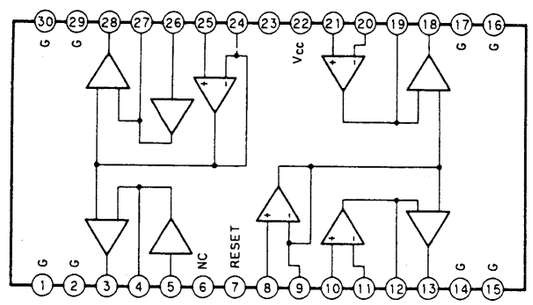
IC101 CXA1372Q



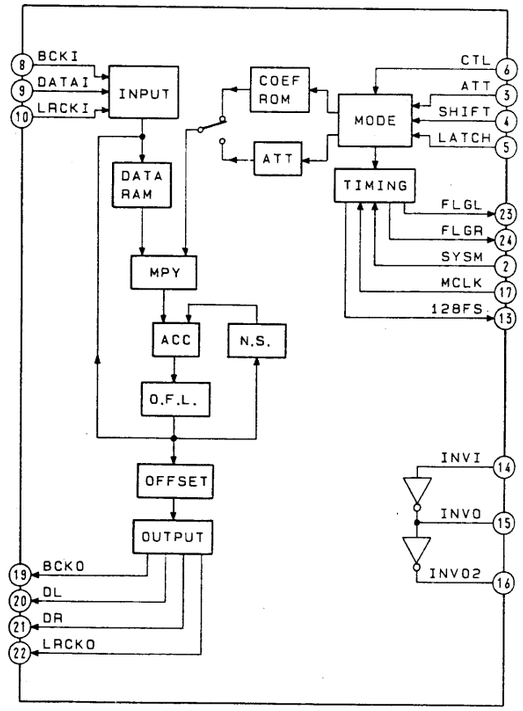
IC201 CXD2500Q



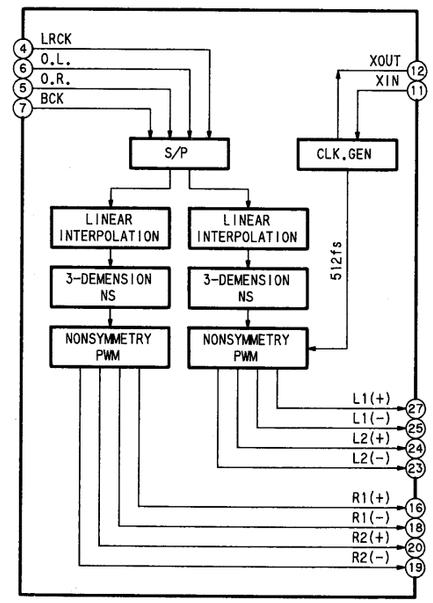
IC102 LA6532M



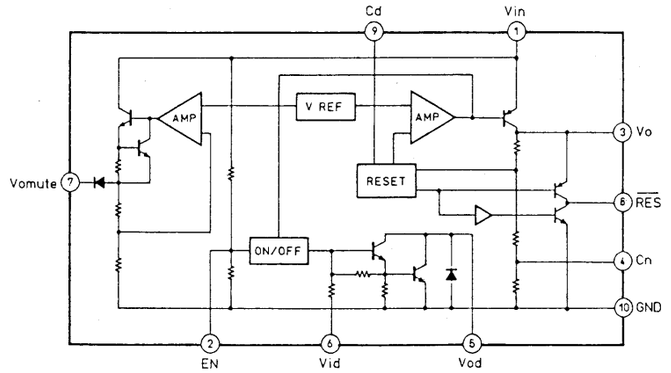
IC301 CXD2560M



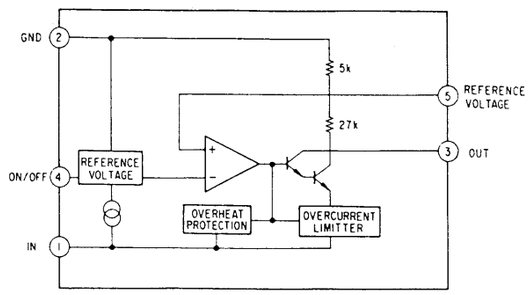
IC303 CXD2561



IC901 LA5601



IC902 M5293L



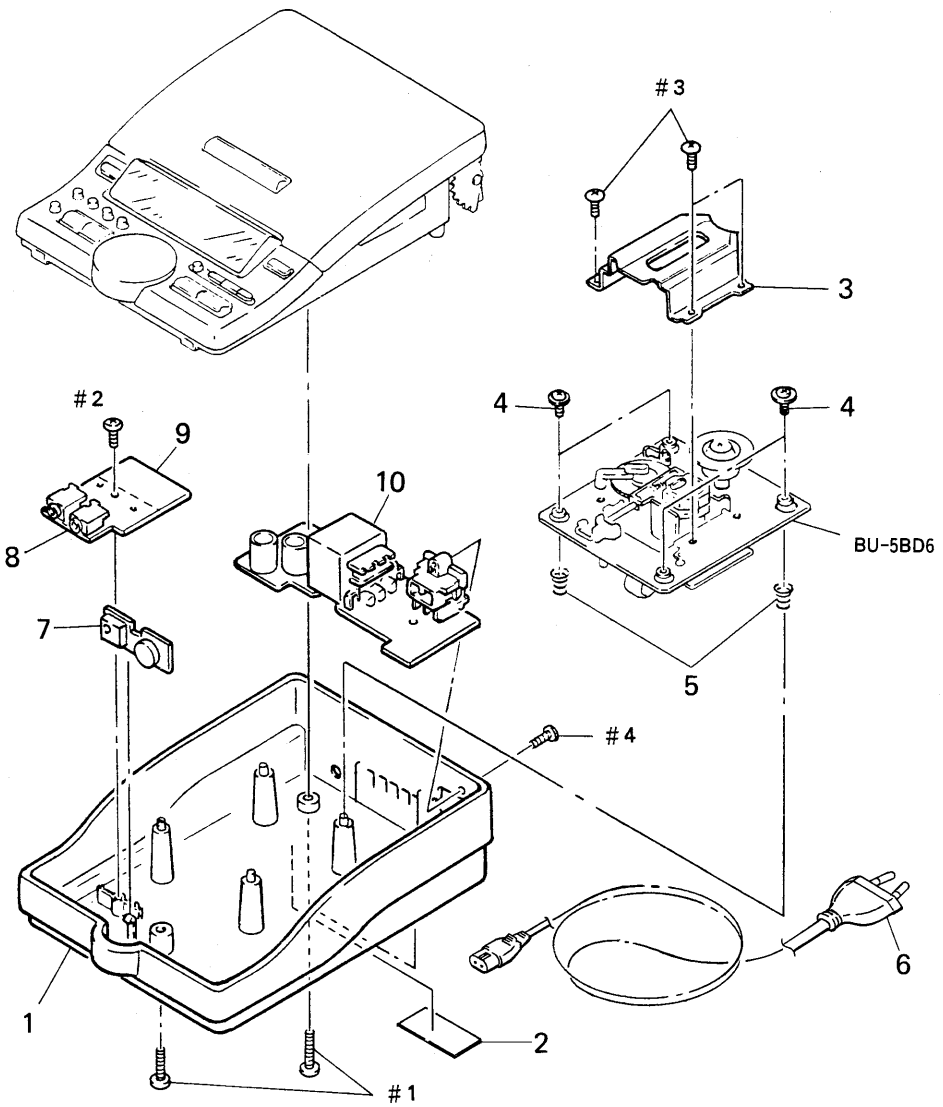
SECTION 4
EXPLODED VIEWS

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, -X mean standardized parts, so they may have some differences 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.

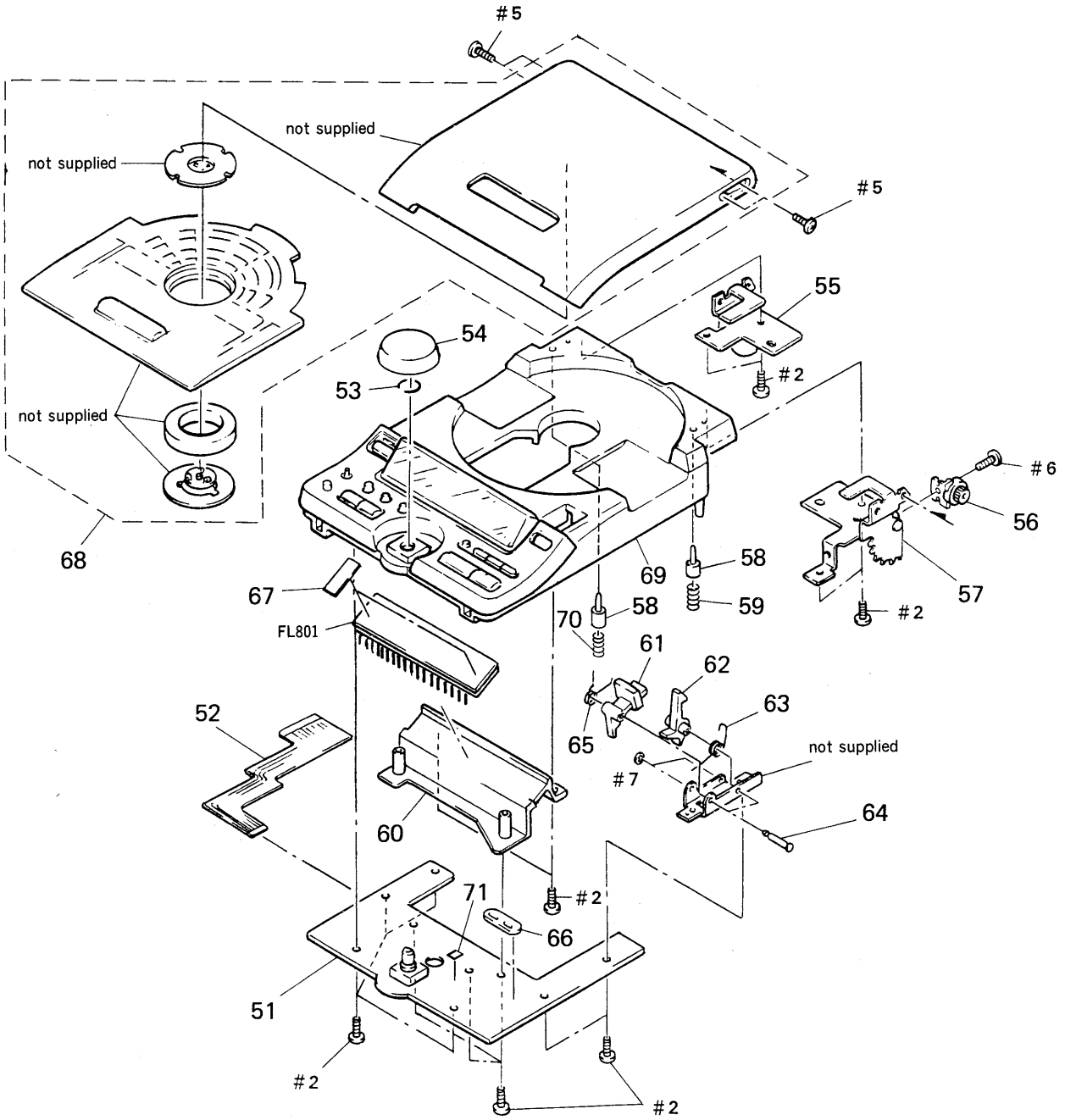
4-1. LOWER CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	X-4941-842-1	CASE (LOWER) ASSY	
2	* 4-941-548-01	LABEL, CLASS 1	
3	4-944-086-01	COVER (BU)	
4	4-933-134-01	SCREW (+PTPWH M2.6X6)	
5	4-917-541-01	SPRING (B)	

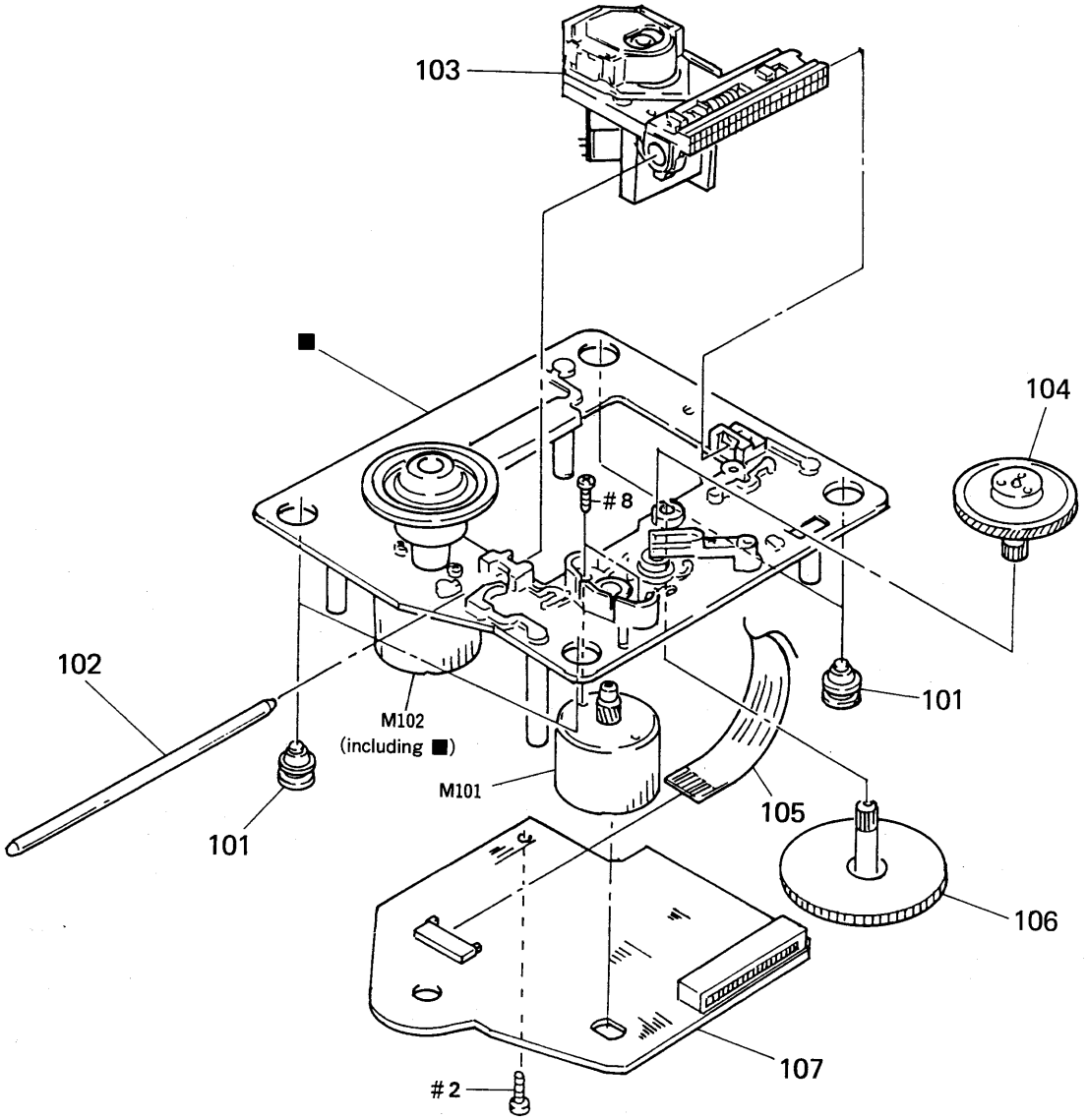
Ref. No.	Part No.	Description	Remark
6	⚠ 1-690-259-11	CORD, POWER (AE1)	
6	⚠ 1-558-835-12	CORD, POWER (AE2)	
7	* 1-638-870-11	REMOCON BOARD	
8	* 1-638-869-11	HEADPHONE BOARD	
9	* 1-639-701-11	RELAY BOARD	
10	* 1-638-868-11	POWER BOARD	

4-2. UPPER CABINET SECTION



Ref. No.	Part No.	Description	Remark
51	* A-4649-003-A	MAIN BOARD, COMPLETE	
52	1-639-529-11	PC BOARD, FLEXIBLE	
53	3-354-981-01	SPRING (SUS), RING	
54	4-944-087-01	KNOB (VOL)	
55	X-4941-470-1	LEVER (FULCRUM-L) ASSY	
56	4-919-393-01	DAMPER	
57	X-4941-471-1	LEVER (FULCRUM-R) ASSY	
58	4-944-089-01	SHAFT (UP)	
59	4-944-094-01	SPRING, COMPRESSION	
60	* 4-944-080-01	HOLDER (FL)	
61	4-944-075-01	BUTTON (EJECT)	
62	4-944-078-01	LEVER (LOCK)	
63	4-944-091-01	SPRING (LOCK)	
64	* 4-944-088-01	SHAFT (EJECT)	
65	4-944-092-01	SPRING (BUTTON)	
66	4-944-097-01	SPACER	
67	3-831-441-XX	CUSHION	
68	X-4941-643-1	COVER ASSY	
69	X-4941-468-1	CASE (UPPER) ASSY	
70	4-945-386-01	SPRING, COMPRESSION	
71	3-837-441-11	SPACER	
FL801	1-519-640-11	INDICATOR TUBE, FLUORESCENT	

4-3. OPTICAL PICK-UP SECTION (BU-5BD6)



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

Ref. No.	Part No.	Description	Remark
101	4-933-126-01	INSULATOR (A)	
102	4-917-565-01	SHAFT, SLED	
103	⚠ 8-848-144-11	DEVICE, OPTICAL KSS-240A	
104	4-917-567-01	GEAR (M)	
105	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
106	4-917-564-01	GEAR (P), FLATNESS	
107	* A-4617-951-A	BD BOARD, COMPLETE	
M101	X-4917-504-1	MOTOR ASSY (SLED)	
M102	X-4917-523-3	MOTOR ASSY (SPINDLE)	

SECTION 5
ELECTRICAL PARTS LIST

BD

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.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- CAPACITORS
  uF: μF
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: μH
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD....

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

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

Ref. No.	Part No.	Description			Remark
*	A-4617-951-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
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	1-163-021-91	CERAMIC CHIP 0.01uF	10%	50V	
C113	1-163-021-91	CERAMIC CHIP 0.01uF	10%	50V	
C114	1-163-013-91	CERAMIC CHIP 0.0022uF	10%	50V	
C115	1-163-013-91	CERAMIC CHIP 0.0022uF	10%	50V	
C117	1-163-038-00	CERAMIC CHIP 0.1uF		25V	
C118	1-163-038-00	CERAMIC CHIP 0.1uF		25V	
C119	1-163-013-91	CERAMIC CHIP 0.0022uF	10%	50V	
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	1-163-013-91	CERAMIC CHIP 0.0022uF	10%	50V	
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	

Ref. No.	Part No.	Description			Remark
		< CONNECTOR >			
CN101	1-568-796-11	SOCKET, CONNECTOR			22P
CN102	1-568-795-11	SOCKET, CONNECTOR			12P
		< IC >			
IC101	8-752-050-82	IC CXA1372Q			
IC102	8-759-822-36	IC LA6532M			
		< JUMPER >			
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	

BD MAIN

Ref. No.	Part No.	Description			Remark
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
		< VARIABLE RESISTOR >			
RV101	1-238-016-11	RES, ADJ, CARBON 10K			
RV102	1-238-016-11	RES, ADJ, CARBON 10K			
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF (LIMIT IN)			

****

* A-4649-003-A MAIN BOARD, COMPLETE
****

* 4-923-532-31 SPACER, LED
* 4-944-080-01 HOLDER (FL)
7-685-134-19 SCREW +BTP 2.6X8 TYPE2 N-S

< CAPACITOR >

C201	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C202	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C203	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C204	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C205	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C301	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C302	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C303	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C304	1-163-102-00	CERAMIC CHIP	24PF	5%	50V
C306	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C307	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C309	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C310	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C311	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C312	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C313	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C315	1-163-088-00	CERAMIC CHIP	5PF		50V
C316	1-163-088-00	CERAMIC CHIP	5PF		50V
C317	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C320	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C350	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C405	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C406	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C407	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C408	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C409	1-163-143-00	CERAMIC CHIP	0.0012uF	5%	50V
C410	1-126-607-11	ELECT CHIP	47uF	20%	4V
C411	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C412	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C413	1-126-601-11	ELECT	2.2uF	20%	50V
C414	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C415	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C505	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C506	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C507	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C508	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C509	1-163-143-00	CERAMIC CHIP	0.0012uF	5%	50V
C510	1-126-607-11	ELECT CHIP	47uF	20%	4V
C511	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C512	1-126-204-11	ELECT CHIP	47uF	20%	16V
C801	1-163-104-00	CERAMIC CHIP	30PF	5%	50V
C802	1-163-104-00	CERAMIC CHIP	30PF	5%	50V
C803	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C804	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C805	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C806	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C807	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C808	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C904	1-124-779-00	ELECT CHIP	10uF	20%	16V
C905	1-124-779-00	ELECT CHIP	10uF	20%	16V
C906	1-124-779-00	ELECT CHIP	10uF	20%	16V
C907	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C908	1-164-346-11	CERAMIC CHIP	1uF		16V
C909	1-124-779-00	ELECT CHIP	10uF	20%	16V
C910	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C911	1-126-405-11	ELECT CHIP	10uF	20%	50V
C912	1-164-346-11	CERAMIC CHIP	1uF		16V
C913	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C914	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C915	1-126-204-11	ELECT CHIP	47uF	20%	16V
C916	1-126-204-11	ELECT CHIP	47uF	20%	16V
C917	1-124-779-00	ELECT CHIP	10uF	20%	16V

< CONNECTOR >

CN101	* 1-580-871-31	SOCKET, CONNECTOR (SMT)	18P

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D302	8-719-975-43	DIODE RB420D	
D321	8-719-988-62	DIODE 1SS355	
D801	8-719-970-07	LED MPG3371X-150	
D802	8-719-951-20	LED BR1102W	
D803	8-719-951-20	LED BR1102W	
D806	8-719-988-62	DIODE 1SS355	
D807	8-719-988-62	DIODE 1SS355	
D808	8-719-988-62	DIODE 1SS355	
D809	8-719-988-62	DIODE 1SS355	
D810	8-719-988-62	DIODE 1SS355	
D812	8-719-988-62	DIODE 1SS355	
D813	8-719-988-62	DIODE 1SS355	
D907	8-719-800-76	DIODE 1SS226	
D908	8-719-977-12	DIODE DTZ6.8B	
D909	8-719-988-62	DIODE 1SS355	
D910	8-719-977-61	DIODE DTZ20B	
D911	8-719-976-XX	DIODE DTZ5.1B	
		< INDICATOR TUBE >	
FL801	1-519-640-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC201	8-752-337-26	IC CXD2500AQ	
IC301	8-752-342-65	IC CXD2560M	
IC303	8-752-343-01	IC CXD2561M	
IC501	8-759-981-48	IC TL082M	
IC502	8-759-981-92	IC RC4558M	
IC503	8-759-981-86	IC RC4556M-A	
IC801	8-759-155-07	IC uPD75212AGF-550-3BE	
IC901	8-759-821-93	IC LA5601	
IC902	8-759-633-42	IC M5293L	
		< COIL >	
L301	1-410-375-11	INDUCTOR CHIP 3.3uH	
L901	1-410-658-31	INDUCTOR, CHIP 220uH	
L902	1-410-658-31	INDUCTOR, CHIP 220uH	
		< TRANSISTOR >	
Q401	8-729-907-39	TRANSISTOR IMD2	
Q402	8-729-907-39	TRANSISTOR IMD2	
Q501	8-729-403-40	TRANSISTOR XN4216	
Q502	8-729-403-40	TRANSISTOR XN4216	
Q801	8-729-805-69	TRANSISTOR 2SA1341	
Q802	8-729-805-94	TRANSISTOR 2SC4047	
Q803	8-729-805-94	TRANSISTOR 2SC4047	
Q804	8-729-823-74	TRANSISTOR 2SC4146	
Q902	8-729-100-66	TRANSISTOR 2SC1623-L6	

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R201	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R202	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R203	1-216-073-00	METAL CHIP	10K	5%	1/10W
R204	1-216-073-00	METAL CHIP	10K	5%	1/10W
R205	1-216-113-00	METAL CHIP	470K	5%	1/10W
R206	1-216-037-00	METAL CHIP	330	5%	1/10W
R207	1-216-049-00	METAL CHIP	1K	5%	1/10W
R208	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R209	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R302	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R303	1-216-049-00	METAL CHIP	1K	5%	1/10W
R304	1-216-049-00	METAL CHIP	1K	5%	1/10W
R305	1-216-049-00	METAL CHIP	1K	5%	1/10W
R308	1-216-033-00	METAL CHIP	220	5%	1/10W
R309	1-216-049-00	METAL CHIP	1K	5%	1/10W
R310	1-216-049-00	METAL CHIP	1K	5%	1/10W
R312	1-216-001-00	METAL CHIP	10	5%	1/10W
R313	1-216-121-00	METAL CHIP	1M	5%	1/10W
R401	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R402	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R403	1-216-062-00	METAL CHIP	3.6K	5%	1/10W
R404	1-216-062-00	METAL CHIP	3.6K	5%	1/10W
R405	1-216-077-00	METAL CHIP	15K	5%	1/10W
R406	1-216-077-00	METAL CHIP	15K	5%	1/10W
R407	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R408	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R409	1-216-113-00	METAL CHIP	470K	5%	1/10W
R410	1-216-049-00	METAL CHIP	1K	5%	1/10W
R411	1-216-049-00	METAL CHIP	1K	5%	1/10W
R412	1-216-043-00	METAL CHIP	560	5%	1/10W
R417	1-216-019-00	METAL CHIP	56	5%	1/10W
R418	1-216-025-00	METAL CHIP	100	5%	1/10W
R419	1-216-081-00	METAL CHIP	22K	5%	1/10W
R420	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R421	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R501	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R502	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R503	1-216-062-00	METAL CHIP	3.6K	5%	1/10W
R504	1-216-062-00	METAL CHIP	3.6K	5%	1/10W
R505	1-216-077-00	METAL CHIP	15K	5%	1/10W
R506	1-216-077-00	METAL CHIP	15K	5%	1/10W
R507	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R508	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R509	1-216-113-00	METAL CHIP	470K	5%	1/10W
R510	1-216-049-00	METAL CHIP	1K	5%	1/10W
R511	1-216-049-00	METAL CHIP	1K	5%	1/10W
R512	1-216-043-00	METAL CHIP	560	5%	1/10W

MAIN **POWER** **HEADPHONE** **REMOCON** **RELAY**

Ref. No.	Part No.	Description			Remark
R517	1-216-019-00	METAL CHIP	56	5%	1/10W
R518	1-216-025-00	METAL CHIP	100	5%	1/10W
R520	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R521	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R801	1-216-035-00	METAL CHIP	270	5%	1/10W
R802	1-216-049-00	METAL CHIP	1K	5%	1/10W
R803	1-216-049-00	METAL CHIP	1K	5%	1/10W
R804	1-216-073-00	METAL CHIP	10K	5%	1/10W
R805	1-216-073-00	METAL CHIP	10K	5%	1/10W
R806	1-216-073-00	METAL CHIP	10K	5%	1/10W
R807	1-216-073-00	METAL CHIP	10K	5%	1/10W
R808	1-216-073-00	METAL CHIP	10K	5%	1/10W
R809	1-216-097-00	METAL CHIP	100K	5%	1/10W
R810	1-216-113-00	METAL CHIP	470K	5%	1/10W
R811	1-216-097-00	METAL CHIP	100K	5%	1/10W
R812	1-216-085-00	METAL CHIP	33K	5%	1/10W
R813	1-216-295-00	METAL CHIP	0	5%	1/10W
R814	1-216-097-00	METAL CHIP	100K	5%	1/10W
R815	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R816	1-216-295-00	METAL CHIP	0	5%	1/10W
R817	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R901	1-216-073-00	METAL CHIP	10K	5%	1/10W
R902	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R903	1-216-079-00	METAL CHIP	18K	5%	1/10W
R905	1-216-089-00	METAL CHIP	47K	5%	1/10W
R906	1-216-089-00	METAL CHIP	47K	5%	1/10W
R907	1-216-073-00	METAL CHIP	10K	5%	1/10W
R908	1-216-033-00	METAL CHIP	220	5%	1/10W
		< VARIABLE RESISTOR >			
RV401	1-241-499-11	RES, VAR, CARBON	10K	(VOLUME)	
		< SWITCH >			
S801	1-571-737-21	SWITCH, KEY BBOARD (REFLOW)		(POWER)	
S802	1-571-737-21	SWITCH, KEY BBOARD (REFLOW)		(TIMER SET)	
S803	1-571-737-21	SWITCH, KEY BBOARD (REFLOW)		(PROGRAM)	
S804	1-571-737-21	SWITCH, KEY BBOARD (REFLOW) (TIMER SELECT)			
S805	1-571-737-21	SWITCH, KEY BBOARD (REFLOW)		(TIME/NEXT)	
S806	1-571-737-21	SWITCH, KEY BBOARD (REFLOW)		(SHUFFLE)	
S807	1-571-737-21	SWITCH, KEY BBOARD (REFLOW)		(SLEEP)	
S808	1-571-737-21	SWITCH, KEY BBOARD (REFLOW)		(⏮⏪)	
S809	1-571-737-21	SWITCH, KEY BBOARD (REFLOW)		(■)	
S810	1-571-737-21	SWITCH, KEY BBOARD (REFLOW)		(CONTINUE)	
S811	1-571-737-21	SWITCH, KEY BBOARD (REFLOW)		(ALARM)	
S812	1-571-737-21	SWITCH, KEY BBOARD (REFLOW)		(⏩⏭)	
S813	1-571-737-21	SWITCH, KEY BBOARD (REFLOW)		(▷❚❚)	
S814	1-571-737-21	SWITCH, KEY BBOARD (REFLOW)		(REPEAT)	
S820	1-572-724-11	SWITCH, LEVER SLIDE (OPEN⏏)			

Ref. No.	Part No.	Description			Remark
		< CRYSTAL >			
X301	1-567-965-11	VIBRATOR, CRYSTAL (22.5792MHz)			
		< CERAMIC >			
X801	1-577-273-11	OSCILLATOR, CERAMIC (4.19MHz)			
		**********			
*	1-638-868-11	POWER BOARD			
		**********			
*	1-638-869-11	HEADPHONE BOARD			
		**********			
*	1-638-870-11	REMOCON BOARD			
		**********			
*	1-639-701-11	RELAY BOARD			
		**********			
	9-911-839-XX	RUBBER (A)			
		< CAPACITOR >			
C401	1-162-291-31	CERAMIC	560PF	10%	50V
C402	1-162-291-31	CERAMIC	560PF	10%	50V
C403	1-162-291-31	CERAMIC	560PF	10%	50V
C501	1-162-291-31	CERAMIC	560PF	10%	50V
C502	1-162-291-31	CERAMIC	560PF	10%	50V
C503	1-162-291-31	CERAMIC	560PF	10%	50V
C601	1-136-165-00	FILM	0.1uF	5%	50V
C901	1-126-015-11	ELECT	3300uF	20%	16V
C902	1-126-017-11	ELECT	6800uF	20%	16V
C903	1-124-572-11	ELECT	100uF	20%	63V
C918	1-136-165-00	FILM	0.1uF	5%	50V
		< CONNECTOR >			
CN402	* 1-564-337-00	PIN, CONNECTOR		3P	
CN602	* 1-564-338-00	PIN, CONNECTOR		4P	
CN801	* 1-564-342-11	PIN, CONNECTOR		8P	
CN901	* 1-564-338-00	PIN, CONNECTOR		4P	
CN903	* 1-564-340-00	PIN, CONNECTOR		6P	
CN905	* 1-564-340-00	PIN, CONNECTOR		6P	
CNJ404	* 1-564-337-61	PIN, CONNECTOR		3P	
		< DIODE >			
D902	8-719-200-82	DIODE	1ES2		
D903	8-719-200-82	DIODE	1ES2		
D904	8-719-200-82	DIODE	1ES2		
D905	8-719-200-82	DIODE	1ES2		
D906	8-719-200-82	DIODE	1ES2		

POWER | HEADPHONE | REMOCON | RELAY

Ref. No.	Part No.	Description	Remark
		< IC >	
IC601	8-749-900-36	IC BX1393	
		< JACK >	
J601	1-573-207-21	JACK, SMALL TYPE (PHONES)	
J602	1-573-207-11	JACK, SMALL TYPE (LINE IN)	
J901	⚠ 1-526-931-11	INLET, AC (AC IN)	
J902	1-573-077-11	JACK (LINE OUT)	
		< COIL >	
L401	1-412-473-21	INDUCTOR 0uH	
L501	1-412-473-21	INDUCTOR 0uH	
L601	1-412-473-21	INDUCTOR 0uH	
		< IC LINK >	
PS901	⚠ 1-532-637-21	LINK, IC	
		< BUZZER >	
S601	1-529-070-11	BUZZER	
		< TRANSFORMER >	
T901	⚠ 1-450-675-11	TRANSFORMER, POWER	
**********			
		MISCELLANEOUS	
		**********	
6	⚠ 1-558-835-12	CORD, POWER (AE2)	
6	⚠ 1-690-259-11	CORD, POWER (AE1)	
52	1-639-529-11	PC BOARD, FLEXIBLE	
103	⚠ 8-848-144-11	DEVICE, OPTICAL KSS-240A	
105	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
M101	X-4917-504-1	MOTOR ASSY (SLED)	
M102	X-4917-523-3	MOTOR ASSY (SPINDLE)	
**********			

HARDWARE LIST

#1	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S
#2	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S
#3	7-621-773-95	SCREW +BVTT 2.6X6 (S)
#4	7-685-646-79	SCREW +BTP 3X8 TYPE2 N-S
#5	7-627-556-78	SCREW, PRECISION +P 2.6X6 TYPE1
#6	7-682-547-09	SCREW +B 3X6
#7	7-624-104-04	RETAINING, RING E-2
#8	7-621-255-15	SCREW +P 2X3

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

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SONY
SERVICE MANUAL

AEP Model

CORRECTION-1

Correct the Service Manual as shown below.

☛ : indicates corrected portion

Page	INCORRECT			CORRECT	
	Ref. No.	Part No.	Description	Part No.	Description
28	M102	X-4917-523-3	MOTOR ASSY (SPINDLE)	X-4942-405-1 ☛	MOTOR ASSY (SPINDLE)

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