MZ-E35

SERVICE MANUAL

US Model
AEP Model
UK Model
E Model

US and foreign patents licensed from Dolby Laboratories Licensing Corporation.

Model Name Using Similar Mechanism	NEW
MD Mechanism Type	MT-MZE35-140
Optical Pick-up Type	ODX-1B

SPECIFICATIONS

System

Audio playing system
MiniDisc digital audio system
Laser diode properties
Material: GaAlAs
Wavelength: λ = 790 nm
Emission duration: continuous
Laser output: 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 with 7 mm aperture.
Revolutions
400 rpm to 900 rpm (CLV)
Error correction
Advanced Cross Interleave Reed Solomon Code (ACIRC)
Sampling frequency
44.1 kHz
Coding
Adaptive TRansform Acoustic Coding (ATRAC)
Modulation system
EFM (Eight to Fourteen Modulation)
Number of channels
2 stereo channels
1 monaural channel
Frequency response
20 to 20,000 Hz ± 3 dB
Wow and Flutter
Below measurable limit
Outputs
Headphones: stereo mini-jack, maximum output level 5 mW + 5 mW, load impedance 16 ohm

General

Power requirements
Nickel metal hydride rechargeable battery NH-9WM (supplied)
One size AA (LR6) battery (not supplied)
Sony AC Power Adaptor AC-E15L (not supplied) connected at the DC IN 1.5 V jack
Battery operation time
See "When to replace or charge the batteries"
Dimensions
Approx. 82.5 × 19.1 × 80 mm (w/h/d)
($3\ ^{1}/_{4} \times ^{25}/_{32} \times 3\ ^{1}/_{4}$ in.) not including projecting parts and controls
Mass
Approx. 115 g (4.1 oz.) the player only
Approx. 155 g (5.5 oz.) incl. a premastered MD and a nickel metal hydride rechargeable battery NH-9WM
Supplied accessories
Battery Charger (1)
Rechargeable battery (1)
Rechargeable battery carrying case (1)
Headphones with a remote control (1)
Dry battery case (1)
Carrying pouch (1)
Ear pad (2)

Design and specifications are subject to change without notice.

PORTABLE MINIDISC PLAYER

MICROFILM

SONY®

TABLE OF CONTENTS

SERVICING NOTES

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

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

This MiniDisc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the bottom exterior.

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.

This section is extracted from instruction manual.

Playing an MD right away! A

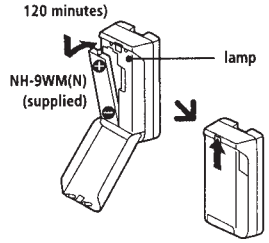
Before using the supplied rechargeable battery for the first time, charge it. Other choices are dry batteries and house current (see "Power sources"). The player automatically switches to play the stereo or monaural sound according to the recorded sound.

1 Charge the rechargeable battery.

Install the supplied rechargeable battery NH-9WM(N) to the supplied battery charger with correct polarity, and connect to a wall outlet.
The charger lamp goes off when the charging has finished.
Full charging takes about 60 minutes.

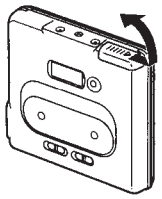
• Hong Kong model (Full charging takes 60 minutes)

• U.S.A. model (Full charging takes 120 minutes)

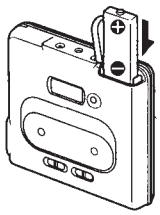


2 Insert the rechargeable battery.

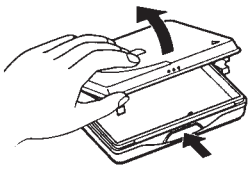
① Slide open the battery compartment lid like the arrow in the illustration.



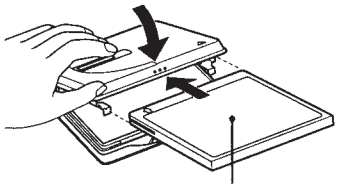
② Insert the battery with correct polarity.



3 Insert an MD.

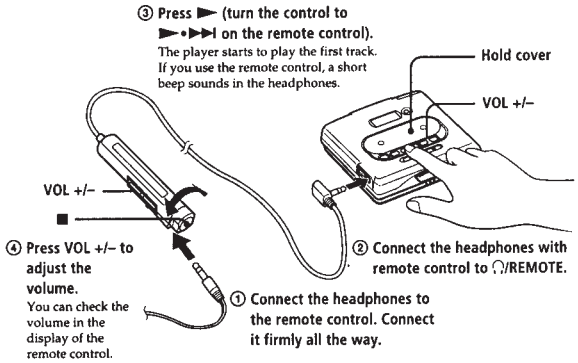


① Press OPEN and open the lid.



② Insert an MD with the label facing up and press the lid down to close.

4 Play an MD.



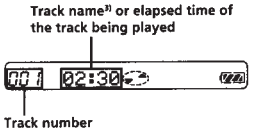
To stop play, press ■.
If you use the remote control, a short beep sounds in the headphones.

To	Press (Beeps in the headphones)
Pause	II on the remote control (Continuous short beeps) Press II again to resume play.
Find the beginning of the current track	I◀◀ or turn the control to I◀◀ on the remote control once (Three short beeps)
Find the beginning of the next track	▶▶I or turn the control to ►•▶▶I on the remote control once (Two short beeps)
Go backwards while playing[1]	keep pressing I◀◀ or keep the control turned to I◀◀ on the remote control
Go forward while playing[1]	keep pressing ▶▶I or keep the control turned to ►•▶▶I on the remote control
Remove the MD	■ and then OPEN and open the lid.[2]

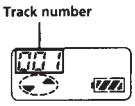
If the play does not start
Make sure the player is not locked. See "To lock the controls."

Display window while playing back

•Display window on the remote control



•Display window on the player



1) To go backwards or forward quickly without listening, press II and keep pressing I◀◀ or ▶▶I (on the remote control, keep the control turned).
2) Once you open the lid, the point to start play will change to the beginning of the first track.
3) Appears only with MDs that have been electronically labeled.

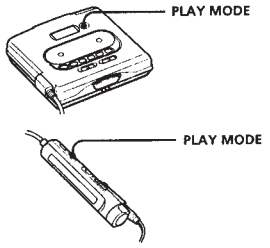
Note
Do not press OPEN during playback. If you do, the lid opens and playback will stop.

When using optional headphones
Use the headphones that have stereo-miniplug. You cannot use other types of headphones (microplug).

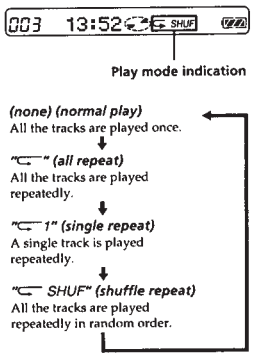
▶ *Various ways of playback*

Playing tracks repeatedly B

You can play tracks repeatedly in three ways--all repeat, single repeat, and shuffle repeat.

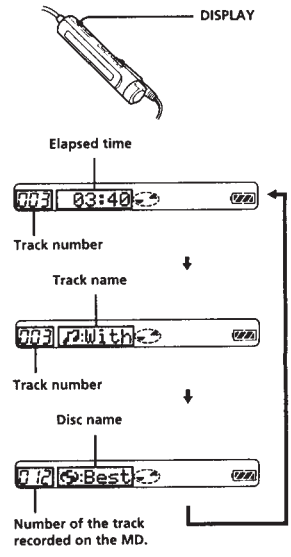


Press PLAY MODE while the player is playing an MD.
Each time you press PLAY MODE, the play mode indication changes as follows.



Tips on playback

To know the track name and time C
Press DISPLAY on the remote control while the player is playing an MD.
Each time you press DISPLAY, the display changes as follows.



Note
Disc and track names appear only with MDs that have been electronically labeled.

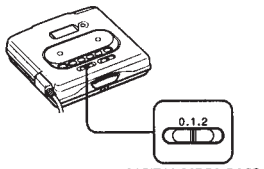
To lock the controls D

To prevent the buttons from being accidentally operated when you carry the player, use this function.

Slide the Hold cover on the player to cover the control buttons.
On the remote control, slide HOLD in the direction of the ➞ to lock the controls.

To emphasize bass (DIGITAL MEGA BASS) E

The DIGITAL MEGA BASS function intensifies low frequency sound for richer quality audio reproduction.



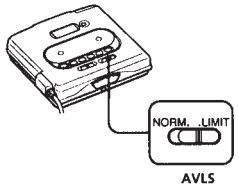
Slide DIGITAL MEGA BASS.
Choose 1 (slight effect) or 2 (strong effect).
To cancel the effect, set DIGITAL MEGA BASS to 0.

Note

If the sound becomes distorted when emphasizing bass, turn down the volume.

To protect your hearing (AVLS) F

The AVLS (Automatic Volume Limiter System) function keeps down the maximum volume to protect your ears.



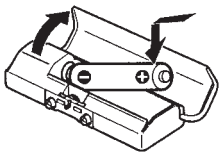
Set AVLS to LIMIT.
The volume is kept at a moderate level, even if you try to turn the volume above the limited level.

▶*Power sources*

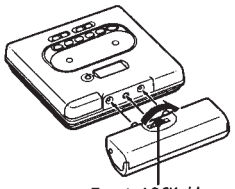
You can use the player on a dry battery, house current, or a Ni-MH rechargeable battery.

Using on a dry battery G

1 Insert one size AA (LR6) alkaline battery (not supplied) into the supplied battery case, and close the lid.



2 Attach the battery case to the player.



When to replace or charge the batteries

You can check the battery condition with the battery indication displayed while using the player.

- Used batteries
- Weak batteries. Replace all the batteries
- The batteries have gone out."LoBATT" flashes in the display of the remote control, and the power goes off.

Battery life*

Batteries	Playback
Ni-MH rechargeable battery (NH-9WM (N))	Approx. 6 hours
One size AA (LR6) alkaline battery	Approx. 8 hours
One size AA (LR6) alkaline battery and a Ni-MH rechargeable battery (NH-9WM(N))	Approx. 16 hours

* The battery life may be shorter due to operating conditions and the temperature of the location.

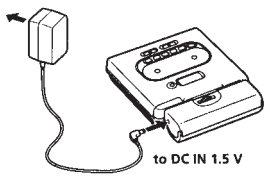
Using on house current H

Before using the player, remove the rechargeable battery if it is installed.

1 Attach the supplied battery case to the player.

2 Connect the AC-E15L AC power adaptor (not supplied) to the DC IN 1.5V jack of the player.

3 Connect the AC power adaptor to a wall outlet.



Note

The battery indication ▬ is displayed while using the AC power adaptor.

▶*Additional information*

Precautions

On safety

- Do not put any foreign objects in the DC IN 1.5 V jack.

On power sources

- For use in your house: Use the AC power adaptor AC-E15L (not supplied). Do not use any other AC power adaptor since it may cause the player to malfunction.

Polarity of the plug

- The player is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the player itself has been turned off.
- If you are not going to use this player for a long time, be sure to disconnect the power supply (AC power adaptor, dry batteries, rechargeable batteries, or car battery cord). To remove the AC power adaptor from the wall outlet, grasp the adaptor plug itself; never pull the cord.
- For use in the car: Use the CPA-9 car connecting pack and the DCC-E215 car battery cord (not supplied).

On charging

- Be sure to use the supplied battery charger.
- Charging time may vary depending on the battery condition.
- When you use the battery for the first time or after a long period of disuse, the battery life may be shorter. In this case, charge and discharge the battery several times. The battery life will be restored.
- If the rechargeable battery capacity becomes half the normal life, replace it with a new one.

On heat build-up

- Heat may build up in the player if it is used for an extended period of time. In this case, leave the player to cool down.

On installation

- Never use the player where it will be subjected to extremes of light, temperature, moisture or vibration.
- Never wrap the player in anything when it is being used with the AC power adaptor. Heat build-up in the player may cause malfunction or injury.

On the headphones

Road safety

Do not use headphones while driving, cycling, or operating any motorized vehicle. It may create a traffic hazard and is illegal in many areas. It can also be potentially dangerous to play your player at high volume while walking, especially at pedestrian crossings. You should exercise extreme caution or discontinue use in potentially hazardous situations.

Preventing hearing damage

Avoid using headphones at high volume. Hearing experts advise against continuous, loud and extended play. If you experience a ringing in your ears, reduce the volume or discontinue use.

Caring for others

Keep the volume at a moderate level. This will allow you to hear outside sounds and to be considerate of the people around you.

On the MiniDisc cartridge

- Do not break open the shutter.
- Do not place the cartridge where it will be subject to light, temperature, moisture or dust.

On cleaning

- Clean the player casing with a soft cloth slightly moistened with water or a mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzene as it may mar the finish of the casing.
- Wipe the disc cartridge with a dry cloth to remove dirt.
- Dust on the lens may prevent the unit from operating properly. Be sure to close the disc compartment lid after inserting or ejecting an MD.

Notes on the batteries

Incorrect battery usage may lead to leakage of battery fluid or bursting batteries. To prevent such accidents, observe the following precautions:

- Install the + and – poles of the batteries correctly.
- Do not try to recharge the batteries.
- When the player is not to be used for a long time, be sure to remove the batteries.
- If a battery leak should develop, carefully and thoroughly wipe away battery fluid from the battery compartment before inserting new ones.

Note on mechanical noise

The player gives out mechanical noise while operating, which is caused by the power-saving system of the player and it is not a trouble.

If you have any questions or problems concerning your player, please consult your nearest Sony dealer.

SECTION 3
TEST MODE

General

- In the TEST mode, this set provides the Auto mode in which both CD and MO are adjusted automatically. In the Auto mode, whether a disc is CD or MO is discriminated, then each adjsutment is automatically executed sequentially. If a fault is found, it is displayed. Also, in the Servo mode, each item can be adjusted automatically.

Entering TEST Mode

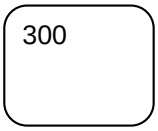
Bridge the TAP801 (TEST) on MAIN board (connect IC801 ㉜ to GND), and turn the power on.
Then, press ► key and the TEST mode is activated.

Releasing TEST Mode

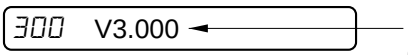
Turn the power off, and remove the bridge from TAP801 (TEST) on MAIN board.

Operation in TEST Mode

In the TEST mode, the LCD display is as shown below:



Main unit LCD



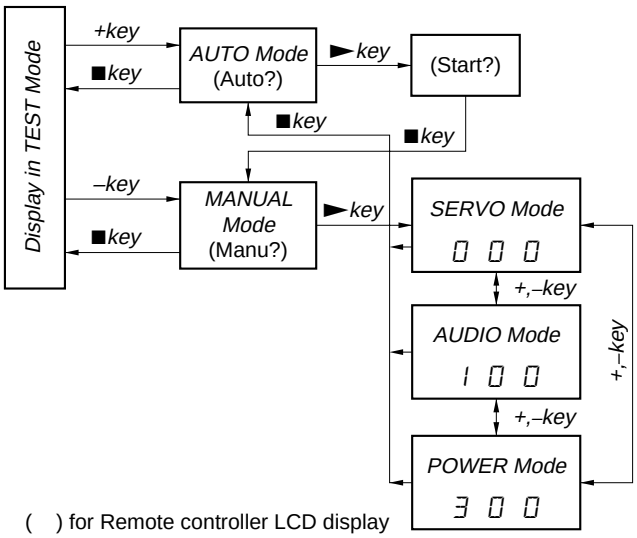
Remote controller LCD

ROM version display (Ver3.00 or Ver3.20)

- ROM version display → All ON → All OFF are repeated.
- To hold the display for confirmation, press the PLAY MODE key.

Configuration of TEST Mode

The TEST mode configuration of this set is as follows:

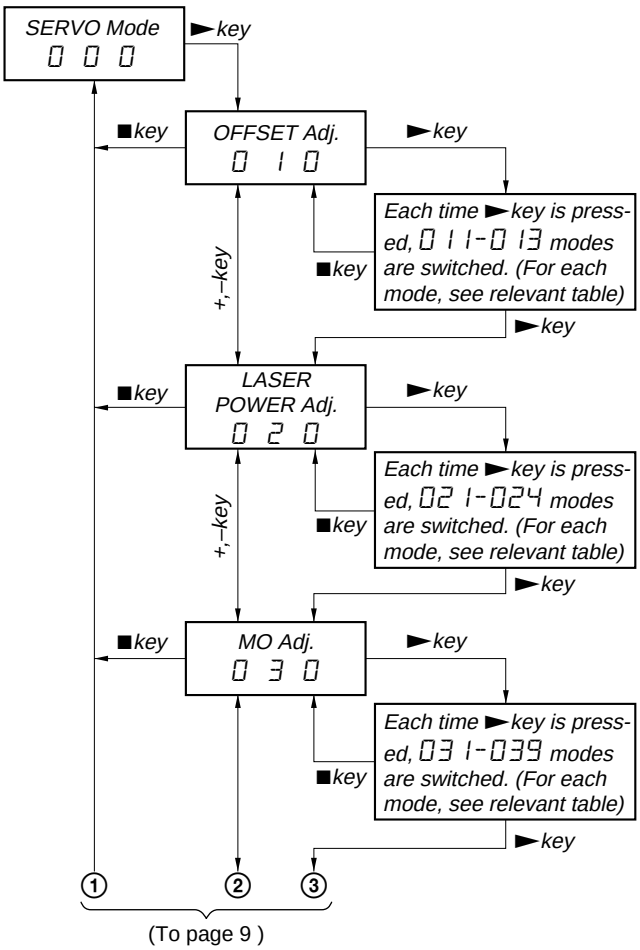


( ) for Remote controller LCD display

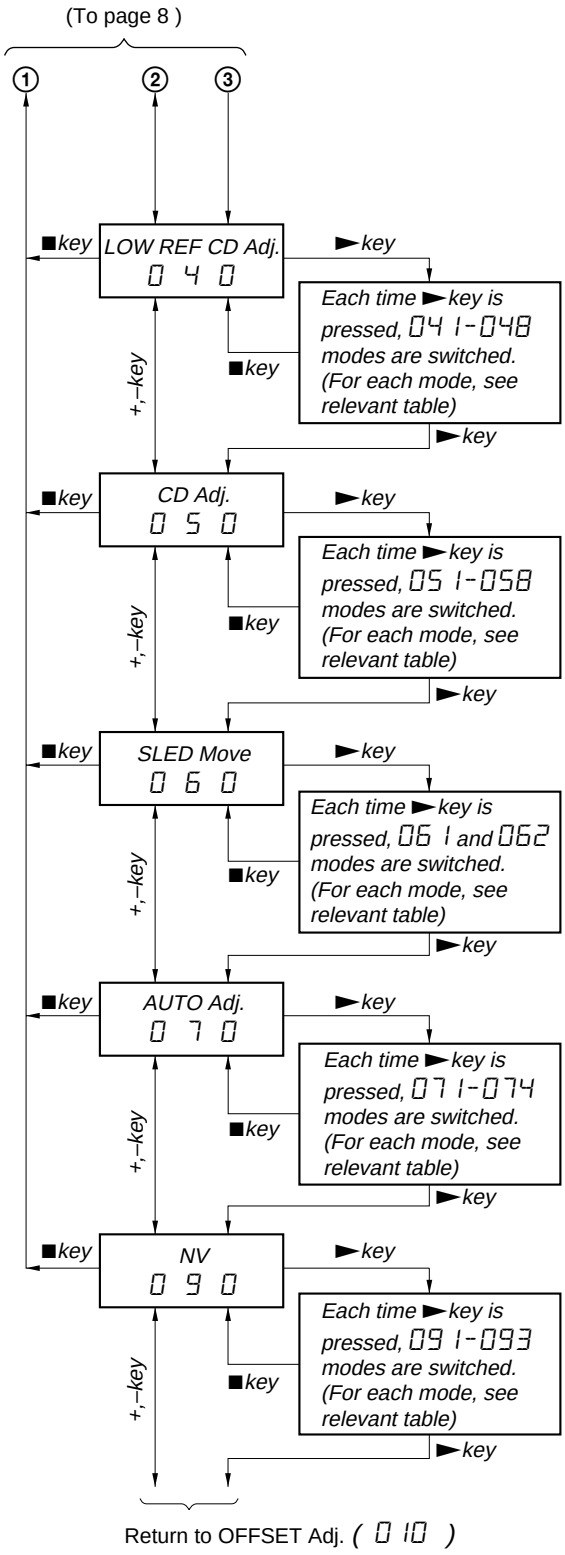
SERVO Mode

- Enter the TEST mode, press VOL – key and ► key to select the SERVO mode.
- When the second digit of mode number is not 0 and the first digit is 0 (010, 020, 030, etc.), the optical pickup moves to outside track or inside track with ►►I key or I◄◄ key respectively.
- To select other modes, refer to the TEST mode configuration.

1. Configuration of SERVO Mode



(To page 9)



2. Description of Each Mode

010 Offset Adjustment

Mode	Description
011	Focus error offset
012	Tracking error offset
013	All servo ON

020 Laser Power Adjustment

Mode	Description
021	MO power A
022	MO power E
023	CDL power
024	CD power

030 MO Adjustment

Mode	Description
031	MO EF balance (MO traverse)
032	MO EF gain
033	MO ABCD gain
034	MO focus gain
035	MO tracking gain
036	MO RF gain
037	MO ADIP gain
038	MO focus bias E
039	MO focus bias A

040 Low Reflection CD Adjustment

Mode	Description
041	Low reflection CD EF balance (CD traverse)
042	Low reflection CD EF gain
043	Low reflection CD ABCD gain
044	Low reflection CD focus gain
045	Low reflection CD tracking gain
046	Low reflection CD RF offset
047	Low reflection CD RF gain
048	Low reflection CD focus bias

050 CD Adjustment

Mode	Description
051	CD EF balance
052	CD EF gain
053	CD ABCD gain (CD RF level check)
054	CD focus gain
055	CD tracking gain
056	CD RF offset
057	CD RF gain
058	CD focus bias

060 Sled Movement

Mode	Description
061	Sled IN
062	Sled OUT 5

070 Auto Adjustment

Mode	Description
071	Focus search
072	Access 32
073	ADER check
074	Tracking gain correction

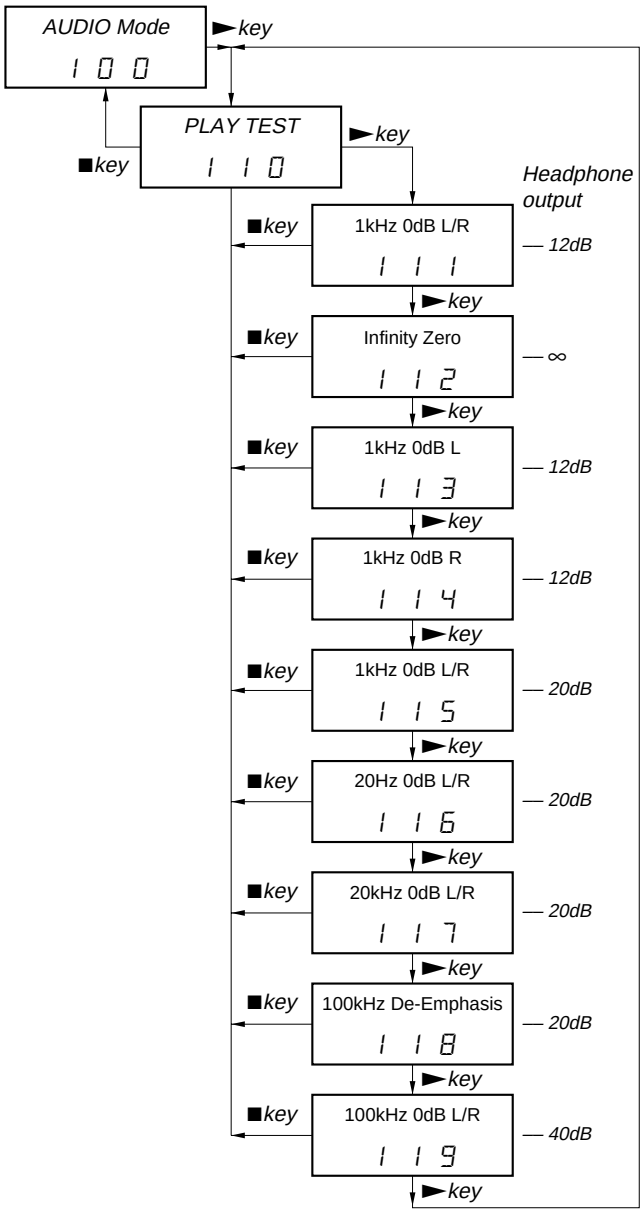
090 NV

Mode	Description
091	NV clear
092	Power OFF
093	Model discrimination code

AUDIO Mode

- Enter the TEST mode, and press VOL – key, ► key, and VOL + key in this order to select the AUDIO mode.
- To select other modes, refer to the TEST mode configuration.

1. Configuration of AUDIO Mode



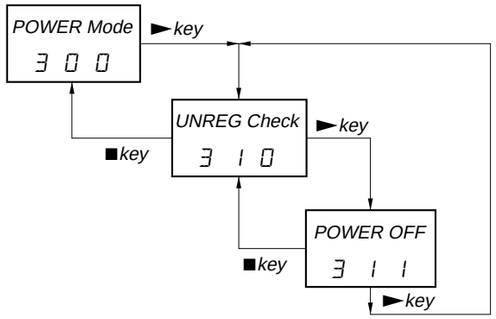
- The mode No.111 is for S/N and cross talk, and 115 for distortion factor and frequency characteristic.
- When VOL + / – key is pressed in any mode, the headphone volume changes every step.
  Also, When ►►I or I◄◄ key is pressed, the headphone volume becomes maximum or minimum.
- Once the volume level was changed, fundamentally it continues, but it returns to default value when the mode is changed from 114 to 115, or 118 to 119.

SECTION 4
ELECTRICAL ADJUSTMENTS

POWER Mode

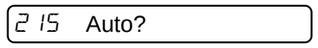
- Enter the TEST mode, and press VOL – key, ► key, and VOL – key in this order to select the POWER mode.
- To select other modes, refer to the TEST mode configuration.

1. Configuration of POWER Mode

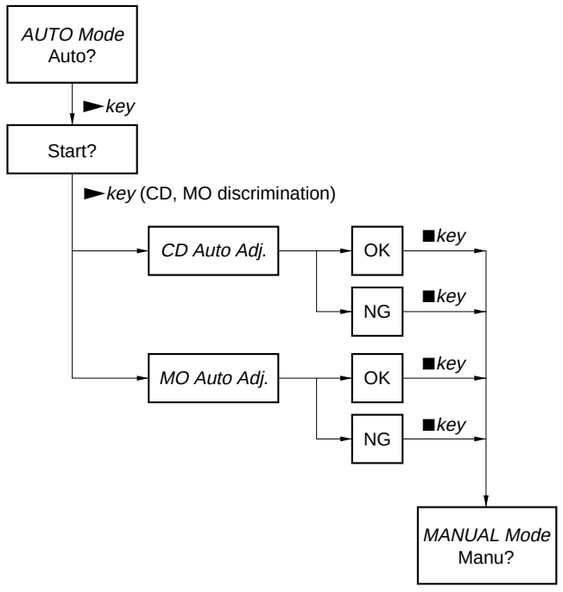


AUTO Mode

- Enter the TEST mode, and press VOL + key to select the AUTO mode.
- To select other modes, refer to the TEST mode configuration.
- In the AUTO mode, the Remote controller LCD display is as shown below:



1.Configuration of AUTO Mode



Precautions on Adjustment

- In this set, the CD and MO adjsutment can be executed automatically by selecting the TEST mode.
- Execute adjustment in the AUTO mode, then if NG occurred, readjust faulty item in the SERVO mode.

Adjustment in AUTO Mode

1. Enter the TEST mode, and press VOL + key to select the AUTO mode.
2. Insert the CD Test disc (TDYS-1) or commercially available SONY MO disc (already recorded).
3. Press ► key twice, and the CD or MO is discriminated, then respective items are automatically adjusted in the order as listed in tables below.

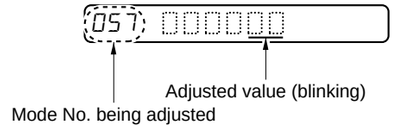
• CD AUTO Adjustment

No.	Mode	Description
1	061	Sled IN
2	071	Focus search
3	062	Sled OUT 5
4	051	CD EF balance
5	052	CD EF gain
6	051	CD EF balance
7	053	CD ABCD gain
8	054	CD focus gain
9	055	CD tracking gain
10	056	CD RF offset
11	057	CD RF gain
12	056	CD RF offset
13	058	CD focus bias
14	073	ADER check
15	074	Biaxial gain correction

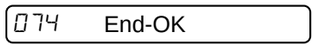
• MO AUTO Adjustment

No.	Mode	Description
1	061	Sled IN
2	071	Focus search
3	062	Sled OUT
4	031	MO EF balance
5	032	MO EF gain
6	031	MO EF balance
7	033	MO ABCD gain
8	034	MO focus gain
9	035	MO tracking gain
10	036	MO RF gain
11	037	MO ADIP gain
12	039	MO focus bias A
13	073	ADER check
14	061	Sled IN
15	071	Focus search
16	041	Low reflection CD EF balance
17	042	Low reflection CD EF gain
18	041	Low reflection CD EF balance
19	043	Low reflection CD ABCD gain
20	044	Low reflection CD focus gain
21	045	Low reflection CD tracking gain
22	046	Low reflection CD RF offset
23	047	Low reflection CD RF gain

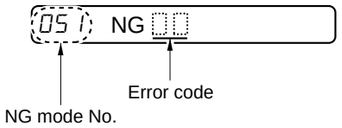
* Remote controller display during automatic adjustment.



4. If automatic adjustment result is OK, the display is as follows:



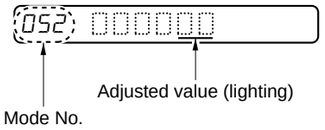
5. If automatic adjustment result is NG, the display is as follows:



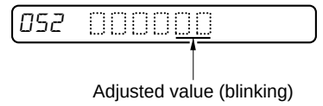
* In case of NG, select the SERVO mode, and readjust NG item automatically.

Adjustment in SERVO Mode

1. Select each adjusting mode following the configuration of SERVO mode, and the lower 2 digits of mode number and the adjusted value written to the EEPROM are displayed on the LCD.

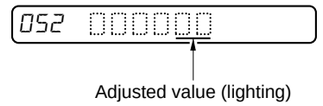


2. Press ❚❚ key, and the display changes as shown below and automatic adjustment is executed.



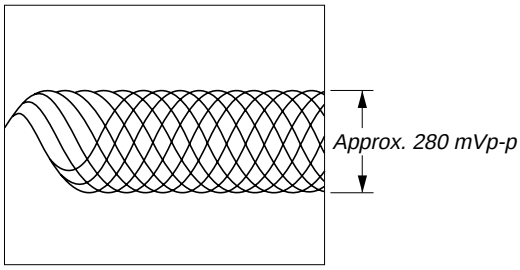
Note: Though the adjusted value can be changed to any value with VOL + or – key, avoid frequent change.

3. Whem automatic adjustment is finished, the adjusted value changes from blinking to lighting.

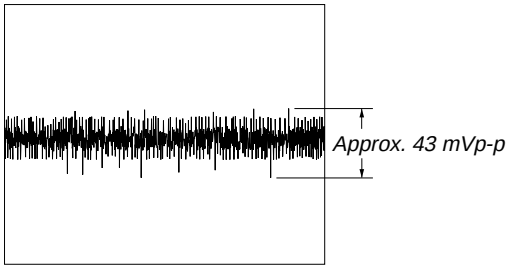


• **Waveforms**

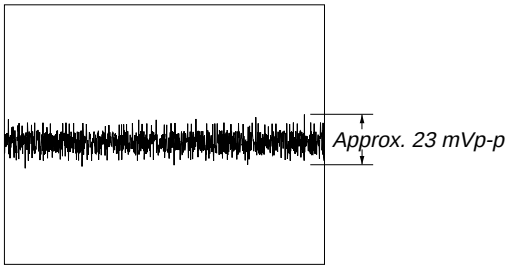
❶ IC501 ⑥,⑦ (V1, VJ) (Play Mode)
500 mV/DIV, 500 ns/DIV



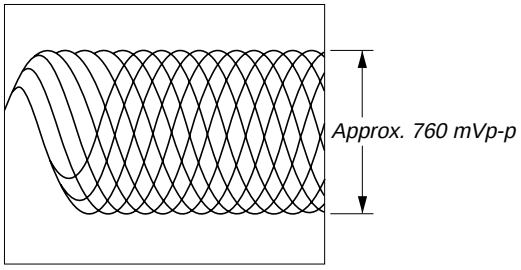
❷ IC501 ⑩ (IA) (Play Mode)
20 mV/DIV, 1 µs/DIV



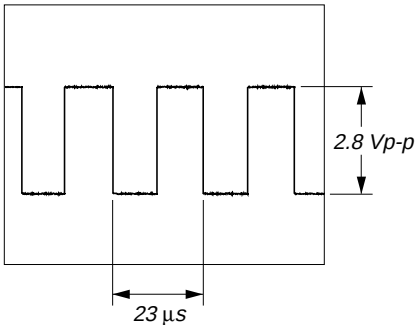
❸ IC501 ①,④ (IE, IF) (Play Mode)
10 mV/DIV, 500 ns/DIV



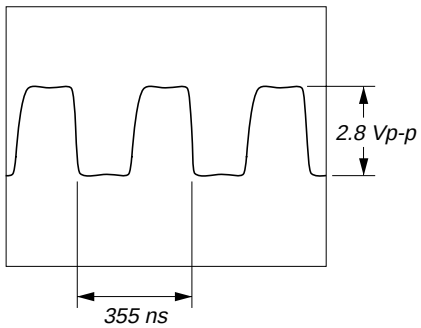
❹ IC501 ㊲ (RF-OUT) (Play Mode)
200 mV/DIV, 500 ns/DIV



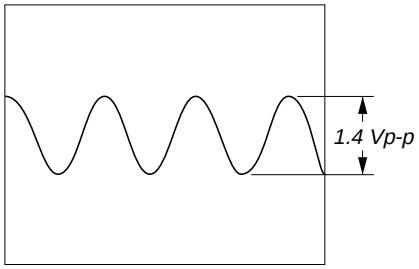
❺ IC601 ㊴ (LRCK) (Play Mode)
1 mV/DIV, 10 µs/DIV



❻ IC601 ㊶ (BCK) (Play Mode)
1 V/DIV, 200 ns/DIV

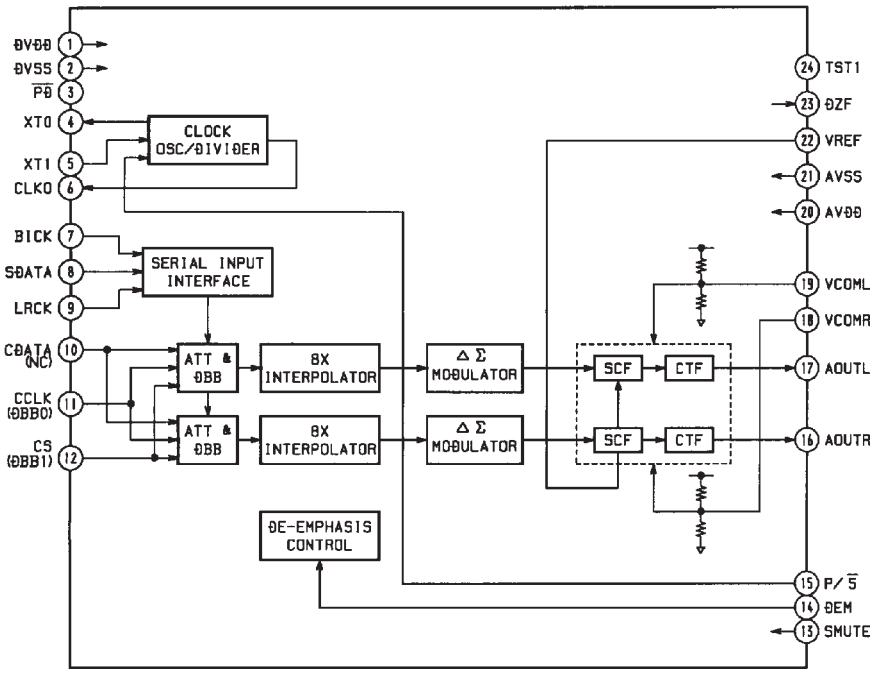


❼ IC301 ⑤ (XT1) (Play Mode)
500 mV/DIV, 20 ns/DIV

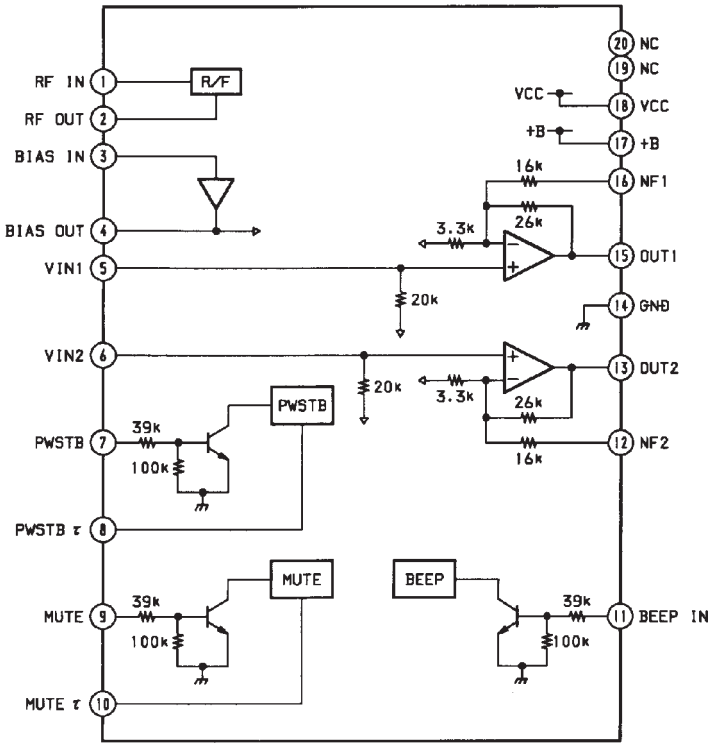


• **IC Block Diagrams**

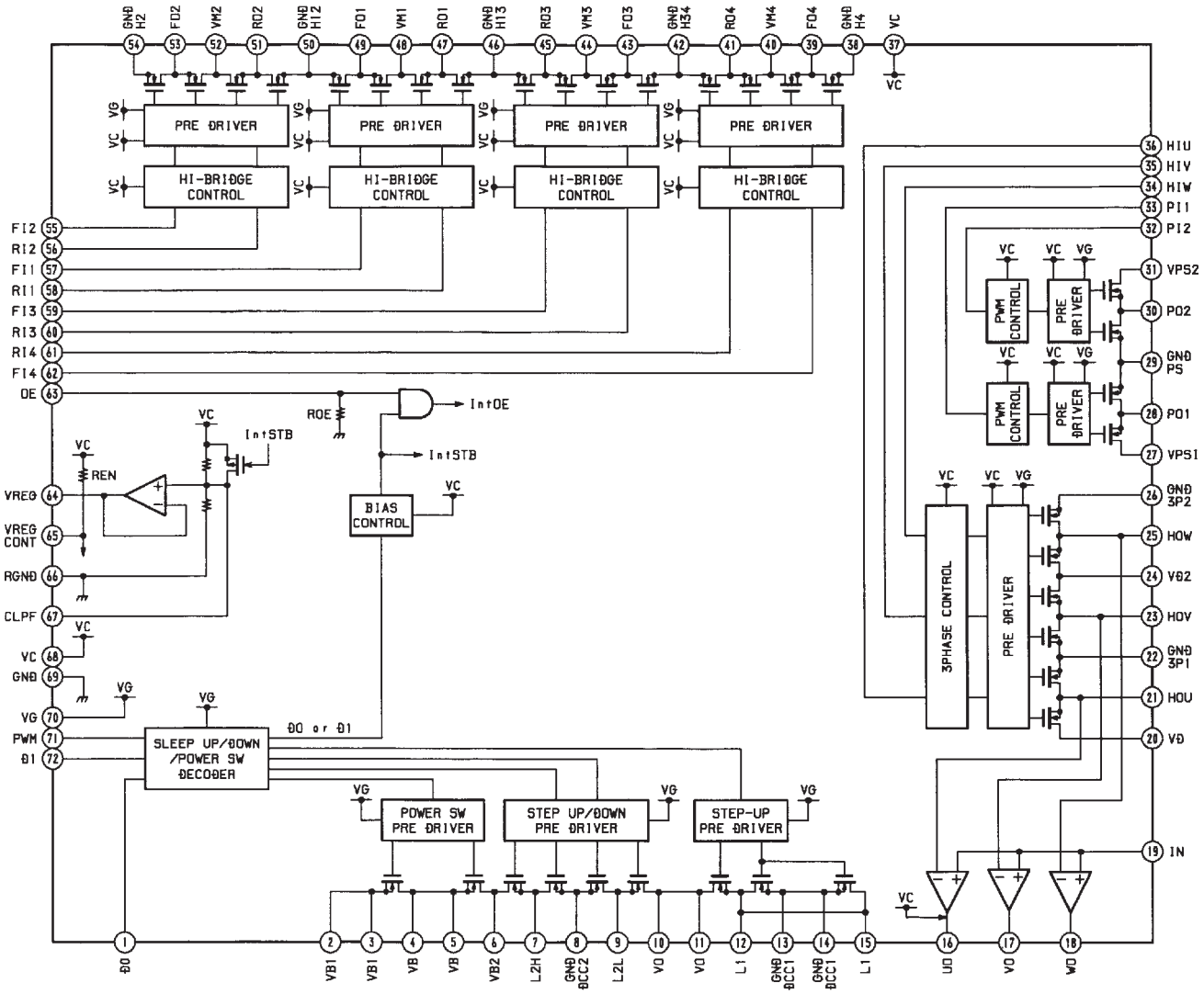
IC301 AK4334-VF-E2



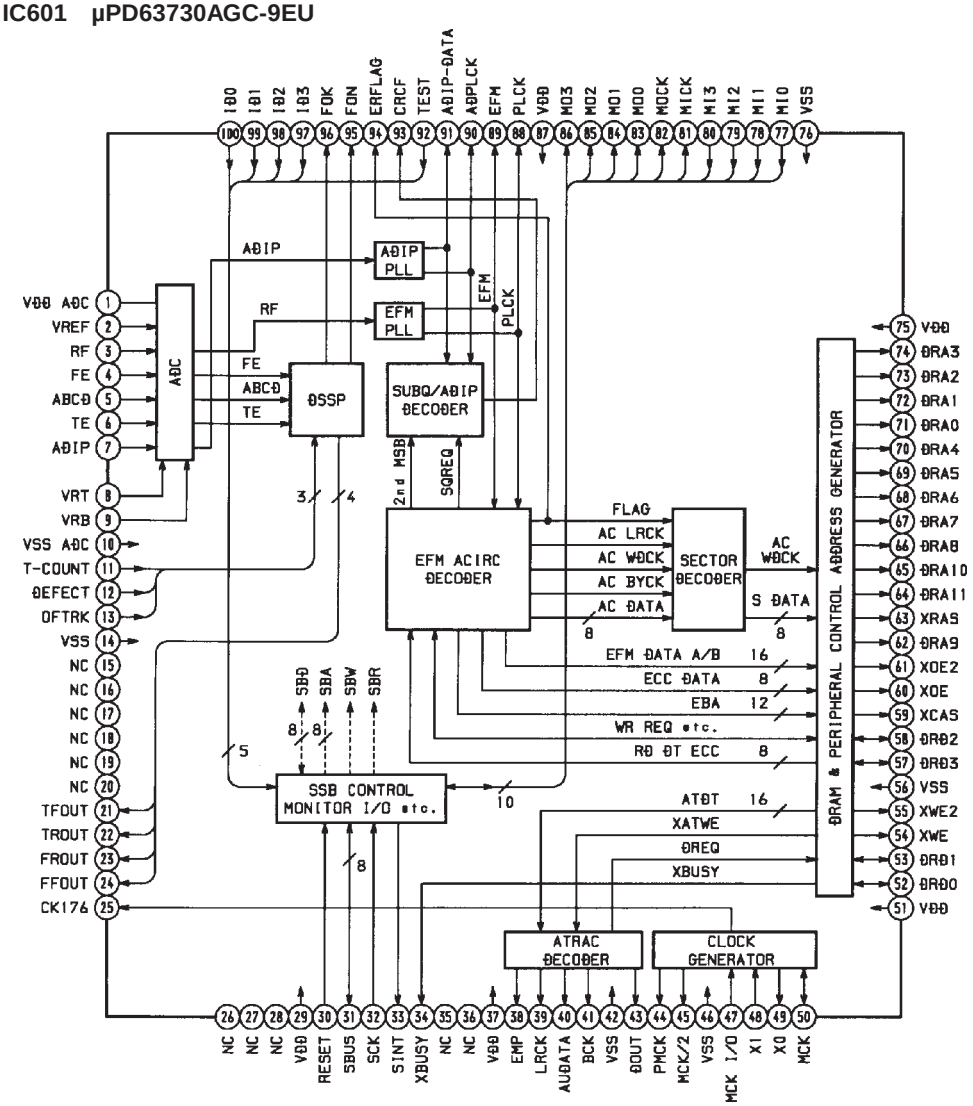
IC302 BA3577FS-E2



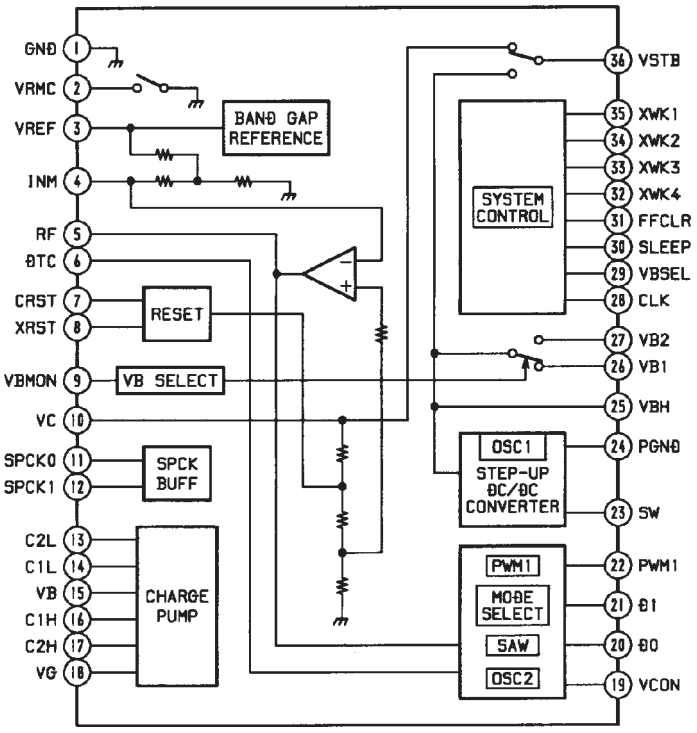
IC551 MPC17A55FTA



IC601 µPD63730AGC-9EU



IC901 MPC1830VMEL



5-5. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC501 SN761050A (RF AMPLIFIER)

Pin No.	Pin Name	I/O	Function
1 to 4	IE, ID, IC, IF	I	Signal input from the optical pick-up detector
5	AGND	—	Ground terminal (analog system)
6	VI	I	I-V converted RF signal I input from the optical pick-up block detector
7	VJ	I	I-V converted RF signal J input from the optical pick-up block detector
8	AVCC	—	Power supply terminal (+2.5V) (analog system)
9, 10	IB, IA	I	Signal input from the optical pick-up detector
11	PD-IN +	I	Light amount monitor input terminal (non-invert input)
12	PD-IN –	I	Light amount monitor input terminal (invert input)
13	PD-OUT	O	Light amount monitor output terminal
14	LD-DRV	O	Laser amplifier output terminal to the automatic power control circuit
15	LD-SNS	I	Laser drive current detector input terminal
16	LD-VDD	I	Laser power supply voltage detector input terminal
17	DVA1	I	Serial device code A1 (fixed at “L” in this set)
18	VTEMP	O	Temperature sensor detection signal output to the system controller (IC801)
19	REXT1	—	Connected to external resistor for the temperature sensor control
20	DVDD	—	Power supply terminal (+3V) (digital system)
21	SBUS	I	Serial data input from the system controller (IC801)
22	SCK	I	Serial data transfer clock signal input from the system controller (IC801)
23	DGND	—	Ground terminal (digital system)
24	RESET	I	System reset signal input from the MPC1830VMEL (IC901) “L”: reset For several hundreds msec. after the power supply rises, “L” is input, then it changes to “H”
25	OFTRK	O	Oftrack detection signal output to the D.S.P. (IC601)
26	DFCT	O	Defect detection signal output to the D.S.P. (IC601)
27	EXT-IN	I	External timing count signal input terminal Not used (open)
28	T-COUNT	O	Timing count signal output to the D.S.P. (IC601)
29	ADIP	O	ADIP duplex signal (22.05 kHz ± 1 kHz) output to the D.S.P. (IC601)
30	BPFC1	—	Connected to the external capacitor for cutting the low band of the ADIP amplifier
31	BPFC0	—	Connected to the external capacitor for cutting the low band of the ADIP amplifier
32	REXT2	—	Connected to external resistor for the ADIP amplifier control
33	TE	O	Tracking error signal output to the D.S.P. (IC601)
34	OFTIN	I	Oftrack detection signal input terminal
35	ABCD	O	Light amount signal (ABCD) output to the D.S.P. (IC601)
36	FE	O	Focus error signal output to the D.S.P. (IC601)
37	RF-OUT	O	Playback EFM RF signal output to the D.S.P. (IC601)
38	MIRR-VTH	I	Threshold setting terminal for the mirror comparator
39	PS	—	Phase shifter for the RF amplifier
40	AGND	—	Ground terminal (analog system)
41	EQ-2	—	Center frequency setting terminal for the internal circuit (RF EQ)
42	EQ-1	—	Center frequency setting terminal for the internal circuit (RF EQ)
43	AVCC	—	Power supply terminal (+2.5V) (analog system)
44	OFC-C1	—	Connected to the external capacitor for DC canceller
45	OFC-C2	—	Connected to the external capacitor for DC canceller
46	VREF2-OUT	O	Reference voltage output terminal Not used (open)
47	VREF-OUT	O	Reference voltage output terminal (+1.25V)
48	AGND	—	Ground terminal (analog system)

• **MAIN BOARD IC801 RU6715MF-0007 (SYSTEM CONTROLLER)**

Pin No.	Pin Name	I/O	Function
1	CHG MON	I	Charge voltage monitor input terminal Not used (fixed at "L")
2	UREG MON	I	Un-regulator voltage monitor input terminal
3	VTEMP	I	Temperature sensor detection sigal input from the RF amplifier (IC501)
4	VREF	I	Reference voltage (+1.25V) input from the RF amplifier (IC501)
5	PLAY KEY	I	◄ PLAY (S811) switch input terminal "L" active
6	OPEN/CLS SW	I	Upper panel open/close detection input from the open/close detect switch (S801) "L": close, "H": open
7	RMC KEY	I	Key input from the headphone with remote commander
8	SET KEY	I	Key input terminal (A/D input) ►►I, I◄◄, ■, VOL –, VOL +, PLAY MODE (S812 to 816, 803) keys input
9	XRESET	I	System reset signal input from the MPC1830VMEL (IC901) "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
10	AVDD	—	Power supply terminal (+3V) (analog system)
11	AVSS	—	Ground terminal (analog system)
12	TYPE 0	I	Destination setting terminal (fixed at "L")
13	TYPE 1	I	Destination setting terminal (US and Hong Kong models: fixed at "H", AEP, UK, E and French models: fixed at "L")
14	HOLD SW	I	Hold switch input terminal Not used (fixed at "L")
15	MODEL	I	Destination setting terminal (fixed at "L")
16	TYPE 2	I	Destination setting terminal (US and Hong Kong models: fixed at "L", AEP, UK, E and French models: fixed at "H")
17	VREG CON	O	+2.5V power supply on/off control signal output to the optical pick-up driver (IC551) "H": power on
18	XWK CLR	O	Enable signal output to the optical pick-up driver (IC551) and MPC1830VMEL (IC901)
19	SLEEP	O	System sleep control signal output to the MPC1830VMEL (IC901)
20	MCK	I	Master clock input from the D/A converter (IC301)
21	NC	O	Master clock output terminal Not used (open)
22	VDD	—	Power supply terminal (+3V) (digital system)
23	SXIN	I	Sub system clock input terminal Not used (fixed at "L")
24	SXOUT	O	Sub system clock output terminal Not used (open)
25	VSS	—	Ground terminal (digital system)
26	UREG CHK CON	O	Un-regulator voltage monitor control signal output terminal Not used (open)
27	DSP SINT	I	Interrupt signal input from the D.S.P. (IC601)
28	DBB OFF	I	Digital mega-bass on/off detection input from the DIGITAL MEGA BASS switch (S301) "L": digital mega-bass off
29	AVLS SW	I	AVLS (Automatic Volume Limiter System) switch (S805) input terminal "L": limit, "H": normal
30	OPR LED	O	Operation LED drive signal output terminal Not used (open)
31	NC	O	Not used (open)
32	ADJUST	I	Setting terminal for the test mode "L": test mode, "H": normal mode
33	NC	O	Not used (open)
34	SBUS CLK	O	Serial data transfer clock signal output to the RF amplifier (IC501) and D.S.P. (IC601)
35	SBUS DATA	O	Serial data output to the RF amplifier (IC501) and D.S.P. (IC601)
36	FR CAP	I	Free-run counter capture input terminal
37	SLD 1 MON	I	Sled servo timing signal input terminal
38	SLD 2 MON	I	Sled servo timing signal input terminal
39	CLV VCON	O	Spindle servo drive voltage control signal output to the optical pick-up driver (IC551)
40	V28 CON	O	Error correction control signal output for the power supply voltage Not used (open)

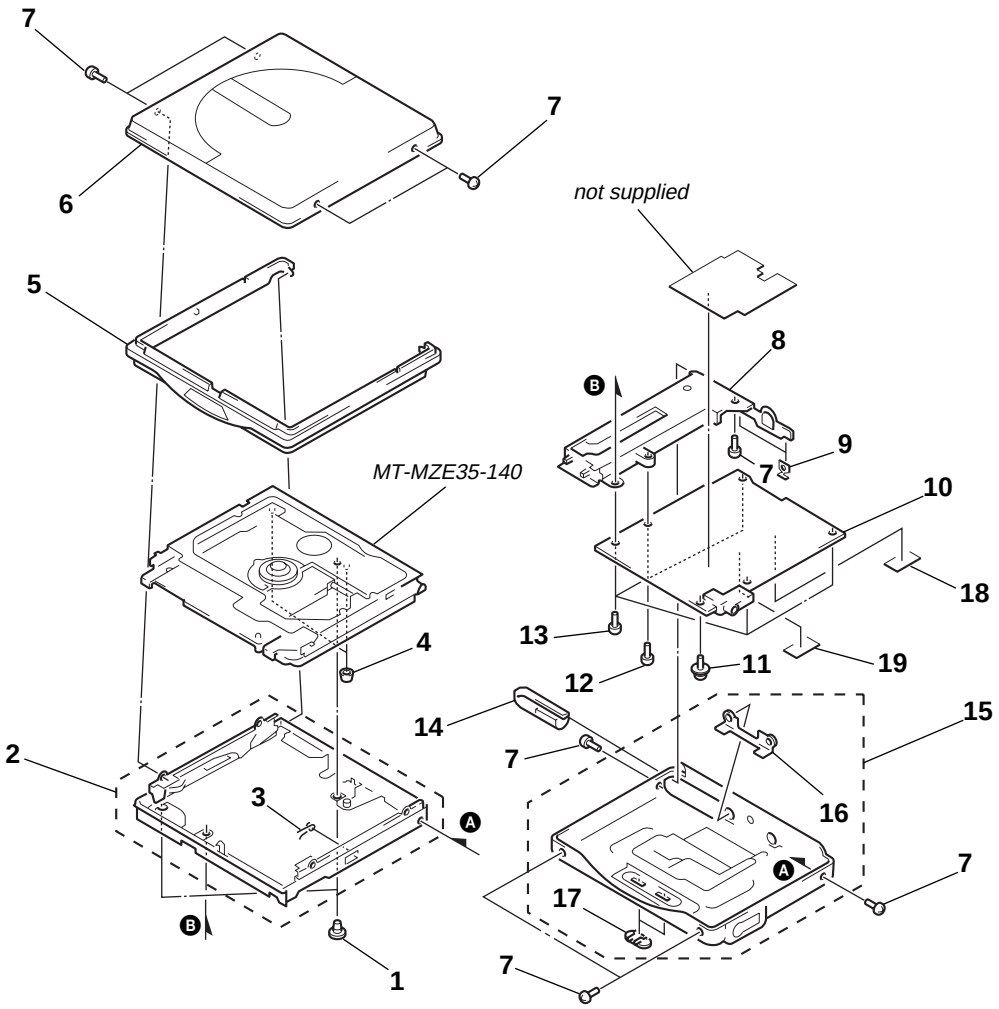
Pin No.	Pin Name	I/O	Function
41	APC REF	O	Laser automatic power control signal output to the RF amplifier (IC501)
42	CLV U MON	I	Spindle servo (U) timing signal input from the optical pick-up driver (IC551)
43	CLV V MON	I	Spindle servo (V) timing signal input from the optical pick-up driver (IC551)
44	CLV W MON	I	Spindle servo (W) timing signal input from the optical pick-up driver (IC551)
45	CLV U CON	O	Spindle servo (U) drive signal output to the optical pick-up driver (IC551)
46	CLV V CON	O	Spindle servo (V) drive signal output to the optical pick-up driver (IC551)
47	CLV W CON	O	Spindle servo (W) drive signal output to the optical pick-up driver (IC551)
48	NC	O	Not used (open)
49	FR TRG	O	Free-run counter capture output terminal
50	VDD	—	Power supply terminal (+3V) (digital system)
51	VPP	—	Test terminal Connected to ground
52	VSS	—	Ground terminal (digital system)
53	SLD 1R CON	O	Sled motor diver signal output to the sled motor control (IC803)
54	SLD 1F CON	O	
55	SLD 2R CON	O	
56	SLD 2F CON	O	
57	SLD DLY4	O	
58	SLD DLY5	O	
59	SLD DLY6	O	
60	SLD MODE	O	
61	SPCK	O	Serial data transfer clock signal output terminal Not used (open)
62	RMC DTCLK	I/O	Two-way data bus for the headphone with remote commander
63 to 65	NC	O	Not used (open)
66	SLD DIR	O	Motor direction signal output to the sled motor control (IC803)
67	SLD VCON	O	Sled servo voltage control signal output to the optical pick-up driver (IC551)
68	SLD PWR UP	O	By-pass transistor control signal output for the sled drive power supply
69	HP MUTE	O	Muting on/off control signal output to the headphone amplifier (IC302) “H”: muting on
70	HP STBY	O	Standby signal output to the headphone amplifier (IC302) “L”: standby
71	RMC SEL	O	TSB/SSB selection signal output terminal Not used (open)
72	NV D0	O	Serial data output to the EEPROM (IC802)
73	NV D1	I	Serial data input from the EEPROM (IC802)
74	NV CLK	O	Serial data transfer clock signal output to the EEPROM (IC802)
75	NV CS1	O	Serial chip select signal output to the EEPROM (IC802)
76	VDD	—	Power supply terminal (+3V) (digital system)
77 to 79	LCD VL2 to LCD VL0	I	Power supply input for the liquid crystal display bias
80	VSS	—	Ground terminal (digital system)
81 to 87	NC	O	Not used (open)
88 to 96	LCD SEG0 to LCD SEG8	O	Segment drive signal output to the liquid crystal display (LCD801)
97 to 100	LCD COM0 to LCD COM3	O	Common drive signal output to the liquid crystal display (LCD801)

SECTION 6
EXPLODED VIEWS

NOTE:
- -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
- Abbreviation
  FR : French
  HK : Hong Kong
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Accessories and packing materials are given in the last of the electrical parts list.

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

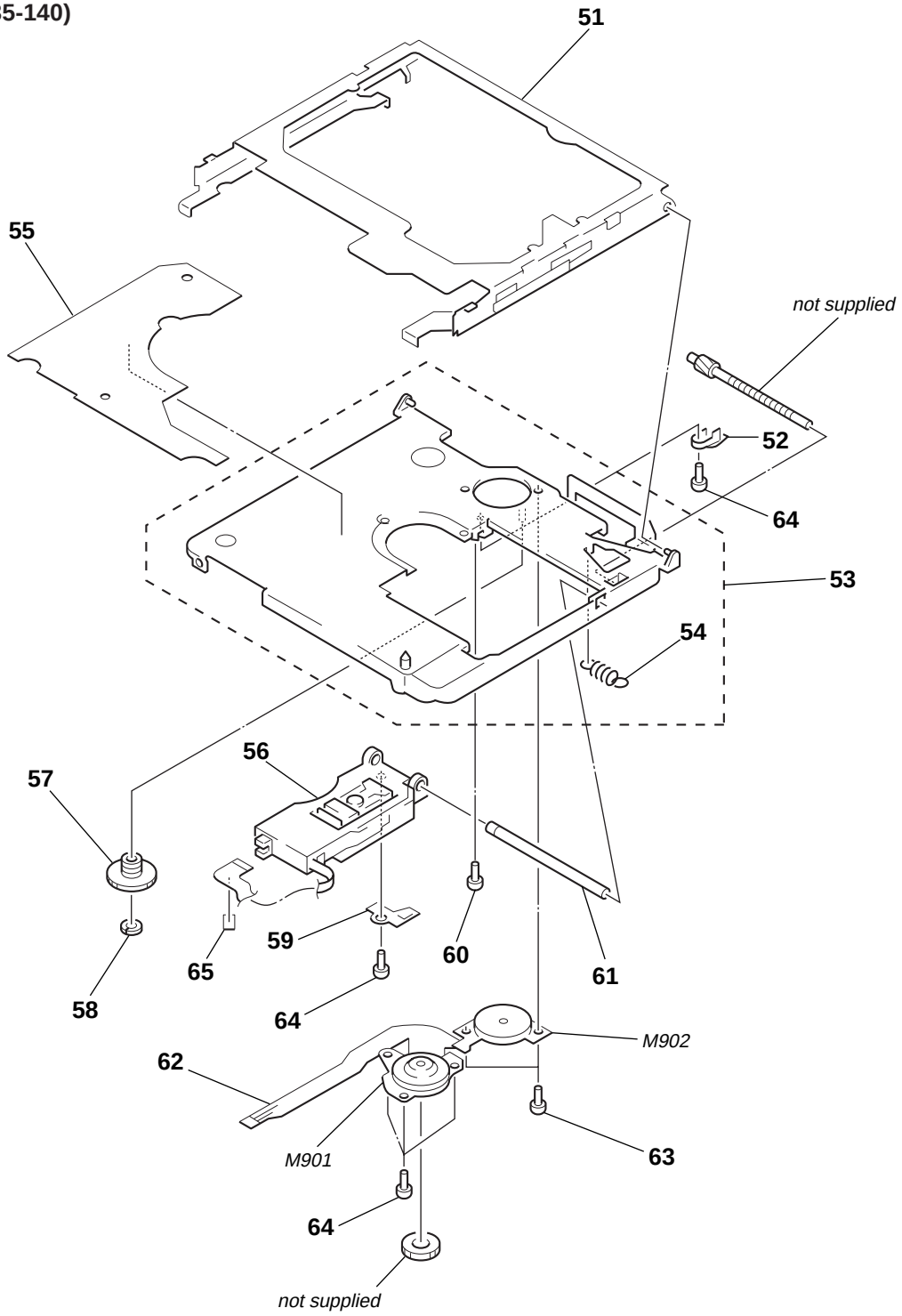
(1) MAIN SECTION



Ref. No.	Part No.	Description	Remark
1	4-995-271-01	SCREW (MD), STEP	
2	X-4949-064-1	CHASSIS ASSY	
3	4-995-274-01	SPRING (O-C), TORSION	
4	4-982-418-01	DAMPER	
5	X-4949-266-1	BELT ASSY, ORNAMENTAL	
6	X-4949-068-1	PANEL ASSY, UPPER	
7	4-963-883-41	SCREW (M1.4), PRECISION PAN	
8	X-4949-066-1	CASE ASSY, BATTERY	
9	4-982-381-01	TERMINAL	
10	A-3306-925-A	MAIN BOARD, COMPLETE (HK)	
10	A-3321-176-A	MAIN BOARD, COMPLETE (US)	

Ref. No.	Part No.	Description	Remark
10	A-3321-178-A	MAIN BOARD, COMPLETE (AEP, UK, E, FR)	
11	3-703-502-01	SCREW	
12	4-984-017-21	SCREW (1.7), TAPPING	
13	3-335-797-21	SCREW (M1.4X3), TOOTHED LOCK	
14	4-997-454-01	LID, BATTERY CASE	
15	A-3320-286-A	PANEL BLOCK ASSY, BOTTOM	
16	3-916-290-01	PLATE (TERMINAL), ORNAMENTAL	
17	3-938-805-72	KNOB (DOLBY)	
18	3-309-595-11	SHEET, INSULATING, PACK	
* 19	3-846-067-21	SPACER (C)	

(2) MECHANISM DECK SECTION (MT-MZE35-140)



Ref. No.	Part No.	Description	Remark
51	X-4948-010-1	HOLDER ASSY	
52	4-982-563-01	SPRING, THRUST	
53	X-4948-794-1	CHASSIS ASSY	
54	4-986-811-01	SPRING (EJECT), TENSION	
55	4-995-532-01	COVER, MD	
⚠56	X-4949-164-1	OPTICAL PICK-UP (ODX-1B) BLOCK ASSY	
57	4-982-555-01	GEAR (A)	
58	4-965-893-01	WASHER, GEAR (A) STOPPER	
59	4-982-561-11	SPRING, RACK	
60	3-349-825-82	SCREW, PRECISION	
61	4-993-251-01	SHAFT, MAIN	
62	1-666-784-11	FLEXIBLE BOARD (CLV)	
63	4-963-883-61	SCREW (M1.4), PRECISION PAN	
64	4-963-883-21	SCREW (M1.4), PRECISION PAN	
65	3-309-595-11	SHEET, INSULATING, PACK	
M901	1-698-991-11	MOTOR, DC (SPINDLE)	
M902	1-698-764-21	MOTOR, SLED	

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

SECTION 7
ELECTRICAL PARTS LIST

MAIN

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
- Abbreviation
  FR : French
  HK : Hong Kong
- 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

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.

Ref. No.	Part No.	Description			Remark
	A-3306-925-A	MAIN BOARD, COMPLETE (HK)			
	A-3321-176-A	MAIN BOARD, COMPLETE (US)			
	A-3321-178-A	MAIN BOARD, COMPLETE (AEP, UK, E, FR)			
		**********			
	1-694-342-11	CONDUCTIVE BOARD, CONNECTION			
	4-995-250-01	HOLDER (LCD)			
		< CAPACITOR >			
C101	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C102	1-115-585-11	TANTAL. CHIP	220uF	20%	4V
C103	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C201	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C202	1-115-585-11	TANTAL. CHIP	220uF	20%	4V
C203	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C301	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C302	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C303	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C304	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C305	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C307	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C308	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C309	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C311	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C312	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C313	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C314	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V
C315	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C316	1-104-912-11	TANTAL. CHIP	3.3uF	20%	6.3V
C317	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C318	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C320	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C321	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C322	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C323	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C324	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C501	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C502	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C503	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C504	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C505	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C506	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C507	1-162-962-11	CERAMIC CHIP	470PF	10%	50V

Ref. No.	Part No.	Description			Remark
C508	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C509	1-117-720-11	CERAMIC CHIP	4.7uF		10V
C510	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C511	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C513	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C514	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C515	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V
C516	1-162-910-11	CERAMIC CHIP	5PF	0.25PF	50V
C551	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C552	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C553	1-117-720-11	CERAMIC CHIP	4.7uF		10V
C554	1-117-720-11	CERAMIC CHIP	4.7uF		10V
C555	1-107-765-11	TANTAL. CHIP	3.3uF	20%	16V
C556	1-107-765-11	TANTAL. CHIP	3.3uF	20%	16V
C557	1-104-850-11	TANTAL. CHIP	6.8uF	20%	10V
C558	1-104-850-11	TANTAL. CHIP	6.8uF	20%	10V
C559	1-117-720-11	CERAMIC CHIP	4.7uF		10V
C560	1-117-370-11	CERAMIC CHIP	10uF		10V
C561	1-117-370-11	CERAMIC CHIP	10uF		10V
C564	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C565	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C566	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C567	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C601	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C602	1-117-720-11	CERAMIC CHIP	4.7uF		10V
C603	1-164-156-11	CERAMIC CHIP	0.1uF		25V (US, HK)
C604	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C605	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C606	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C607	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C608	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C609	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C610	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C802	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C803	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C804	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C805	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C806	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C807	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C808	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C809	1-162-962-11	CERAMIC CHIP	470PF	10%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C810	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C811	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C901	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C902	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C903	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C905	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C906	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C907	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C908	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C909	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C910	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C911	1-117-232-11	TANTALUM	22uF	20%	4V
C912	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C913	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C914	1-126-246-11	ELECT CHIP	220uF	20%	4V
C915	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C916	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C917	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C918	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C919	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CN501	1-573-360-21	CONNECTOR, FFC/FPC 20P			
CN551	1-784-226-21	CONNECTOR, FFC/FPC 8P			
		< DIODE >			
D101	8-719-017-58	DIODE MA8068			
D201	8-719-017-58	DIODE MA8068			
D301	8-719-066-17	DIODE FTZ6.8E-T148			
D302	8-719-017-58	DIODE MA8068			
D901	8-719-420-51	DIODE MA729			
D902	8-719-066-16	DIODE RB491D-T146			
		< FERRITE BEAD >			
FB301	1-216-864-11	METAL CHIP	0	5%	1/16W (AEP, UK, E, FR, HK)
FB301	1-469-092-11	INDUCTOR	0uH (US)		
FB3004	1-414-228-11	INDUCTOR CHIP	0UH		
		< IC >			
IC301	8-759-493-46	IC AK4334-VF-E2			
IC302	8-759-431-56	IC BA3577FS-E2			
IC501	8-759-458-04	IC SN761050A			
IC551	8-759-390-25	IC MPC17A55FTA			
IC552	8-759-358-40	IC TLC372CPW-E20			
IC601	8-759-481-76	IC uPD63730AGC-9EU			
IC602	8-759-334-38	IC MSM51V4400-70TS-K (AEP, UK, E, FR)			
IC602	8-759-487-12	IC MN41V17400BTT-10 (US, HK)			
IC801	8-759-525-09	IC RU6715MF-0007			
IC802	8-759-449-23	IC AK93C55AV-L			
IC803	8-759-441-35	IC BU12101-E2			
IC901	8-759-457-81	IC MPC1830VMEL			
		< JACK >			
J301	1-778-179-11	JACK (🎧/REMOTE)			

Ref. No.	Part No.	Description			Remark
		< COIL >			
L301	1-414-754-11	INDUCTOR	10uH		
L502	1-414-754-11	INDUCTOR	10uH		
L551	1-412-031-11	INDUCTOR CHIP	47uH		
L552	1-412-031-11	INDUCTOR CHIP	47uH		
L553	1-414-400-11	INDUCTOR	22uH		
L554	1-414-400-11	INDUCTOR	22uH		
L555	1-412-031-11	INDUCTOR CHIP	47uH		
L556	1-414-410-21	INDUCTOR	10uH		
L601	1-414-754-11	INDUCTOR	10uH		
L901	1-412-031-11	INDUCTOR CHIP	47uH		
L902	1-411-804-21	INDUCTOR	0uH		
L903	1-414-410-21	INDUCTOR	10uH		
		< LIQUID CRYSTAL DISPLAY >			
LCD801	1-801-899-11	LCD			
		< TRANSISTOR >			
Q501	8-729-922-10	TRANSISTOR	2SA1577-QR		
Q551	8-729-904-87	TRANSISTOR	2SB1197K-R		
Q552	8-729-929-11	TRANSISTOR	DTC143ZE-TL		
		< RESISTOR >			
R101	1-216-837-11	METAL CHIP	22K	5%	1/16W
R102	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R105	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R201	1-216-837-11	METAL CHIP	22K	5%	1/16W
R202	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R205	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R301	1-216-845-11	METAL CHIP	100K	5%	1/16W
R302	1-216-845-11	METAL CHIP	100K	5%	1/16W
R303	1-216-833-11	METAL CHIP	10K	5%	1/16W
R304	1-216-857-11	METAL CHIP	1M	5%	1/16W
R305	1-216-809-11	METAL CHIP	100	5%	1/16W
R306	1-216-821-11	METAL CHIP	1K	5%	1/16W
R307	1-216-809-11	METAL CHIP	100	5%	1/16W (AEP, UK, E, FR, HK)
R307	1-216-813-11	METAL CHIP	220	5%	1/16W (US)
R501	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R503	1-216-833-11	METAL CHIP	10K	5%	1/16W
R504	1-216-853-11	METAL CHIP	470K	5%	1/16W
R505	1-216-809-11	METAL CHIP	100	5%	1/16W
R506	1-216-793-11	RES, CHIP	4.7	5%	1/16W
R507	1-216-849-11	METAL CHIP	220K	5%	1/16W
R508	1-216-841-11	METAL CHIP	47K	5%	1/16W
R509	1-216-864-11	METAL CHIP	0	5%	1/16W
R510	1-216-864-11	METAL CHIP	0	5%	1/16W
R511	1-216-817-11	METAL CHIP	470	5%	1/16W
R513	1-216-853-11	METAL CHIP	470K	5%	1/16W
R553	1-216-833-11	METAL CHIP	10K	5%	1/16W
R560	1-216-833-11	METAL CHIP	10K	5%	1/16W
R561	1-216-853-11	METAL CHIP	470K	5%	1/16W
R562	1-216-809-11	METAL CHIP	100	5%	1/16W
R601	1-216-864-11	METAL CHIP	0	5%	1/16W
R801	1-216-841-11	METAL CHIP	47K	5%	1/16W
R802	1-216-841-11	METAL CHIP	47K	5%	1/16W

Ref. No.	Part No.	Description			Remark
R803	1-216-853-11	METAL CHIP	470K	5%	1/16W
R804	1-216-853-11	METAL CHIP	470K	5%	1/16W
R808	1-216-841-11	METAL CHIP	47K	5%	1/16W
R809	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R810	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R811	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R812	1-216-835-11	METAL CHIP	15K	5%	1/16W
R813	1-216-839-11	METAL CHIP	33K	5%	1/16W
R818	1-216-853-11	METAL CHIP	470K	5%	1/16W
R820	1-216-845-11	METAL CHIP	100K	5%	1/16W
R823	1-216-857-11	METAL CHIP	1M	5%	1/16W
R831	1-216-853-11	METAL CHIP	470K	5%	1/16W
R833	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R835	1-216-853-11	METAL CHIP	470K	5%	1/16W
R836	1-216-853-11	METAL CHIP	470K	5%	1/16W
R838	1-216-833-11	METAL CHIP	10K	5%	1/16W
R901	1-216-863-11	RES, CHIP	3.3M	5%	1/16W
R903	1-216-845-11	METAL CHIP	100K	5%	1/16W
R905	1-216-845-11	METAL CHIP	100K	5%	1/16W
R906	1-216-847-11	METAL CHIP	150K	5%	1/16W
R909	1-216-833-11	METAL CHIP	10K	5%	1/16W
R914	1-216-864-11	METAL CHIP	0	5%	1/16W
R1001	1-216-864-11	METAL CHIP	0	5%	1/16W
					(AEP, UK, E, FR, HK)
R1001	1-414-385-11	INDUCTOR	0uH (US)		
R2001	1-216-864-11	METAL CHIP	0	5%	1/16W
					(AEP, UK, E, FR, HK)
R2001	1-414-385-11	INDUCTOR	0uH (US)		
R3001	1-216-864-11	METAL CHIP	0	5%	1/16W
R3002	1-216-809-11	METAL CHIP	100	5%	1/16W
R3003	1-216-809-11	METAL CHIP	100	5%	1/16W
		< COMPOSITION CIRCUIT BLOCK >			
RB551	1-233-961-11	RES, NETWORK (CHIP TYPE) 1Kx4			
RB552	1-233-979-11	RES, NETWORK (CHIP TYPE) 1Mx4			
RB802	1-233-973-11	RES, NETWORK (CHIP TYPE) 100Kx4			
		< SWITCH >			
S301	1-762-079-11	SWITCH, SLIDE (DIGITAL MEGA BASS)			
S801	1-572-688-11	SWITCH, PUSH (1 KEY) (OPEN/CLOSE)			
S803	1-771-053-21	SWITCH, KEY BOARD (PLAY/MODE)			
S805	1-762-078-11	SWITCH, SLIDE (AVLS)			
S811	1-771-053-21	SWITCH, KEY BOARD (►)			
S812	1-771-053-21	SWITCH, KEY BOARD (►►I)			
S813	1-771-053-21	SWITCH, KEY BOARD (I◄◄)			
S814	1-771-053-21	SWITCH, KEY BOARD (■)			
S815	1-771-053-21	SWITCH, KEY BOARD (VOL –)			
S816	1-771-053-21	SWITCH, KEY BOARD (VOL +)			
		< VIBRATOR >			
X301	1-767-124-11	VIBRATOR, CRYSTAL (16.9344MHz)			

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Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		**********	
⚠56	X-4949-164-1	OPTICAL PICK-UP (ODX-1B) BLOCK ASSY	
62	1-666-784-11	FLEXIBLE BOARD (CLV)	
M901	1-698-991-11	MOTOR, DC (SPINDLE)	
M902	1-698-764-21	MOTOR, SLED	

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		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-475-375-11	REMOTE CONTROL UNIT (RM-MZ35)	
	1-528-539-31	BATTERY CASE	
⚠	1-528-580-21	BATTERY CHARGER (BC-7HT) (E)	
	1-528-743-11	BATTERY, NICKEL HYDROGEN	
⚠	1-528-865-11	BATTERY CHARGER (BC-9HY2) (AEP, FR)	
⚠	1-528-866-11	BATTERY CHARGER (BC-9HP2) (UK, HK)	
⚠	1-528-891-11	BATTERY CHARGER (BC-9HU2) (US)	
⚠	1-569-007-11	ADAPTOR, CONVERSION 2P (E)	
	3-008-521-01	CASE, BATTERY CHARGE	
	3-861-297-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH) (AEP, UK, FR, E)	
	3-861-297-21	MANUAL, INSTRUCTION (SPANISH, CHINESE) (AEP, E)	
	3-861-297-31	MANUAL, INSTRUCTION (GERMAN, DUTCH) (AEP, FR)	
	3-861-297-41	MANUAL, INSTRUCTION (SWEDISH, FINNISH) (AEP)	
	3-861-297-51	MANUAL, INSTRUCTION (ITALIAN, PORTUGUESE) (AEP)	
	3-861-297-61	MANUAL, INSTRUCTION (ENGLISH) (US, HK)	
	4-972-888-01	CASE, CARRYING	
	8-953-218-90	HEADPHONE MDR-E838SP SET	
	X-3329-657-1	ATTACHMENT ASSY	

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