SONY.

FM/AM Compact Disc Player

Operating Instructions ——————————— **EN**

Owner's Record

The model and serial numbers are located on the bottom of the unit.
Record the serial number in the space provided below.
Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. CDX-5100   Serial No. ————————————————————

For installation and connections, see the supplied installation/connections manual.

COMPACT disc DIGITAL AUDIO

CDX-5100

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Warning

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

— Reorient or relocate the receiving antenna.
— Increase the separation between the equipment and receiver.
— Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
— Consult the dealer or an experienced radio/ TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

CAUTION

The use of optical instruments with this product will increase eye hazard.

Features

General

- **Detachable-front panel** enables you to take the front panel away with you when you leave your car (page 4).
- **Caution alarm** will be activated if you turn off the ignition key without removing the front panel from the unit.
- **12-hour digital clock** provided (page 5).
- Switchable **two color (amber and green) illumination** (page 9).
- **Built-in power amplifier (max. output: 35 W × 4 ch.)** enables you to enjoy 4-speaker systems.
- Line outputs for connecting an optional power amplifier.
- Optional **the wireless remote commander (RM-X40)** can be used.

CD player section

- **1 bit DAC** (Digital-to-Analog Converter) for clear sound reproduction.
- **Quick recovery mechanism** for preventing sound skipping.
- Convenient functions such as the **Intro Scan Function** for locating a desired track, the **Repeat Play Function** for playing a track repeatedly, and the **Shuffle Play Function** for playing tracks in random order.

Tuner section

- Up to 24 stations can be preset: 18 FM stations and 6 AM stations.
- **BTM (Best Tuning Memory) function** automatically locates and stores the stations with the strongest signals on the preset number buttons in order of band frequency (page 8).

The optional rotary commander can be used.

You can use the rotary commander (RM-X2S) which is operated like your car's wiper or headlight switch while driving.

Table of Contents

CD Player Operation

Radio Reception

Other Functions

EN

Actual total number: _____

Precautions

- Before operating the unit for the first time or after replacing the car battery, press the reset button with a ball-point pen etc., then operate the unit.

Reset button

- If your car was parked in direct sunlight resulting in a considerable rise in temperature inside the car, allow the unit to cool off before operating it.
- If no power is being supplied to the unit, check the connections first. If everything is in order, check the fuse.
- If no sound comes from the speakers in 2-speaker systems, set the fader control to the center position.

If you have any questions or problems concerning your unit that are not covered in this manual, please consult your nearest Sony dealer.
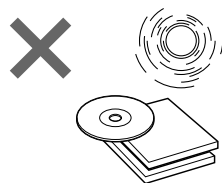
Notes on CDs

A dirty or defective disc may cause sound dropouts in playback. To enjoy optimum sound, handle the disc as follows.
Handle the disc by its edge to keep the disc clean. Do not touch the surface.
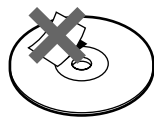
Do not stick paper or tape on the labeled surface.

Do not expose the discs to direct sunlight or heat sources such as hot air-ducts. Do not leave them in a car parked in direct sunlight where there can be a considerable rise in the temperature inside the car.
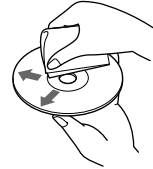
Before playing, clean the discs with an optional cleaning cloth. Wipe each disc from the center of the disc outward.
Do not use solvents such as benzine, thinner, commercially available cleaners or antistatic spray intended for analog discs.

### Notes on Moisture condensation

On a rainy day or in a very damp area, moisture may condense on the lenses inside the CD player. Should this occur, the unit will not operate properly. In this case, remove the disc and wait for about an hour until the moisture has evaporated.

Detaching and Attaching the Front Panel

The front panel of this unit can be detached in order to prevent the unit from being stolen.
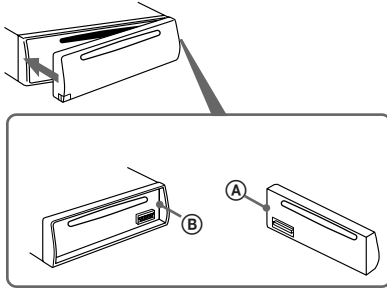
Detaching the Front Panel

Before detaching the front panel, be sure to press the OFF button first. Then press the RELEASE button to open up the front panel and detach the panel by pulling it towards you as illustrated.

OFF button

RELEASE button
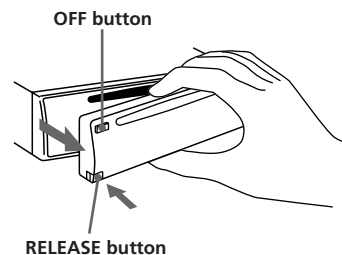
Be sure not to drop the panel after detaching it from the unit.

4

Attaching the Front Panel

Apply the right side of the front panel to the unit by attaching part Ⓐ of the front panel to part Ⓑ of the unit as illustrated, then swing the left side into the unit until it clicks.

Notes
- *Make sure that the front panel is the right way up when attaching it to the unit as it cannot be attached upside down.*
- *Do not press the front panel hard against the unit when attaching it to the unit. It can easily be attached by pressing it lightly against the unit.*
- *When you carry the front panel with you, put it in the supplied front panel case.*
- *Do not press hard or give excessive pressure to the display window of the front panel.*
- *Before removing the front panel, be sure to turn the power off. However, if you press the RELEASE button to detach the panel while the unit is still turned on, the power will automatically turn off in order to protect the speakers from being damaged.*
- *Do not expose the front panel to direct sunlight, heat sources such as hot air ducts or leave it in a humid place. Never leave it on the dashboard etc. of a car parked in direct sunlight where there may be a considerable rise in temperature inside the car.*

Caution Alarm

If you turn the ignition key to the OFF position without removing the front panel, the caution alarm will be activated and a beep tone will be heard for a few seconds (only when the POWER SELECT switch is set to the Ⓐ position).

Setting the Clock

The clock has a 12-hour digital indication.

For example, setting it to 10:08

1 **Display the time.**
(Press the DSPL button during unit operation.)
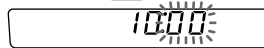
2 **Press the DSPL button for more than two seconds.**
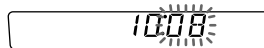

The hour digits blinks.

Set the hour digits.

to go forward
to go back

3 **Press the SEL button momentarily.**

The minute digits blink.

Set the minute digits.

to go forward
to go back

4 **Press the DSPL button momentarily.**
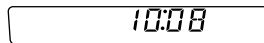
The clock activates.

Note
If the POWER SELECT switch on the bottom of the unit is set to the Ⓑ position, the clock cannot be set unless the power is turned on. Set the clock after you have turned on the radio, or started CD playback.
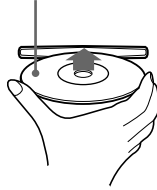
EN
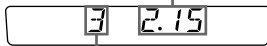
5

CD Player Operation

Playing a CD

After inserting the CD, playback will start from the first track automatically.

Label side up

If a CD is already inserted, press the ⏏ button to start playback.

Elapsed playing time

```
3    2.15
```

Track number

When the last track on the CD is over,

the track number indication will return to "1", and playback will continue from the first track of the CD.

Note
To play a 8 cm (3 in.) CD, use the optional Sony compact disc single adapter (CSA-8).

To stop playback,

eject the CD by pressing the ⏏ button or press the OFF button.
Playback stops also when you select another source (radio) by pressing the FM or AM button.

Ejecting the CD

Press the ⏏ button.

Note
If you leave the ejected disc in the disc insertion slot after you have pressed the ⏏ button, the disc will automatically retract into the unit after about 15 seconds in order to protect it.
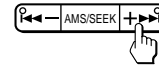
6

Locating the Beginnings of Tracks
— AMS (Automatic Music Sensor) Function

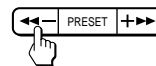**During playback, press either side of the AMS/SEEK button once for each track you wish to skip.**

| ◄◄— AMS/SEEK +►►| | |◄◄— AMS/SEEK +►►|

To locate previous tracks / To locate succeeding tracks

Locating the Desired Part of a Track — Manual Search Function

During playback, press and hold either side of the PRESET button. Release the button when you have found the desired part.

| ◄◄— PRESET +►► | | ◄◄— PRESET +►► |

To reverse / **To forward**

If you reverse to the beginning of the disc, " ∟ ∟ ∟ ∟ " appears on the display. Forwarding to the end of the disc causes " ⌐ ⌐ ⌐ ⌐ " to be displayed.
In either case, you can neither proceed to the previous nor the following track.

Searching for the Desired Track — Intro Scan Function

Press the INTRO 1 button during playback.
→ "INTRO" appears on the display.
The first 10 seconds of all the tracks are played. When you find the desired track, press the button once more. The unit returns to normal playback mode.

Playing Tracks Repeatedly
— Repeat Play Function

Press the $\boxed{2}^{\text{REPEAT}}$ **button during playback.**
→ "REP" appears on the display.
When the currently played track is over, it will
be played again from the beginning.
To cancel this mode, press the button again.

Playing Tracks in Random
Order — Shuffle Play Function

Press the $\boxed{3}^{\text{SHUF}}$ **button during playback.**
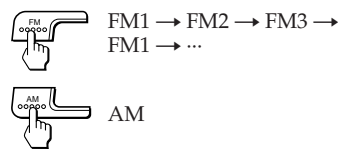**→ "SHUF" appears on the display.**
All tracks on the currently selected disc are
played in random order.

Radio Reception

Searching for Stations Automatically
— Automatic Tuning

1 Select the desired band.

FM1 → FM2 → FM3 →
FM1 → ...

AM

**2 Press either side of the AMS/SEEK
button once to search for the next
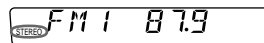station (automatic tuning).**

For lower frequencies   **For higher frequencies**

The scanning stops when a station is received.
Press either side of the AMS/SEEK button
repeatedly until the desired station is received.

*When an FM stereo program with sufficient signal
strength is tuned in,*

〔STEREO〕 *F M 1   8 7.9*

the "STEREO" indication appears.

*To keep the automatic tuning from stopping on
stations too frequently (local seek mode), press
the* $\boxed{\text{SENS}}^{\text{BTM}}$ *button momentarily to get the "LCL"
indication.*
*Only the stations with relatively strong signals will be
tuned in. The local seek mode functions only when
automatic tuning is in operation.*

If FM Stereo Reception is
Poor — Monaural Mode

Press the $\boxed{\text{SENS}}^{\text{BTM}}$ **button momentarily.**
→ "MONO" appears on the display.
The sound will improve, but it will be
monaural.

By pressing the $\boxed{\text{SENS}}^{\text{BTM}}$ *button, you can change the
displayed items as follows:*

→ LCL ⟶ MONO ⟶ Normal mode
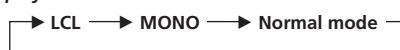
7

Tuning in by Adjusting the Frequency — Manual Tuning

1 Select the desired band.
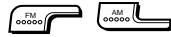
2 Press and hold either side of the PRESET button.
Release the button when the desired station is received.

| ◄◄ − | PRESET | + ►► | | ◄◄ − | PRESET | + ►► |

For lower frequencies   **For higher frequencies**

PREVENT ACCIDENTS!
When tuning in during driving, use automatic tuning or the preset search function instead of manual tuning.

Memorizing Stations Automatically
— BTM (Best Tuning Memory) Function

This function selects from the currently selected band the stations with the strongest signals and memorizes them in the order of their band frequency.

1 Select the desired band.

2 Press the [SENS] (BTM) button for more than two seconds.
• When there is no preset number indicated in the display window, stations will be stored on all preset number buttons on the currently selected band.
• When there is a preset number indicated in the display window, the unit will store stations on all preset number buttons from the one currently displayed.

For example, when you select FM1 and preset number 3 is displayed,
the operation will start from preset number 3 on FM1, and will stop at preset number 6 on FM3.

Memorizing Only the Desired Stations

1 Select the desired band.
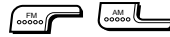
2 Tune in the station which you wish to store on a preset number button.

3 Press and hold the desired preset number button ([1] (INTRO) to [6]) for about two seconds until you hear a beep tone.

The number of the pressed preset number button appears in the display window.

Up to 6 stations on each band (FM1, FM2, FM3 and AM) can be stored on the preset number buttons in the order of your choice. Therefore, 18 stations can be memorized on FM.
If you try to store another station on the same preset number button, the previously stored station will be erased.

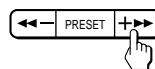## Receiving the Memorized Stations

1 Select the desired band.

2 Press momentarily the preset number button ([1] (INTRO) to [6]) on which the desired station is stored.

Note
If you press the preset number button for more than two seconds, the currently received station will be memorized. To receive the previously memorized station, make sure that the preset number button is pressed only momentarily.

Press either side of the PRESET button momentarily to receive other stations stored in the memory (Preset Search Function).

| ◄◄ − | PRESET | + ►► |

Press momentarily
1 → 2 → 3 → 4 → 5 → 6 → 1 → …

| ◄◄ − | PRESET | + ►► |
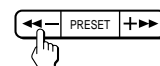
Press momentarily
1 → 6 → 5 → 4 → 3 → 2 → 1 → …

8

Actual total number: Sony CDX-5100 (E) 3-810-776-**21**(1)

Other Functions

Adjusting the Sound Characteristics

1 **Select the item you want to adjust by pressing the [SEL] button repeatedly.**

VOL (volume) → BAS (bass) → TRE (treble) → BAL (balance) → FAD (fader) → VOL (volume) → ···

2 **Adjust the selected item by pressing the [+] or [−] button.**

Adjust within three seconds after selecting. (After three seconds the buttons will again serve as volume control buttons.)

Enjoying Bass and Treble at Low Volume
— Loudness Function

Press the [LOUD] button. → "LOUD" will appear on the display.
The bass and treble will be boosted.
To cancel, press again.

Muting the Sound Quickly
— Mute Function

Press the [MUTE] button. → The "MUTE" indication flashes.
The sound is muted at once.
To restore the previous volume level, press again.

This function will be also cancelled when:
— the [+] or OFF button is pressed.
— ejecting a CD by pressing the ▲ button during CD playback.

Muting the Beep Tone

Press the [6] button while pressing the [SEL] button.

To reactivate the beep tone again, press these buttons once more.

Note
When connecting an optional power amplifier to the LINE OUT, the beep tone is disabled.

Changing the Illumination Color

Press the [1 INTRO] button while pressing the [SEL] button.

You can choose the color between amber and green.

Maintenance

Fuse Replacement

When replacing the fuse, be sure to use one with the correct amperage stated on the fuse case. Never use a fuse whose an amperage rating exceeds the one supplied with the unit as this could cause a malfunction of the unit.

Warning
Use a fuse with the specified amperage.
Use of a fuse with higher amperage may cause serious damage.

9

Cleaning the Connectors

The unit may not function properly if the connectors between the unit and the front panel are not clean. In order to prevent this, open the front panel by pressing the RELEASE button, then detach it and clean the connectors with a cotton swab dipped in alcohol. Do not apply too much force. Otherwise, the connectors may be damaged.
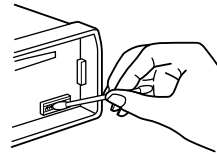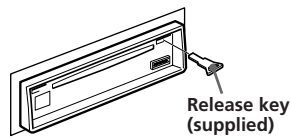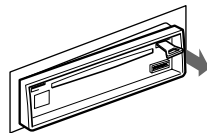

Main unit
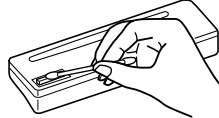
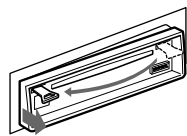
Back of the front panel

Dismounting the Unit

1

Release key (supplied)

2

3

4

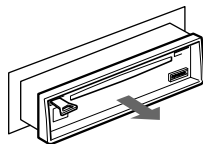## Notes on Using the Optional Rotary Commander RM-X2S

This unit can be operated with the optional rotary commander (RM-X2S).
Four button name labels are supplied with the rotary commander. Attach that label which matches the functions of the master unit and the installation position of the rotary commander.
If you connect this unit, attach the label which has "DSPL" on it.
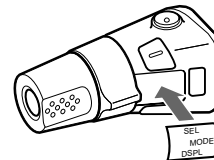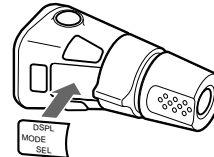
Attach the appropriate label for the installation position of the rotary commander.

10

Location of Controls

Refer to the pages in ● for details.

1 **LOUD (loudness) button** ❾

2 **OFF button** ❹❻❾

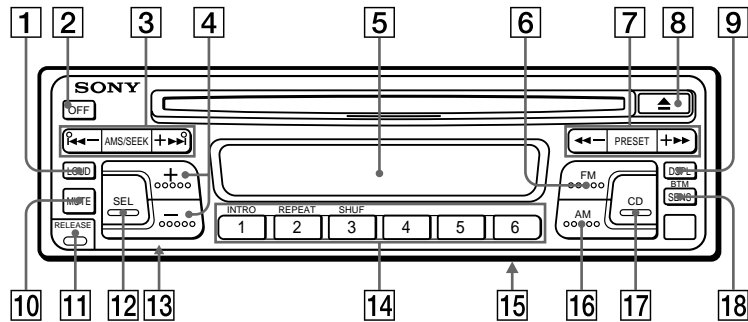3 **AMS/SEEK (Automatic Music Sensor/automatic tuning) button** ❻❼

4 ▭ ▭ **(volume/bass/treble/balance/fader control) buttons** ❺❾

5 **Display window**

6 ▭ **(radio on/band select) button** ❻❼❽

7 **PRESET (preset search) button** ❻❽

8 ⏏ **(eject) button** ❻❾

9 **DSPL (display mode change/time set) button** ❺

10 **MUTE button** ❾

11 **RELEASE (front panel release) button** ❹❾

12 **SEL (control mode select/character set) button** ❺❾

13 **Reset button (located on the front side of the unit hidden by the front panel)** ❹

14 **During radio reception:**
   Preset number buttons ❽
   During CD playback:
   ▭(1) **INTRO (intro scan) button** ❻
   ▭(2) **REPEAT (repeat play) button** ❼
   ▭(3) **SHUF (shuffle play) button** ❼

15 **POWER SELECT switch (located on the bottom of the unit)**
   See "POWER SELECT Switch" in the Installation/Connections manual.

16 ▭ **(radio on/band select) button** ❻❼❽

17 **CD (CD play) button** ❻

18 **SENS/BTM (sensitivity adjust/Best Tuning Memory function) button** ❼❽

EN

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Location of Controls

Optional the Wireless Remote Commander (RM-X40)
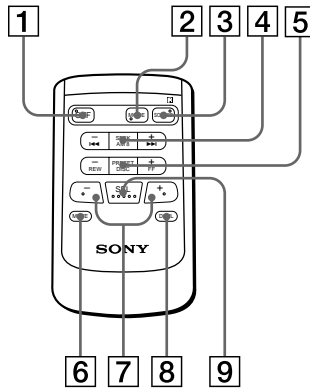
Buttons with the same function as those as those on the master unit

1 OFF button

4 SEEK/AMS button

5 PRESET/DISC button
You cannot do the manual search and manual tuning with the remote commander.

6 MUTE button

7 ⌐ ⌐ button

8 DSPL button

9 SEL button

Different function buttons

2 MODE button
During radio reception:
Changes preset groups within band received:

$$\rightarrow FM\ 1 \longrightarrow FM2 \longrightarrow FM3 \longrightarrow$$

3 SOURCE button
Press to select program sources.
Each time the button is pressed, the program source mode changes as follows:

$$\rightarrow FM \longrightarrow AM \longrightarrow CD \longrightarrow$$

When the POWER SELECT switch is set to the **B** position, the unit cannot be operated with the wireless remote commander unless the CD, FM or AM button on the unit is pressed or a CD is inserted to activate the unit first.

EN

12

Specifications

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION
15 watts per channel minimum continuous average power into
4 ohms, 4 channels driven from 20 Hz to 20 kHz with no more than
1 % total harmonic distortion.

Other Specifications

CD player section

System	Compact disc digital audio system
Signal-to- noise ratio	90 dB
Frequency response	10 – 20,000 Hz
Wow and flutter	Below measurable limit
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.

Tuner section

FM

Tuning range	87.5 – 107.9 MHz
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Usable sensitivity	8 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	
	0.5 % (stereo), 0.3 % (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz
Capture ratio	2 dB

AM

Tuning range	530 – 1,710 kHz
Antenna terminal	External antenna connector
Intermediate frequency	10.71 MHz/450 kHz
Sensitivity	30 µV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	35 W × 4 (at 4 ohms)

General

Output lead	Power amplifier control lead
Tone controls	Bass ±8 dB at 100 Hz Treble ±8 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 188 × 58 × 177 mm (7 $^1/_2$ × 2 $^3/_8$ × 7 in.) (w/h/d)
Mounting dimension	Approx. 178 × 50 × 154 mm (7 $^1/_8$ × 2 × 6 $^1/_8$ in.) (w/h/d)
Mass	Approx. 1.5 Kg (3 lb. 4.9 oz.)
Supplied accessories	Parts for installation and connections (1set) Front panel case (1)
Optional accessories	Rotary commander RM-X2S Wireless remote commander RM-X40 RCA pin cord RC-63 (1 m), RC-64 (2 m), RC-65 (5 m) Cleaning cloth XP-CD1 Compact disc single adapter CSA-8

Design and specifications are subject to change without notice.

Troubleshooting Guide

The following checklist will assist in the correction of most problems which you may encounter with your unit.
Before going through the checklist below, refer to the connection and operating procedures.

General

Problem	Cause/Solution
No sound	• Adjust the volume with the ⬛ button. • Set the fader control to the centre position for 2-speaker systems.
The contents of the memory have been erased.	• The power cord or battery has been disconnected. • The reset button has been pressed. → Store stations into memory again.
Indications do not appear in the display window.	Remove the front panel and clean the connectors. See "Cleaning the Connectors" of "Maintenance" for details.
No beep tone.	• An optional power amplifier is connected to the LINE OUT. • The beep tone is muted (page 9).

CD playback

Problem	Cause/Solution
CD cannot be loaded.	• Another CD is already loaded. • The CD was forcibly inserted upside down.
Play does not begin.	Dusty disc.
CD is automatically ejected.	The ambient temperature is more than 50°C.
The operation buttons do not function.	Press the reset button.
The sound skips due to vibration.	• The unit is installed at an angle of more than 20°. • The unit is not installed in a sturdy part of the car.

Radio reception

Problem	Cause/Solution
Preset tuning is not possible.	• Memorise the correct frequency. • The broadcast is too weak.
Automatic tuning is not possible.	The broadcast is too weak. → Use manual tuning.
The "STEREO" indication flashes.	• Tune in precisely. • The broadcast is too weak. → Press the SENS button to enter the MONO mode.

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Actual total number: _____

Error displays

The following indications will flash for about five seconds and an alarm sound will be heard.

Display	Cause	Solution
E - 04	CD is dirty or inserted upside down.	Clean or insert the CD correctly.
E - 99	The CD player cannot be operated because of some problem.	Press the reset button.

If the above-mentioned solutions do not help to improve the situation, consult your nearest Sony dealer.

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