

CD Radio Cassette Corder

CFD-68

Operating Instructions

1. Read these instructions carefully before using the unit.
2. Keep these instructions for future reference.

Owner's Record

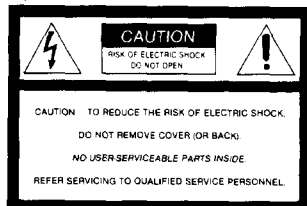
The model and serial number are located on the bottom exterior. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. CFD-68 Serial No. _____

Sony Corporation 1986 Printed in Japan

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION

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

For the customers in the U.S.A.

INFORMATION

This equipment generates and uses radio frequency energy and if not installed and used properly, that is in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in residential installation. However, there is no guarantee that interference will not occur in a particular installation. If the equipment does cause interference to radio or television reception, which can be determined by tuning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna.
- Relocate the equipment with respect to the receiver.
- Move the equipment away from the receiver.
- Plug the equipment into a different outlet so that equipment and receiver are on different branch circuit.
- If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

For the customers in Canada

This apparatus complies with the Class B limits for radio noise emissions set out in Radio Interference Regulation.

Precautions

Notes on Power Sources

- For battery operation, use six size D (R20) batteries. For AC operation (120 V AC only), use the supplied AC power cord; do not use any other type.
- When the internal batteries will not be used, remove them to avoid damage caused by battery leakage and corrosion.
- The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off. Unplug it when it will not be used for a long time.

Notes on Handling the Unit

- As the laser beam used in the CD player section is harmful to the eyes, do not attempt to disassemble the casing. Refer servicing to qualified personnel only.
- If moisture condenses on the lenses inside the CD player section, the player will not operate properly. In this case, remove the disc and leave the unit turned on for about an hour.
- Avoid exposure to temperature extremes, direct sunlight, dust, or mechanical shock.
- Should any solid object or liquid fall into the unit, unplug the unit, remove the batteries, and have the unit checked by qualified personnel before operating it any further.
- Be careful not to lift the handle while the telescopic antenna is in a raised position.
- After long storage, set the unit in playback mode and warm it up for a few minutes before inserting a cassette.

- If a cassette cannot be removed
If the power was accidentally cut off (for example, the power cord was disconnected, the batteries fell out or an interruption of the main power source occurred) after **II** or **III** was pressed, it may not be possible to eject the cassette. In this case, supply power to the unit again and then press **II** after pressing **II** to remove the cassette.
- If the **II** button cannot be released
If **II** is depressed when the power is turned off (the power cord is disconnected or the batteries are removed), it cannot be released even if **II** is pressed. To release the button, turn on the power again and then press **II**.
- If the cassette holder cannot be closed firmly
Press **II** to remove the cassette and reinsert it into the holder. Do not attempt to play back or record when the cassette holder is not firmly closed. Otherwise, the cassette may be damaged.

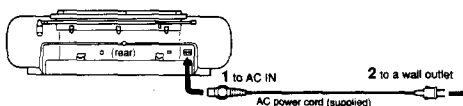
Note on cassettes longer than 90 minutes
The use of such cassettes is not recommended except for long continuous recording or playback.

If you have any question or problem concerning your unit that is not covered in this manual, please consult your nearest Sony dealer.

Power Sources

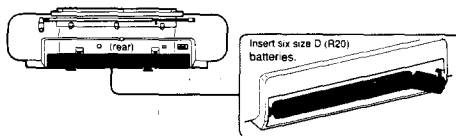
The OPR/BATT indicator lights up during operation.

House Current



Batteries

The unit cannot be operated on the internal batteries when the AC power cord is connected to the unit.



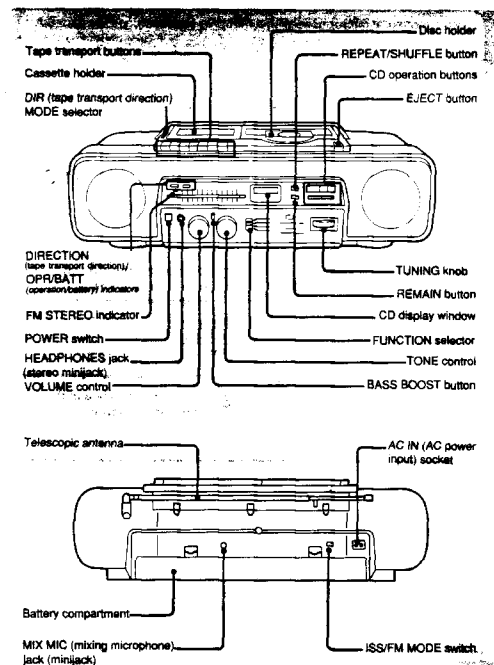
When to replace the batteries

If the batteries become weak while the unit is in operation, the OPR/BATT indicator will glow faintly. In this case, replace all the batteries with new ones.

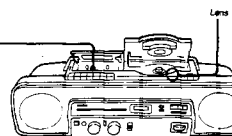
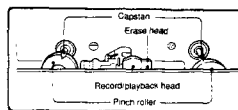
For critical recording or disc playing

Operating the unit on AC power is recommended.

Parts Identification



Maintenance



Cleaning the heads and tape path

Contaminated heads cause inadequate recording or sound drop-out in playback.

We recommend cleaning after every 10 hours of operation. To make the best possible recordings, however, you should clean all surfaces over which tape travels before making any recording.

Wipe the heads, the pinch rollers, and the capstans with a cleaning tip slightly moistened with cleaning fluid or alcohol.

After cleaning the heads, rollers, and tape path, do not insert a cassette until the areas cleaned are completely dry.

Demagnetizing heads

After 20 to 30 hours of use, enough residual magnetism will have built up on the heads to begin to cause loss of high frequencies and hiss. At this time you should demagnetize the heads and all metal parts in the tape path with a commercially available head demagnetizer. Be sure that the CD radio cassette-corder is turned off while you demagnetize.

Cleaning the lens

If you have accidentally touched the lens of the CD player section with dirty fingers or dust has accumulated on the lens, the unit will not operate properly. In such cases, clean the lens with the lens cleaning kit (optional).

Cleaning the cabinet

Clean the cabinet, panel, and controls with a soft cloth slightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzene.

Troubleshooting Guide – Check the following possible causes

General

No sound from speakers

- Improper polarity of the batteries.
- Weak batteries ⇒ Replace all the batteries with new ones.
- Improper FUNCTION selector setting
- The headphones are plugged in.

CD Operation

The unit does not operate

- The disc is inserted with the labeled surface down.
- The disc compartment lid is not closed.
- Dusty or defective disc. ⇒ Clean the disc with an optional cleaning cloth. Wipe the disc from the center out.
- Moisture condensation ⇒ See "Precautions".
- Improper FUNCTION selector setting.
- When the CD operation buttons cannot be activated, turn off the unit and turn it on again.

Skipping of sound in CD operation

- Dusty or defective disc. ⇒ Clean the disc.
- Dirty lens ⇒ Clean the lens with a commercially available blower.
- Strong vibrations.

Tape Operation

No tape operation

- PAUSE button is depressed. ⇒ Press again to release it.

REC button cannot be depressed

- The cassette inserted has the tabs removed. ⇒ Cover the slots.

Sound drop-outs, loss of high frequencies, or excessive noise

- Dirty heads ⇒ Clean the heads. See "Maintenance".

Recording or playback cannot be made or there is a decrease in sound level

- Dirty heads ⇒ Clean the heads.
- Improper FUNCTION selector setting.

Unsatisfactory erasing

- Dirty erase head ⇒ Clean the head.

Specifications

AUDIO POWER SPECIFICATIONS

Full-range speakers:
With 3.2-ohm loads, both channels driven from 150-15,000 Hz: rated 2.5 W per channel minimum RMS power, with no more than 10% total harmonic distortion in AC operation.

OTHER SPECIFICATIONS

CD player section

System Compact disc digital audio system

Laser diode properties

Material: GaAlAs
Wavelength 780 nm
Emission duration: Continuous
Laser output: less than 44.6 μW
* This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block.

Frequency response

20 - 20,000 Hz ±1 dB
Below measurable limit

Radio section

Frequency range FM: 87.6 - 108 MHz
AM: 530 - 1,710 kHz

Tape recorder section and general

Recording system 4-track 2-channel stereo
Frequency response

60 - 10,000 Hz
(with TYPE I (NORMAL) cassette)

Speaker

Full-range speakers: 10 cm dia., cone type

Power output

Full-range speakers: 2 W × 2 W (at 3.2 ohms, 315 Hz, 10% harmonic distortion)

Inputs

Mixing microphone input jack (minijack)

Sensitivity 2.5 mV
For low impedance microphone

Outputs

Headphones jack (stereo minijack)
For 16 - 68 ohms impedance headphones

Power requirements

120 V AC, 60 Hz
DC 9 V, 6 size D (R20) battery

Power consumption

AC 20W

Battery life

Batteries for radio cassette-corder

| | FM recording |
|-----------------------|--------------|
| Sony SUM-1 (NS) | approx. 11 |
| Sony Alkaline AM1 (N) | approx. 17 |

Dimensions

593 × 175 × 197 mm (w/h)
(23 1/8 × 7 × 7 7/8 inches)
incl. projecting parts and cap

Weight

Approx. 4.6 kg, incl. battery
(Approx. 10 lb 2 oz)

Supplied accessory

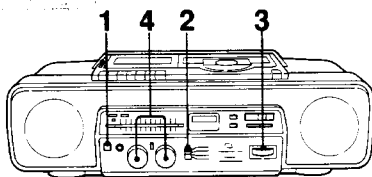
AC power cord (1)

Design and specifications subject to change w/notice.

OPTIONAL ACCESSORIES

Sony "MDR" headphone series
Sony "Dynamic microphone" series
Head demagnetizer HE-SC
CD cleaner XP-CD1, XP-CD3, XP-CD4

Listening to the Radio



- 1 Press **POWER** to turn the unit on (ON).
 - 2 Select the desired band, **FM** or **AM**.
 - 3 Tune in the desired station.
 - 4 Adjust the volume and the tone.
- To turn off the radio
Press **POWER** to turn the unit off (OFF).

To receive an FM stereo program

Set the ISS-FM MODE switch on the rear panel to ST. When an FM stereo program is tuned in, the FM STEREO indicator lights up. If the received FM stereo signal is too weak, the reception becomes monaural, and the FM STEREO indicator will go out.

When an FM stereo program is noisy

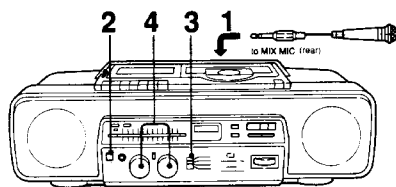
Set the ISS-FM MODE switch to MONO. You can hear the monaural program with less noise.

For Improved Reception



Micphone Mixing

Use a monaural microphone with a miniplug (optional).



- 1 Connect a microphone.
Turn on the power of the microphone if necessary.
- 2 Press **POWER** to turn the unit on (ON).
- 3 Choose the desired sound source to be mixed with **FUNCTION** and play it.
- 4 Adjust the volume and the tone of the sound source.

| Sound source | FUNCTION selector |
|---------------|-------------------|
| CD sound | CD |
| Radio program | FM or AM |
| Tape sound | TAPE |

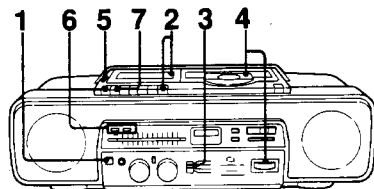
If howling (acoustic feedback) occurs
Move the microphone away from the speakers.

To record the mixed sound

Insert a cassette and only press **REC**. You can record the sound from the microphone mixed with a CD or radio program.

Recording CD or Radio Sound

Use only a **TYPE I (normal)** cassette for recording



- 1 Press **POWER** to turn the unit on (ON).
- 2 Insert a cassette.
- 3 Choose the desired sound source to be recorded with **FUNCTION**.
- 4 Place a disc or tune in the desired station.
- 5 Set **DIR MODE** to the desired position.
- 6 Check the tape transport direction.
- 7 Press **REC**.

| Sound to be recorded | FUNCTION selector |
|----------------------|-------------------|
| CD sound | CD |
| FM program | FM |
| AM program | AM |

| Side to be recorded on | DIR MODE switch |
|--------------------------|-----------------|
| One side of a cassette | → |
| Both sides of a cassette | ↔ |

Both-side recording should be started from the top side of the cassette.

6 Check the tape transport direction.
FWD → for top side
REW ← for reverse side
If necessary, press **REW** to change the tape transport direction. Do not press this during recording.

7 Press **REC**.
→ is depressed automatically.
When you record from a disc, disc playing will automatically start from the first selection after approx. 8 seconds.

When recording ends

● **REC** is released automatically. If recording starts from the reverse side of a cassette, ● **REC** will also be released when the tape reaches its end even though **DIR MODE** is set to ↔.

After use

Press **STOP** and then press **POWER** to turn the unit off.

To stop recording

Press **STOP** of the cassette deck (and **STOP** of the CD player when recording from a disc).

The recording level is automatically adjusted. The sound to be recorded is not affected by the **VOLUME**, **TONE**, or **BASS BOOST** controls.

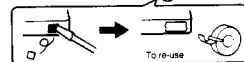
To record the repeat or shuffle play of a disc

- 1 Play a disc in the desired playing mode.
- 2 Insert the cassette and follow the step 5 - 7. The disc playing will automatically start and be recorded. (Synchronized Start)

To reduce the noise during **AM** recording
Set the ISS-FM MODE switch on the rear panel to 1, 2, or 3, depending on which one best reduces the noise.
● ISS-Inference Suppress Switch

To prevent accidental erasure

Break off the tab corresponding to the side which has been recorded on. Recording on that side will be protected.



Playing a Disc

1 Press POWER to turn the unit on (ON).

2 Select CD.

3 Place a disc.

4 Press ►.

5 Adjust the volume and the tone.

Display window

Press completely. Label surface up.

The number of selections in the disc and the total playing time will appear in the display window.

First selector: 01 00:04 Elapsed playing time

Information Display

During playing

Selection No. being played: 05 01:17

While CD player is set in pause: 05 01:17

Between selections: 05 -0:03

To display remaining time of the disc being played Press REMAIN.

09-47:21

For normal display, press REMAIN again.

Note: Even if the REMAIN button is pressed, the remaining time of the disc being played cannot be displayed when it has more than 100 selections or its remaining time is more than 100 minutes.

| | |
|----------------------|----------------------------|
| To pause | Press II. |
| To stop | Press III. |
| To eject a disc | Press PUSH OPEN. |
| To turn off the unit | Press POWER to release it. |

Do not press PUSH OPEN during play. Otherwise, the disc will be damaged. Be sure to stop the disc first.

Locating a Particular Portion

Locating a particular selection (AMS*)

To locate the beginning of the current selection

Press once.

To locate the next selection

Press once.

Locating a particular point in a selection

To go back at high speed

Keep pressed.

To go ahead at high speed

Keep pressed.

Notes on the AMS function

- The player pauses at the beginning of the located selection when you press ► or ►► in the pause mode.
- If you keep ►► pressed, the player locates the previous selections.
- If you keep ►► pressed, the player locates the next selections and stops at the last selection.

Various Playing Modes

Each time REPEAT-SHUFFLE is pressed, the playing mode changes as follows. To stop the disc, press III.

Repeating one selection - 1 repeat

REPEAT-SHUFFLE

REPEAT

After the current selection ends, the same selection will be repeated.

Repeating the whole disc - ALL repeat

REPEAT-SHUFFLE

REPEAT ALL

When play reaches 3/4 of the disc, it restarts from the first selection.

Playing in a random order - SHUFFLE repeat

REPEAT-SHUFFLE

SHUFFLE

The selections in the disc will be played in a random order. After all the selections have been played, they will be reshuffled and played continuously in a different order each time.

Press REPEAT-SHUFFLE to return to the normal play.

During shuffle repeat play

To locate the beginning of the current selection

Press ►►►

To locate the next selection

Press ►►►

You cannot locate a previous selection even if you keep pressing the ►►► button.

Notes on compact discs

This way



Handle the disc by its edge.

Not this way



Do not touch the surface.

Not this way



Do not stick paper or write anything on surface.

Playing Back a Tape

Both sides of a cassette can be played back without turning it over.

1 Press POWER to turn the unit on (ON).

2 Select TAPE.

3 Insert a cassette.

4 Check the DIRECTION (DIR/BATT) indicator. FWD ► lights up to indicate right-winding tape transport. REV ◄ lights up to indicate left-winding tape transport. Press ◄► to change the side of the cassette to be played back if necessary.

5 Press ►.

6 Adjust the volume and the tone.

To stop playback Press III.

After use Stop playback first and press POWER to turn the unit off (OFF).

To select playback mode

Set the DIR MODE selector to the desired position.

| | |
|---|-----------|
| To play back one side of a cassette | Set to ► |
| To play both sides of a cassette (auto-reverse) | Set to ◄► |

When playing back both sides of a cassette

Both-side playback should be started from the top side. Be sure to set the DIRECTION indicator to ►. If not, playback will stop at the end of the reverse side even though the DIR MODE selector is set to ◄►.

Other Operations

| Operation | Button to be pressed |
|---|----------------------|
| To pause | II |
| To release pause | II |
| To remove the cassette | III twice |
| To listen to the other side of the cassette during playback | ◄► |

To locate the desired portion (Cue/review function)

Keep pressing the following button during playback, according to the side being played back.

| | FWD ► (top side) | REW ◄ (reverse side) |
|------------------------------------|------------------|----------------------|
| To go back to the previous portion | ◄◄ | ►► |
| To skip a certain portion | ►►► | ◄◄◄ |

Sound Adjustment

To reinforce the bass sound

BASS BOOST (a) on

To adjust the tone

TONE

LOW HIGH

While listening to the CD or radio

You can also adjust the sound with BASS BOOST or TONE.

Note on BASS BOOST

BASS BOOST is most effective around the third mark from MIN of the volume range. Even if you raise the volume more, the BASS BOOST effect will be negligible.