

SONY®

FM/MW/SW Cassette Car Stereo

Operating Instructions _____

EN

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

XR-7850

© 1998 by Sony Corporation

Welcome!

Thank you for purchasing the Sony Cassette Car Stereo. This unit lets you enjoy a variety of features by using a supplied rotary commander.

Table of contents

Getting Started

Resetting the unit	4
Detaching the front panel	4
Preparing the rotary commander	4
Setting the clock	5

Cassette Player

Listening to a tape	5
Playing a tape in various modes	6

Radio

Memorizing stations automatically	
— Best Tuning Memory (BTM)	7
Memorizing only the desired stations	7
Receiving the memorized stations.....	7

Other Functions

Using the rotary commander	8
Adjusting the sound characteristics	9
Attenuating the sound	9
Changing the sound and beep tone	9

Additional Information

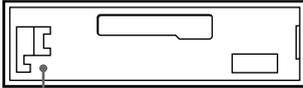
Precautions	10
Maintenance	11
Dismounting the unit	12
Location of controls	13
Specifications	14
Troubleshooting guide	15
Index	16

Getting Started

Resetting the unit

Before operating the unit for the first time or after replacing the car battery, you must reset the unit.

Press the reset button with a pointed object, such as a ball-point pen.



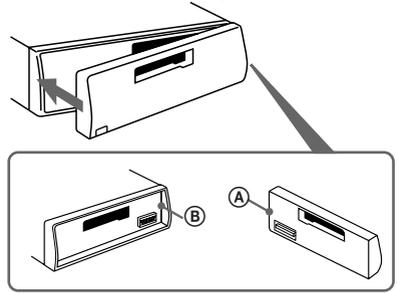
Reset button

Note

Pressing the reset button will erase all the memorized program and memory functions.

Attaching the front panel

Attach part **(A)** of the front panel to part **(B)** of the unit as illustrated and push until it clicks.



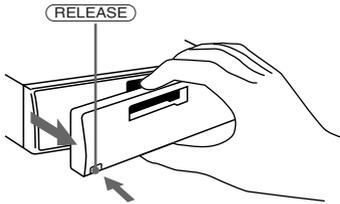
Notes

- Make sure 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 put excessive pressure to the display windows of the front panel.
- 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.

Detaching the front panel

The front panel of this unit can be detached to prevent the unit from being stolen.

- 1 Press **(OFF)**.
- 2 Press **(RELEASE)** to detach the front panel then gently pull it out.



Notes

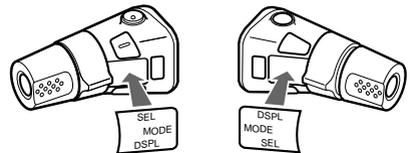
- Be sure not to drop the panel when detaching it from the unit.
- If you press **(RELEASE)** to detach the panel while the unit is still turned on, the power will automatically turn off to protect the speakers from being damaged.

Caution alarm

If you turn the ignition key to the OFF position without removing the front panel, the caution alarm will beep for a few seconds (only when the POWER SELECT switch is set to the **(A)** position). If you connect an optional power amplifier to the LINE OUT and do not use the built-in amplifier, the beep tone will be disabled.

Preparing the rotary commander

When you mount the rotary commander, attach the label in the illustration below.



Setting the clock

The clock has a 12-hour digital indication.
For example, setting it to 10:08

1 Press **OFF** or **DSPL** during operation.

2 Press **DSPL** for two seconds.



The hour digit flashes.

1 Set the hour digits.



To go forward

To go backward



2 Press **SEL** momentarily.



The minutes digits flashes.

3 Set the minute digits.



To go forward

To go backward



3 Press **DSPL** momentarily.



The clock starts.

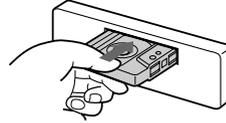
Note

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.

Cassette Player

Listening to a tape

Insert a cassette.



Playback will start automatically.

If a cassette is already inserted, press **SOURCE** repeatedly until "TAPE" is displayed.



The side facing up is being played.



The side facing down is being played.

Tip

To change the tape transport direction, press **MODE** (**◀▶**) during tape playback.

To	Press
Stop playback	OFF
Eject the cassette	▲

Fast-winding the tape

During playback, press either side of **SEEK/AMS** for two seconds.



Fast-forward

Rewind

To start playback during fast-forwarding or rewinding, press **MODE** (**◀▶**).

Locating the beginning of a track — Automatic Music Sensor (AMS)

You can skip up to nine tracks at one time.

During playback, press either side of **(SEEK/AMS)** momentarily.



To locate the succeeding tracks

To locate the preceding tracks

Note

The AMS function may not work when :

- the blanks between tracks are shorter than 4 seconds
- there is noise between tracks
- there are long sections of low volume or quiet sections.

Changing the displayed items

Each time you press **(DSPL)** during tape playback, the displayed item changes as follows:



* While the ATA function is activated.

EN

Playing a tape in various modes

Searching for the desired track

— Intro scan

Press **(1)** during playback.

“INTRO” appears on the display.

The first 10 seconds of all the tracks are played.

When you find the desired track, press **(1)** again. The unit returns to the normal playback mode.

To cancel this mode, press **(1)** again.

Playing tracks repeatedly

— Repeat play

Press **(2)** during playback.

“REP” appears on the display.

When the current played track is over, it will be played again from the beginning.

To cancel this mode, press **(2)** again.

Switching to the radio while fast-winding a tape

— Automatic Tuner Activation (ATA)

Press **(5)** during playback.

“ATA” appears on the display.

When fast-forwarding or rewinding with **(SEEK/AMS)**, the tuner will turn on automatically.

To cancel this mode, press **(5)** again.

Skipping blanks during tape playback — Blank skip

Press **(6)** during playback.

“BL SKIP” appears on the display.

Blanks longer than eight seconds will automatically be skipped during tape playback.

To cancel this mode, press **(6)** again.

Radio

Memorizing stations automatically

— Best Tuning Memory (BTM)

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

PREVENTING ACCIDENTS!

When tuning in while driving, use the automatic tuning instead of manual tuning.

1 Press **(SOURCE)** repeatedly to select the tuner.

Each time you press **(SOURCE)**, the source changes as follows:

TAPE ↔ TUNER

2 Press **(MODE)** repeatedly to select the band.

Each time you press **(MODE)**, the band changes as follows:

FM1 → FM2 → FM3 → MW → SW1 → SW2

3 Press **(BTM)** for two seconds.

Notes

- The unit will not store stations with weak signals on the preset number buttons. If there are only a few stations received, some preset number buttons will remain empty.
- When a preset number indicated on the display, the unit starts storing station from the one currently display.

Memorizing only the desired stations

Up to 6 stations on each band (FM1, FM2, FM3, MW, SW1 and SW2) can be stored on the preset number buttons in the order of your choice. Therefore, 18 FM stations can be memorized.

If you try to store another station on the same preset number button, the most recently stored station will be erased.

1 Press **(SOURCE)** repeatedly to select the tuner.

2 Press **(MODE)** repeatedly to select the band.

3 Press **(SEEK/AMS)** to search for the station you wish to store on a preset number button.

4 Press the desired preset number button (**1** to **6**) for two seconds.

The number of the selected preset number button appears on the display.

Receiving the memorized stations

1 Press **(SOURCE)** repeatedly to select the tuner.

2 Press **(MODE)** repeatedly to select the band.

3 Press the preset number button momentarily (**1** to **6**) on which the desired station is stored.

Changing the displayed items

Each time you press **(DSP/L)**, the display changes between the frequency and the clock.

If you cannot tune in a preset station

Press either side of **(SEEK/AMS)** momentarily to search for the station (automatic tuning).

Scanning stops when a station is received.

Press either side of **(SEEK/AMS)** repeatedly until the desired station is received.

Note

If the automatic tuning stops too frequently, press **(LCL)** to light up "LCL" on the display (local seek mode). Only the stations with relatively strong signals can be tuned in.

Tip

If you know the frequency, press and hold either side of **(SEEK/AMS)** until the desired station is received (manual tuning).

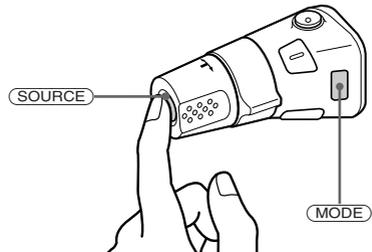
EN

Other Functions

Using the rotary commander

The rotary commander works by pressing buttons and/or rotating controls.

By pressing buttons (the SOURCE and the MODE buttons)



Every time you press **(SOURCE)**, the source changes as follows:

TAPE → TUNER

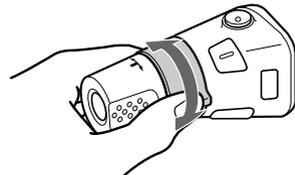
Pressing **(MODE)** changes the operation in the following ways:

- the tape transport direction.
- the band, FM1 → FM2 → FM3 → MW → SW1 → SW2.

Tip

You can turn on this unit by pressing **(SOURCE)** on the rotary commander.

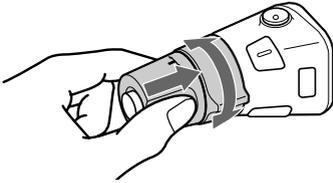
By rotating the control (the SEEK/AMS control)



Rotate the control momentarily and release it to:

- Locate the beginnings of the tracks on the tape. Rotate and hold the control, and release it to fast-wind the tape. To playback, rotate and hold the control again, and release it.
- Tune in the stations automatically. Rotate and hold the control to tune in the specific station.

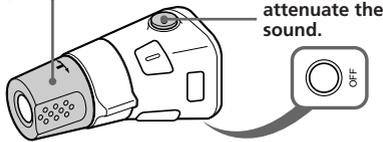
By rotating the control while pushing in (the PRESET/DISC control)



Push in and rotate the control to:
Receive the stations memorized on the preset buttons.

Other operations

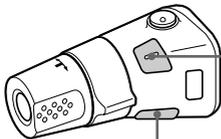
Rotate the VOL control to adjust the volume.



Press **(ATT)** to attenuate the sound.



Press **(OFF)** to turn off the unit.

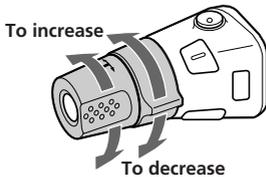


Press **(SEL)** to adjust and select.

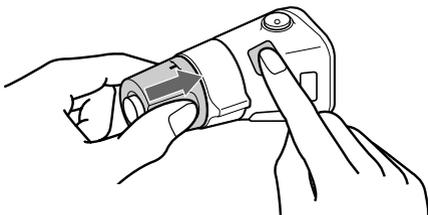
Press **(DSPL)** to change the display items.

Changing the operative direction

The operative direction of controls is factory preset as in the illustration below.



If you need to mount the rotary commander on the right side of the steering column, you can reverse the controls' operative direction.



Press **(SEL)** for two seconds while pushing in the VOL control.

Adjusting the sound characteristics

1 Select the item you want to adjust by pressing **(SEL)** repeatedly.

VOL (volume) → BAS (bass) → TRE (treble) → BAL (left-right) → FAD (front-rear)

2 Adjust the selected item by pressing either **(+)** or **(-)**.

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

Attenuating the sound

Press **(ATT)**.

The "ATT" indication flashes.

To restore the previous volume level, press again.

Tip

The unit decreases the volume automatically when a telephone call comes in (Telephone-ATT function).

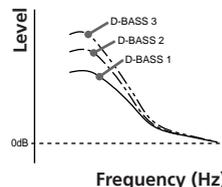
Changing the sound and beep tone

Boosting the bass sound — D-Bass

You can enjoy clear and powerful bass sound. The D-bass function boosts the low frequency signal with a sharper curve than conventional bass boost.

You can hear the bass line more clearly even if the vocal volume remains the same. You can emphasize and adjust the bass sound easily with the D-bass control. This effect is similar to the one you get when you use an optional subwoofer system.

Analog D-BASS



Adjusting the bass curve

Turn the D-BASS control to adjust the bass level (1, 2 or 3).

"D-BASS" appears in the display.

To cancel, turn the control to the OFF position.

Note

If the bass sound becomes distorted, adjust the D-BASS control or the volume button.

Attenuating the beep tone

Press **(6)** while pressing **(SEL)**.

To obtain the beep tone again, press these buttons again.

Note

If you connect an optional power amplifier to the LINE OUT and do not use the built-in amplifier, the beep tone will be disabled.

Additional Information

Precautions

- 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 of a 2-speaker system, set the fader control to the center position.
- When the tape is played back for a long period, the cassette may become warm because of the built-in power amplifier. However, this is not a sign of malfunction.

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

To maintain high quality sound

If you have drink holders near your audio equipment, be careful not to splash juice or other soft drinks onto the car audio. Sugary residues on this unit or cassette tapes may contaminate the playback heads, reduce the sound quality, or prevent sound reproduction altogether.

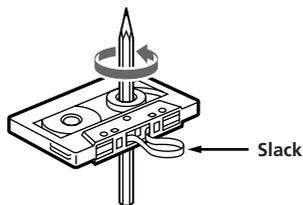
Cassette cleaning kits cannot remove sugar from the tape heads.



Notes on Cassettes

Cassette care

- Do not touch the tape surface of a cassette, as any dirt or dust will contaminate the heads.
- Keep cassettes away from equipment with built-in magnets such as speakers and amplifiers, as erasure or distortion on the recorded tape could occur.
- Do not expose cassettes to direct sunlight, extremely cold temperatures or moisture.
- Slack in the tape may cause the tape to be caught in the machine. Before you insert the tape, use a pencil or similar object to turn the reel and take up any slack.



- Distorted cassettes and loose labels can cause problems when inserting or ejecting tapes. Remove or replace loose labels.



Cassettes longer than 90 minutes

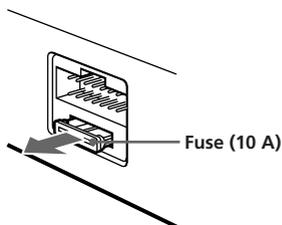
The use of cassettes longer than 90 minutes is not recommended except for long continuous play. The tapes used for these cassettes are very thin and tend to be stretched easily. Frequent playing and stopping of these tapes may cause them to be pulled into the cassette deck mechanism.



Maintenance

Fuse Replacement

When replacing the fuse, be sure to use one matching the amperage rating stated on the original fuse. If the fuse blows, check the power connection and replace the fuse. If the fuse blows again after replacement, there may be an internal malfunction. In such a case, consult your nearest Sony dealer.

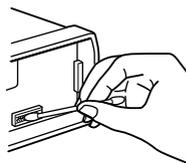


Warning

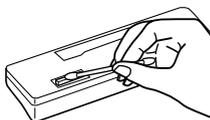
Never use a fuse with an amperage rating exceeding the one supplied with the unit as this could damage the unit.

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 **RELEASE**, 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.



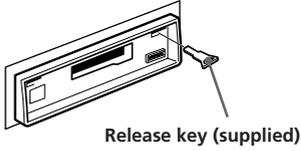
Main unit



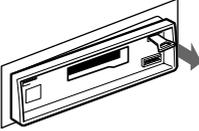
Back of the front panel

Dismounting the unit

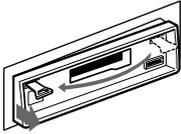
1



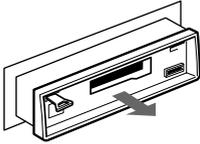
2



3

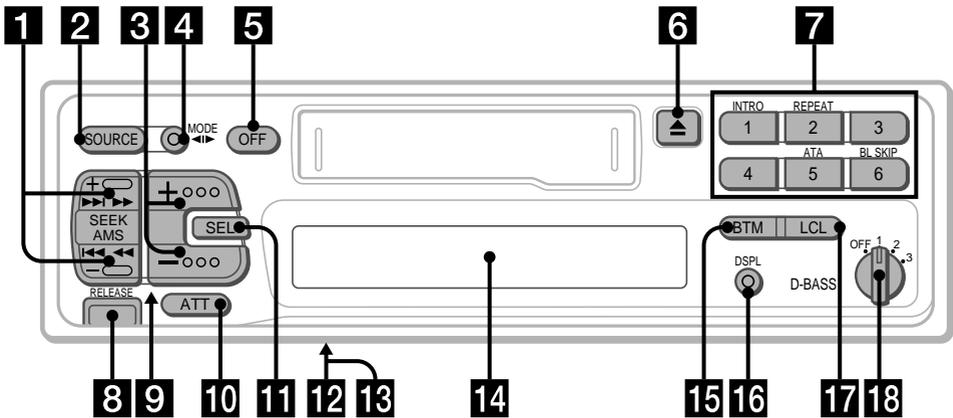


4



EN

Location of controls



Refer to the pages for further details.

- 1** SEEK/AMS button 5, 6, 7, 8
 - 2** SOURCE button (TAPE/TUNER) 5, 7
 - 3** (+) (-) (volume/bass/treble/left-right/front-rear control) button 5, 9
 - 4** MODE (◀▶) button
During tuner reception:
BAND select 7
During tape playback:
Transport direction change 5
 - 5** OFF button 4, 5
 - 6** ▲ (eject) button 5
 - 7** During radio reception:
Preset number buttons 7
During tape playback:
 - ① INTRO button 6
 - ② REPEAT button 6
 - ⑤ ATA (Automatic Tuner Activation) button 6
 - ⑥ BL SKIP (Blank Skip) button 6
 - 8** RELEASE (front panel release) button 4, 11
 - 9** Reset button (located on the front side of the unit hidden by the front panel)
Press this button when you use this unit for the first time, when you have changed the car battery, or when the buttons of this unit do not function properly.
 - 10** ATT button 9
 - 11** SEL (control mode select) button 5, 9, 10
 - 12** POWER SELECT switch (located on the bottom of the unit)
See "POWER SELECT Switch" in the Installation/Connections manual.
 - 13** Frequency Select switch (located on the bottom of the unit)
See "Frequency Select Switch" in the Installation/Connections manual.
 - 14** Display window
 - 15** BTM (Best tuning memory) button 7
 - 16** DSPL (display mode change/time set) button 5, 6, 8
 - 17** LCL button 8
 - 18** D-BASS control 9
- When the positions of switch **12** and **13** is altered, be sure to press the reset button after connecting power.

Specifications

Cassette player section

Tape track	4-track 2-channel stereo
Wow and flutter	0.08 % (WRMS)
Frequency response	30 – 18,000 Hz
Signal-to-noise ratio	58 dB

Tuner section

FM

Tuning range	FM tuning interval: 50 kHz/200kHz switchable 87.5 – 108.0 MHz (at 50 kHz step) 87.5 – 107.9 MHz (at 200 kHz step)
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

MW

Tuning range	MW tuning interval: 9kHz/10kHz switchable 531 – 1,602kHz (at 9kHz step) 530 – 1,710kHz (at 10kHz step)
Antenna terminal	External antenna connector
Intermediate frequency	10.71 MHz/450kHz
Sensitivity	30 μ V

SW

Tuning range	SW tuning interval: SW1 :2,940 – 7,735kHz SW2 :9,500 – 18,135kHz (except for 10,140 – 11,575kHz)
Antenna terminal	External antenna connector
Intermediate frequency	10.71 MHz/450kHz
Sensitivity	50 μ V

Power amplifier section

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

General

Outputs	Power antenna control lead/Power amplifier control lead/Telephone ATT control lead Rear line out (1)
Tone controls	Bass \pm 8 dB at 100 Hz Treble \pm 8 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 188 \times 58 \times 181 mm (w/h/d)
Mounting dimensions	Approx. 182 \times 53 \times 164 mm (w/h/d)
Mass	Approx. 1.2 kg
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1) Rotary commander RM-X4S (1)

Design and specifications are subject to change without notice.

Troubleshooting guide

The following checklist will assist in the correction of most problems you may encounter with your unit.

Before going through the checklist below, refer to the operating procedures.

General

Problem	Cause/Solution
No sound.	<ul style="list-style-type: none">• Adjust the volume with (+).• Set the fader control to the center position for 2-speaker systems.
Indications do not appear on the display.	Remove the front panel and clean the connectors. See "Cleaning the Connectors" in "Maintenance" for details.
No beep tone.	<ul style="list-style-type: none">• An optional power amplifier is connected to the LINE OUT and you are not using the built-in amplifier.• The beep tone is attenuated.

Tape playback

Problem	Cause/Solution
Playback sound is distorted.	Contamination of the tape head. → Clean the head.
The AMS does not operate correctly.	<ul style="list-style-type: none">• There is noise in the space between tracks.• A blank space is too short (less than four seconds).• ►► on (SEEK/AMS) is pressed immediately before the following track.• ◀◀ on (SEEK/AMS) is pressed immediately after the track starts.• A long pause, or a passage of low frequencies or very low sound level is treated as a blank space.

Radio reception

Problem	Cause/Solution
Preset tuning is not possible.	<ul style="list-style-type: none">• Store the correct frequency.• The broadcast is too weak.
Automatic tuning is not possible.	The broadcast is too weak. → Use manual tuning.

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

Index

A

- ATT 9
- Automatic Music Sensor (AMS) 6
- Automatic tuning 8
- Automatic Tuner Activation (ATA) 6

B

- BAL (left-right) 9
- BAS (bass) 9
- Best Tuning Memory (BTM) 7
- Blank skip 6

C

- Caution alarm 4
- Clock 5

D, E

- D-BASS (D-Bass) 9
- Display 6

EN

F, G, H

- FAD (front-rear) 9
- Fast-forward 5
- Front panel 4
- Fuse 11

I, J, K

- Intro scan 6

L

- Local seek mode (LCL) 8

M, N, O, P, Q

- Manual tuning 8

R, S

- Radio 7
- Repeat play 6
- Reset 4
- Rewind 5
- Rotary commander 4, 8

T, U, V, W, X, Y, Z

- Tape playback 5
- Telephone-ATT 9
- TRE (treble) 9