SONY

3-865-584-**11** (1)

FM/AM Cassette Car Stereo

Operating Instructions

US

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. XR-1790 Serial No. _____

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

XR-1790

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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.

US

Welcome!

Thank you for purchasing the Sony Cassette Car Stereo. This unit lets you enjoy a variety of features.

Features

General

- **Built-in power amplifier (max. output: 35 W × 4 ch)** enables you to enjoy a 4-speaker system.
- **Digital 12-hour clock** provided (page 5).

Cassette player section

ATA (Automatic Tuner Activation) for automatically turning on the tuner while fast-forwarding or rewinding a tape (page 6).

Tuner section

- Up to 18 stations can be preset: 12 stations on FM and 6 stations on AM.
- **Automatic memory function** stores a total of 18 stations in memory quickly and easily (page 7).

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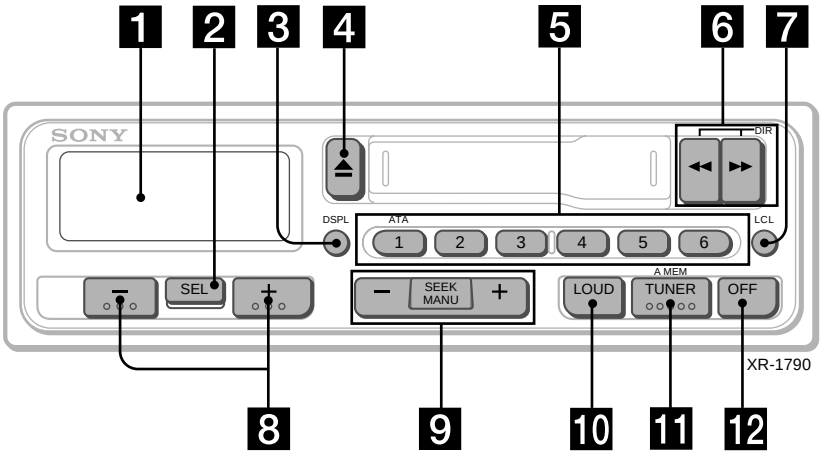
Location of controls



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Refer to the pages for further details.

1 **Display window**

2 **SEL (control mode select) button 5, 8**

3 **DSPL (display mode change/time set) button 5**

4 **⏏ (eject) button 6**

5 **During radio reception:**
Preset number buttons 8

During tape playback:

ATA (1) ATA (Automatic Tuner Activation) button 6

6 **◀◀/▶▶ (fast winding)/DIR (tape transport direction change) buttons 6**

7 **LCL (local seek) button 7**

8 **– (volume/bass/treble/balance/fader control) buttons 5, 8**

9 **SEEK/MANU button 7**

10 **LOUD (loudness) button 8**

11 **TUNER/A MEM (radio on • band select/automatic memory) button 7, 8**

12 **OFF button**

Getting Started

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 digit blinks.

Set the hour digits.

(to go back) (to go forward)

3 Press the SEL button momentarily.

The minute digits blink.

Set the minute digits.

(to go back) (to go forward)

4 Press the DSPL button momentarily.

The clock activates.

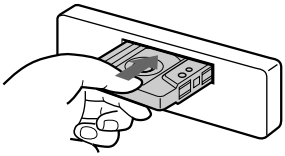
Note

The clock cannot be set unless the power is turned on. Set the clock after you turn on the radio, or during tape playback.

Cassette Player

Listening to a tape

After inserting the cassette, playback will start automatically.



To change the tape direction,
press both the ◀◀ and the ▶▶ buttons at the same time.

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Indication of tape transport direction

The side facing up is being played.

The side facing down is being played.

At the end of the tape, the playing direction will change automatically.

Note
Before turning off the unit, eject the tape to avoid tape damage.

Ejecting the cassette

Press the ⏏ button to stop playback and eject the cassette.

Fast-winding the tape

Direction indicator*	To advance	To rewind
►		
◄		

To resume playback, press the other fast-winding button partially until the locked button is released.

** The ◄ or ► indicator will flash while fast-winding the tape.*

Radio reception during fast-forwarding or rewinding of a tape

— ATA (Automatic Tuner Activation) function

Press the ATA 1 button during playback.
→ "ATA" appears on the display.
When fast-forwarding or rewinding with the ◀◀ or ▶▶ button, the tuner will turn on automatically.

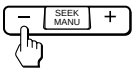
Radio

Searching for stations automatically
— Automatic tuning

1 Select the desired band.

FM1 → FM2 → AM → FM1

2 Press either side of the SEEK/MANU button momentarily to search for the next station (automatic tuning).

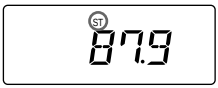


For lower frequencies

For higher frequencies

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

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



the "ST" indication will appear.

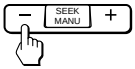
To avoid the automatic tuning from stopping on stations too frequently, press the LCL button momentarily to get the "LCL" indication (local seek mode).
Only the stations with relatively strong signals will be tuned in. The local seek mode functions only when the automatic tuning is in operation.

Tuning in by adjusting the frequency — Manual tuning

1 Select the desired band.

FM1 → FM2 → AM → FM1

2 Press and hold either side of the SEEK/MANU button.
Release the button when the desired station is received.



For lower frequencies

For higher frequencies

PREVENT ACCIDENTS!
While driving, use the automatic tuning and the memory preset tuning instead of the manual tuning.

Memorizing stations automatically
— Automatic memory function

Stations with the clearest reception are automatically searched and memorized on each band (FM1, FM2 and AM). Up to 6 stations on each band can be stored on the preset number buttons 1 to 6 in the order of band frequency.

1 Select the desired band.

FM1 → FM2 → AM → FM1

2 Press the TUNER/A MEM button for more than two seconds.

The unit will start scanning the selected band and automatically memorize the tuned stations on the preset number button 1 through 6.

Memorizing only the desired stations

1 Select the desired band.

FM1 → FM2 → AM → FM1

2 Tune in the station which you wish to store on the preset number button.

3 Press and hold the desired preset number button (1 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 and AM) can be stored on the preset number buttons in the order of your choice. Therefore, 12 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.

FM1 → FM2 → AM → FM1

2 Press momentarily the preset number button 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.

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 either the − or + button.

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

Enjoying bass and treble at low volume

— Loudness Function

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

Attenuating the beep tone

Press the 5 button while pressing the SEL button.
To reactivate the beep tone, press these buttons once more.

US

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.
- If your car is equipped with a power antenna, note that it will be automatically extended while the unit is operating.

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

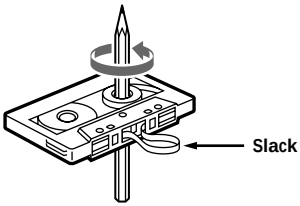
To maintain high quality sound

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.
- When the tape is played back for a long period, the cassette may become warm because of the built-in power amplifier. This is not a sign of a malfunction.
- 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.



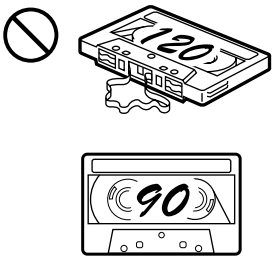
- Distorted cassettes and loose labels can cause problems when inserting or ejecting tapes. Remove or replace loose labels.

Notes on cassette deck tape heads

- Long use of cassette tapes contaminates the tape head causing poor sound quality or complete sound dropout. Therefore, we recommend cleaning the tape head once a month or so with the separately available Sony Cassette Cleaning Set. If the sound does not improve after using a cleaning cassette, please consult your nearest Sony dealer.
- In case of old or inferior cassette tapes, the tape head gets contaminated much more quickly. Depending on the tape, one or two playbacks may cause poor sound.

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.



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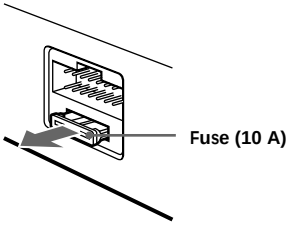
Maintenance

Fuse replacement

When replacing the fuse, be sure to use one matching the amperage rating stated on the 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.

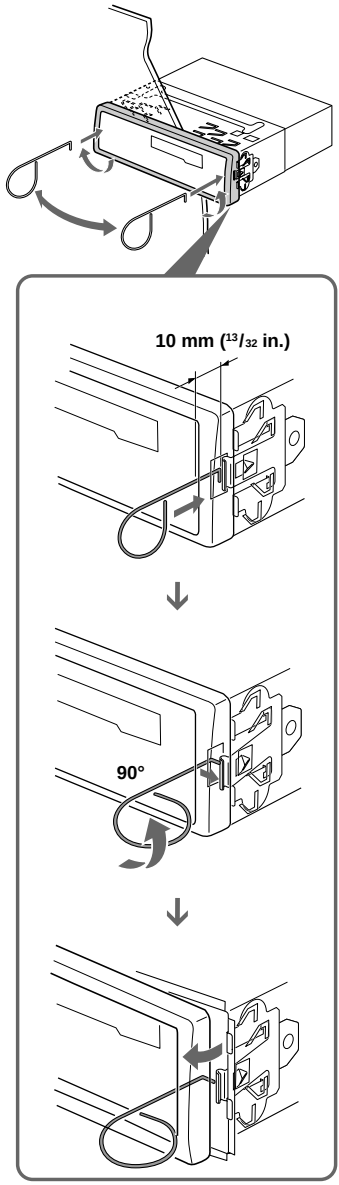


Warning

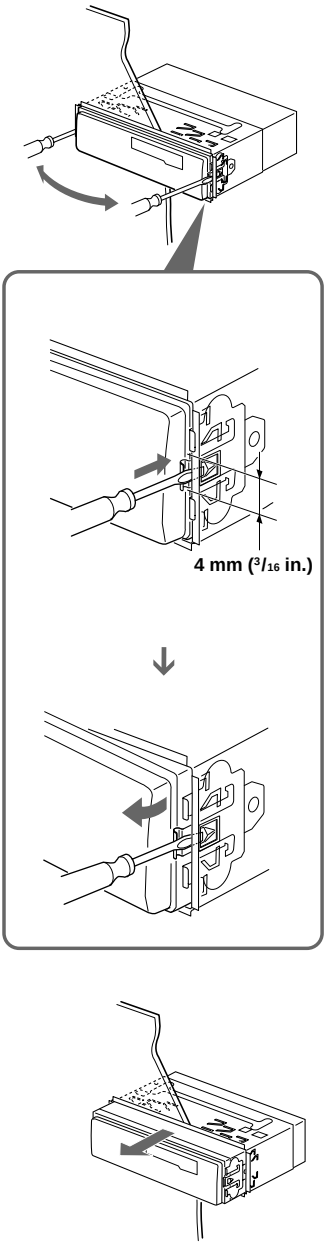
Never use a fuse with an amperage rating exceeding the one supplied with the unit as this could damage the unit.

Dismounting the unit

1 **Insert the supplied tool between the unit and the frame, and rotate 90° to release the hidden mounting spring. Repeat on the opposite side and remove the frame.**



2 **Insert a flathead screwdriver between the bracket and mounting spring. Gently pry the spring toward the unit while pulling the unit out a little. Repeat on the opposite side and remove the unit.**



Specifications

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION

13 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.

Cassette player section

Tape track	4-track 2-channel stereo
Wow and flutter	0.13 % (WRMS)
Frequency response	30 – 15,000 Hz
Signal-to- noise ratio	55 dB

Tuner section

FM

Tuning range	87.5 – 107.9 MHz
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Usable sensitivity	9 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	0.7% (stereo), 0.4% (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz

AM

Tuning range	530 – 1,710 kHz
Antenna terminal	External antenna connector
Intermediate frequency	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 antenna relay 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. 186 × 57 × 176 mm ($7\,^3/_8 \times 2\,^1/_4 \times 7$ in.) (w / h / d) not incl. projecting parts and controls
Mounting dimension	Approx. 182 × 53 × 163 mm ($7\,^1/_4 \times 2\,^1/_8 \times 6\,^1/_2$ in.) (w / h / d) not incl. projecting parts and controls
Mass	Approx. 1.2 kg (2 lb. 10 oz.)
Supplied accessories	Parts for installation and connections (1 set)

Design and specifications are subject to change without notice.

US

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 center position for 2-speaker systems.
Indications do not appear in the display window.	Remove the front panel and clean the connectors. See “Cleaning the Connectors” of “Maintenance” for details.

Tape playback

Problem	Cause/Solution
The sound is distorted.	Contamination of the tape head. → Clean the head.

Radio reception

Problem	Cause/Solution
Preset tuning is not possible.	• Memorize the correct frequency. • The broadcast is too weak.
Automatic tuning is not possible.	The broadcast is too weak. → Use the manual tuning.

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