

**SONY**<sup>®</sup>

3-856-295-11 (1)

# ***FM/MW/LW Cassette Car Stereo***

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Operating Instructions \_\_\_\_\_

**EN**

***XR-3509***

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Actual total number:

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Sony XR-3509 (E) 3-856-295-11 (1)

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## 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.
- **Built-in power amplifier (max. output: 15 W × 4 ch)** enables you to enjoy a 4-speaker system.
- **Digital 24-hour clock** provided (page 5).

### Tuner section

- Up to 30 stations can be preset: 18 stations on FM, 6 stations each of MW and LW.
- **Automatic Memory function** stores a total of 30 stations in memory quickly and easily (page 7).

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## Precautions

- If your car is 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 VAG dealer.

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## 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 of 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 shell may become warm because of the built-in power amplifier. This is not a sign of a malfunction.

### 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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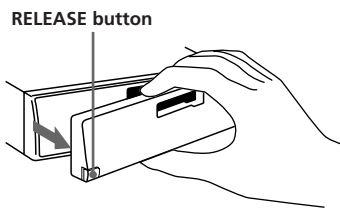
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## Detaching and Attaching the Front Panel

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  button first. Then press the RELEASE button to open up the front panel and detach the panel by pulling it towards you as illustrated.

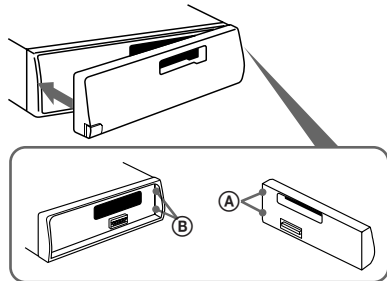


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Be sure not to drop the panel after detaching it from the unit.

### Attaching the Front Panel

Apply the right side of the front panel to the unit by attaching part (A) of the front panel to part (B) 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 windows 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 be automatically turned 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 (Volkswagen only)

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.

## Setting the Clock

The clock has a 24-hour digital indication.

For example, setting it to 10:08

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




The hour digit(s) blinks.

Set the hour digits.



(to go back) (to go forward)



- 3 Press the  button momentarily.



The minute digits blink.

Set the minute digits.



(to go back) (to go forward)



- 4 Press the  button momentarily.



The clock activates.

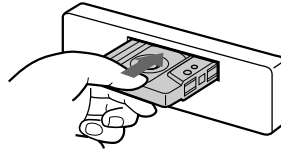
### Note

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 Operation

### Listening to Tape Playback

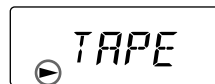
After inserting the cassette, playback will start automatically.



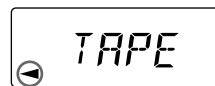
To change the tape direction, press both the  and the  buttons at the same time.



Indication of Tape Transport Direction



The side facing up is being played.



The side facing down is being played.

Tape playback automatically changes direction at the end of the tape.

### 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.

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Cassette Player Operation

## 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.

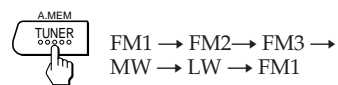
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## Radio Reception

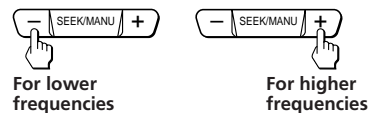
### Searching for Stations Automatically

— Automatic Tuning

1 Select the desired band.

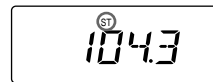


2 Press either side of the SEEK/MANU button momentarily to search for the next station (automatic tuning).



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 (local seek mode), press the SENS 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 the automatic tuning is in operation.*

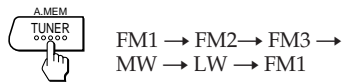
### If FM Stereo Reception is Poor — Monaural Mode

Press the **SENS** button momentarily. → "MONO" appears on the display.

The sound will improve, but it will become monaural.

## Tuning in by Adjusting the Frequency — Manual Tuning

### 1 Select the desired band.



### 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!

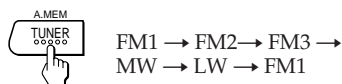
When tuning in during driving, use the automatic tuning and the memory preset tuning instead of the manual tuning.

## Memorizing Stations Automatically

### — Automatic Memory Function

Stations with the clearest reception are automatically searched and memorized on each band (FM1, FM2, FM3, MW and LW). 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.



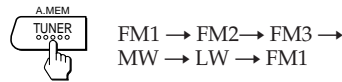
### 2 Press the TUNER/A.MEM button for more than two seconds.



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

## Memorizing Only the Desired Stations

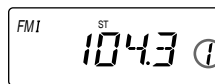
### 1 Select the desired band.



### 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.

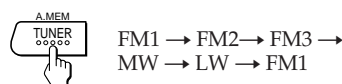


Up to 6 stations on each band (FM1, FM2, FM3, MW and LW) can be stored on the preset number buttons in the order of your choice. Therefore, 18 stations can be memorized on FM.

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 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.

## Other Functions

### Adjusting the Sound Characteristics

- 1 Select the item you want to adjust by pressing the  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.

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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  button. → "LOUD" will appear on the display.

Bass and treble will be boosted. To cancel, press again.

### Muting the Beep Tone

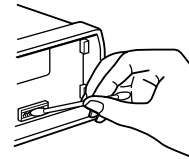
Press the  button while pressing the  button.

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

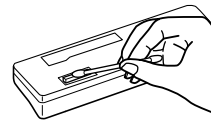
## Maintenance

### 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 with a cotton swab dipped in alcohol. Do not apply too much force. Otherwise, the connector may get damaged.



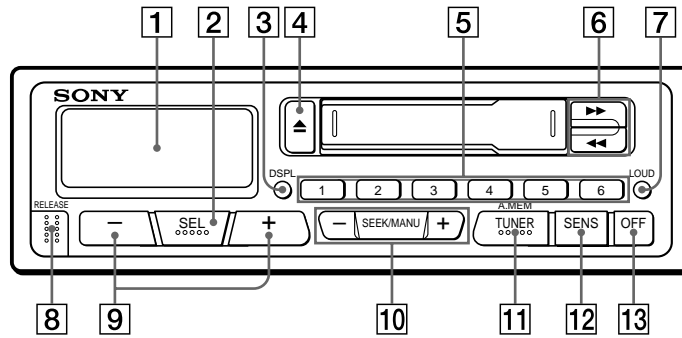
Main unit



Back of the front panel



## Button Locations



Refer to the pages in ● for details.

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>1 Display window</li> <li>2 SEL (control mode select) button ●●</li> <li>3 DSPL (display mode change/time set) button ●</li> <li>4 ▲ (eject) button ●</li> <li>5 During radio reception:<br/>Preset number buttons ●</li> <li>6 ◀▶ (fast winding)/DIR (tape transport direction change) buttons ●●</li> <li>7 LOUD (loudness) button ●</li> </ul> | <ul style="list-style-type: none"> <li>8 RELEASE (front panel release) button ●●</li> <li>9 - + (volume/bass/treble/balance/fader control) buttons ●●</li> <li>10 SEEK/MANU button ●●</li> <li>11 TUNER/A.MEM (radio on • band select/automatic memory) button ●●</li> <li>12 SENS (sensitivity adjust) button ●</li> <li>13 OFF button ●</li> </ul> |
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Other Functions/Button Locations

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## Specifications

### 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 – 108.0 MHz
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Usable sensitivity	12 dBf
Selectivity	70 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/LW

Tuning range	MW: 531 – 1,602 kHz LW : 153 – 281 kHz
Antenna terminal	External antenna connector
Intermediate frequency	450 kHz
Sensitivity	MW: 30 µV LW : 50 µV

### Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	15 W × 4 (at 4 ohms)

### General

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 × 170 mm (w/h/d) not incl. projecting parts and controls
Mounting dimension	Approx. 182 × 53 × 155 mm (w/h/d) not incl. projecting parts and controls
Mass	Approx. 1.2 kg
Supplied accessories	Front panel case (1)

*Design and specifications are subject to change without notice.*

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
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## 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	<ul style="list-style-type: none"><li>• Adjust the volume with the  button.</li><li>• Set the fader control to the center position for 2-speaker systems.</li></ul>
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
Playback sound is distorted.	Contamination of the tape head. → Clean the head.

### Radio reception

Problem	Cause/Solution
Preset tuning is not possible.	<ul style="list-style-type: none"><li>• Memorize the correct frequency.</li><li>• The broadcast is too weak.</li></ul>
Automatic tuning is not possible.	The broadcast is too weak. → Use the manual tuning.
The "ST" indication flashes.	<ul style="list-style-type: none"><li>• Tune in precisely.</li><li>• The broadcast is too weak. → Press the SENS button to enter the MONO mode.</li></ul>

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