

FM/AM CASSETTE CAR STEREO

ES-R11

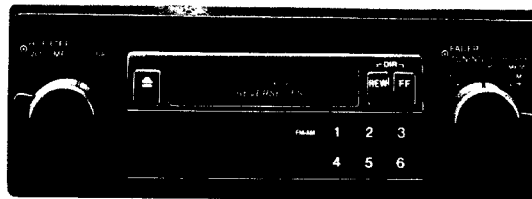
OPERATING INSTRUCTIONS

Before operating the unit, please read this manual thoroughly and retain it for future reference.

OWNER'S RECORD

The model and serial numbers are located on the top 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. ES-R11 Serial No. _____



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

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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 B 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 a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause 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 the receiving antenna
- Relocate this equipment with respect to the receiver
- Move this equipment away from the receiver

Plug this equipment into a different outlet so that equipment and receiver are on different branch circuits. 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.

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Tuner section
• The quartz-locked digital synthesizer system permits easy and accurate tuning
• Up to 12 FM and 6 AM stations can be preset.

Cassette deck section
• The auto-reverse function changes the tape direction automatically.

Power amplifier section
• Fader control for playback with a 4-speaker system.
• The HI-FILTER (high-cut filter) eliminates the frequency noise and delivers clear sound.

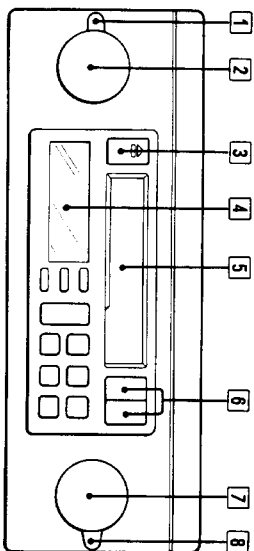
General
• The quartz controlled digital clock.

• If your car was parked in direct sunlight and there was a considerable rise in temperature inside the car, allow the unit to cool off before operating.
• 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.

CASSETTE CARE
• This unit will automatically reverse the direction of the tape when it senses an entangled tape. If during playback the player should reverse the direction a number of times, the tape should be considerably damaged. In this case, remove the cassette.
• The use of 120-minute cassette tape is not recommended.
• Be sure not to leave cassettes inside your car with the windows closed. Direct sunlight or extremely high temperature will warp cassette shells and cause the tape to stretch.
• Avoid touching the tape surface, as any dirt or dust on the tape will contaminate the heads of the player.
• Store the cassettes in their cases when not in use.

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

LOCATION AND FUNCTION OF CONTROLS



Refer to the page in ● for details.

[1] H-FILTER (High-cut filter) control

Turn counterclockwise to reduce high frequency noise or high frequency distortion.

[3] POWER ON/OFF switch/VOLUME/PULL BAL. (balance) control

POWER ON/OFF switch	Turn clockwise to turn on the unit and then for more volume.
VOLUME control	Pull and turn to adjust balance of the left and right channel outputs.

[4] ▲ (stop/eject) button

Press to stop the tape and eject the cassette.

[12] Display window

Cassette insertion door

[8] REW (rewind)/FF (fast forward) buttons/DIR (tape transport direction) buttons
During playback, depress REW or FF for fast-winding, and press both REW and FF to listen to the other side of the cassette.

[7] TUNING/PUSH SEEK/PULL MEM (memory) knob

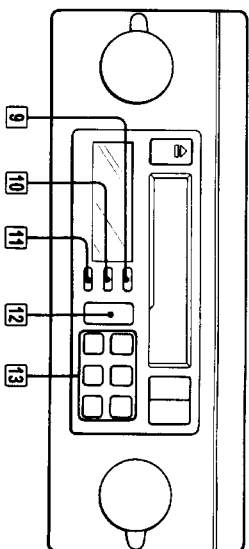
TUNING knob	Turn to manually tune in the desired station.
SEEK knob	Press for automatic tuning.
MEM knob	Pull to memorize the frequency during radio reception.

Use this knob for clock setting. ●

[8] FADER control

Turn clockwise to decrease the volume of the front speakers or counterclockwise to decrease the volume of the rear speakers.

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[9] DISPLAY button

Press to display the time indication during radio reception.

[10] MONO button

Press to reduce noise during reception of a weak FM stereo program.

[11] MTL/LCL (metal/local) button

Tape playback	Press when listening to C-60, TYPE II, or metal (TYPE IV) tapes.
Radio reception	Press to eliminate interference from adjacent stations during reception of a comparatively strong station.

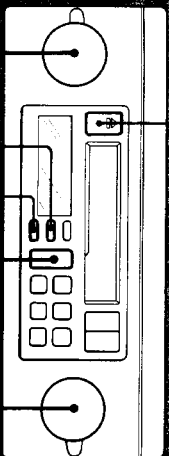
To disengage the button, press it again.

[12] FM/AM select button

[13] PRESET buttons

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AUTOMATIC TUNING



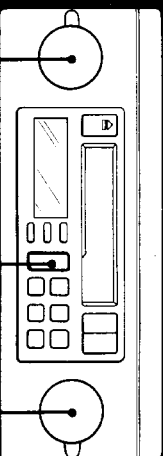
- 1 Turn clockwise to turn the power on.
- 2 Press to select the desired band, FM (1 or 2) or AM. Each time the button is pressed, the corresponding indicator appears.
- 3 Press PUSH SEEK. Stations will be scanned and scanning will stop when a station is tuned in. Repeat pressing the PUSH SEEK until the desired station is tuned in.
- 4 Adjust the volume.

To play back the tape during radio reception

Insert a cassette. The radio is turned off and playback will begin automatically.

- For improved reception**
- To receive a weak FM stereo program, press MCHNO. The MCHNO indicator appears. The FM noise will be reduced.
 - To receive a very strong FM/AM station or to receive an AM station at night, press MTL/LCL. The LOCL indicator appears.

MANUAL TUNING



- 1 Turn clockwise to turn the power on.
- 2 Press to select the desired band, FM (1 or 2) or AM. Each time the button is pressed, the corresponding indicator appears.
- 3 Turn TUNING to tune in the desired station.

For higher frequency	turn to \curvearrowright
For lower frequency	turn to \curvearrowleft
- 4 Adjust the volume.

Warning

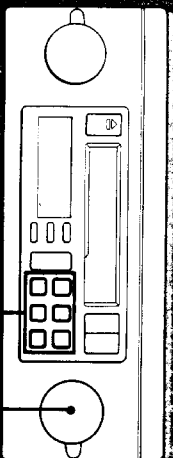
While driving, keep your eyes on the road and use the automatic tuning or the memory preset tuning!

To display the time indication during radio

reception
Press DISPLAY. To restore the frequency indication, press it again.

MEMORY PRESET TUNING

TO MEMORIZE STATION FREQUENCY



- 1 Tune in a desired station using automatic or manual tuning.
- 2 Pull out PULL MEM.
The MEM indicator will appear.
- 3 Press the desired PRESET button while the MEM indicator appears.
The MEM indicator disappears and the preset number appears.
The frequency is memorized.

Steps 1 to 3 to preset the frequency.

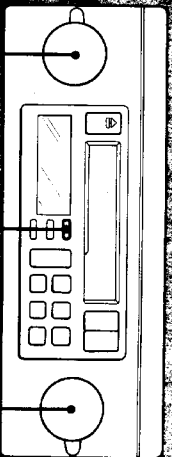
TO TUNE IN THE PRESET STATION

- 1 Press FM/AM to select the desired band.
- 2 Press the desired PRESET button.
- 3 Adjust the volume.

Notes

- A previously memorized station will be erased when you enter a new station of the same band on the same number PRESET button.
- The MEM indicator appears for about 5 seconds. If it disappears, pull out PULL MEM again.

HOW TO SET THE CLOCK



- 1 Turn clockwise to turn the power on.
- 2 Press DISPLAY to display the time digits.
- 3 Set the hour digits.
While pulling out PUSH SEEK/PULL MEM, turn it to H.
Set the minute digits.
While pulling out PUSH SEEK/PULL MEM, turn it to M.

The digits are advanced in sequence. To advance them rapidly, keep PUSH SEEK/PULL MEM turned while pulling it out.

When you set minute digits
"00" or "59" after "59". The hour digits do not change then.

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION
4 watts per channel minimum continuous average power into 4 ohms, both channels driven, from 150–20,000 Hz with no more than 1.5% total harmonic distortion.

OTHER SPECIFICATIONS

Power amplifier section

Outputs Speaker outputs (sure seal connectors)
Speaker impedance 3.2–8 ohms
Maximum output power 6 W + 6 W (2 channels)

Cassette player section

Tape Pre-recorded tape cassette
Head Playback head
Tape track 4-track 2-channel stereo
Frequency response 40–16,000 Hz
Signal-to-noise ratio With type II, IV cassette 58 dB (A-weighted)
With type I cassette 55 dB (A-weighted)
Wow and flutter 0.15% (WRMS)

FM tuner section

Tuning range 87.9–107.9 MHz
Antenna terminal FM/AM external antenna connector
FM/AM power antenna relay control lead

Intermediate frequency

10.7 MHz
Usable sensitivity 15 dBf (75 ohms)
Sensitivity at 50 dB quieting 20 dBf (75 ohms)
Selectivity 65 dB at 400 kHz
Signal-to-noise ratio 60 dB (stereo), 65 dB (mono)
Harmonic distortion at 1 kHz 1.0% (stereo), 0.7% (mono)
Separation 35 dB at 1 kHz
Frequency response 30–15,000 Hz
Capture ratio 2 dB

AM tuner section

Tuning range 530–1,620 kHz
Antenna terminal FM/AM external antenna connector
FM/AM power antenna relay control lead

Intermediate frequency

450 kHz
Sensitivity 35 μ V

General

Time display system 12-hour display
High-cut filter –16 dB at 10 kHz
Power requirements 12 V DC car battery (negative ground)

Mounting dimensions

Approx. 178 × 50 × 125 mm (w/h/d) (7 $\frac{1}{8}$ × 2 × 5 inches) not incl. projecting parts and controls

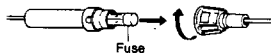
Weight

Approx. 1.1 kg (2 lb 7 oz)
Accessories supplied Mounting hardware (1 set)
Spare fuse (1 set)

Design and specifications subject to change without notice.

HOW TO REPLACE THE FUSE

If the fuse blows, check the power connection and replace the fuse.



Warning

Use only a 3.15 ampere fuse for the red lead and a 1 ampere fuse for the yellow lead. Use of a higher amperage fuse may cause serious damage.