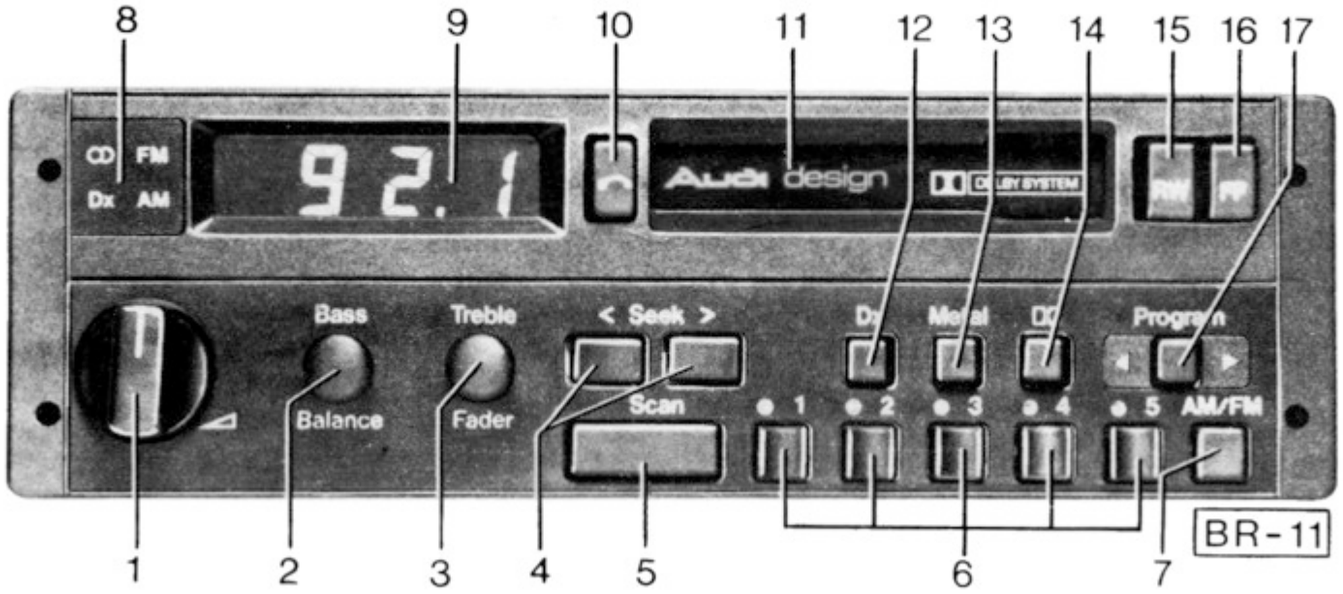
Operating Instructions

Car Radio

Rothenburg US Stereo CR



1-Power switch/volume control

Power switch

Turn knob clockwise until a click is heard to switch the unit on. Turn knob counter-clockwise until a click is heard to turn the unit off.

Volume control

Rotate knob to adjust radio and tape player volume.

2-Bass/balance control

Bass control

Turn tab clockwise to increase bass and turn counter-clockwise to decrease bass.

Balance control

While pulling knob out, turn clockwise or counter-clockwise to adjust the sound balance of right-to-left speakers for desired stereo effect.

3-Treble/Fader control

Treble control

Turn knob clockwise to increase treble, turn counter-clockwise to decrease treble.

Fader control

Pull knob out to adjust sound balance of front and rear speakers.

4-Seek tuning buttons

To seek stations automatically push knob. Pushing left knob the frequency will count down, pushing right knob the frequency will count up. The seek operation will stop at the next listenable station. Depress knob again if seek operation is to continue.

5-Scan tuning button

For automatic station selection, push the SCAN button. The unit will begin to search up-band from the currently displayed frequency. It will stop for five seconds on each listenable station and than continue. Push the SCAN button again to discontinue the automatic search when a desired broadcast has been located.

Note: Scan tuning will count-up band only.

6-Station selector pushbuttons

- Five AM and five FM stations can be "preset" in an electronic memory circuit. Since you can select five stations on the AM band and five stations on the FM band, you will be able to **preset** a total of 10 stations. Selecting the desired stations can be done by either **scan** or **seek** tuning.
- To preset a station, depress one of the station selector pushbuttons until the station is heared again and the indicator light above the button lights up.

7-Band selector switch

Push button to change the range of reception. AM or FM reception will be indicated by the indicator lights (8).

8-Indicator lights

CD: Stereo mode (only FM)
Dx : Sensitivety selector switch (12) is depressed
FM : FM radio reception
AM: AM radio reception

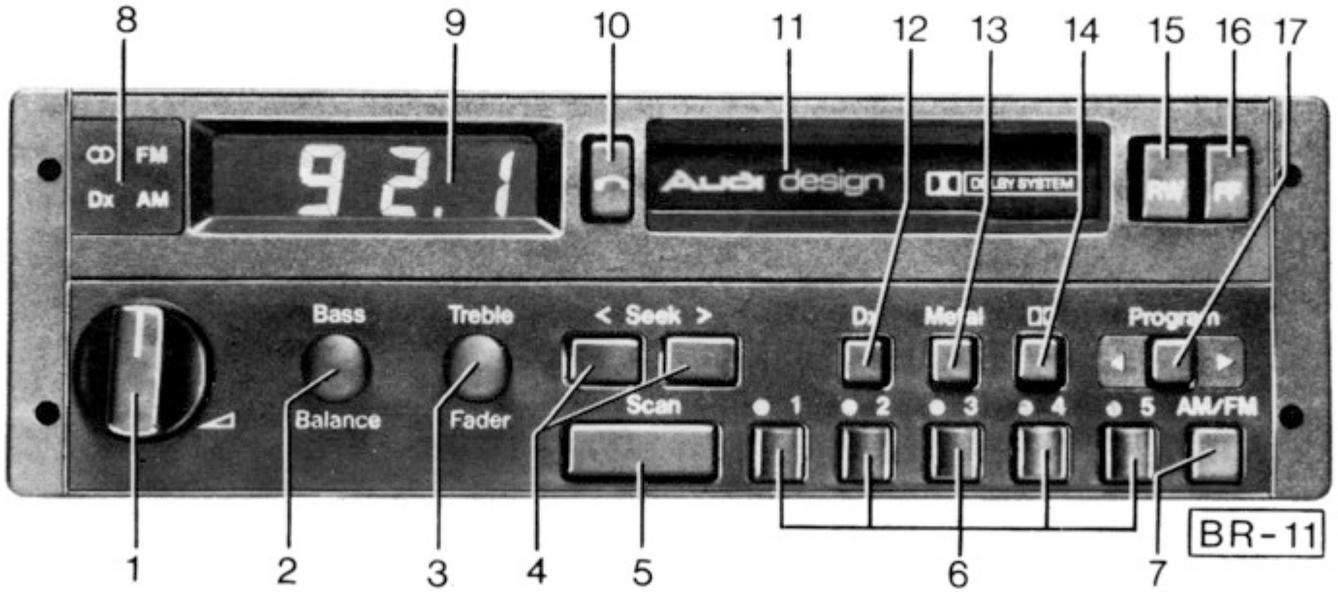
9-Frequency display

10-Eject button

To stop the tape manually, push firmly. (The radio turns on again.) The cassette will pop out for easy removal.

Note:

- If the cassette is not manually ejected, "Auto-Reverse" will operate and playback continues on the tape.
- The cassette should always be removed from the TAPE SLOT when not in use.



11-Cassette slot

Insert cassette with exposed side of tape facing to the right and push in firmly until mechanism captures the cassette.

Note:

- Insertion of the cassette will automatically cut off the radio and tape playback will start. Radio will come back on automatically when the cassette is ejected.
- Radio cannot be operated while cassette is inserted.

12-Sensitivety selector switch

In-DX: Normal position.

Out-LOC: If there are too many station signals in the area, distortion and overload can be eliminated when this switch is not depressed.

13-Tape selector switch

In: For metal or CrO_2 tape.

Out: For regular tape.

14-Dolby NR* (Dolby Noise-Reduction) switch

In: For playback of tape recorded by the Dolby Noise-Reduction System in order to eliminate tape hiss.

Out: For playback of tape not recorded by the Dolby Noise-Reduction System.

* Noise reduction system manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trade marks of Dolby Laboratories.

15-RW (Rewind) button

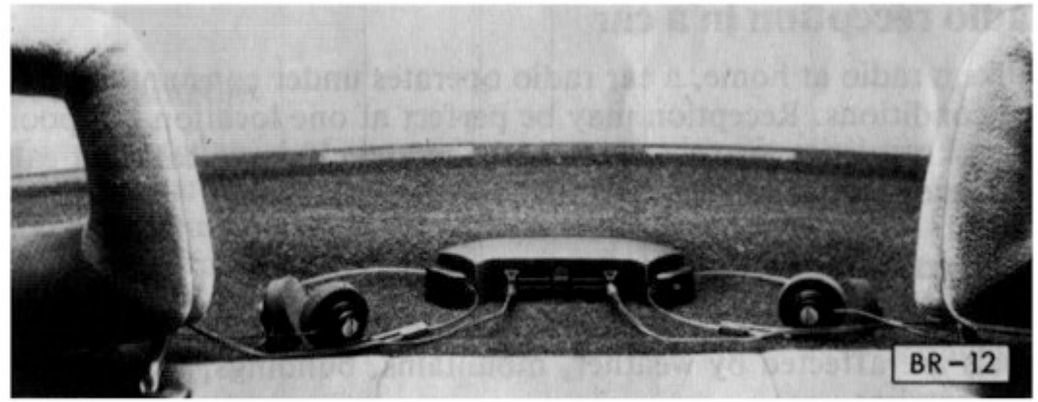
Press "RW-button" slightly. The tape will be rewound as long as button is held.
Press button fully for continous rewinding.
Push "FF-button" ⑯ to stop rewind. Otherwise, rewinding will continue to beginning of tape and play will start again.

16-FF (Fast forward) button

Press "FF-button" slightly. The tape will be advanced as long as button is held.
Press button fully for continous advance.
Push "RW-button" ⑮ to stop fast advance. Otherwise, advance will continue to end of tape and change to the other direction. Play will start again (Auto-Reverse-System).

17-Program selector button

The Auto-Reverse-System allows changing the direction while playing.
Press button to change the tape direction. The tape direction is indicated by the tape direction indicators next to the button. When the tape reaches its end the tape direction changes automatically.



Headphone connection*

With the headphone connection on the rear shelf the rear passengers can choose between loudspeakers or headphones. The changeover switch is on the headphone connection.

Switch up — Loudspeakers on
Switch down — Headphones on

The volume is regulated with the volume control ① or with the fader control ③ .

Suitable headphones can be obtained from your Dealer.

* This equipment is only standard on certain models.

Radio reception in a car

Unlike a radio at home, a car radio operates under constantly changing conditions. Reception may be perfect at one location but poor just a short distance away. Even opening and closing a car door can sometimes change reception from perfect to poor.

Radio waves

Radio signals travel as fast as light. Depending on their wavelenght, signals are affected by weather, mountains, buildings, tunnels and other barriers.

AM radio waves (530 to 1630 kHz) travel along the curvature of the earth. AM waves have a maximum range of approx. 150 miles depending on station power.

FM radio waves (88 to 108 MHz) do not follow the curvature of the earth and are not reflected by the upper atmosphere as are lower frequency radio waves. FM waves have a maximum range of approx. 30 miles or 48 km depending on station power.

Aside from the wavelength of the signal, signal strenght will be affected by the height of the transmitting antenna, station power and conditions between radio station and car radio. Best reception is when the car antenna can "see" the station antenna but that is rarely the case. Normally, the signal picked up by the car antenna has been reflected by many solid objects. This makes the transmission path longer or shorter and delays or weakens the signal.

Fading

Signal fading is typical on AM when driving through an underpass. The same fading happens if the radio is too far away or the car antenna is not pulled out. FM does not fade as much as AM. In the same location where AM fades, FM may come in strong and clear because the shorter waves are reflected by other metal parts into the "shade".

Flutter-fence effect

In weak FM reception areas you may hear short pops of hissing background noise with otherwise good reception of the radio program. This "flutter" noise is like the sound burst that happens when passing poles or posts close to the side of the road.

Flutter may also cause the stereo light to flicker because the signal has fallen below the minimum level to operate the stereo decoder.

Multi-path-cancellation

Flutter and distortion is also caused by a mixing of several signals coming from different directions as a result of reflection from various objects. Mixing or "cancellation" effects often happen in cities even when close to the radio station.

Overloading

When driving close to strong AM or FM transmitters, the signal may be too strong causing distortion and crosstalk. For reducing sensitivety push button to disengage the sensitivety selector switch ⑫. If necessary lower your antenna (telescopic types only), leaving out only the lower most section.

Capture

"FM capture" is similar to overloading. When listening to a weak station, a strong station close on the dial may cut in without turning the dial. In such case lower the antenna (telescopic types only).

Ignition or accessory interference

Flutter, distortion and background noise can be caused by the ignition system or accessories in the car. Such noise can also be caused by outside sources or other cars nearby.

Check for interference from your own car by moving away from other sources of interference.

Care of antenna

If your antenna is of the telescopic type, clean it periodically with chrome cleaner and lightly lubricate with an oiled cloth. A clean antenna is easy to push in without kinking. Dirt may also damage the mechanism of a power operated antenna. If the power operated antenna fails to go up and down properly, the telescopic sections must be cleaned. Do not try to force the aerial up or down by hand.

About cassette tapes

All tapes can be used in your cassette player, regardless whether chrome dioxide, ferrous oxide or ferrochrome. Maximum recording time should be 90 min (C 90).

Protect tapes against dust by storing them in their plastic containers with sprocket holders to prevent tape from unwinding.

Protect tapes against direct sunlight and prolonged exposure to temperature below -14° F/-10° C and above 122° F/50° C.

Do not allow the cassette to remain inserted when the tuner and player is turned off.

All tape contact faces (head and capstan) should be cleaned periodically with soft lint-free material and a head cleaner solvent to remove dust and accumulated oxide. Do not use a screwdriver or other metallic object near the head faces.

Specifications

Power Supply	:	12 V DC (11 V ~ 16 V), Test Voltage 14.4 V, Negative Ground
Power Output	:	6.0 W (per channel at 400 Hz, 1 % total harmonic distortion with 4 Ω load)
Maximum Power Output	:	7.5 W (per channel at 400 Hz, Volume Control Maximum)
Ton Action	:	± 10 dB at 100 Hz and 10,000 Hz
Current Consumption	:	Less than 0.9 A (at 0.5 W)
Speaker Impedance	:	4 Ω (4 Ω ~ 8 Ω available)

AM Radio

Frequency Range	:	530 kHz ~ 1605 kHz
Intermediate Freqency	:	456 kHz
Maximum Sensitivity	:	14 dB/μ V (at 0.5 W)
Selectivity	:	35 dB

FM Stereo Radio

Frequency Range	:	87.6 MHz ~ 107.9 MHz
Usable Sensitivity	:	19 dB
Frequency Response	:	± 3 dB, 30 to 15,000 Hz
Capture Ratio	:	1.5 dB
Stereo Separation	:	35 dB at 1,000 Hz
Image Response Ratio	:	45 dB
IF Response Ratio	:	80 dB

Tape Player

Reproduction System	:	4-Track, 2-Program Stereo
Tape Speed	:	1-7/8''/sec. (4.76 cm/sec.)
Fast Forward Time	:	Less than 100 sec. (C-60)
Rewind time	:	Less than 100 sec. (C-60)
Frequency Response	:	40 Hz to 12,500 Hz, ± 3 dB
Wow and Flutter	:	0.18 % (WRMS)
Stereo Separation	:	45 dB
Signal/Noise Ratio	:	50 dB (Dolby NR* OFF) 60 dB (Dolby NR* ON)

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