

Repeatrack™ Cassette Player
with Pushbutton FM/AM/FM Stereo Radio

CQ-S713EU/EC

Operating Instructions

"The model number and serial number of this product may be found on the bottom cover. Please write these numbers in the spaces, below, and retain this booklet for future reference, and as a permanent record of your purchase to aid identification in the event of theft."

Model No.: _____ Serial No.: _____



Panasonic

Before operating this set, please read these instructions completely.

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YEFM28378

B0782-0

Printed in Japan

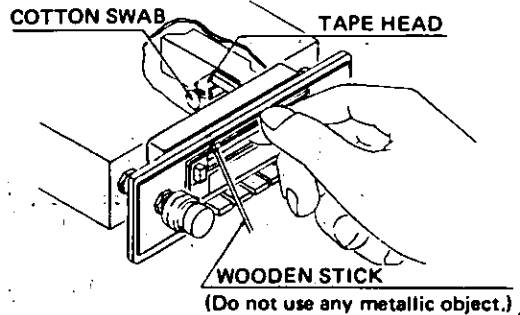
Tape Head Cleaning

To obtain optimum performance, clean the tape head as often as necessary, depending upon frequency of use and tape cleanliness.

The tape head in the cassette player mechanism can accumulate dust and tape residue, causing poor or wavering sound.

To clean the tape head, open the **TAPE SLOT** and use a cotton swab, dampened in isopropyl alcohol.

CAUTION: Do not use any solution other than alcohol for head cleaning.



Helpful Hints

Cassette Tape

► We strongly recommend not using tapes longer than C-90 (90 minutes), such as C-120 and C-180, unless absolutely necessary.

► Before use, check the cassette for tape slack. (Such as shown by arrow 1.) Use a pencil, or similar object, to remove the slack by rotating the hub, as shown by arrow 2.



► In the event that the cassette label starts to peel

off, be sure to take it off completely, or repaste it before inserting the cassette into the unit.

► Avoid touching or soiling the tape surfaces.

► Keep the cassette away from magnetized objects (motor, speaker, transformer, etc.).

► Avoid placing the cassette in direct sunlight or near a heated object. Heat has an adverse effect on the tape.

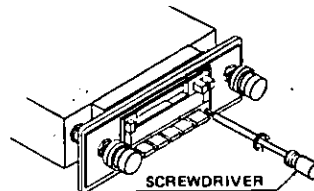
► When storing the cassette, keep it in a case, with the openings (exposed tape side) facing down, in order to prevent dust from entering the cassette.

► Keep the cassette in a cool, dry place.

AM Antenna Trimmer

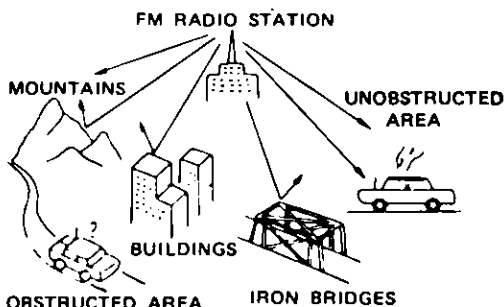
The **AM ANTENNA TRIMMER** is pre-adjusted at the factory. However, after installation of this unit, check the antenna trimmer adjustment by following these instructions:

1. Tune in the weakest AM radio station between 1200kHz and 1500kHz.
2. Set the **VOLUME CONTROL** until you can just hear the broadcast, and adjust the **AM ANTENNA TRIMMER**, by turning it with a small screwdriver in either direction, until the loudest sound is heard.



FM Radio Signals

FM broadcasts are transmitted at a very high frequency (VHF) and will not bend but travel in a straight line. Tall buildings, mountains, or other obstructions may cause partial "shadows" due to loss of signal and cause momentary "hisses" in FM reception. (The best reception occurs in a good, unobstructed area.) Reflected signals from the obstructions also occasionally cause interference (multipath distortion).



SOME TYPICAL OBSTRUCTIONS AND REFLECTIONS OF FM SIGNALS

FM Optimizer

When receiving FM while driving, the FM signals will vary depending on the distance from the transmitting station. As a result, good, clear and noise-free FM reception may be practically difficult especially in fringe areas (weak signal areas). In order to obtain clear and noise-free reception under these circumstances, this new FM Optimizer circuit is provided. FMO also provides gradual switchover from stereo to monaural reception. Furthermore, FMO automatically cuts off disturbing "treble noise" during monaural-switched reception. This FM Optimizer circuit functions to keep FM reception in optimum condition.

INQ (Impulse Noise Quieting) Circuit

One of the most frequently encountered conditions in an FM receiver is the reception of pulse noise. Hearing a kind of "put put" sound reproduced by a car radio when a motor-cycle approaches the car is a typical case of pulse noise. Unfortunately, automobiles have a variety of pulse noise sources. These include the engine spark plugs, etc. In order to reduce this unpleasant noise, this unit is equipped with an INQ circuit.

Installation and Wire Connections

For Installation and Wire Connection instructions, refer to the "Installation Instructions" enclosed.

Fuse

Be sure to use a fuse of specified rating (3A) when replacing a blown fuse.

Fuses rated at higher capacity, use of any substitute, or connection without a fuse may result in a fire hazard or damage to the unit.

If the replacement fuse fails, contact your nearest authorized Panasonic Servicenter.

PRODUCT SERVICE

Should you require service, refer to the Directory of Authorized Servicenters, enclosed with this unit, or consult your Panasonic dealer for detailed instructions.

LIMITED WARRANTY

Please read your Limited Warranty Card.
(EXCEPT IN CANADA)

PURCHASE INFORMATION CARD

Please detach the Panasonic Purchase Information Card from the Warranty Card, fill it in and mail it to us at your earliest convenience. It will help us serve you better and enable us to contact you in the event it becomes necessary to do so.

(EXCEPT IN CANADA)

Specifications

Power Supply	: 12V DC (11V ~ 16V), Test Voltage 14.4V, Negative Ground
Maximum Power Output	: 7.5W (per channel at 400 Hz, Volume Control Maximum)
Power Output	: 3.0W per channel into 4 ohms, 70 to 20,000 Hz, at 3% THD.
Current Consumption	: Less than 0.8A (at 0.5W)
Speaker Impedance	: 4ohms (4ohms ~ 8ohms available)
AM Radio	
Frequency Range	: 530 kHz ~ 1610 kHz
Intermediate Frequency	: 450 kHz
Maximum Sensitivity	: 14 dB/μV (at 0.5W)
Selectivity	: 35 dB
FM Stereo Radio	
Frequency Range	: 88 MHz ~ 108 MHz
Usable Sensitivity	: 15 dBf
50 dB Quieting Sensitivity	: 19 dBf
Frequency Response	: ±3 dB, 30 to 15,000 Hz
Capture Ratio	: 1.5 dB (INQ: OFF)
Alternate Channel Selectivity	: 55 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 90 sec. (C-60)
Rewind Time	: Less than 90 sec. (C-60)
Frequency Response	: 80 Hz to 12,500 Hz, ±3 dB
Wow and Flutter	: 0.13% wrms
Stereo Separation	: 45 dB
Signal/Noise Ratio	: 50 dB
Dimensions	: 7"(W) x 5-3/16"(D) x 2-1/16"(H) (178 mm x 132 mm x 52 mm)
Weight	: 3 lbs. 12 oz. (1.7 kg)

* Above specifications comply with EIA interim standard.

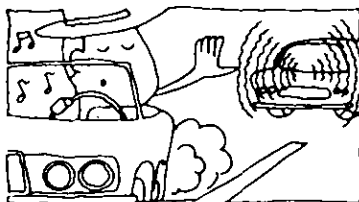
Panasonic welcomes you to their constantly growing family of electronic product owners.

We endeavor to give you the advantages of precise electronic and mechanical engineering, of being manufactured with carefully selected components, and of being assembled by people who are proud of the reputation their work has built for our company.

We know this product will bring you many hours of enjoyment, and that after you discover the quality, value and reliability we have built into it, you too will be proud to be a member of our family.

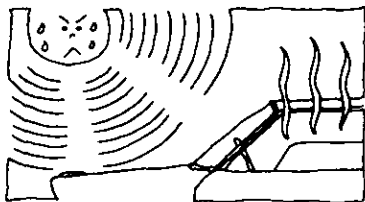
Precautions

The cassette holder mechanism might be locked-in due to some impact during transit. This does not mean any defect with the unit. Before operating, push the EJECT BUTTON to ensure that the cassette holder mechanism is disengaged.



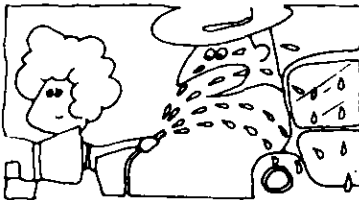
VOLUME LEVEL

For your driving safety, keep the volume level low enough to be aware of road and traffic conditions.



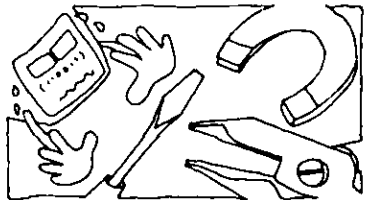
CAR VENTILATION

If your car is parked for several hours in direct sunlight, the temperature inside the car may become very high. It is advisable to drive the car and give the interior a chance to cool down before switching the unit on.



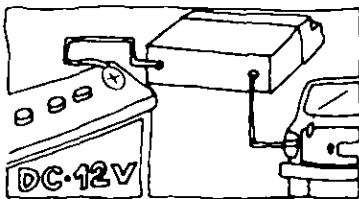
CAR WASHING

Do not expose this equipment (including the speakers and tape) to water or excessive moisture to avoid electrical shorts which may cause fire, or other damage.



TAPE MECHANISM

Keep magnets, screwdrivers and other metallic objects away from the tape mechanism and tape head.



POWER SUPPLY

This equipment is designed to be used only in a 12-Volt, DC battery system (car) with negative ground.



SERVICE

This unit is made of precision parts. Do not attempt to disassemble or adjust any parts. For repair, please consult your nearest Panasonic Servicer.

Outside Cleaning

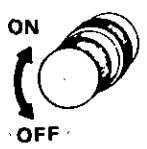
To clean the outside of the set (escutcheon and chassis), use a soft cloth to wipe the surface.

Do not use benzine, thinner, or any other type of solvent.




Location of Controls


POWER SWITCH
Turn knob clockwise or counterclockwise until a click is heard to switch the power to the unit on or off.




VOLUME CONTROL
Progressive rotation increases radio or tape player volume.



BALANCE CONTROL (PUSH BAL)
Push in and turn knob in either direction to adjust for best stereo effect.



TREBLE CONTROL (PULL LOCK TRE)
Pull out knob and turn.



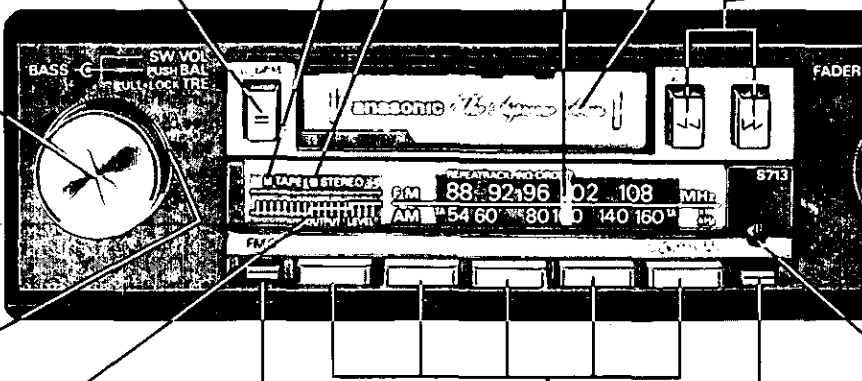
NOTE: POWER SWITCH cannot be turned ON or OFF at this position.

EJECT/RADIO MONITOR BUTTON (EJ/RM)
This button has two functions: EJECT and RADIO MONITOR. They are described as follows:
EJECT: If pushed firmly, the cassette tape is ejected for removal from the TAPE SLOT.
RADIO MONITOR: During tape playback, if you want to listen to the radio momentarily, simply push this button lightly. Everytime you push this button during tape playback you can select the radio. Naturally, if not pushed, the tape playback will be heard.


TAPE PLAY INDICATOR (green)
Light goes on automatically when a cassette is inserted into the TAPE SLOT.

FM STEREO INDICATOR
Light goes on automatically when a stereo radio program is being received. Light indicates "Stereo".

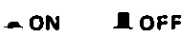
DIAL POINTER
Indicates the radio station.



BASS CONTROL



FMO (FM Optimizer) SWITCH
If "static" noise is heard continuously while listening to FM radio in fringe areas (weak signal areas), set the FMO SWITCH to ON position by pressing it in.
Switch to OFF position by pressing it again.



BAND SELECTOR

- FM: For FM selector to it in.
- AM: For AM selector to it again.

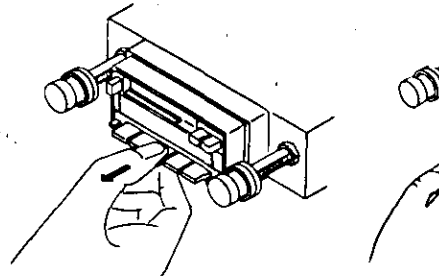
LED OUTPUT LEVEL BAR-GRAPH INDICATORS
Automatically indicates the sound output level coming from the speakers. Naturally, the VOLUME CONTROL adjusts the sound output level. NOTE: The red LED will light up when the volume level is highest.

STATION SELECTOR PUSH BUTTONS
These buttons can be used to preset either FM or AM stations, depending upon the position of the BAND SELECTOR.
Once the push buttons have been preset, it is a simple matter to select any one of the preset stations just by pressing the proper push button.

To preset a station:

- Select a button, pull it out as far as it will go. (Fig. 1)
- Turn the TUNING CONTROL to tune in the desired station.
- Firmly, but gently, press the button all the way in, until a click is heard, and release. (Fig. 2)

NOTE: The other remaining STATION SELECTOR PUSH BUTTONS can be adjusted in the same manner. Of course, it is still possible to tune the radio manually, or to change any of the pre-set stations at any time.



R (green)
when a cassette is

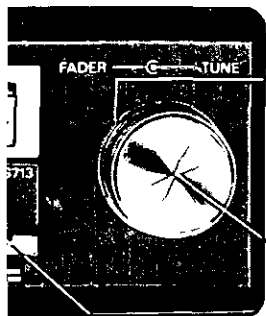
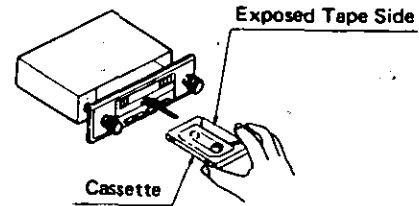
ICATOR (red)
atically when the FM
sing received in "FM

TER
dio station tuned in.

TAPE SLOT

(The **POWER SWITCH** should be switched on.)
The cassette should be inserted with the exposed tape side facing to the right. Insert the cassette tape firmly into the slot and push inward until the mechanism captures the cassette. Playback starts automatically when the cassette tape is inserted. The **TAPE PLAY INDICATOR** (green) will light up.

NOTE: Insertion of the cassette will automatically cut off the radio and tape playback will start. The radio will come back on automatically when the cassette is ejected, or when the tape reaches its end. At this time, the **TAPE PLAY INDICATOR** will go out.



FADER CONTROL

Adjust for best sound balance between the front and rear speakers. This control is effective only when 3 or 4 speakers are installed.



TUNING CONTROL

Turn this knob slowly in either direction until you can hear the desired radio station on the appropriate radio band, AM or FM.



REWIND BUTTON (REW)

To repeat the same program, push and lock this button. To stop the rewind, simply release the locked button by pushing the interlocking **FAST FORWARD BUTTON (FF)** half-way. Tape playback will then resume.

NOTE: When the tape is fully rewound, tape playback will start again automatically (Repeatrack).

FAST FORWARD BUTTON (FF)

To skip part of the program on the tape, push and lock this button. To stop the fast forward, simply release the locked button by pushing the interlocking **REWIND BUTTON (REW)** half-way. Tape playback will then resume.

NOTE: When the tape reaches its end, the unit will automatically switch to radio and the previously tuned station will be heard. In this case, the tape deck cannot be operated (rewind or fast forward operation is not possible), unless the tape is ejected and inserted again into the **TAPE SLOT** (with the opposite side to be played).

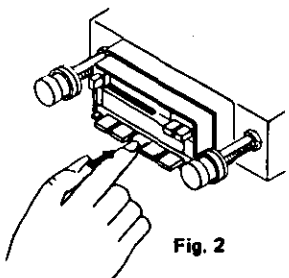
LECTOR

For FM radio reception, set this selector to this position by pressing it in.

For AM radio reception, set this selector to this position by pressing it again.

AM ANTENNA TRIMMER

See "Helpful Hints".



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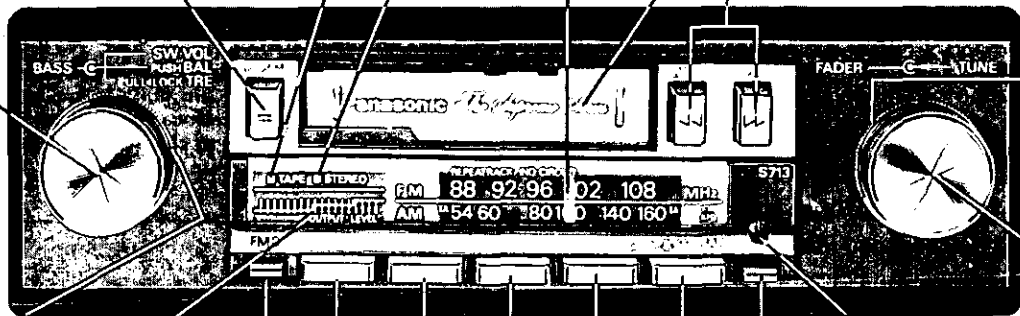
Light goes on automatically when a cassette is
inserted into the TAPE SLOT.

FM STEREO INDICATOR (red)

Light goes on automatically when the FM
radio program is being received in "FM
Stereo".

DIAL POINTER

Indicates the radio station tuned in.



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▲ ON ■ OFF

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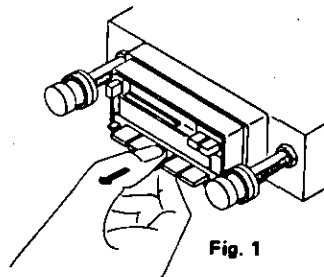


Fig. 1

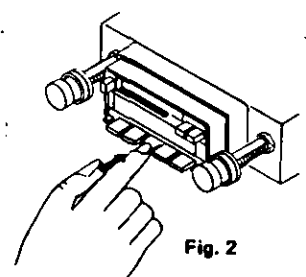


Fig. 2