Panasonic

Operating Instructions

AAC WMA MP3 CD Player/Receiver
Model: **CQ-RX420W**

WMA MP3 CD Player/Receiver
Model: **CQ-RX320W/CQ-RX321W/**
CQ-RX322W/
CQ-RX220W/CQ-RX221W/
CQ-RX222W/CQ-RX225W

WMA MP3 CD Player/Receiver
Model: **CQ-RX121W/CQ-RX122W**

(CQ-RX420W)

(CQ-RX121W)

(CQ-RX420W)

AAC WMA MP3

- Please read these instructions carefully before using this product and keep this manual for future reference.
- All illustrations throughout this manual represent model CQ-RX420W unless otherwise specified.

Accessories

Instruction kit	Q'ty
Operating Instructions (English: YGFM286163) (Русский: YGFM286164)* *Not supplied with CQ-RX225W.	1 set
System Upgrade Guidebook CQ-RX420W (YGFM262951)	1
Operating Instructions USB CQ-RX320W CQ-RX321W CQ-RX322W (YGFM262950)	1
Installation Instructions (YGFM294539)	1

Installation kit	Q'ty
Lock Cancel Plate	1 set
Mounting Bolt (5 mm φ)	1
Rubber Bushing	1

	Q'ty
Mounting Collar (YEFX021726JA)	1
Trim Plate (YGFC051023)	1
Power Connector CQ-RX420W CQ-RX320W CQ-RX220W (K1HY14YY0004) CQ-RX321W CQ-RX322W CQ-RX221W CQ-RX222W CQ-RX225W (K1HY13YY0003) CQ-RX121W CQ-RX122W CQ-RX225W (K1HY13YY0007)	1
Remote Control Unit (includes a battery) (EUR7641010) CQ-RX420W CQ-RX320W CQ-RX321W CQ-RX322W	1
Removable Face Plate Case (YGFA134302) CQ-RX220W CQ-RX221W CQ-RX222W CQ-RX121W CQ-RX122W	

Notes:
- The number in parentheses underneath each accessory part name is the part number for reference and service.
- Accessories and their part numbers are subject to modification without prior notice due to improvements.
- Mounting Collar and Trim Plate are mounted on the main unit at shipment.

Request for Use of the Removable Face Plate Case:
- To avoid trouble and ensure safety, use the optional Removable Face Plate Case (YGFA134302).
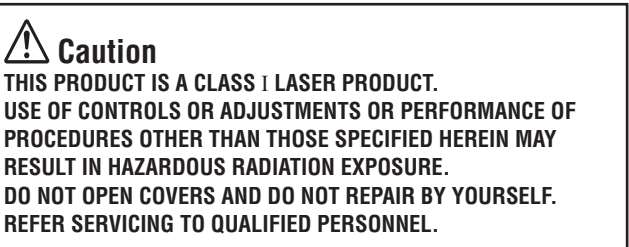

Safety Information

■ Read the operating instructions for the unit and all other components of your car audio system carefully before using the system. They contain instructions about how to use the system in a safe and effective manner. Panasonic assumes no responsibility for any problems resulting from failure to observe the instructions given in this manual.

■ This manual uses pictographs to show you how to use the product safely and to alert you to potential dangers resulting from improper connections and operations. The meanings of the pictographs are explained below. It is important that you fully understand the meanings of the pictographs in order to use this manual and the system properly.

⚠ **Caution**
THIS PRODUCT IS A CLASS I LASER PRODUCT.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.
DO NOT OPEN COVERS AND DO NOT REPAIR BY YOURSELF.
REFER SERVICING TO QUALIFIED PERSONNEL.

Warning This pictograph intends to alert you to the presence of important operating instructions and installation instructions. Failure to heed the instructions may result in severe injury or death.

Caution This pictograph intends to alert you to the presence of important operating instructions and installation instructions. Failure to heed the instructions may result in injury or material damage.

⚠ Warning

Observe the following warnings when using this unit.

❑ **The driver should neither watch the display nor operate the system while driving.**
Watching the display or operating the system will distract the driver from looking ahead of the vehicle and can cause accidents. Always stop the vehicle in a safe location and use the parking brake before watching the display or operating the system.

❑ **Use the proper power supply.**
This product is designed for operation with a negative grounded 12 V DC battery system. Never operate this product with other battery systems, especially a 24 V DC battery system.

❑ **Keep batteries and insulation film out of reach of infants.**
Batteries and insulation film can be ingested, so keep them out of the reach of infants. If an infant ingests a battery or insulation film, please seek immediate medical attention.

❑ **Protect the Deck Mechanism.**
Do not insert any foreign objects into the slot of this unit.

❑ **Do not disassemble or modify the unit.**
Do not disassemble, modify the unit or attempt to repair the product yourself. If the product needs to be repaired, consult your dealer or an authorized Panasonic Service Center.

❑ **Do not use the unit when it is out of order.**
If the unit is out of order (no power, no sound) or in an abnormal state (has foreign objects in it, is exposed to water, is smoking, or smells), turn it off immediately and consult your dealer.

❑ **The remote control unit should not lie about in the car.**
If the remote control unit lies about, it could fall on the floor while driving, get wedged under the brake pedal, and lead to a traffic accident.

❑ **Refer fuse replacement to qualified service personnel.**
When the fuse blows out, eliminate the cause and have it replaced with the fuse prescribed for this unit by a qualified service engineer. Incorrect replacement of the fuse may lead to smoke, fire, and damage to the product.

Observe the following warnings when installing.

❑ **Disconnect the lead from the negative (−) battery terminal before installation.**
Wiring and installation with the negative (−) battery terminal connected may cause electrical shock and injury due to a short circuit. Some cars equipped with the electrical safety system have specific procedures of battery terminal disconnection.
FAILURE TO FOLLOW THE PROCEDURE MAY LEAD TO THE UNINTENDED ACTIVATION OF THE ELECTRICAL SAFETY SYSTEM RESULTING IN DAMAGE TO THE VEHICLE AND PERSONAL INJURY OR DEATH.

❑ **Never use safety-related components for installation, grounding, and other such functions.**
Do not use safety-related vehicle components (fuel tank, brake, suspension, steering wheel, pedals, airbag, etc.) for wiring or fixing the product or its accessories.

❑ **Installing the product on the air bag cover or in a location where it interferes with airbag operation is prohibited.**
Do not install Panasonic products (unit, front panel, etc.) and other items before installing the product.

❑ **Check for piping, gasoline tank, electric wiring, and other items before installing the product.**
If you need to open a hole in the vehicle chassis to attach or wire the product, first check where the harness, gasoline tank, and electric wiring are located. Then open the hole from outside if possible.

❑ **Never install the product in a location where it interferes with your field of vision.**

❑ **Never have the power cord branched to supply other equipment with power.**

❑ **After installation and wiring, you should check the normal operation of other electrical equipment.**
Continuing to use them under abnormal conditions may cause fire, electrical shock or a traffic accident.

❑ **In the case of installation to an airbag-equipping car, confirm warnings and cautions of the vehicle manufacturer before installation.**

❑ **Make sure the leads do not interfere with driving or getting in and out of the vehicle.**

❑ **Insulate all exposed wires to prevent short circuiting.**

Before Reading These Instructions

Panasonic welcomes you for our constantly growing family of electronic products owners.
We endeavor to give you the advantages of precise electronic and mechanical engineering, manufactured with carefully selected components, and 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 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.

CQ-RX420W CQ-RX320W CQ-RX321W CQ-RX322W
The instruction manual consists of 2 books. One is "Operating Instructions" describing the operations of the main unit.
The other is "System Upgrade Guidebook" describing the optional devices such as CD changer. CQ-RX420W
The other is "Operating Instructions USB" describing the USB connector on the front panel. CQ-RX320W CQ-RX321W CQ-RX322W

Differences Among 10 Models

This operating instruction manual is for 10 models CQ-RX420W, CQ-RX320W, CQ-RX321W, CQ-RX322W, CQ-RX220W, CQ-RX221W, CQ-RX222W, CQ-RX225W, CQ-RX121W and CQ-RX122W. All illustrations throughout this manual represent model CQ-RX420W unless otherwise specified. The following table describes the differences among 10 models.

Models / Features	CQ-RX420W	CQ-RX320W	CQ-RX321W	CQ-RX322W	CQ-RX220W
Removable Face Plate Case	Included	Included	Included	Included	Included
Remote Control Unit	Included	Included	Included	Included	Not included
System Upgrade Guidebook	Included	Not included	Not included	Not included	Not included
Operating Instructions USB	Not included	Included	Included	Included	Not included
System-up Connector	Supported	Not Supported	Not Supported	Not Supported	Not Supported
Preamp Out Connector	2 (Front/Rear)	1 (Rear)	1 (Rear)	1 (Rear)	1 (Rear)
USB Connector	Supported (USB Pot)	Supported	Supported	Supported	Not Supported
AAC playback	Supported	Not Supported	Not Supported	Not Supported	Not Supported
RDS	Supported	Supported	Supported	Supported	Supported
Button logo color	Blue	Blue	Red	Green	Blue

Models / Features	CQ-RX221W	CQ-RX222W	CQ-RX225W	CQ-RX121W	CQ-RX122W
Removable Face Plate Case	Not included	Included	Included	Not included	Included
Remote Control Unit	Not included	Not included	Not included	Not included	Not included
System Upgrade Guidebook	Not included	Not included	Not included	Not included	Not included
Operating Instructions USB	Not included	Not included	Not included	Not included	Not included
System-up Connector	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported
Preamp Out Connector	1 (Rear)	1 (Rear)	1 (Rear)	1 (Rear)	1 (Rear)
USB Connector	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported
AAC playback	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported
RDS	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported
Button logo color	Red	Green	Green	Red	Green

Features

SQ (Sound Quality)

You have 6 preset modes (FLAT, ROCK, POP, VOCAL, JAZZ, CLUB). You can customize your settings for these and save them for instant recall.
SQ3 (3-Band Sound Quality)
Center frequency and level are adjustable in each of 3 bands. This lets you fine-tune sound quality for each genre to suit car-interior acoustics and your personal preferences. (→ "Sound Control")

USB Connector
CQ-RX420W
The USB Connector is equipped on the front panel.
(→ **System Upgrade Guidebook**) CQ-RX420W
The USB Connector is equipped on the front panel.
(→ **Operating Instructions USB**) CQ-RX320W CQ-RX321W CQ-RX322W

By connecting a USB memory (not included) to USB connector via a USB extension cable (USB 2.0, not included), you can enjoy MP3/ WMA/AAC files CQ-RX420W only . MP3/WMA files CQ-RX320W CQ-RX321W CQ-RX322W stored on the USB memory (not included) in your car.

CQ-RX420W
By connecting iPod series to USB connector via a USB extension cable for iPod (USB 2.0, not included), you can enjoy music files stored on the iPod series in your car.

AUX (AUX1) Input Terminal
The AUX input terminal is equipped on the front panel.
Connect audio player and other devices are connectable to this unit without any difficulty.

Expansion Module (Hub Unit)
CQ-RX420W
Connection of the Expansion Module (hub unit, CY-EM100N) allows users to connect up to 4 optional devices shown below.

Wide Array of Components for System Upgrade
CQ-RX420W
Various optional components allow users to obtain availability of wide range of system upgrade. Upgrading the system delivers relaxed AV space in a car. For further information, refer to the separate **System Upgrade Guidebook**.

- **iPod**
The optional adaptor (Direct Cable for iPod: CA-DC300N) allows you to connect the optional iPod series.
iPod is a trademark of Apple Inc., registered in the U.S. and other countries.

- **CD Changer**
The optional adaptor (Conversion Cable for DVD/CD Changer: CA-CC30N) allows you to connect the optional Panasonic CD changer unit (CX-DP880N).

- **Bluetooth®**
Using the optional Bluetooth unit (CY-BT200N) and a Bluetooth device enables hands-free telephony and Bluetooth Audio listening with this unit.
Note: This unit does not support CY-BT100N.

Bluetooth®
The Bluetooth word mark and logo are owned by the Bluetooth SIG, Inc. and use of such marks by Panasonic Corporation is under license. Other trademarks and trade name are those of their respective owners.

Maintenance/Fuse

Cleaning the Unit
Your product is designed and manufactured to ensure the minimum of maintenance. Use a dry, soft cloth for routine exterior cleaning. Never use benzine, thinner, or other solvents.

Fuse
If the fuse blows out, consult your dealer, or your nearest authorized Panasonic Service Center.

⚠ **Warning**
- Use fuses of the same specified rating (15 A). Using substitutes or fuses with higher ratings, or connecting the unit directly without a fuse could cause fire or damage to the unit. If the replaced fuse fails, contact your nearest authorized Panasonic Service Center.

Anti-Theft System

This unit is equipped with a removable face plate. Removing this face plate makes the unit totally inoperable.

Notes:
- Do not touch the contacts on the face plate and the main unit, since this may result in poor electrical contact.
- If dirt or other foreign substances get on the contacts, wipe them off with a clean and dry cloth.

Removing
1 Turn off the power.
2 Press [◄]. The face plate will open.
3 Pull it out toward you.
4 Put the face plate in the case.

Mounting
1 Slide the left side of the face plate into the unit.
2 Press the right end of face plate until a "click" is heard.
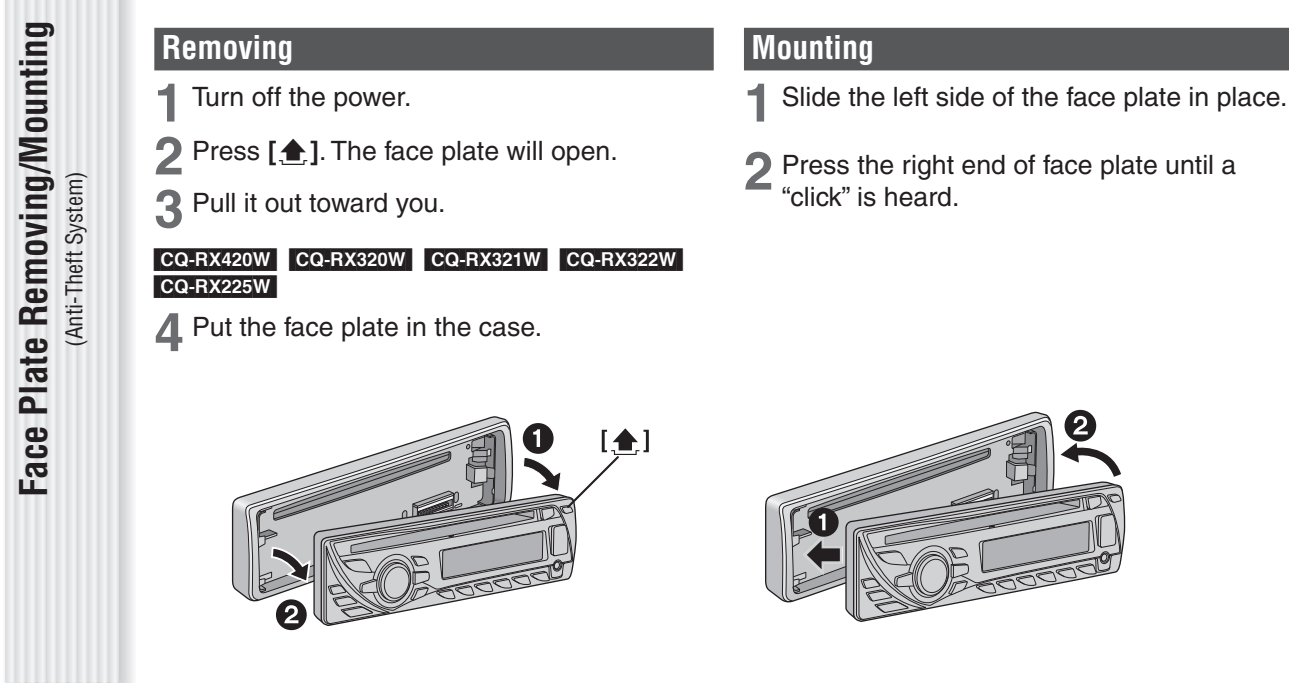
Notes on Discs

If you use commercial CDs, they must have either of these labels shown at right.
Some copy-protected music CDs are not playable.

COMPACT DIGITAL AUDIO

How to hold the disc
- Do not touch the underside of the disc.
- Do not scratch on the disc.
- Do not bend the disc.
- When not in use, keep disc in the case.

Printed side

Do not use discs that fit any of the descriptions given below. Using these discs may damage the discs or cause the unit to malfunction.
- Special discs in a shape which is not round

Do not leave discs in the following places:
- Direct sunlight
- Near car heaters
- Dirty, dusty and damp areas
- On seats and dashboards

Disc Insert
The surfaces of new discs tend to be slippery. Therefore, when using such a disc for the first time, it may not load satisfactorily even when it has been inserted into the unit. At a time like this, insert the disc into the unit as far as it will go until it is loaded properly.
- When inserting a disc into or ejecting and removing it from the unit, insert it straight in or eject and remove it straight out in parallel with the unit. Observe, the disc may be scratched or marked in the process.
- When inserting a disc, do not put one disc on another. Failure to observe this may cause the discs to be jammed.

Disc cleaning
Use a dry, soft cloth to wipe from the center outward.

Notes on CD/CD Media (CD-ROM, CD-R, CD-RW)

- Discs with adhered labels, etc. on them

Disc with adhered stickers or tape / Labels created by a printer

Protective films or sheets / Disc accessories (stabilizers, etc.)

- Damaged or deformed discs

Shoddily made discs / Discs with cracks, scratches or parts missing

Discs with burrs
Please remove the burrs before use.

Notes on CD-Rs/RWs

- You may have trouble playing back some CD-R/RW discs recorded using CD recorders (CD-R/RW drives), either due to their recording characteristics or dirt, fingerprints, scratches, etc. on the disc surface.
- CD-R/RW discs are less resistant to high temperatures and high humidity than ordinary music CD. Leaving them inside a car for extended periods may damage and make playback impossible.
- The unit may not successfully playback a CD-R/RW, that was made by the combination of writing software, a CD recorder (CD-R/RW drive) and a disc if they are incompatible with one another.
- This player cannot play the CD-R/RW discs if the session is not closed.
- Be sure to observe the handling instructions of CD-R/RW discs.
- This player cannot play CD-R/RW discs which contain other than CD-DA or MP3/WMA/AAC data (Video CD, etc.).

Specifications

General
Power supply	: DC 12 V (11 V − 16 V DC), test voltage 14.4 V, negative ground
Current consumption	: Less than 2.1 A (CD mode; 0.5 W x 4 channels)
Maximum power output	: 50 W x 4 channels (at 1 kHz)
Power output	: 18 W x 4 (DIN 45 324, 1 %, 4 Ω)
Tone/SQ adjustment range	: SQ Low/Bass; ±12 dB (at 60 Hz, 80 Hz, 100 Hz, 200 Hz) SQ Mid; ±12 dB (at 500 Hz, 1 kHz, 2 kHz, 3 kHz) SQ High/Treble; ±12 dB (at 10 kHz, 12 kHz, 15 kHz, 18 kHz)

Speaker impedance : 4−8 Ω
Pre-amp output voltage (CD mode; 1 kHz, 0 dB) CQ-RX420W CQ-RX320W CQ-RX321W CQ-RX322W : 2.0 V CQ-RX220W CQ-RX221W CQ-RX222W CQ-RX225W CQ-RX121W CQ-RX122W : 2.0 V
Pre-amp output impedance : 200 Ω
Headphone output : CD Standard Compatibility : 1.1/2.0 Full Speed / Maximum Supply Current : 500 mA

Front AUX input
Input impedance	: 10 kΩ
Allowable external input	: 2.0 V
Connector	: 3.5 mm φ stereo mini-pin
Dimensions (W x H x D)	: 178 x 50 x 160 mm
Weight	: 1.2 kg

Disc Player
Sampling frequency	: 8 times oversampling
DA converter	: 1 bit DAC System
Pick-up type	: Astigma 3-beam
Light source	: Semiconductor laser
Wave length	: 790 nm
Frequency response	: 20 Hz − 20 kHz (±1 dB)
Signal to noise ratio	: 96 dB
Total harmonic distortion	: 0.01 % (1 kHz)
Wow and flutter	: Below measurable limits
Channel separation	: 85 dB

FM Radio
Frequency range	: 87.50 MHz − 108.00 MHz
Usable sensitivity	: 6 dB/μV (S/N 30 dB)
Stereo separation	: 35 dB (at 1 kHz)

AM (MW) Radio
Frequency range	: 531 kHz − 1 602 kHz
Usable sensitivity	: 28 dB/μV (S/N 20 dB)

AM (LW) Radio
Frequency range	: 153 kHz − 279 kHz
Usable sensitivity	: 32 dB/μV (S/N 20 dB)
CQ-RX420W CQ-RX320W CQ-RX321W CQ-RX322W CQ-RX220W CQ-RX221W CQ-RX222W

AM Radio
Frequency range	: 531 kHz − 1 602 kHz
Usable sensitivity	: 28 dB/μV (S/N 20 dB)
CQ-RX225W CQ-RX121W CQ-RX122W

Notes:
- Specifications and design are subject to modification without notice due to improvements.
- Some figures and illustrations in this manual may be different from your product.

(CA-RC80N)
Power / Mute/attenuation
Mode / Volume
(Source) / Tune / Track selection
Band / Fast forward/fast reverse
Play / Pause

Notes:
- Remote Control Unit for CQ-RX220W/CQ-RX221W/ CQ-RX222W/CQ-RX121W/CQ-RX122W is option (CA-RC80N).
- The remote control is available from your local dealer. (CA-RC80N)

Notes on MP3/WMA/AAC

⚠ Caution

Observe the following cautions when using this unit.

❑ **Keep the sound volume at an appropriate level.**
Keep the volume level low enough to be aware of road and traffic conditions while driving.

❑ **This unit is designed for use exclusively in automobiles.**

❑ **Do not operate the unit for a prolonged period with the engine turned off.**
Operating the audio system for a long period of time with the engine turned off will drain the battery.

❑ **Do not expose the unit to direct sunlight or excessive heat.**
Otherwise these will raise the interior temperature of the unit, and it may lead to smoke, fire, or other damage to the unit.

❑ **Do not use the product where it is exposed to water, moisture, or dust.**
Exposure of the unit to water, moisture, or dust may lead to smoke, fire, or other damage to the unit. Make especially sure that the unit does not get wet in car washes or on rainy days.

❑ **Set the volume level to low enough before the AUX connection is completed.**
Failure to observe this, the loud noise may come out and damage your speakers and your hearing. Direct connection of the speaker/ headphone output of an external device without any attenuator may distort sound or damage the connected external device.

Observe the following cautions when installing.

❑ **Refer wiring and installation to qualified service personnel.**
Installation of this unit requires special skills and experience. For maximum safety, have it installed by your dealer. Panasonic is not liable for any problems resulting from your own installation of the unit.

❑ **Follow the instructions to properly install and wire the product.**
Not following the instructions to properly install and wire the product could cause an accident or fire.

❑ **Take care not to damage the leads.**
When wiring, take care not to damage the leads. Prevent them from getting caught in the vehicle chassis, screws, and moving parts such as seat rails. Do not scratch, pull, bend or twist the leads. Do not run them near heat sources or place heavy objects on them. If leads must be run over sharp metal edges, protect the leads by winding them with vinyl tape or similar protection.

❑ **Use the designated parts and tools for installation.**
Use the supplied or designated parts and appropriate tools to install the product. The use of parts other than those supplied or designated may result in internal damage to the unit. Faulty installation may lead to an accident, a malfunction or fire.

❑ **Do not block the air vent or the cooling plate of the unit.**
Blocking these parts will cause the interior of the unit to overheat and will result in fire or other damage.

❑ **Do not install the product where it is exposed to strong vibrations or is unstable.**
Avoid slanted or strongly curved surfaces for installation. If the installation is not stable, the unit may fall down while driving and this can lead to an accident or injury.

❑ **Installation Angle**
The product should be installed in a horizontal position with the front end up at a convenient angle, but not more than 30°. The user should bear in mind that in some areas there may be restrictions on how and where this unit must be installed. Consult your dealer for further details.

❑ **Wear gloves for safety. Make sure that wiring is completed before installation.**

❑ **To prevent damage to the unit, do not connect the power connector until the whole wiring is completed.**

❑ **Do not connect more than one speaker to one set of speaker leads. (except for connecting to a tweeter)**

Observe the following cautions when handling the battery for the remote control unit.
CQ-RX420W CQ-RX320W CQ-RX321W CQ-RX322W CQ-RX225W

❑ **Use only specified battery (CR2025).**

❑ **Match the polarity of the battery with the (+) and (−) marks in the holder.**

❑ **Replace a dead battery as soon as possible.**

❑ **Remove the battery from the remote control unit when not using it for an extended period of time.**

❑ **Insulate the battery (by placing them in a plastic bag or covering them with vinyl tape) before disposal or storage.**

❑ **Dispose of the battery according to the local regulations.**

❑ **Do not disassemble, recharge, heat or short the battery. Do not throw a battery into a fire or water.**

In case of battery leakage
- Thoroughly wipe the battery liquid off the battery case and insert new battery.
- If any part of your body or clothing comes into contact with battery liquid, wash it with plenty of water.
- If battery liquid comes into contact with your eyes, wash them with plenty of water and get immediate medical attention.

Observe the following cautions when using USB device.
CQ-RX420W CQ-RX320W CQ-RX321W CQ-RX322W

❑ **Do not connect a USB device directly to this unit. If the USB device is connected directly to this unit and an accident occurs, or if the brakes are applied suddenly, the driver or passenger may bump into the USB device and may get injured.**

❑ **Position the USB device and USB extension cable so that they do not obstruct your driving.**

❑ **Do not connect any USB device other than USB memory, a USB audio player or iPod series CQ-RX420W . Do not connect multiple USB devices to the USB connector. Drawing power for multiple devices from the connector could cause overheating and smoking.**

❑ **Do not suddenly disconnect the USB device while "READING" is displayed, or perform an operation immediately after connecting the USB device. USB device is not recognized correctly.**

Playable Audio File
Model	File
CQ-RX420W	MP3/WMA/AAC
CQ-RX320W	MP3/WMA
CQ-RX321W	MP3/WMA
CQ-RX322W	MP3/WMA
CQ-RX220W	MP3/WMA
CQ-RX221W	MP3/WMA
CQ-RX222W	MP3/WMA
CQ-RX225W	MP3/WMA
CQ-RX121W	MP3/WMA
CQ-RX122W	MP3/WMA

Notes for AAC playback is only for the model CQ-RX420W.

What is MP3/WMA/AAC?
MP3* (MPEG Audio Layer-3) and WMA (Windows Media™ Audio) are the compression formats of digital audio. The former is developed by MPEG (Motion Picture Experts Group), and the latter is developed by Microsoft Corporation. Using these compression formats, you can record the contents of about 10 music CDs on a single CD media (This figures refer to data recorded on a 650 MB CD-R or CD-RW at a fixed bit rate of 128 kbps and a sampling frequency of 44.1 kHz).

*MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thomson.
AAC is an abbreviation for "Advanced Audio Coding". It has been defined as a standard for audio compression technology using MPEG 2 and MPEG 4.
Note: MP3/WMA/AAC encoding and writing software is not supplied with this unit.

Points to Remember When Making MP3/WMA/AAC Files

Common
- High bit rate and high sampling frequency are recommended for high quality sounds.
- Selecting VBR (Variable Bit Rate) is not recommended because playing time is not displayed properly and sound may be skipped.
- The playback sound quality differs depending on the encoding circumstances. For details, refer to the instructions of your own encoding software and writing software.

MP3
- It is recommended to set the bit rate to "128 kbps or more" and "fixed".

WMA
- It is recommended to set the bit rate to "64 kbps or more" and "fixed".
- Do not set the copy protect attribute on the WMA file to enable this unit to play back.

AAC
- It is recommended to set the bit rate to "128 kbps or more" and "fixed".
- The formats and extensions for AAC data vary according to the encoder software used.
- AAC files which can be played on this unit have the ".m4a" extension and were encoded with Apple iTunes® version 7.
- The file extension for files encoded with the iTunes Apple Lossless Encoder is ".m4a", but such files cannot be played on this player.
- Files under copyright protection cannot be played.

⚠ Caution
Never assign the ".mp3", ".wma" or ".m4a" file name extension to a file that is not in the MP3/WMA/AAC format. This may not only produce noise from the speaker damage, but also damage your hearing.

iTunes is a trademark of Apple Inc., registered in the U.S. and other countries/regions.

Windows Media, and the Windows logo are trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries/regions.

Designed for Windows Media™

Display Information

Displayed Items
- **CD-TEXT**
  Disc title
  Track title
- **MP3/WMA/AAC**
  Folder name
  File name
- **AAC (Song information)**
  Album name
  Title name/artist name

MP3 (ID3 tag)
Album name
Title name/artist name

WMA (WMA tag)
Album name
Title name/artist name

Displayable characters
- Displayable length of file name/folder name: within 32 characters. (Excluding the CD folder names are reduced by half in the number of displayable characters.)
- Name files and folders in accordance with the standard of each file system. Refer to the instructions of writing software for details.
- ASCII character set and special characters in each language can be displayed.
- Some Cyrillic characters in the Unicode can be displayed.

ASCII character set
A to Z, a to z, digits 0 to 9, and the following symbols:
(space) ! " # $ % & ' ( ) * + , − . / : ; < = > ? @ [\ ] ^ _ ` { | } ~

Special Characters
Á Â Ä Å Ã å à á â ä
À Ã
Ò Ó Ó Ô Ö Õ õ ò ó
Ù Ú Û Ü ù ú û ü

Notes:
- With some software in which MP3/WMA format files have been encoded, the character information may not be displayed properly.
- Undisplayable characters and symbols will be converted into an asterisk (**).
- It is recommended that the length of the file name is less than 8 characters (excluding the file extension).

Compression formats
MP3/WMA/AAC → "Points to Remember When Making MP3/WMA/AAC Files" →Left)

Compression method	Bit rate	VBR	Sampling frequency
MPEG 1 Audio Layer-3 (MP3)	32 k − 320 kbps	Yes	32, 44.1, 48 kHz
MPEG 2 Audio Layer-3 (MP3)	8 k − 160 kbps	Yes	16, 22.05, 24 kHz
MPEG 2.5 Audio Layer-3 (MP3)	8 k − 160 kbps	Yes	8, 11.025, 12 kHz
Windows Media Audio Ver. 2 − 9*	64 k − 160 kbps	Yes	32, 44.1, 48 kHz
MPEG 4 Advanced Audio Coding Low Complexity (AAC LC)	16 k − 320 kbps	Yes	8, 11.025, 12, 16, 22.05, 24, 32, 44.1, 48 kHz

* WMA 9 Professional/LossLess/Voice are not supported.

Recording MP3/WMA/AAC Files on a CD-Media/USB-Device
CQ-RX420W
- You are recommended to minimize the chances of making a disc that contains both CD-DA files and MP3/WMA/AAC files.
- If CD-DA files are on the same disc as MP3, WMA or AAC files or the songs may not play in the intended order, or some songs may not play at all.
- When storing MP3 data, WMA data or AAC data on the same disc, use different folders for each data.
- Do not record files other than MP3/WMA/AAC files and unnecessary folder on a disc.
- The name of an MP3/WMA/AAC file should be added by rules as shown in the following descriptions and also comply with the rules of each file system.
- The file extension ".mp3", ".wma" or ".m4a" should be assigned to each file depending on the file format.
- You may encounter trouble in playing MP3/WMA/AAC files or displaying the information of MP3/WMA/AAC files recorded with certain writing software or CD recorders.
- This unit does not have a play list function.
- Although Multi-session recording is supported, the use of Disc-at-Once is recommended.

Supported file systems
CD-media
ISO 9660 Level 1, Level 2, Apple Extension to ISO 9660, Joliet, Romeo
Note: Apple HFS, UDF 1.50, Mix CD and CD Extra are not supported.

USB-device
CQ-RX420W CQ-RX320W CQ-RX321W CQ-RX322W
File system is FAT12/16/32

Folder Selection Order/File Playback Order
CQ-RX420W CQ-RX320W CQ-RX321W CQ-RX322W CQ-RX220W CQ-RX221W CQ-RX222W CQ-RX225W CQ-RX121W CQ-RX122W

Maximum number of files/folders
- Maximum depth of trees: 8
CQ-RX420W CQ-RX320W CQ-RX321W CQ-RX322W
- Maximum number of files: CD-media: 999 / USB device: 65 535
- Maximum number of files in one folder CD-media: 999 / USB device: 999
- Maximum number of folders: CD-media: 256 (Root folder is included.) / USB device: 255 (Root folder is included.)

CD-media
Root folder (Root Directory)
Folder Selection In the order 1 − 5
File Selection In the order 1 − 5
Tree 1 Tree 2 Tree 3 Tree 4 Tree 8 (Max.)

CQ-RX220W CQ-RX221W CQ-RX222W CQ-RX225W CQ-RX121W CQ-RX122W
- Maximum depth of trees: 8
- Maximum number of files: 999
- Maximum number of files in one folder: 999
- Maximum number of folders: 256 (Root folder is included.)

Notes:
- You can shorten the duration between data read and playback by decreasing the quantity of data or folders, or the depth of the hierarchy.
- This unit counts the number of folders irrespective of the presence or absence of an MP3/WMA/AAC file.
- If the selected folder does not contain any MP3/WMA/AAC files, the nearest MP3/WMA/AAC files in the order of playback will be played.
- Playback order may be different from other MP3/WMA/AAC players even if the same disc is used.
- "ROOT" appears when displaying the root folder name.

USB-device
CQ-RX420W CQ-RX320W CQ-RX321W CQ-RX322W
Root folder (Root Directory)
Folder Selection In the order 1 − 8
File Selection In the order 1 − 5
Tree 1 Tree 2 Tree 3 Tree 4 Tree 5 Tree 8 (Max.)

Copyright
It is prohibited by copyright laws to copy, distribute and deliver copyrighted materials such as music without the approval of copyright holder except enjoying yourself personally.

No warranty
Above description complies with our investigations as of June 2008. It has no warranty for reproducibility and displayability of MP3/WMA/AAC.

Troubleshooting

If You Suspect Something Wrong
Check and take steps as described below.
If the described suggestions do not solve the problem, it is recommended to take the unit to your nearest authorized Panasonic Service Center. The product should be serviced only by qualified personnel. Please refer the checking and the repair to professionals. Panasonic shall not be liable for any accidents arising out of neglect of checking the unit or your own repair after your checking.
Never take measures especially those other than indicated by italic letters in "Possible Solution" described below because those are too dangerous for users to handle themselves.

⚠ **Warning**
- Do not use the unit in an irregular condition, for example, without sound, or with smoke or a foul smell, which can cause ignition or electric shock. Immediately stop using the unit and consult your dealer.
- Never try to repair the unit by yourself because it is dangerous to do so.

Common
Trouble	Possible Solution
No power	Start the engine. (Or turn the ignition switch to the ACC position.) / Verify the wiring. (battery lead, power lead, ground lead, etc.) / Fuse blown (Contact the nearest Panasonic Service Center.) / Ask a professional for fuse replacement. / Be sure to use the same rated fuse.
No sound	Disable the mute function. / Verify the wiring. / Make sure that grounding is established properly.
Noise	You can shorten the duration between data read and playback by decreasing the quantity of data or folders, or the depth of the hierarchy.
No sound from left, right, front, or rear speaker	Adjust the balance and fader. / Verify the wiring.
Left and right sounds are reversed	Connect the speaker lead correctly.

Disc Player
Trouble	Possible Solution
No sound, or disc is automatically ejected	Load the disc correctly. / Clean the disc.
Sound skip, poor sound quality, or vibration	Clean the disc.
Sound skip due to vibration	Do not use the unit in an irregular condition. / Secure the unit.
Disc not ejectable	—

Radio
Trouble	Possible Solution
Frequent noise	Tune in to another station of high-intensity waves. / Make sure that the antenna mounted point is grounded properly.
Preset data deleted	The preset memory is cleared if either the battery lead or the power connector or battery is disconnected.

Error Display Messages (Disc Player)
E-11	The disc is dirty upside down. / Check the disc.
E-30	The disc is dirty or upside down. / Check the disc.
E-02	The disc is ejected automatically.) / Check the disc.
E-03	The disc is scratches. / Check the disc.
E-14	A WMA/AAC file can be copyrighted. / The file protected by copyright is not playable.
E-05	Cannot read the file

CQ-RX420W
Note: Refer to the System Upgrade Guidebook for error messages regarding optional products.
CQ-RX320W CQ-RX321W CQ-RX322W
Note: Refer to the Operating Instructions USB for error messages regarding optional products.

Panasonic Corporation
Web Site: http://panasonic.net

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Preparation

First Time Power On

1. Set your car's ignition switch to the ACC or ON position.
2. Press [SRC] (PWR: Power).

Cancellation of Demonstration

CQ-RX420W CQ-RX320W CQ-RX321W
CQ-RX121W CQ-RX122W

The demonstration message appears for initial use.

1. Set your car's ignition switch to the ACC or ON position.
2. Press [SRC] (PWR: Power).
3. Hold down [SRC] (PUSH SEL: Select) for 2 sec. or more to open the function menu.
4. Press [VOL] (PUSH SEL: Select) to select DEMO.

`DEMO-ON` ↔ `-OFF`

Notes:
- To return to the regular mode, press [DISP].
- Refer to the section on "Function Settings".
- When "NO USB" CQ-RX321W CQ-RX320W CQ-RX322W or "NO DISC" is displayed, the Demonstration cannot be cancelled.

Battery Installation

CQ-RX420W CQ-RX320W CQ-RX321W CQ-RX322W CQ-RX225W

Put the insulation film out from the backside of the remote control gently.

Note: Battery Information:
Battery Type: Panasonic lithium battery (CR2025) (Included in the remote control)
Battery Life: Approximately 6 months under normal use (at room temperature)

Clock Setting

CQ-RX321W CQ-RX320W CQ-RX121W CQ-RX222W
CQ-RX225W CQ-RX122W

The 24-hour system is used for the clock.

1. Press [DISP].
   `ADJUST` (clock display)
2. Hold down [DISP] for more than 2 seconds.
   `CT 0:00` Hour blinks
3. Adjust the hour.
   `CT 8:00` Hour entered
   [▶▶]: sets the hour ahead.
   [◀◀]: sets the hour back.
4. Press [DISP].
   `CT 8:00` Minute blinks

5. Adjust the minute.
   `CT 8:15` Minute entered
6. Press [DISP].
   `CT 8:15` Completed

Clock Display at Power Off

Press [DISP] to change the display.
   Display off ↕ `CT 8:15` Clock display (Default)

General

⚠ Caution
- Set the volume level to low enough before the AUX connection is completed. Failure to observe this, the loud noise may come out and damage your speakers and your hearing.

[SRC] (Source) selects a source.
[PWR] (Power) toggles power on/off.

[VOL] (Volume)

Remote Control Sensor

[TA/AF]
CQ-RX420W
CQ-RX320W (→ "Radio Data System (RDS) in FM Broadcasting")

[DISP] (Display) switches the information on the display.

[BAND]

AUX1 Connector (3.5 mm φ stereo)
From line output of external sound/audio device (ex. Silicon-audio player, HDD player, etc.)

Note: The connector is labeled "AUX1", but it appears on the display as "-:AUX IN-". (→ Below)

General Operations

Source Selection

Press [SRC] to change the source.
CQ-RX420W
   Radio → Disc Player
   System-up Connector → AUX 1* → USB Connector
   (→Right)

USB Connector
CQ-RX321W CQ-RX320W CQ-RX121W CQ-RX222W CQ-RX322W

When an optional USB memory is connected:
When loading MP3/WMA/AAC data `USB READ`
When loading MP3/WMA data
CQ-RX320W CQ-RX322W CQ-RX121W

`USB NO3`

When an optional USB memory is not connected:
`NO USB`

System-up Connector CQ-RX420W
When an optional device is connected:
Shift to connected device
When connecting CD changer
`CHANGER`
When connecting iPod
`IPOD`
When connecting Bluetooth Unit
`BLUETOOTH`

OR
When an expansion module is connected:
The devices connected to the ports 1 to 4 are activated in sequence after shifting to AUX2 (device connected to the AUX terminal of the expansion module).

Power On/Off

Set your car's ignition switch to the ACC or ON position.
Power on: Press [SRC] (PWR).
Power off: Hold down [SRC] (PWR) for more than 1 second.

Volume Adjustment

Setting Range: 0 to 40, Default: 18)
Turn [VOL].

AUX IN*:
CQ-RX320W CQ-RX321W CQ-RX320W CQ-RX322W CQ-RX121W CQ-RX122W
`AUX IN1`
CQ-RX420W CQ-RX221W CQ-RX222W
`AUX IN`

Notes:
- Note: About connectable devices, refer to the System Upgrade Guidebook or the instruction manual for each device.
- Note: About connectable devices, refer to the Operating Instructions USB or the instruction manual for each device.

Radio (AM/FM)

[SRC] (Source) selects a source.

[TUNE ◀◀] [TUNE ▶▶]
down/up the frequency. (Hold it down for more than 0.5 seconds and release it for seek tuning.)

Radio Source Display
Band   Preset Number
   Frequency
`FM1 92:50` ← lights while receiving an FM stereo signal.

[DISP] (Display) switches the information on the display.

[BAND] selects a band in the radio source.

[APM] (Auto Preset Memory) executes APM in the radio source. (Hold it down for more than 2 seconds.)

Preset buttons [1] to [6] selects a preset station in the radio source. (Hold it down for more than 2 seconds.)

Operation Flow

1. Press [SRC] to select the radio source.
2. Press [BAND] to select a band.
   `FM1 → FM2 → FM3`
3. Select a station.

Display Change

Press [DISP] to change the display.

AM (LW/MW) mode:
`AM 540` Band/frequency ↕ `CT 8:15` CT (Clock Time)

FM (not RDS) mode:
`FM1 92:50` Band/frequency ↕ `NO PS` PS ↕ CT

RDS mode:
`ROCK FM` PS (Programme Service name) ↕ `FM1 92:50` Band/frequency ↕ CT

Station Preset

Up to 6 stations can be preset in AM, FM1, FM2, and FM3 respectively. Preset stations can be simply called up by pressing [1] to [6].

Auto Preset Memory (APM)

With this operation, up to 6 stations with good receiving conditions can be automatically stored in the preset memory.

1. Select a band.
2. Hold down [BAND] (APM) for more than 2 seconds.
   The preset stations under best receiving conditions are received for 5 seconds each after presetting the stations (SCAN). To stop scanning, press one of the buttons from [1] to [6].

Notes:
- New stations overwrite existing saved stations.
- To store non-RDS stations with Auto Preset Memory (APM), set the AF level setting to OFF. (→ "Radio Data System (RDS) in FM Broadcasting")

Manual Station Preset

1. Tune into a station.
2. Hold down one of the preset buttons from [1] to [6] for more than 2 seconds.
   `FM1 92:50` (blinks once)

Note: New stations overwrite existing saved stations.

Frequency Adjustment

[TUNE ◀◀] Lower
[TUNE ▶▶] Higher

Note: Hold down for 0.5 sec. or more and release for station search.

Preset Station Selection

Press the corresponding preset button from [1] to [6] to tune in a preset station.

Audio Settings

[VOL] selects a value in the audio menu. (PUSH SEL) (Push to select) selects items in the audio menu.

[DISP] (Display) exits from the audio menu.

Notes:
- The sequence and contents of setting items may depend on the conditions of devices to be connected. For further information, refer to the System Upgrade Guidebook or the instruction manuals for the devices to be connected.
- If the fader is set to front, the pre-amp. output (rear) is decreased.

Audio Menu

1. Press [VOL] (PUSH SEL) to open the audio menu.
   Note: If no operation takes place for more than 5 seconds in audio setting (2 seconds in the volume adjustment, 10 seconds in the SQ adjustment), the display returns to the regular mode.
2. Press [VOL] (PUSH SEL) to select a mode to be adjusted.
3. Turn [VOL] clockwise or counterclockwise to adjust.

`VOL 18` Volume
(Setting Range: 0 to 40, Default: 18)
① Up ② Down

`BASS` Bass
(Setting Range: –12 dB to +12 dB by 2 dB, Default: 0 dB)
① Increased ② Decreased

`TREBLE` Treble
(Setting Range: –12 dB to +12 dB by 2 dB, Default: 0 dB)
① Increased ② Decreased

`SQ` SQ (Sound Quality)
CQ-RX321W CQ-RX320W CQ-RX220W
(Setting Range: FLAT/ROCK/POP/VOCAL/JAZZ/CLUB, Default: FLAT)

`SQ ROCK` SQ Adjustment
(Tone/SQ adjustable range: – 12 dB to + 12 dB (by 2 dB))
Setting range:
SQ Low/Bass: ±12 dB (at 60 Hz, 80 Hz, 100 Hz, 200 Hz)
SQ Mid: ±12 dB (at 500 Hz, 1 kHz, 2 kHz, 3 kHz)
SQ High/Treble: ±12 dB (at 10 kHz, 12 kHz, 15 kHz, 18 kHz)

`BALANCE` Balance
(Setting Range: 15 levels each, Default: CNT (center))
① Right enhanced ② Left enhanced

`FADER` Fader
(Setting Range: 15 levels each, Default: CNT (center))
① Front enhanced ② Rear enhanced

Notes:
- The volume can also be adjusted directly using [VOL] on the main unit. (→ "General")
- For further information on SQ (Sound Quality) settings, refer to "Sound Control".
- Do not activate SQ and Bass/Treble at the same time to avoid causing sound distortion.

Sound Control

You have 6 sound modes (FLAT, ROCK, POP, VOCAL, JAZZ, CLUB). You can customize your settings for these and save them for instant recall.

`SQ-FLAT` (FLAT) flat frequency response: does not emphasize any part. (Default)
`SQ-ROCK` (ROCK) speedy and heavy sound: exaggerates bass and treble.
`SQ-POP` (POP) wide-ranged and deep sound: slightly emphasizes bass and treble.
`SQ-VOCAL` (VOCAL) clear sound: emphasizes middle tone and slightly emphasizes treble.
`SQ-JAZZ` (JAZZ) jazz-specific deep sound: sound with emphasis on sharpness of high-hat and echo saxophone.
`SQ-CLUB` (CLUB) club and disco-specific sound: reproduction of realism being in a club.

SQ Changeover

CQ-RX321W CQ-RX320W CQ-RX220W

1. Press [VOL] (PUSH SEL: Select) to open the audio menu.
2. Press [VOL] (PUSH SEL: Select) to select SQ.
3. Turn [VOL] to select the sound type as follows.

Press [DISP] to return to the regular mode.

Note: Please refer to "Audio Settings" for the adjustment to each speaker.

SQ Selection Based on Genre (SQ (Sound Quality))

You can adjust the characteristics of the currently selected sound type (SQ). (→ Above)
It is also possible to preset up to 5 different adjusted SQs.

SQ3 (3-Band Sound Quality)

Center frequency and level are adjustable in each of 3 bands. This lets you fine-tune sound quality for each genre to suit car-interior acoustics and your personal preferences.
Tone/SQ adjustable range: –12 dB to +12 dB (by 2 dB)
SQ Low/Bass: ±12 dB (at 60 Hz, 80 Hz, 100 Hz, 200 Hz)
SQ Mid: ±12 dB (at 500 Hz, 1 kHz, 2 kHz, 3 kHz)
SQ High/Treble: ±12 dB (at 10 kHz, 12 kHz, 15 kHz, 18 kHz)
- The bass/treble control level of each frequency is fixed to the frequency that has been selected for SQ.

To return an adjusted SQ to the default setting
- The adjusted SQ is preset in the number of the selected button, and return to the regular mode resumes.

`SQ-FLAT`
`6CHz +6` center frequency up/down Level Frequency
[◀◀] [▶▶]: Band selection
[∧] [∨]: Level up/down

SQ Adjustment

1. Press [VOL] (PUSH SEL: Select) to open the audio menu.
2. Press [VOL] (PUSH SEL: Select) to select SQ SET.
3. Adjust each band.

`6CHz +6` Level Frequency
[◀◀] [▶▶]: center frequency up/down
[∧] [∨]: Level up/down

Notes:
- You cannot save any SQ presetting value in [1] button.
- Any SQ adjustments will not change the call up screen names such as ROCK and JAZZ.
- Do not activate SQ and Bass/Treble at the same time to avoid causing sound distortion.

Function Settings

[VOL] selects a value in the function menu. (PUSH SEL) (Push to select) selects items in the function menu.

[DISP] (Display) exits from the function menu.

Notes:
- To return to the regular mode, press [DISP].
- The sequence and contents of setting items may depend on the conditions of devices to be connected. For further information, refer to the System Upgrade Guidebook or the instruction manuals for the devices to be connected.

Function Menu

1. Hold down [VOL] (PUSH SEL) for 2 sec. or more to open the function menu.
   Note: If no operation takes place for more than 5 seconds in function setting, the display returns to the regular mode.
2. Press [VOL] (PUSH SEL) to select a mode to be adjusted.
3. Turn [VOL] clockwise or counterclockwise to adjust.

`FM MONO` FM Monaural FM
CQ-RX321W CQ-RX320W CQ-RX220W
Noise is significantly decreased when weak signals are received from an FM broadcast station.
`MONO-ON` ① MONO ON
`MONO-OFF` ② MONO OFF (Default)

`FM LOCAL` FM Local FM
CQ-RX420W CQ-RX321W CQ-RX320W CQ-RX220W
Only stations with good reception are detected in seek tuning.
`LOC-ON` ① LOCAL ON
`LOC-OFF` ② LOCAL OFF (Default)

(→Continued below)

`AM LOCAL` AM Local AM
CQ-RX420W CQ-RX321W CQ-RX320W CQ-RX220W
Only stations with good reception are detected in seek tuning.
`LOC-ON` ① LOCAL ON
`LOC-OFF` ② LOCAL OFF (Default)

`REGION` Region RDS
CQ-RX420W CQ-RX320W
Note: When the Region mode is switched from OFF to ON or vice versa, the AF mode turns on automatically.
① The frequency is changed only for programmes within the region.
② The frequency is changed only for programs outside the region.

`PTY LANG` PTY Language RDS
CQ-RX420W CQ-RX320W
① English (Default)
② Swedish

`DEMO` Demonstration
CQ-RX420W CQ-RX320W CQ-RX321W CQ-RX322W CQ-RX121W CQ-RX122W
Hold down [3] for more than 2 seconds.
`DEMO-ON` ① On (Default)
`DEMO-OFF` ② Off

Note: Button operation with other unit or remote control allows users to cancel the demonstration screen for 20 seconds and enable the selected operation even in the demo-on mode.

`MUTE KEY` Mute/Attenuation
You can select mute or attenuation.
`VOL 0` ① Volume down by 10 steps
② Volume off

`AUX1 IN` AUX1 Skip
CQ-RX321W CQ-RX320W CQ-RX121W CQ-RX222W CQ-RX322W
If AUX1 is not used, the AUX1 mode is skipped when selecting the source.
`AUX1-ON` ① On (Skip disabled.) (Default)
`AUX1-OFF` ② Off (Skip enabled.)

`AUX IN` AUX Skip
CQ-RX420W CQ-RX321W CQ-RX320W CQ-RX121W CQ-RX222W CQ-RX322W
If AUX is not used, the AUX mode is skipped when selecting the source.
`AUX-ON` ① On (Skip disabled.) (Default)
`AUX-OFF` ② Off (Skip enabled.)

Remote Control Unit

CQ-RX420W CQ-RX320W CQ-RX321W
CQ-RX322W CQ-RX225W

Notes:
- This instruction manual explains operations for use with the buttons on the main unit. (Different operations excluded)
- Aim the remote control at the remote sensor and operate it.

Functions

[0] to [9] selects a preset station (1 to 6), presets the current station (Hold it down for more than 2 seconds.), inputs the number in direct selection.

[#] (NUMBER) executes the direct selection.

[RANDOM] [SCAN] [REPEAT] toggles on/off each play mode.

[◀◀] [▶▶] down/up the frequency. (Hold it down for more than 0.5 seconds and release it for seek tuning.)

[∨] [∧] skip to the previous/next folder in player mode.

[◀◀] [▶▶] skip to the previous/next track/file in player mode. Hold it down for fast reverse/fast forward.

[BAND] (SET) selects a band in the tuner source, toggles pause/play in player source, executes the APM (Auto Preset Memory) in tuner source (Hold it down for more than 2 seconds.)

[SRC] (SOURCE) selects a source.

[POWER] toggles power on/off.

[VOL] (Volume) adjusts the volume, and selects the value in the audio menu, etc.

[MUTE] toggles mute on/off.
(Only for remote control unit)
Note: You can select mute or attenuation. (→ "Function Settings")

[DISP] (Display) switches the information on display, and exits the audio menu.

[MENU] (SEL: Select) selects the items in the audio menu.

Direct Access

A track (CD mode), file, folder (MP3/WMA/AAC mode) can be directly selected.
Example: Track number 5
1. Press [#] (NUMBER).
2. Press [5].
3. Press [BAND] (SET).

Notes:
- To suspend direct selection, press [DISP].
- For folder selection, enter a number after pressing [#] (NUMBER) twice.

Functions only on Main unit

The following functions are available on remote control unit.
- Scroll   - Disc eject   - Tag on/off
- Disc eject   - Folder selection, enter a number after pressing [#]
- SQ selection
CQ-RX420W CQ-RX321W CQ-RX320W CQ-RX220W
CQ-RX225W CQ-RX121W CQ-RX122W

Battery Replacement

① Remove the battery holder with the remote control unit placed on a flat surface.
   Tough pointed object
① Stick your thumbnail into the groove, and push the holder in the direction of the arrow, and at the same time.
② Pull it out in the direction of the arrow using a tough pointed object.
   Back side

② Put a battery in the case with (+) side facing up.
③ Put the case back.

⚠ Warning
Keep batteries and insulation film out of reach of infants. Batteries and insulation film can be ingested, so keep them out of the reach of infants. If an infant ingests a battery or insulation film, please seek immediate medical attention.

⚠ Caution
- Remove and dispose of an old battery immediately.
- Do not disassemble, heat or short a battery.
- Do not throw a battery into a fire or water.
- Follow local regulations when disposing of a battery.
- Improper use of batteries may cause overheating, an explosion or ignition, resulting in injury or a fire.

Notes: Battery Information:
Battery Type: Panasonic lithium battery (CR2025) (Included in the remote control)
Battery Life: Approximately 6 months under normal use (at room temperature)

Radio Data System (RDS) in FM Broadcasting

CQ-RX420W CQ-RX320W CQ-RX220W

Useful functions such as AF, TA, PTY are available in the RDS (Radio Data System)-ready areas.

What is RDS?

Some FM stations are broadcasting added data compatible with RDS. This radio set offers convenient functions using such data. RDS service availability varies with areas. Please understand if RDS service is not available in your area, the following service is not available, either.
The following functions are available when receiving RDS stations.

AF (Alternative Frequency)

The following functions are available when the AF mode is active (AF lights).
- When receiving conditions become bad, a station with better frequency is automatically tuned in to.
- When executing APM, only RDS stations are selected.
- When calling up a preset station, a best receiving station is selected automatically. (BSR Best Stations Research)

AF Level

Hold down [TA] (AF) for more than 2 seconds to select AF level.
`AF1 ON` ① Low level AF operating sensitivity. (Default)
`AF2 ON` ② High level AF operating sensitivity.

Note: When the AF network of an RDS station is not required.

TA (Traffic Announcement)

The following functions are available when the TA mode is active (TA lights).
- A TP station is automatically searched for and received at the instant of toggling the TA mode on if you are receiving a non-TP station or TP station with poor reception.
- When executing station search or APM, only TP stations are selected.
- Setting to TA on with the unit in another mode, it will automatically switch to radio mode and output the traffic announcement when the traffic announcement received. The traffic announcement having finished, the unit will return to the previous mode. (TA Standby Mode)

Emergency Announcement Reception
Emergency announcement automatically appears on the display when it is received.
`ALARM`

TA On/Off

Pressing [TA] toggles TA on and off.

Notes:
- This operation is not adjustable by the remote control.
- Traffic information is available in monaural.
- Set the TA volume only while receiving a TA.

Traffic Information Only (TA Mute)

For listening to only traffic information, activate TA and set the volume to 0 in FM mode.
Once traffic information starts, the volume changes to the TA volume.

PTY (Programme Type)

PTY On/Off

Holding down [DISP] (PTY) for more than 2 seconds toggles PTY mode on and off.

Programme Search by PTY

Programs can be searched for by use of PTY that has been originally preset.

Press [1] to [6] to select PTY in the PTY mode.

	Programme Type	Contents
1	NEWS	NEWS
2	SPEECH	AFFAIRS, INFO, EDUCATE, DRAMA, CULTURE, SCIENCE, VARIED, WEATHER, FINANCE, CHILDREN, SOCIAL, RELIGION, PHONE IN, TRAVEL, LEISURE, DOCUMENT
3	SPORT	SPORT
4	POP M	POP M
5	CLASSICS	CLASSICS
6	MUSIC	ROCK M, EASY M, LIGHT M, OTHER M, JAZZ, COUNTRY, NATION M, OLDIES, FOLK M

Other functions of RDS

CT (Clock Time)
The clock is automatically adjusted.

PS (Programme Service Name)
As well as the frequency, the name of the broadcast station appears.

EON (Enhanced Other Network)
RDS information is updated constantly in response to the current position.

EON-TA
Traffic information from the current and other network stations can be received.

Detailed PTY Selection

1. Press [◀◀] or [▶▶] to select PTY.
   →SPEECH → MUSIC → NEWS → AFFAIRS →
   INFO → SPORT → EDUCATE → DRAMA →
   CULTURE → SCIENCE → VARIED → POP M →
   ROCK M → EASY M → LIGHT M → CLASSICS →
   OTHER M → WEATHER → FINANCE → CHILDREN →
   SOCIAL → RELIGION → PHONE IN → TRAVEL →
   LEISURE → JAZZ → COUNTRY → NATION M →
   OLDIES → FOLK M → DOCUMENT

2. Press [BAND].
   Search starts.

Notes:
- To stop searching, press [BAND] (SET).
- When there is no corresponding programme type station, "NONE" is displayed.

PTY Preset Change

Original PTY presets can be changed as you like.
1. Select a PTY that you would like to preset.
2. Follow the procedure of ordinary presetting. (→ "Station Preset" in "Radio (AM/FM)")

PI Seek (Programme Identification Seek)

When pressing the preset number button for a station, press the same preset number button. The same station with better reception will be searched for.
Press same preset number button again to cancel.
`PI SEEK` (blinks)

Note: For PI Seek, cancel the TA mode first, then execute PI Seek.

Clock Setting

The 24-hour system is used for the clock.
1. Select the radio AM mode. (→ "Radio (AM/FM)")
   `AM 540`
2. Press [DISP].
   `NO CT` (clock display)
3. Hold down [DISP] for more than 2 seconds.
   `CT 0:00` Hour blinks
4. Adjust the hour.
   `CT 8:00` Hour entered
   [▶▶]: sets the hour ahead.
   [◀◀]: sets the hour back.
5. Press [DISP].
   `CT 8:00` Minute blinks
6. Adjust the minute.
   `CT 8:15` Minute entered
   [▶▶]: sets the minute ahead.
   [◀◀]: sets the minute back.
7. Press [DISP].
   `CT 8:15` Completed

Note: "NO CT" is displayed before adjusting the clock.
- When a broadcast of FM Radio Data System is received, the clock is adjusted automatically by the Clock Time service.
- Hold down [◀◀] or [▶▶] to change numbers rapidly.

Player (Disc Player)

Note: A disc which has both CD-DA data and MP3/WMA/AAC data on it may not be reproduced normally.

Playable Audio File

CQ-RX321W	MP3/WMA/AAC
CQ-RX420W	MP3/WMA/AAC
CQ-RX321W	MP3/WMA
CQ-RX320W	MP3/WMA
CQ-RX220W	MP3/WMA
CQ-RX222W	MP3/WMA
CQ-RX322W	MP3/WMA
CQ-RX225W	MP3/WMA
CQ-RX121W	MP3/WMA
CQ-RX122W	MP3/WMA

Note: The power will be turned on automatically when a disc is loaded.

Notes for AAC playback are only for the model CQ-RX420W.

Printed side up

Disc slot takes a disc in with the printed side facing up.

[SRC] (Source) selects a source.

[DISP] (Display) switches the information on the display.

[▶ II] (Play/Pause) toggles pause/play in the player source.

[◀◀] [▶▶] skip to the previous/next track/file. Hold down either of them for fast reverse/fast forward.

[∨] [∧] skip to the previous/next folder.

▲ (Eject) ejects the disc.

[4] (RANDOM) [5] (SCAN) [6] (REPEAT) toggles on/off each play mode.

[6] (SCROLL) scrolls the information on display.

Operation Flow

1. Press [SRC] to select the Disc Player source.
2. Select a desired portion.

Track/File Selection

Press [◀◀] / [▶▶].
Note: To perform fast forward/reverse, hold down either of them.

Disc Player (CD-DA disc):
Previous/next track
Disc Player (MP3/WMA/AAC disc):
Previous/next file

Folder Selection (MP3/WMA/AAC)

Press [∨] / [∧].

Pause

Press [BAND] (▶ II).
Press again to cancel.

Notes:
- Do not insert a disc when the O DISC indicator lights.
- Refer to the section of "Notes on Discs" and "Notes on MP3/WMA/AAC".
- This unit does not support 8 cm discs.

- If you insert an 8 cm disc and cannot eject it, turn ACC of your car off once and turn it on again, then press [▲] (Eject).
- Do not insert foreign matter into the disc slot.

Player Source Display

CD-DA Mode Display

`02  1:23`
Track number Play time
   Play Mode indicators

MP3/WMA/AAC Mode Display

`002-001`
   Folder number File number
   Play Mode indicators
Lights when folder random/repeat/scan is on.

Display Change

Press [DISP] to change the display.
Lights when the disc is loaded.

Disc Player (CD-DA disc):
`02  1:23` ① Normal (Track number/Play time)
`THE BEST` ② Disc title
`LOVE ME` ③ Track title

Disc Player (MP3/WMA/AAC disc):
`002-001` ① Normal
`LOVE ME` ② Play time
`THE BEST` ③ Folder name/Album
`LOVE ME` ④ File name/Title, artist*
`DEMO` ⑤ Clock

*03/WMA/AAC Tag On/Off
Hold down [3] for more than 2 seconds.
`TAG ON` ① On (Default)
`TAG OFF` ② Off

Notes:
- For scrolling text, press [3] (SCROLL).
- "NO TEXT" is displayed when there is no information on the disc.

Random, Repeat, Scan

Random Play

All the available songs (tracks/files) are played in a random sequence.
Press [4] (RANDOM).
Press again to cancel.

Folder Random Play (MP3/WMA/AAC)

All the available files in current folder are played in a random sequence.
Hold down [4] (RANDOM) for more than 2 seconds.
Hold down again to cancel.

Repeat Play

The current song (track/file) is repeated.
Press [6] (REPEAT).
Press again to cancel.

Folder Repeat Play (MP3/WMA/AAC)

The current folder is repeated.
Hold down [6] (REPEAT) for more than 2 seconds.
Hold down again to cancel.

Scan Play

The first 10 seconds of each songs (tracks/files) is played in sequence.
Press [5] (SCAN).
Press again to cancel.

Folder Scan Play (MP3/WMA/AAC)

The first 10 seconds of the first file in each folder is played in sequence.
Hold down [5] (SCAN) for more than 2 seconds.
Hold down again to cancel.