

Removable Full Front MP3 WMA CD Player/Receiver with CD Changer Control

Récepteur/lecteur CD MP3 WMA avec panneau avant amovible et contrôle de changeur CD

Reproductor de CD MP3 WMA/Receptor con Controlador de Cambiador de Discos y Frente Completo Desmontable

CQ-DFX683/DF583U

Removable Full Front CD Player/Receiver

Récepteur/lecteur CD avec panneau avant amovible

Reproductor de CD/Receptor y Frente Completo Desmontable









• Please read these instructions carefully before using this product and save this manual for future use.

- Prière de lire ces instructions attentivement avant d'utiliser le produit et garder ce manuel pour l'utilisation ultérieure.
- Lea con atención estas instrucciones antes de utilizar el producto y guarde este manual para poderlo consultar en el futuro.

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> Printed in China Imprimé en Chine

> Impreso en China

YEFM283966A FT1102-2013

Safety Information

WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, AND ANNOYING INTERFERENCE, USE ONLY THE INCLUDED COMPONENTS.

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 YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

The following applies only in the U.S.A.

Part 15 of the FCC Rules

FCC Warning:

Any unauthorized changes or modifications to this equipment would void the user's authority to operate this device.

NOTICE:

This product has a fluorescent lamp that contains a small amount of mercury. It also contains lead in some components. Disposal of these materials may be regulated in your community due to environmental considerations. For disposal or recycling information please contact your local authorities, or the Electronics Industries Alliance: <http://www.eiae.org.>

Consignes de sécurité

MISE EN GARDE:

POUR RÉDUIRE LES RISQUES D'INCENDIE OU D'ÉLECTROCUTION, N'EXPOSEZ PAS CET APPAREIL À LA PLUIE OU À L'HUMIDITÉ.

AFIN DE PRÉVENIR TOUT RISQUE D'INCENDIE OU D'INTERFÉRENCES, UTILISER UNIQUEMENT LES COMPOSANTS FOURNIS.

ATTENTION:

CET APPAREIL EST UN PRODUIT LASER DE LA CLASSE I.

L'UTILISATION DE COMMANDES OU RÉGLAGES OU L'EXÉCUTION D'OPÉRATIONS AUTRES QUE CELLES QUI SONT INDIQUÉES DANS CE DOCUMENT PEUVENT **RÉSULTER EN UNE EXPOSITION À UN RAYONNEMENT** DANGEREUX.

N'OUVREZ PAS LES COUVERCLES ET N'ESSAYEZ PAS D'EFFECTUER VOUS-MÊME DES RÉPARATIONS. ADRESSEZ-VOUS À UN PERSONNEL QUALIFIÉ POUR TOUTE RÉPARATION.

Información para su seguridad

ADVERTENCIA:

PARA REDUCIR EL RIESGO DE INCENDIOS O SACUDIDAS ELÉCTRICAS, NO EXPONGA ESTE PRODUCTO A LA LLUVIA NI A LA HUMEDAD.

PARA REDUCIR EL RIESGO DE INCENDIOS O SACUDIDAS ELÉCTRICAS, Y PARA EVITAR LAS INTERFERENCIAS MOLESTAS, UTILICE SOLAMENTE LOS COMPONENTES INCLUIDOS.

PRECAUCIÓN:

ÉSTE ES UN PRODUCTO LÁSER DE LA CLASE I. LA UTILIZACIÓN DE CONTROLES, EL HACER AJUSTES O EL SEGUIR PROCEDIMIENTOS DISTINTOS DE LOS ESPECIFICADOS EN ESTE MANUAL PODRÍA CAUSAR UNA EXPOSICIÓN PELIGROSA A LA RADIACIÓN. NO ABRA LAS CUBIERTAS NI HAGA REPARACIONES USTED MISMO. SOLICITE LOS TRABAJOS DE SERVICIO AL PERSONAL CALIFICADO.

Find the model number and serial number on either the back or bottom of the unit. Please record them in the space below and retain this booklet as a permanent record of your purchase to help with identification in case of theft.

CQ-DFX683U CQ-DF583U MODEL NUMBER CQ-DF203U SERIAL NUMBER DATE PURCHASED FROM

NUMÉRO DE N NUMÉRO DE S

Il est recommandé de noter, dans l'espace prévu ci-dessous, les numéros de modèle et de série inscrits soit à l'arrière soit sous le fond de l'appareil, et de conserver ce manuel comme mémorandum de l'achat afin de permettre l'identification de l'appareil en cas de vol.

Busque el número del modelo y el número de serie va sea en la parte trasera o en el fondo de la unidad. Sírvase anotar dichos números en el espacio siguiente, y mantenga este librete como una anotación permanente de su compra para ayudar en la identificación en el caso de robo.

NUMÉRO DE MODÈLE	CQ-DFX683U CQ-DF583U CQ-DF203U	NÚMERO DEL MODELO	CQ-DFX683U CQ-DF583U CQ-DF203U
NUMÉRO DE SÉRIE		NÚMERO DE SERIE	
DATE DE L'ACHAT		FECHA DE COMPRA	
VENDEUR		NOMBRE DE LA TIENDA	

Panasonic welcomes you to our ever growing family of electronic product owners. We know that this product will bring you many hours of enjoyment. Our reputation is built on precise electronic and mechanical engineering, manufactured with carefully selected components and assembled by people who take pride in their work. Once you discover the quality, reliability, and value we have built into this product, you too will be proud to be a member of our family.

Use this Product Safely

When Driving

Keep the volume level low enough to be aware of road and traffic conditions.

When Washing Your Car

Do not expose the product, including the speakers and CDs, to water or excessive moisture. This could cause electrical shorts, fire, or other damage.

When Parked

Parking in direct sunlight can produce very high temperatures inside your car. Give the interior a chance to cool down before switching the unit on.

Use the Proper Power Supply

This product is designed to operate with a 12 V DC, negative ground battery system (the normal system in a North American car).

Features

Large-sized volume control

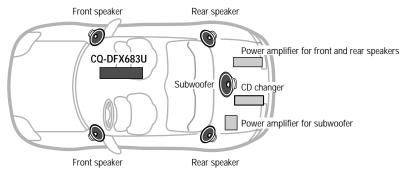
An large-sized rotary volume control that looks like one belonging to a Hi-Fi audio system is featured.

CD Changer Control

CQ-DFX683U CQ-DF583U

You need connect the optional CD changer unit. For details, refer to the operating instructions on the CD changer unit.

Example: CQ-DFX683U



Disc Mechanism

Do not insert coins or any small objects. Keep screwdrivers and other metallic objects away from the disc mechanism and disc.

Use Authorized Servicenters

Do not attempt to disassemble or adjust this precision product. Please refer to the Servicenter list including with this product for service assistance.

For Installation

This product should be installed in a horizontal position with the front end up at a convenient angle, but not more than 30°

Note:

• The preset memory is cleared to return to the original factory setting when the power connector or battery is disconnected.

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MP3/WMA Playback from CD-R/RW CQ-DFX683U CQ-DF583U

You can play your MP3/WMA (Windows Media Audio) files as well as regular CDs. With up to 10 to 12 times* the capacity of a conventional CD, a single MP3/WMA-encoded disc can keep you entertained throughout your entire jour-

*Depending on bit rate.

Before Reading these Instructions

• This operating instruction manual is for 3 models; CQ-DFX683U, CQ-DF583U and CQ-DF203U. All illustrations throughout this manual represent model CQ-DFX683U unless otherwise specified. The following table describes the differences among 3 models.

Features Models	CQ-DFX683U	CQ-DF583U	CQ-DF203U
MP3/WMA data playback	Yes	Yes	None
CD changer control	Yes	Yes None	
Remote control unit	Remote control unit	Remote control unit	Remote control unit
	with ten number keys	with ten number keys	without ten number keys
Subwoofer output	Yes	None	None

- This can only be controlled through the main unit.
- Indicates features applicable to CO-DFX683U CQ-DFX683U.
- This can only be controlled through the remote control unit.

Operations with neither mark can be performed either by the main unit or the remote control unit.

- Indicates features applicable to CQ-DF583U CQ-DF583U.
- CQ-DF203U Indicates features applicable to CQ-DF203U.



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Control Reference Guide (remote control unit)	16
Remote Control Unit Preparation Battery installation, battery notes	18



- Power (PWR), source, volume, muting or attenuation, S·HDB (Super High Definition Bass), level meter
- Time reset, display change
- 8:00

WELCOME

- Radio mode, band, tuning, display change, Direct Memory (D·M), preset station setting, manual preset memory, Auto Preset Memory (APM), preset station calling
- Listening to a CD, open the front panel, insert the disc, stop and eject the disc, track selection, fast forward/fast reverse, pause, repeat play, random play, scan play, direct track selection, display change, text scroll
- Listening to MP3/WMA, open the front panel, insert the disc, stop and eject the disc, file selection, fast forward/fast reverse, folder selection, repeat play, folder repeat play, pause, random play, folder random play, scan play, folder scan play, display change, direct file selection, direct folder selection, text scroll, ID3/WMA tag setting, notes on MP3/WMA
- CD changer mode, disc selection, track selection, fast forward/fast reverse, using two changers (dual changers), repeat play, disc repeat play, random play, disc random play, scan play, disc scan play, display change, direct disc selection



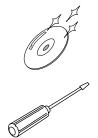
- Volume, bass and treble, balance and fader, subwoofer level, muting or attenuation
- Security function, excluding Sirius from source selection, level meter
- Preliminary steps, if you suspect something wrong, troubleshooting tips, error display messages, maintenance, product servicing, replacing the fuse
- Notes on CD-Rs/RWs, notes on CD/CD media (CD-ROM, CD-R, CD-RW)
- Remove the unit
- Place the removable face plate into case, install removable face plate, security indicator, panel removal alarm
- Caution, wiring diagram, upgrading the system 1, upgrading the system 2



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Accessories

Remote control unit

(CQ-DFX683U/DF583U) (1)

Panasone:

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Operating instructions

 (1)

Remote control unit

(CQ-DF203U) (1)

(CR2025) (1) (1)
Installation hardware (screws, power connector, etc.)

• Lithium battery

(page 46)

 Operating guide for Sirius (CQ-DFX683U/DF583U)
 Warranty card, etc

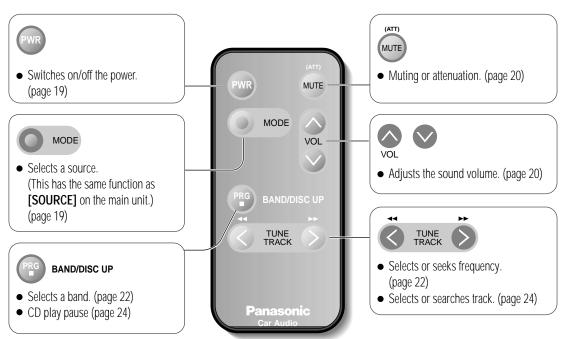
(1)

Control Reference Guide (remote control unit)

CQ-DF203U

Buttons of the remote control function in the same way as the controls on the main unit of the reference page.

Point the remote control unit at the sensor.

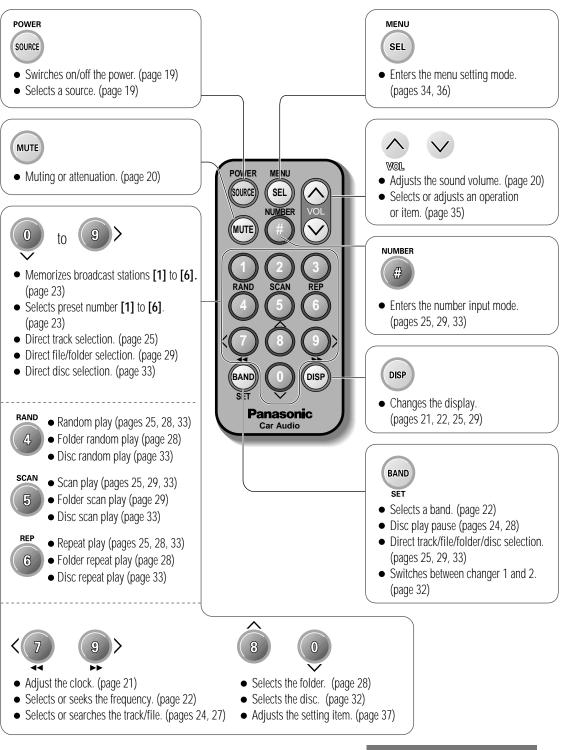


Control Reference Guide (remote control unit)

CQ-DFX683U CQ-DF583U

Buttons of the remote control function in the same way as the controls on the main unit of the reference page.

Point the remote control unit at the sensor.



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CQ-DFX683/DF583/DF203U

Remote Control Unit Preparation

Battery Installation

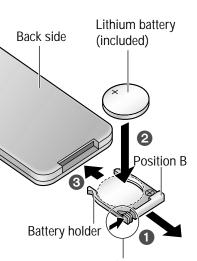
- Remove the battery holder. Pull the battery holder by the position B while pushing position A in the direction indicated by the arrow.
- Install the battery on the battery holder.
- Insert the battery holder back into its original position.

Battery Notes

- Battery type: Panasonic lithium battery (CR2025) (included)
- Battery life: Approximately 6 months with normal use (at room temperature)

Caution:

- Improper use of batteries may cause overheating, an explosion or ignition, resulting in injury or a fire. Battery leakage may damage the unit.
- Remove and dispose of an old battery immediately.
- Do not disassemble or short the battery. Do not throw a battery into a fire.
- Keep batteries away from children to avoid the risk of accidents.
- Be careful to observe proper local disposal rules when you dispose of batteries.



Position A

General

Power (PWR)

Turn your car's ignition key to ACC or ON position.

ON: Press [PWR].

OFF: Press and hold [PWR] again on the main unit for more than 1 second.

CQ-DFX683U CQ-DF583U Press and hold [POWER] again on the remote control unit for more than 2 seconds.

CQ-DF203U

Press [PWR] again on the remote control unit.

• After turning off the ignition key, a security message is displayed, and the panel removable alarm that reminds you to take the panel is activated.

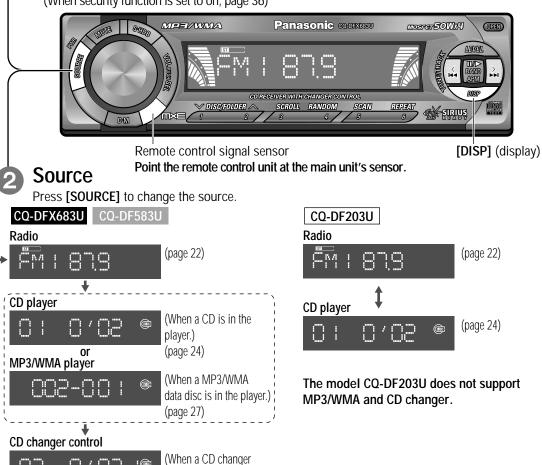
(When security function is set to on, page 36)



Note:

- When the power is switched on for the first time, a demonstration message appears on the display. To cancel this display, press [DISP] (display).
- To display the message again, press and hold [SOURCE] on the main unit for more than 4 seconds when the power is off.





For details on the Sirius mode, refer to the separate operating guide for Sirius.

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is connected.) (page 32)

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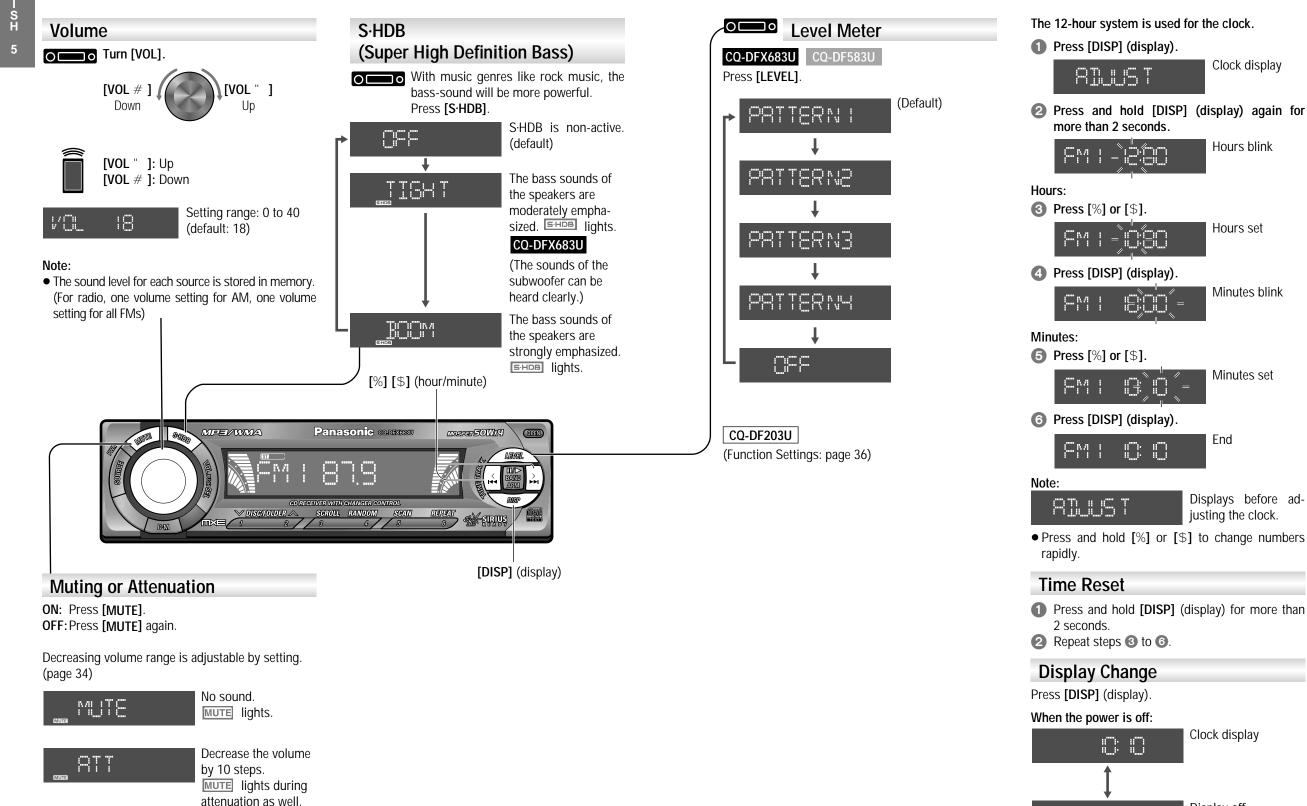
np

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Clock Set





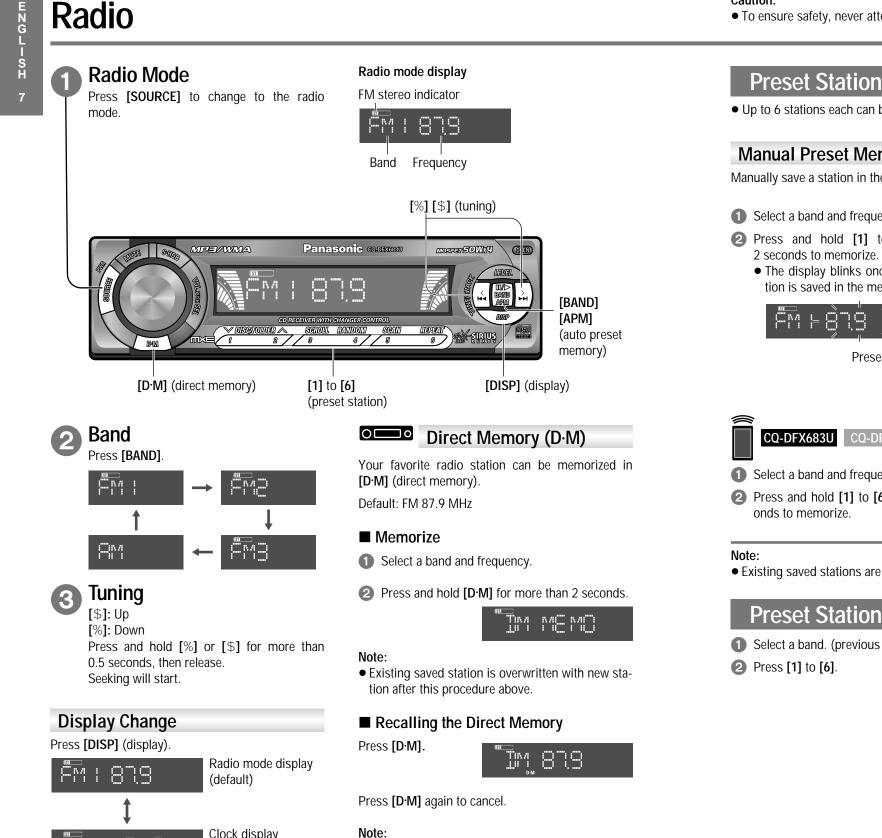
21

Display off

Radio

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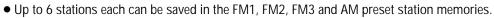
• You can recall the direct memory even when the

power is off.

Caution:

To ensure safety, never attempt to preset stations while you are driving.

Preset Station Setting



Manual Preset Memory

Manually save a station in the preset memory.

- Select a band and frequency. (previous page)
- 2 Press and hold [1] to [6] for more than
 - The display blinks once, and a receiving station is saved in the memory.



Preset number

Auto Preset Memory (APM)

Automatically save stations with good reception in the preset memory.

- **1** Select a band. (previous page)
- 2 Press and hold [APM] for more than 2 seconds.
- The 6 stations with good reception will be automatically saved in the memory under preset number 1 to 6.
- Once set, the preset stations are sequentially scanned for 5 seconds each. (scanning)
- To stop the scanning, press [1] to [6].



CQ-DF583U

Select a band and frequency. (previous page)

- Press and hold [1] to [6] for more than 2 sec-
- Existing saved stations are overwritten with new stations after this procedure above.

Preset Station Calling

Select a band. (previous page)



 Select a band. (previous page) 2 Press [1] to [6].

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CQ-DFX683/DF583/DF203U

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Clock display

CD Player

- Caution:
- Available discs: Disc size: 5" (12 cm) only CD-DA data recorded CD-R and CD-RW discs
- 3" (8 cm) CD is not available for this unit, so do not insert it absolutely.
- Before loading a disc, check to make sure that a disc is not already loaded.
- Refer to page 45 about notes on CD-Rs/RWs.

• use irregularly shaped discs. • push the front panel down or place objects on it while it is open. • use discs that have a seal or label attached. pinch your finger or hand in the front panel. insert foreign matter into the disc slot. • watch the scroll display while driving a

car. (page 25) CO-DFX683U CO-DF583U

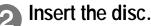
- Note:
- The power will be turned on automatically when a disc is loaded.
- The disc/track title can be displayed. CQ-DFX683U CQ-DF583U

Do not

• Be sure to close the front panel while CD playback.

Listening to a CD

Open the front panel. Press [OPEN].



Playback starts automatically. Track number Playing time



- Do not insert a disc when this indicator liahts.
- Lights when the disc is loaded.

When CD is in the player Press [SOURCE] to change to CD player mode.

Stop and eject the disc. Press [OPEN] and [] (eject).

▲ (eject) Close. Label side

Close the front panel manually.

Track Selection

- [►►]: Next track.
- [**I**]: Beginning of the current track. For the previous track, press twice.

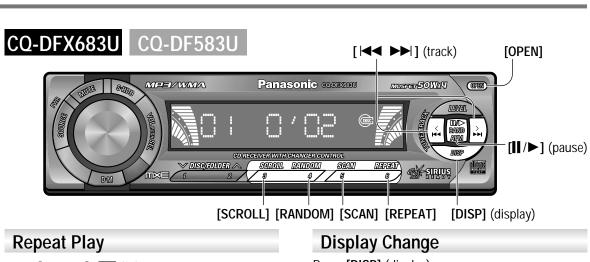
Fast Forward/Fast Reverse

Press and hold. [►►] (►►): Fast forward. [I ←] (← ←): Fast reverse. Release to resume the regular play.

Pause

Press []] /▶]. Press []]/>] again to cancel.





Press [REPEAT]. REP lights.



Press [REPEAT] again to cancel.

Random Play

Press [RANDOM]. RAND lights. All the available tracks play in a random sequence.

- AP $\cap \cap \cap$

Press [RANDOM] again to cancel.

Scan Play

Press [SCAN].

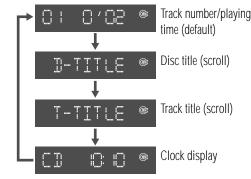
The first 10 seconds of each track plays in sequence.

n'n2

Press [SCAN] again to cancel

Direct Trac	k Selection	
Example: track numbe	er 10	
1 Press [#] .	TRACK	œ
2 Press [1] [0].		
3 Press [BAND].	TRACK	
Note:		
 Press [DISP] (displ. mode. 	ay) to return to	the regular

Press [DISP] (display).



Note:

- Displays when there is no NO TITLE title
- The display shows title when a disc with CD text data is loaded. (Up to 128 letters can be displayed when scrolling. Some letters are not serviceable.)

Text Scroll

Press [SCROLL].

When the display is set to show disc/track title, this re-scroll the text.

CD Player (continued)

CQ-DF203U

Scan Play

Press and hold **[SCAN]** for more than 2 seconds. The first 10 seconds of each track plays in sequence.



Press and hold **[SCAN]** again for more than 2 seconds to cancel.

Press and hold a track number button from [7] to

CQ-DFX683/DF583/DF203U

[12] for more than 2 seconds.

Repeat Play

Press [REPEAT]. REP lights.



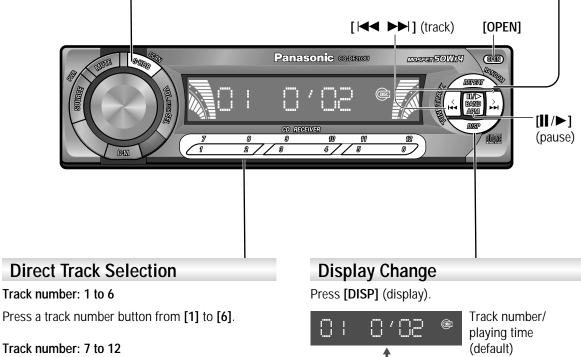
Press [REPEAT] again to cancel.

Random Play

Press and hold **[RANDOM]** for more than 2 seconds. **RAND** lights. All the available tracks play in a random sequence.

Press and hold **[RANDOM]** again for more than 2 seconds to cancel.

Clock display



Caution:

- Available discs:
 Disc size: 5" (12 cm) only
- MP3/WMA data recorded CD media (CD-ROM, CD-R, CD-RW)
- 3" (8 cm) CD is not available for this unit, so do not insert it absolutely.
- Before loading a disc, check to make sure that a disc is not already loaded.

MP3/WMA Player

- Refer to page 30 about notes on MP3/WMA.
- Refer to page 45 about notes on CD-Rs/RWs.

Listening to MP3/WMA

Open the front panel. Press [OPEN].

Insert the disc.

The display changes as shown below. Playback starts automatically.



Data reading.





Folder number File number

- Do not insert a disc when this indicator lights.
- Lights when the disc is loaded.

When CD is in the player Press [SOURCE] to change to MP3/WMA player mode.



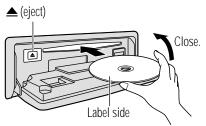
objects on it while it is open. use discs that have a seal or label attached. pinch your finger or hand in the front panel. insert foreign matter into the disc slot.

• use irregularly shaped discs.

• push the front panel down or place

• watch the scroll display while driving a

car. (page 29) CO-DFX683U CQ-DF583U



Close the front panel manually.

File Selection

[>>]: Next file.

• Do not

[I ◄]: Beginning of the current file. For the previous file, press twice.

Fast Forward/Fast Reverse

Press and hold. [▶▶] (▶▶): Fast forward. [↓◀] (◀◀): Fast reverse. Release to resume the regular play.

MP3/WMA Player (continued)

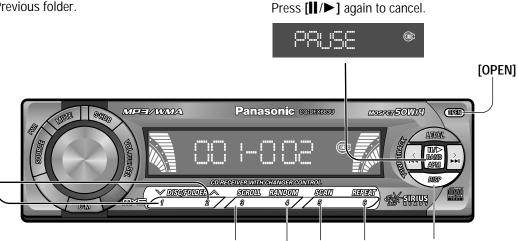
Note:

- The power will be turned on automatically when a disc is loaded.
- Be sure to close the front panel while MP3/WMA playback.
- The file/folder name can be displayed. (page 29)
- It may take some time to distinguish CD-DA and MP3/WMA before playback starts.
- If you record too many folders and files onto a disc, it may take some time before playback starts.

Folder Selection

["]: Next folder.

[#]: Previous folder.



Pause

Press [] /].

[SCROLL] [RANDOM] [SCAN] [REPEAT] [DISP] (display)

Repeat Play

Press [REPEAT]. REP lights

REP - Onv

Press [REPEAT] again to cancel.

Folder Repeat Play

Press and hold [REPEAT] for more than 2 seconds. REP blinks.

Repeat the current folder.



Press and hold [REPEAT] again for more than 2 seconds to cancel.

Random Play

Press [RANDOM]. RAND lights. All the available files on all folders play in a random sequence.



Press [RANDOM] again to cancel.

Folder Random Play

Press and hold [RANDOM] for more than 2 seconds. RAND blinks.

All the files on the current folder play in a random sequence.



Press and hold [RANDOM] again for more than 2 seconds to cancel.

Scan Play

Press [SCAN].

The first 10 seconds of each file on all folder plays in sequence.

Press [SCAN] again to cancel

Folder Scan Play

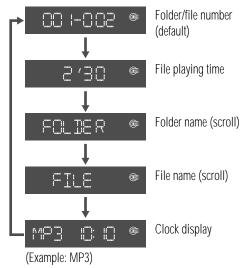
Press and hold [SCAN] for more than 2 seconds. From the next folder, the first 10 seconds of the first file on each folder plays in sequence.

-00

Press and hold [SCAN] again for more than 2 seconds to cancel

Display Change

Press [DISP] (display).



Note:

Displays when there is no NO NR<u>1E</u> file/folder name.

- The bit rate value changes when variable bit rate (VBR) data is played.
- When playing a Tree 1 file, the folder name is displayed with the word "ROOT" (root folder).
- Folder and file names can be displayed. Displayable character number varies with file systems.
- Characters that the player cannot display are shown as an asterisk.

Direct File Selection Example: file number 10 1 Press [#] FILE 2 Press [1] [0].

3 Press [BAND]. FILE _ n E N G

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Example: folder number 10

1 Press [#] twice. FI 11R 2 Press [1] [0]. 3 Press [BAND] FLDR Note:

- Press [DISP] (display) to return to the regular mode.
- Operation returns to the start of the disc when a folder with no MP3 or WMA format files is selected

O Text Scroll

Press [SCROLL].

When the display is set to show folder/file name and ID3/WMA tag, this re-scroll the text.

 $\circ \square \circ$ ID3/WMA Tag Setting

Press and hold [SCROLL] for more than 2 seconds.



When a folder name is displayed: TAG ON: The album title is displayed. TAG OFF: The folder name is displayed.

When a file name is displayed:

TAG ON: The title/artist name is displayed. TAG OFF: The file name is displayed.

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Notes on MP3/WMA

□ What is MP3/WMA?

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.)

Note:

- MP3/WMA encoding and writing software are not supplied with this unit.
- CD writing software is not supplied with this unit.

Points to remember when making MP3/WMA files

Common

- High bit rate and high sampling frequency are recommended for high quality sounds.
- Selecting VBR (Variable Bit Rate) is not recommended because plaving 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 user manual 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 playback.

Caution:

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

Display Information

■ Displayed items

- **CD-TEXT**
- Disc title • Track title

■ Displayable characters

• Displayable length of file name/folder name: within 128 characters

MP3/WMA

• Folder name

- 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.

ASCII character set

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

CQ-DFX683/DF583/DF203U

S	pec	;ial	l Cľ	nar	ac	te	ſS				
À	Á	Â	Ã	Å	à	á	â	ã	å	Ä	ä
Ò	Ó	Ô	Õ	Ö	Ò	Ó	Ó) () (ö	
È	Ú	Û	Ü	ù	ú	Û	ü				

WMA (WMA tag)

Album title

Note:

- 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.

□ Recording MP3/WMA files on a CD-media

- You are recommended to minimize the chances of making a disc that contains both CD-DA files and MP3/WMA files.
- If CD-DA files are on the same disc as MP3 or WMA files, the songs may not play in the intended order, or some songs may not play at all.
- When storing MP3 data and WMA data on the same disc, use different folders for each data.
- Do not record files other than MP3/WMA files and unnecessary folder on a disc.
- The name of MP3/WMA file should be added by rules as shown in the following descriptions and also comply with the rules of each file system.

- You may encounter trouble in playing MP3/WMA files or displaying the information of MP3/WMA files recorded with certain writing software or CD recorders.
- The file extension ".mp3" or ".wma" should be assigned to each file depending on the file format.
- This unit does not have the play list function.
- Although Multi-session recording is supported, the use of Disc-at-Once is recommended.

Supported file systems

ISO 9660 Level 1/Level 2, Apple Extension to ISO 9660, Joliet, Romeo

Note:

• Apple HFS, UDF 1.50, Mix CD (CD Extra) is not supported.

1 1		5	1 1 5 /
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
Windows Medio Audio Ver. 2, Ver. 8	64 k-192 kbps	No	32, 44.1, 48 kHz

Compression formats (Recommend: "Points to remember when making MP3/WMA files" on the previous page)

□ Folder selection order/file playback order (example)

esigned for

Windows Media™

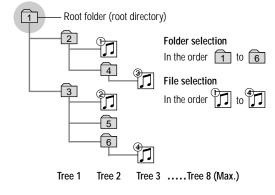
Note:

- This unit counts the number of folders irrespective of the presence or absence of MP3/WMA file.
- If the selected folder does not contain any MP3/WMA files, the nearest MP3/WMA files in the order of playback will be played.
- Playback order may be different from other MP3/WMA players even if the same disc is used.
- "ROOT" appears when displaying the root folder name.

Maximum number of files/folders:

- Maximum number of files/folders: 999 (files+folders)
- Maximum number of files in one folder: 255
- Maximum depth of trees: 8
- Maximum number of folders: 255 (Root folder is included.)

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



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 December 2002. It has no warranty for reproducibility and displayability of MP3/WMA

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• File name • Title name

Album title Artist name

 Artist name • Title name

. . .

MP3 (ID3 tag)

CD Changer Control

E N G

S H

18

CD changer functions are designed for optional Panasonic CD changer unit.

Preparation:

mode

Note:

- Connect the CD changer, and load a magazine (CDs).
- Note:
- The power will be turned on automatically when a magazine is loaded.

Press [SOURCE] to change to CD changer

CD Changer Mode

magazine is in the changer.)

Playback starts automatically.

• Load a magazine with CDs.

- The following functions are not supported during playback through the CD changer:
- · CD-ROM, CD-RW playback
- CD text display
- MP3/WMA playback.
- Pause
- In principle, CD-R disc play is supported but it does not follow that it will be possible to play all such discs properly.

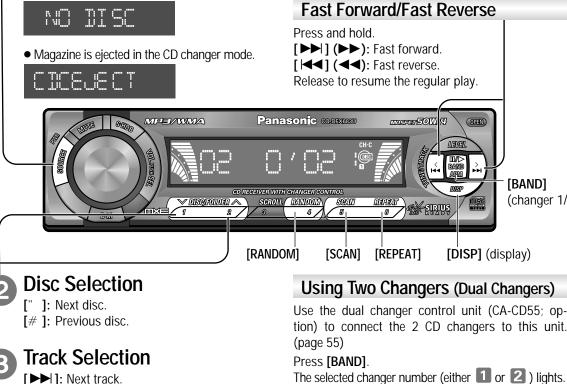
CD changer mode display

Lights when the changer is connected. (When a CD changer is connected and a



Changer 1 (This lights only when the dual changer con-

trol unit is connected.)



Note:

• For details on the Sirius receiver connections, refer to the separate operating guide for Sirius.

Repeat Play

Press [REPEAT]. REP lights. Repeat the current track

CQ-DFX683U CQ-DF583U



Press [REPEAT] again to cancel.

Disc Repeat Play

Press and hold [REPEAT] for more than 2 seconds. REP blinks. Repeat the current disc.

REP ON

Press and hold [REPEAT] again for more than 2 seconds to cancel.

Random Play

Press [RANDOM]. RAND lights. All the available tracks on all discs in the magazine play in a random sequence.

Press [RANDOM] again to cancel.

Disc Random Play

Press and hold [RANDOM] for more than 2 seconds. RAND blinks.

All the available tracks on the current disc play in a random sequence.



Press and hold [RANDOM] again for more than 2 seconds to cancel

Scan Play

Press [SCAN].

The first 10 seconds of each track on all discs plays in sequence.



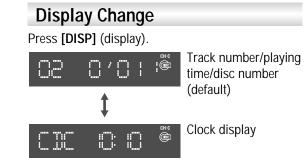
Press [SCAN] again to cancel

Disc Scan Play

Press and hold [SCAN] for more than 2 seconds. From the next disc, the first 10 seconds of the first track of all the discs plays in sequence.



Press and hold [SCAN] for more than 2 seconds again to cancel.



Direct Disc Selection

Example: disc number 10





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Note:

• Press [DISP] (display) to return to the regular mode.

[**I**]: Beginning of the current track.

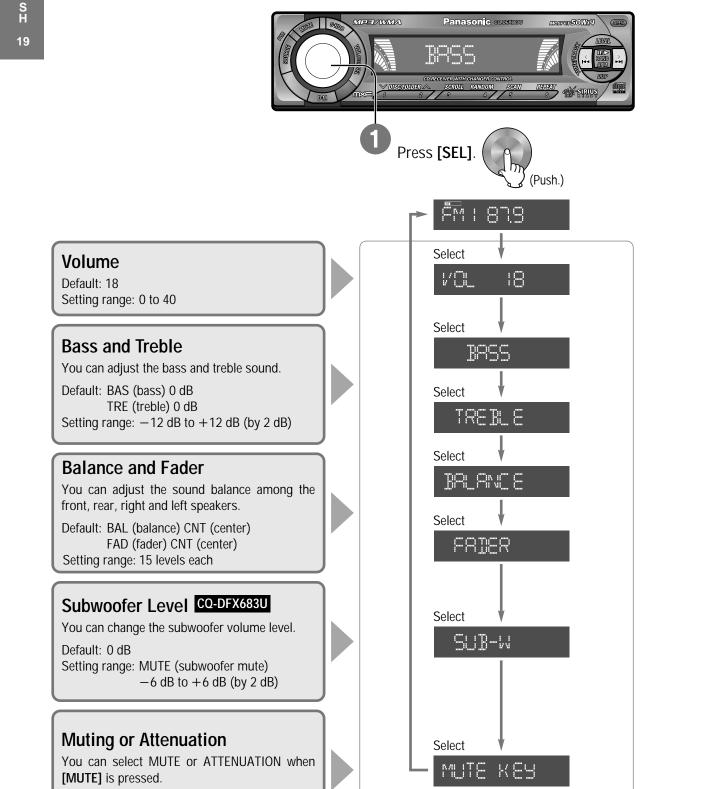
For the previous track, press twice.

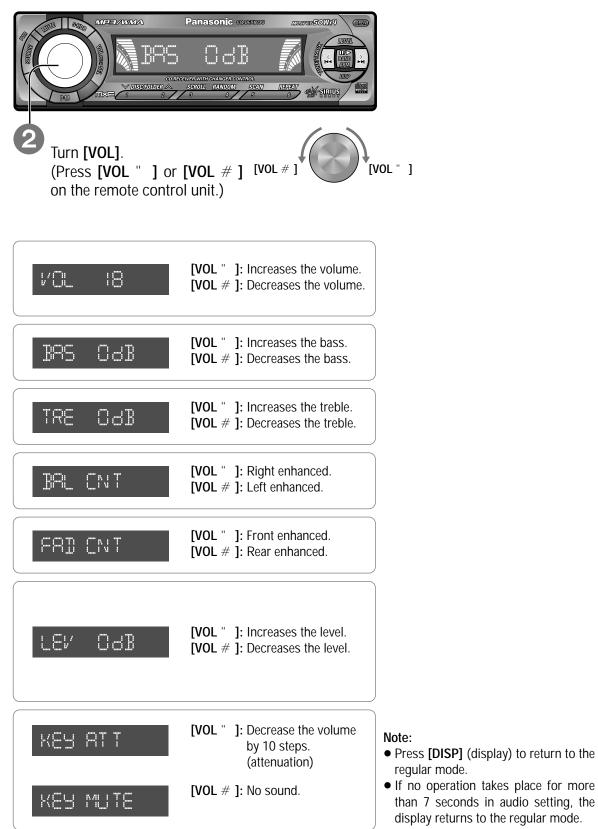
(changer 1/2)

Use the dual changer control unit (CA-CD55; option) to connect the 2 CD changers to this unit.

The selected changer number (either 1 or 2) lights.

Audio Settings

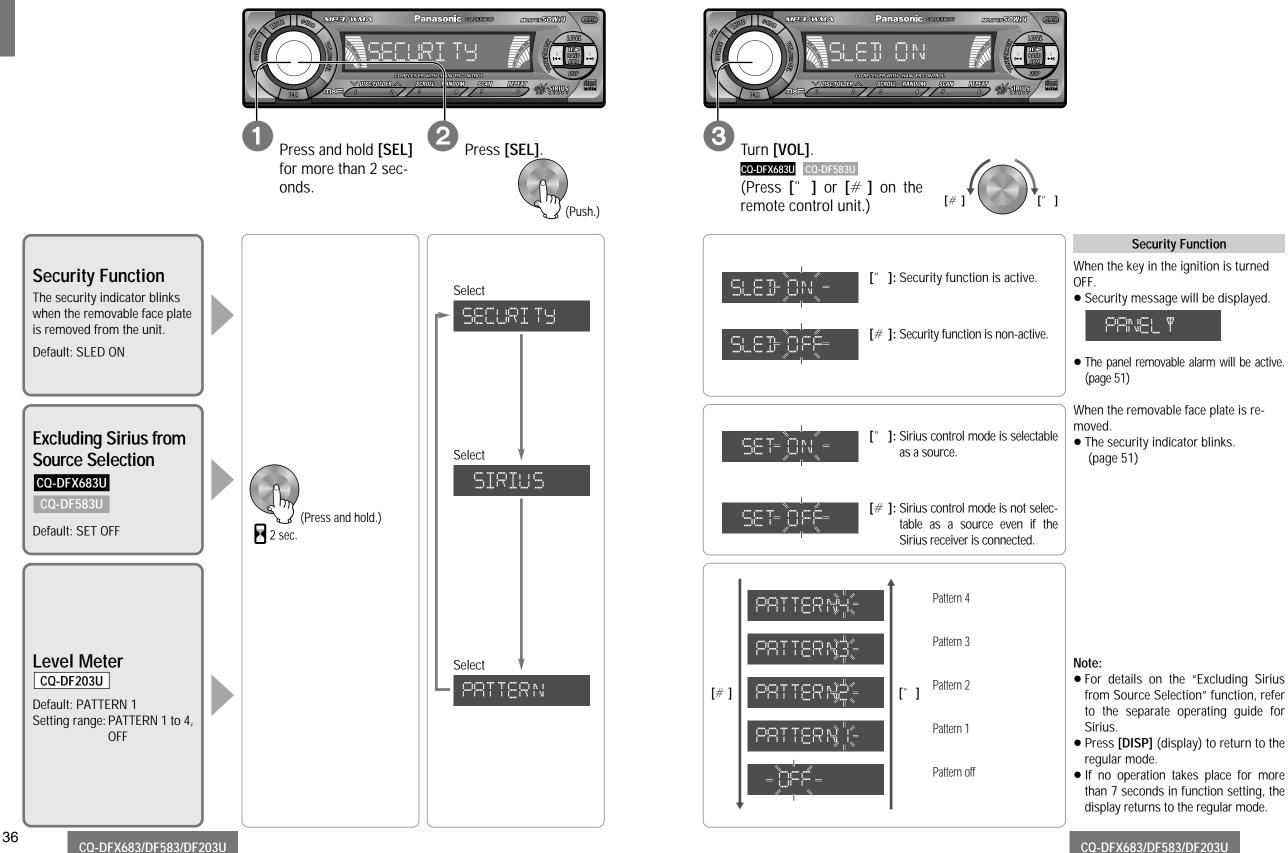




Default: MUTE

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Function Settings



Troubleshooting

Preliminary Steps

Check and take steps as described in the tables below.

If You Suspect Something Wrong

Immediately switch the power off.

Disconnect the power connector and check that there is neither smoke nor heat from the unit before asking for repairs. Never try to repair the unit yourself because it is dangerous to do so.

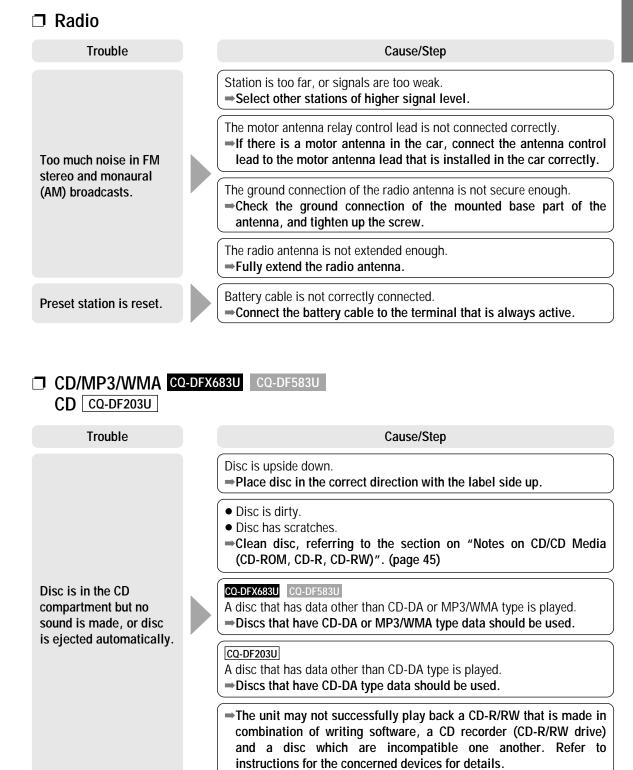
Troubleshooting Tips

Common

Trouble		Cause/Step	
No power.		Car's engine switch is not on. ➡Turn your car's ignition switch to ACC or ON.	
		Cables are not correctly connected. Connect cables correctly. Connect the battery cable to the terminal that is always active. Connect the accessory cable to your car's ACC source. Connect the grounding wire to a metal part of the car.	
		 Fuse is burnt out. Call the store where you purchased the unit, or your nearest Servicenter (see the attached sheet) and ask for fuse replacement. 	
No sound.		Mute is set to ON. Set it to OFF.	
		Cables are not correctly connected. Connect cables correctly.	
		Condensation (dew). Wait for a while before use.	
		A mobile phone is used near the unit. Keep the mobile phone away from the unit.	
Noise.		The unit's grounding wire is not connected securely. →Check the metal areas of the car body (chassis), and connect the grounding wire more securely.	
Audio sound is output but the display shows demonstration message.		Demonstration mode is ON. Press [DISP] (display) to cancel demonstration mode.	

Caution:

- Do not use the unit if it malfunctions or is something wrong.
- Do not use the unit in abnormal condition, for example, without sound, or with smoke or foul smell, which can cause ignition or electric shock. Immediately stop using it and call the store where you purchased it.



CQ-DFX683/DF583/DF203U

Troubleshooting (continued)

ENGL-SH 26

CD/MP3/WMA CO-DFX683U CQ-DF583U (continued)

CD CQ-DF203U (continued)

Trouble		Cause/Step
Sound skips, bad sound quality. (e.g. caused by noise)		 Disc is dirty. Disc has scratches. Clean disc, referring to the section on "Notes on CD/CD Media (CD-ROM, CD-R, CD-RW)". (page 45)
		The unit may not successfully play back a CD-R/RW that is made in combination of writing software, a CD recorder (CD-R/RW drive) and a disc which are incompatible one another. Refer to instructions for the concerned devices for details.
Cound ching due to		Mounting angle is over 30°. Adjust mounting angle to less than 30°.
Sound skips due to vibration.		Instable mounting. ➡Mount the unit securely with the mounting parts, referring to the section on installation.
Disc is not ejected.		 Disc is defective. Mechanical trouble. Press [OPEN] to open the panel and press [▲] (eject). If normal operation is not restored, call the store where you purchased the unit or the nearest Servicenter to ask for repairs.
CO-DFX683U CO-DF583U CD text is not displayed normally.		 Disc is dirty. Disc has scratches. Clean disc, referring to the section on "Notes on CD/CD Media (CD-ROM, CD-R, CD-RW)". (page 45)
Time is counted but no sound comes out.		CO-DFX633U CO-DF583U An attempt has been made to play a mixed disc. In the case of mixed discs, MP3 files may be played with their sound muted.
Sound Comes Out.		CO-DF203U An attempt has been made to play a regular CD-ROM disc. →Insert a CD-DA disc.

D MP3/WMA CO-DF	X683U	CQ-DF583U
Trouble		Cause/Step
No playback.		 The disc does not conform to any of the file systems supported by this player. ➡Insert a disc that conforms to the file systems (ISO 9660 Level 1, Level 2, Joliet, Romeo or Apple Extension to ISO 9660).
		The MP3 file is missing the ".mp3" file name extension. Make sure to add the ".mp3" extension to each MP3 file name.
		The WMA file is missing the ".wma" file name extension. Make sure to add the ".wma" extension to each WMA file name.
It takes too long for playback to start.		 The folders and files recorded on the disc are layered too much. ⇒As checking of files takes longer in this case, do not record any unnecessary folders or files other than MP3/WMA on the disc.
Poor recording quality, sound skipping.		The recording quality differs depending on the encoding software used, and on settings such as the bit rate. Set the bit rate within the range specified in the specifications chart (page 57). It is recommended to set the bit rate to "128 kbps or more" and "Fixed".
		High-speed writing was executed when MP3/WMA data was recorded on the disc. Decrease writing speed as low as possible.
Files are not played in the desired order.		Files or folders are not recorded in the desired playback order. ⇒Some writing software lets you specify the recording order by adding a prefix in the range of "01"-"99", etc. to the file name. For details refer to the user manual of your writing software.
Folder/file name is not		 The disc does not conform to the file systems supported by this player. ➡Insert a disc that conforms to the file systems (ISO 9660 Level 1, Level 2, Joliet, Romeo or Apple Extension to ISO 9660).
displayed correctly.		➡There may be a problem with your writing software or CD recorder (CD-R/RW drive). For details refer to the user manual of your writing software.
File playing time is not		You ran the file in fast forward or fast reverse during playback or turned off the ignition switch of the car during playback. →Playing another file will return the file playing time to normal.
displayed correctly.		You played a VBR (Variable Bit Rate) format file.

→The file playing time of VBR (Variable Bit Rate) format file is sometimes displayed incorrectly.

Troubleshooting (continued)

□ Sound Setting

Buttons are invalid for

operation.

one side.

Wrong the battery.

⇒Check the battery.

The battery has run down.

Remote control unit is in the wrong direction.

→Direct the remote control unit at sensor on the front panel.

⇒Replace the battery.

Error Display Messages CD/MP3/WMA CO-DFX683U CO-DF583U CD CQ-DF203U Display Cause/Step -6 |-CD • Disc is dirty, or is upside down. ⇒Check the disc. CD EJECT -83-CD Disc has scratches. ➡Check the disc. CD EJECT -63-CD No operation by some cause. ⇒If normal operation is not restored, call the store where you purchased the unit or the nearest Servicenter to ask for repairs. CĎ EJECT ■MP3/WMA The player for some reason cannot read the file you are trying to play. (File recorded in an unsupported file system, compression scheme, data Ж format, file name extension, damaged data, etc.) -84-CD ⇒Select a file that the player can read. Confirm the type of data recorded on the disc. Create a new disc if necessary. ■WMA An attempt has been made to play a copy-protected WMA file. ⇒Play WMA files which are not copy-protected. -85- \square No disc is in the player. NO DISC ⇒Insert discs in the player. * If all the files cannot be played, E4 or E5 remains on the display.

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Troubleshooting (continued)

Maintenance

CD Changer CO-DFX683U CO-DF583U

Display	Cause/Step
CDC -8 I-	 Disc is dirty, or is upside down. A disc other than a music CD (CD-DA type) is loaded. Check the disc. (The changer automatically switches to the next disc.)
CDC -83-	Disc has scratches. Check the disc. (The changer automatically switches to the next disc.)
CDC -83-	No operation by some cause. →If normal operation is not restored, call the store where you purchased the unit or the nearest Servicenter to ask for repairs. The display continues if you cannot switch off the power.
NO DISC	No disc is in the changer (magazine). Insert discs into the changer (magazine).
CC CC / CC C	The dual changer control unit is connected, and the connections are nov being checked. The connections are now being checked so please wait a few moments.
	 The dual changer control unit is connected but the changers are no connected. The changer has become disconnected from the main unit in the changer mode. Verify that correct connections have been made.

Note:

• For details, refer to operating instructions for the changer used.

Maintenance

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

Product Servicing

If the suggestions in the charts do not solve the problem, we recommend that you take it to your nearest authorized Panasonic Servicenter. The product should be serviced only by a qualified technician.

Replacing the Fuse

Use fuses of the same specified rating (15 A). Using different substitutes or fuses with higher ratings, or connecting the unit directly without a fuse, could cause fire or damage to the unit. If the replacement fuse fails, contact your nearest Panasonic Servicenter for service.

Notes on CD-Rs/RWs

- You may have trouble playing back some CD-R/RW discs recorded on 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 CDs. Leaving them inside a car for extended periods may damage them and make playback impossible.
- The unit may not successfully play back 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 one another.
- This player cannot play the CD-R/RW discs if the session is not closed.
- This player cannot play the CD-R/RW discs which contains other than CD-DA (or MP3/WMA data CO-DFX683U CO-DF583U).
- Be sure to observe the instructions of CD-R/RW disc for handling it.

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

If you use commercial CDs, they must have either of these labels below.

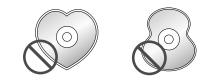


How to hold the disc

- Do not touch the underside of the disc.
- Do not scratch the discs.
- Do not bend the disc.
- When not in use, keep the disc in the case.



Do not use irregularly shaped discs.



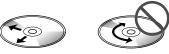
Do not leave discs on the following places:

- Direct sunlight
- Near car heaters
- Dirty, dusty and damp areas
- Seats and dashboards

Disc cleaning

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

<Right> <Wrong>



Do not attach any seals or labels to your discs.

Do not write on the disc label in a heavy pen or ballpoint pen stroke.

Installation Guide

This installation information is designed for experienced installers and is not intended for non-technical individuals. It does not contain warnings or cautions of potential dangers involved in attempting to install this product.

Installation Hardware

No.	Item	Diagram	Q′ty
1	Mounting collar		1
2	Hex. nut (5 mm ϕ)	B	1
3	Rear support strap	and a state of the	1
4	Tapping screw (5 mm $\phi imes$ 16 mm)	Million	1
5	Mounting bolt (5 mm ϕ)	STATE OF STATE	1
6	Power connector		1
7	Removable face plate case		1
8	Trim plate		1
9	Lock cancel plate	\bigcirc	2

□ Overview

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This product should be installed by a professional. However, if you plan to install this product yourself, your first step is to decide where to install it. The instructions in these pages will guide you through the remaining steps:

(Please refer to the "WARNING" statement above.)

- Identify and label the car wires.
- Connect the car wires to the wires of the power connector.

Any attempt to install this product in a motor car by anyone other than qualified installer could cause damage to the electrical system and could result in serious personal injury or death.

- Install the unit in the dashboard.
- Check the operation of the unit.

If you encounter problems, please consult your nearest professional installer.

Caution:

• This unit operates with a 12 V DC negative ground auto battery system only. Do not attempt to use it in any other system. Doing so could cause serious damage.

Before you begin installation, look for the items which are packed with your unit.

- Warranty Card...Fill this out promptly.
- Panasonic Servicenter List for Service Directory ...Keep for future reference in case the product needs servicing.
- Installation Hardware...Needed for in-dash installation.

Required Tools

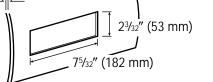
You'll need a screwdriver, a 1.5 V AA battery, and the following:





Dashboard Specifications

Thickness Min. ³/16" (4.75 mm) Max. ⁷/32" (5.56 mm)



□ Identify All Leads

The first step in installation is to identify all the car wires you'll use when hooking up your sound system.

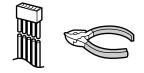
As you identify each wire, we suggest that you label it using masking tape and a permanent marker. This will help avoid confusion when making connections later.

Note:

• Do not connect the power connector to the stereo unit until you have made all connections. If there are no plastic caps on the stereo hooking wires, insulate all exposed leads with electrical tape until you are ready to use them. Identify the leads in the following order.

Power Lead

If your car has a radio or is pre-wired for one: Cut the connector wires one at a time from the plug (leaving the leads as long as possible) so that you can work with individual leads.



Turn the ignition on to the accessory position, and ground one lead of the test bulb to the chassis.

Touch the other lead of the test bulb to each of the exposed wires from the cut radio connector plug. Touch one wire at a time until you find the outlet that causes the test bulb to light.

Now turn the ignition off and then on. If the bulb also turns off and on, that outlet is the car power lead.

If your car is not wired for an audio unit:

Go to the fuse block and find the fuse port for radio (RADIO), accessory (ACC), or ignition (IGN).

Battery Lead

If your stereo unit has a yellow lead, you will need to locate the car's battery lead. Otherwise you may ignore this procedure. (The yellow battery lead provides continuous power to maintain a clock, memory storage, or other function.)

If your car has a radio or is pre-wired for one: With the ignition and headlights off, identify the car battery lead by grounding one lead of the test bulb to the chassis and checking the remaining exposed wires from the cut radio connector plug. If your car is not wired for an audio unit: Go to the fuse block and find the fuse port for the battery, usually marked BAT.

Speakers

Identify the car speaker leads. There are two leads for each speaker which are usually color coded. A handy way to identify the speaker leads and the speaker they are connected with is to test the leads using a 1.5 V AA battery as follows.

Hold one lead against one pole of the battery and stroke the other lead across the other pole. You will hear a scraping sound in one of the speakers if you are holding a speaker lead.

If not, keep testing different lead combinations until you have located all the speaker leads. When you label them, include the speaker location for each.

Antenna Motor

If your car is equipped with an automatic power antenna, identify the car motor antenna lead by connecting one bulb tester lead to the car battery lead and touching the remaining exposed wires from the cut radio connector plug one at a time. You will hear the antenna motor activate when you touch the correct wire.

Antenna

The antenna lead is a thick, black wire with a metal plug at the end.

Connect All Leads

Now that you have identified all the wires in the car, you are ready to begin connecting them to the stereo unit wires. The wiring diagram (page 52) shows the proper connections and color coding of the leads.

We strongly recommend that you test the unit before making a final installation.

You can set the unit on the floor and make temporary connections to test the unit. Use electrical tape to cover all exposed wires.

Important:

• Connect the red power lead last, after you have made and insulated all other connections.

Ground

Connect the black ground lead of the power connector to the metal car chassis.

Installation Guide (continued)

Speakers

Connect the speaker wires. See the wiring diagram (page 52) for the proper hookups. Follow the diagram carefully to avoid damaging the speakers and the stereo unit.

The speakers used must be able to handle more than 50 W of audio power. If using an optional audio amplifier, the speakers should be able to handle the maximum amplifier output power. Speakers with low input ratings can be damaged. Speaker impedance should measure 4–8 Ω , which is typically marked on most speakers. Lower or higher impedance speakers will affect output and can cause both speaker and stereo unit damage.

Motor Antenna

Connect the car motor antenna lead to the dark blue motor antenna relay control lead.

(Do not confuse the antenna lead with blue/white stripe lead for a power amplifier.)

Battery

Connect the yellow battery lead to the correct radio wire or to the battery fuse port on the fuse block.

Antenna

Connect the antenna by plugging the antenna lead into the antenna receptacle.

Equipment

Connect any optional equipment such as an amplifier, according to the instructions furnished with the equipment. Leave about 12" (30 cm) of distance between the speaker leads/amplifier unit and the antenna/antenna extension cord. Read the operating and installation instructions of any equipment you will connect to this unit.

Power

Connect the red power lead to the correct car radio wire or to the appropriate fuse port on the fuse block.

If the stereo unit functions properly with all these connections made, disconnect the wires and proceed to the final installation.

Final Installation Lead Connections

Connect all wires, making sure that each connection is insulated and secure. Bundle all loose wires and fasten them with tape so they will not fall down later. Now insert the stereo unit into the mounting collar.

Congratulations! After making a few final checks, you're ready to enjoy your new auto stereo system.

CQ-DFX683/DF583/DF203U

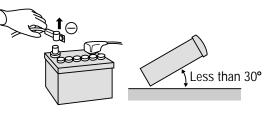
□ Final Checks

- 1. Make sure that all wires are properly connected and insulated.
- 2. Make sure that the stereo unit is securely held in the mounting collar.
- 3. Turn on the ignition to check the unit for proper operation.

If you have difficulties, consult your nearest authorized professional installer for assistance.

Preparation

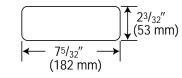
- We strongly recommend that you wear gloves for installation work to protect yourself from injuries.
- When bending the mounting tabs of the mounting collar with a screwdriver, be careful not to injure your hands and fingers.
- Disconnect the cable from the negative \bigcirc battery terminal (see caution below).
- Unit should be installed in a horizontal position with the front end up at a convenient angle, but not more than 30°.



Caution:

• Do not disconnect the battery terminals of a car with a trip or navigational computer since all user settings stored in memory will be lost. Instead take extra care with installing the unit to prevent shorts.

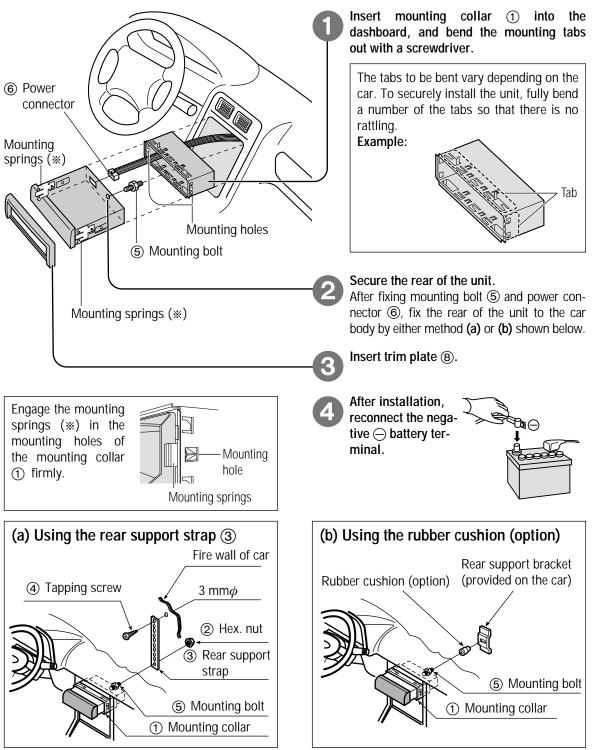
Dashboard Installation Installation Opening



This unit can be installed in any dashboard having an opening as shown above. The dashboard should be $\frac{3}{16''}$ (4.75 mm) $-\frac{7}{32''}$ (5.56 mm) thick in order to be able to support the unit.

□ Installation Procedures

First complete the electrical connections, and then check them for correctness. (page 52)



The included mounting collar ① is designed specifically for this unit. Do not use it to attach any other model.

Installation Guide (continued)

Switch off the power of the unit.

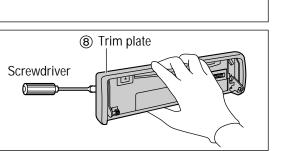
Remove the removable face plate.Press [OPEN]. The removable face plate will be opened.



2 Push the face plate to the left.

Oull it out toward you.

Remove the trim plate (8) with a screwdriver.



1 Insert

end in the

Insert the tab

outer groove.

Contact

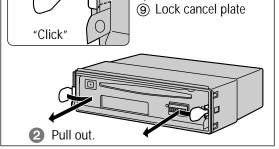
Push.

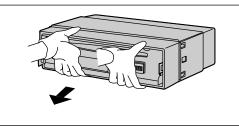
3 Pull

out.

- 3 Insert the lock cancel plates (a) along the grooves on both sides of the main unit until "click" is heard.
 - 2 Pull out the unit while pushing the plates further inside.

Remove the unit by pulling with both hands.





Anti-Theft System

This unit is equipped with a removable face plate. Removing this face plate makes the radio totally inoperable. The security indicator will blink.

Place the Removable Face Plate into Case

- 1 Switch off the power of the unit.
- 2 Remove the removable face plate. (page 50)
- 3 Gently press the bottom of the case and open the cover. Place the face plate into the case and take it with you when you leave the car.

Install Removable Face Plate

- Fit the face plate with its left hole on one of the pins provided on the main unit.
- 2 Fit the other hole on the other pin applying slight pressure.
- 3 Move the face plate up and down a few times to make sure it is secure. Then close the front panel and press down the right side of the face plate until it clicks into plate.

Security Indicator

The security indicator blinks when the removable face plate is removed from the unit.

This function is activated when the security function is on. (page 36)

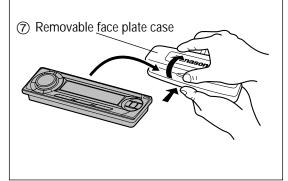
Panel Removal Alarm

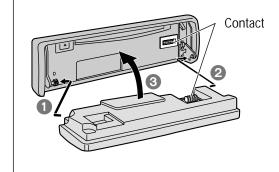
This alarm sounds to warn you not to forget to remove the panel before leaving your car.

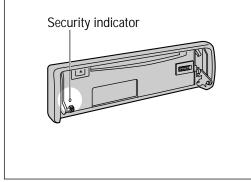
This function is activated when the security function is on. (page 36)

Caution:

- This face plate is not waterproof. Do not expose it to water or excessive moisture.
- Do not remove the face plate while driving your car.
- Do not place the face plate on the dashboard or nearby areas where the temperature rises to high level.



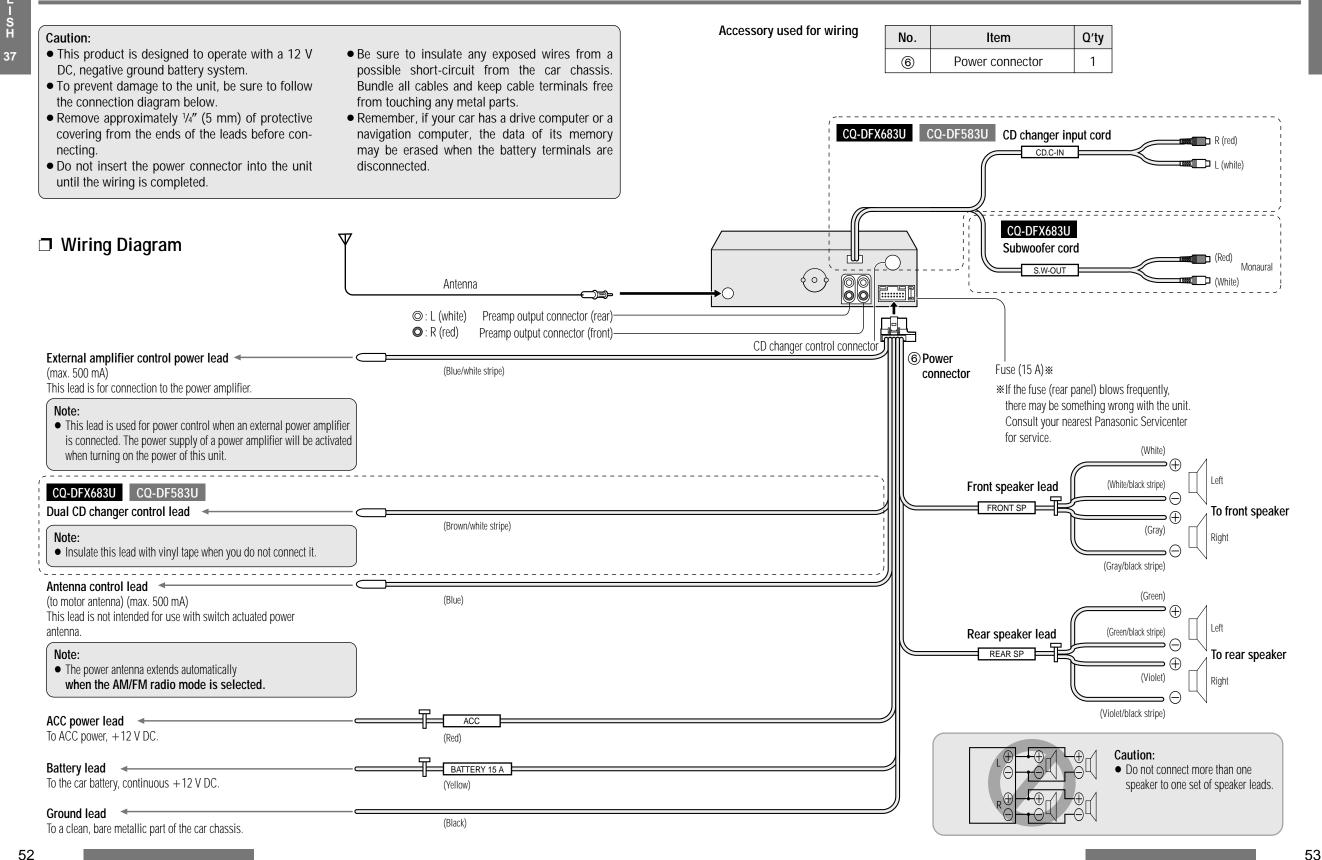




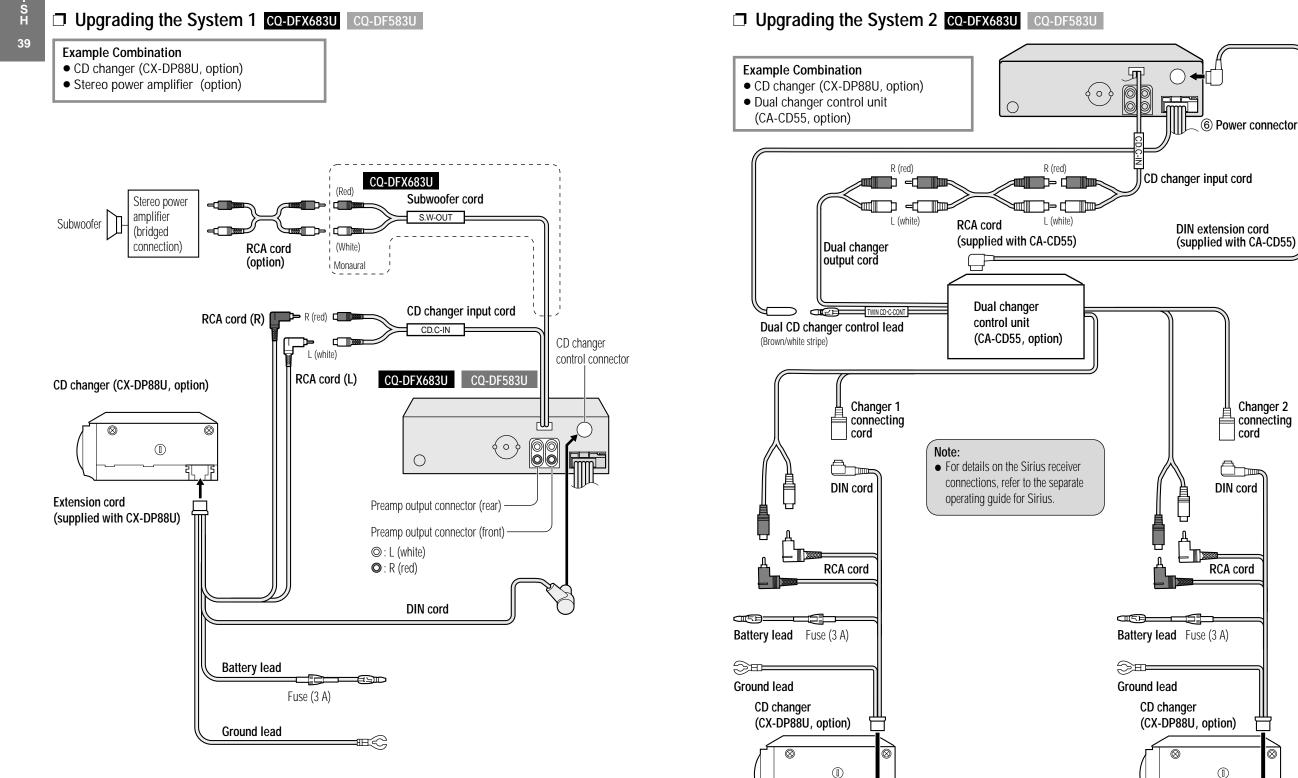
- Do not touch the contacts on the face plate or on the main unit, since this may result in poor electrical contacts.
- If dirt or other foreign substances get on the contacts, wipe them off with a clean and dry cloth.
- To avoid damaging the front panel, do not push it down or place objects on it while it is open.

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Electrical Connections



Electrical Connections (continued)



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Changer 2

connecting

cord

DIN cord

Specifications

🗖 General

Power supply: 12 V DC (11 V-16 V), test voltage 14.4 V, negative ground Current consumption: Less than 2.2 A (CD play mode; $0.5 \text{ W} \times 4 \text{ channels}$ 50 W \times 4 channels at Maximum power output: 1 kHz, volume control maximum Tone adjustment range: Bass: ±12 dB at 100 Hz Treble: ±12 dB at 10 kHz Speaker impedance: 4-8 **Ω** Preamp output voltage: 2.5 V (CD play mode; 1 kHz, 0 dB) Preamp output impedance: 200 Ω

CQ-DFX683U

Weight:

Subwoofer output voltage: Subwoofer output	
impedance:	200 Ω
Dimensions ($W \times H \times D$):	$7'' \times 1^{15/_{16}}'' \times 6^{1/_8}''$ (178×50×155 mm)

□ FM Stereo Radio

Frequency range: 87.9 MHz-107.9 MHz Usable sensitivity: 11.0 dBf. (1.25 μV, 75 Ω) 50 dB quieting sensitivity: 15.2 dBf. (1.6 μ V, 75 Ω) Frequency response: $30 \text{ Hz} - 15 \text{ kHz} (\pm 3 \text{ dB})$ Alternate channel selectivity: 75 dB Stereo separation: 35 dB (1 kHz) Image response ratio: 75 dB IF response ratio: 100 dB Signal to noise ratio: 70 dB

□ AM Radio

Frequency range:

Usable sensitivity:

530 kHz—1 710 kHz 29 dB/μV (25 μV, S/N 20 dB)

CD Player

```
Sampling frequency:
                            8 times oversampling
DA converter:
                            1 bit/4 DAC system
                            Astigma 3-beam
Pick-up type:
Light source:
                            Semiconductor laser
Wave length:
                            780 nm
Frequency response:
                            20 \text{ Hz} - 20 \text{ kHz} (\pm 1 \text{ dB})
Signal to noise ratio:
                            96 dB
Total harmonic distortion: 0.01 % (1 kHz)
                            Below measurable limits
Wow and flutter:
                            75 dB
Channel separation:
```

CQ-DFX683U CQ-DF583U

MP3 decoding:	MPEG 1 audio layer 3/
	MPEG 2 audio layer 3
Bit rate:	
MPEG 1 audio layer 3:	32 kbps-320 kbps,
	VBR (Variable Bit Rate)
MPEG 2 audio layer 3:	8 kbps-160 kbps, VBR
	(Variable Bit Rate)
Sampling frequency:	
MPEG 1 audio layer 3:	32 kHz, 44.1 kHz,
	48 kHz
MPEG 2 audio layer 3:	16 kHz, 22.05 kHz,
	24 kHz

WMA:

Bit rate: 64 kbps-192 kbps Sampling frequency: 32 kHz, 44.1 kHz, 48 kHz ENGL SH 42

Above specifications comply with EIA standards.

Note:

• Specifications and the design are subject to modification without notice due to improvements in technology.

3 lbs. 1 oz (1.4 kg)