clarion®

Owner's manual & Installation manual
Mode d'emploi et manuel d'installation
Manual de usuario y Manual de instalación

CMS20

MARINE DIGITAL MEDIA BLACK BOX WITH WATERTIGHT CONTROLLER

BOÎTE NOIRE MARINE MULTIMÉDIA NUMÉRIQUE AVEC CONTRÔLEUR ÉTANCHE

CAJA NEGRA DIGITAL MARINA CON CONTROLADOR HERMÉTICO

CLARION PRODUCT REGISTRATION INFORMATION

For USA and Canada only
www.clarion.com

Dear Customer,

Congratulations on your purchase of a Clarion mobile electronic product. We are confident that you'll enjoy your Clarion experience.

There are many bene ts to registering your product. We invite you to visit our website at **www.clarion.com** to register your Clarion product.

We have made the product registration process simple with our easy to use website. The registration form is short and easy to complete. Once you're registered, we can keep you posted on important product information.

Register at **www.clarion.com** - it's easy to keep your Clarion product up to date.

Please periodically check the Clarion website for software updates and improvements for your Clarion product. These updates can be found under the "Get Support" tab, then "Software Update / Download".

Contents

Thank you for purchasing this **Clarion** product.
• Please fully read this owner's manual before operating this equipment.
• Check the contents of the enclosed warranty card and store it in a safe place with this manual.

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Precautions

⚠ WARNING
For your safety, the driver should not operate the unit while driving. Also, while driving, keep the volume to a level at which external sounds, such as sirens and voices can be heard.

1. When the interior of the boat is extremely cold and the player is used soon after switching on the heater, moisture may form on the internal circuitry of the player and proper playback may not be possible. If moisture forms inside of the player, do not use the player for about one hour. The condensation will disappear naturally allowing normal operation.

2. This unit uses precision parts and components for its operation. In the event of any operating issues, never open the case, disassemble the unit, or lubricate the rotating parts. Contact your Clarion dealer or service center.

3. FCC STATEMENT
   1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
   (1) This device may not cause harmful interference.
   (2) This device must accept any interference received, including interference that may cause undesired operation.
   2. Changes or modi cations not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
   NOTE:
   This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
   This equipment uses and can radiate radio frequencies, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
   • Reorient or relocate the receiving antenna.
   • Increase the separation between the equipment and receiver.
   • Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
   • Consult the dealer or an experienced radio/TV technician for help.
   FCC Radiation Exposure Statement
   This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the unit and your body

4. "Made for iPod", "Made for iPhone" and mean that an electronic accessory has been has been designed to connect speci cally to iPod, iPhone, respectively, and has been certified by the developer to meet Apple performance standards.
   Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards.
   Please note that the use of this accessory with iPod, iPhone may affect wireless performance.
   iPod, iPhone, and iTunes are trademarks of Apple Inc., registered in the U.S. and other countries.

Precautions

Supported iPod/iPhone devices:
iPhone 5S
iPhone 5C
iPhone 5
iPhone 4s
iPhone 4
iPhone 3GS
iPod Touch (5G)
iPod Touch (4G)
iPod Touch (3G)
iPod nano (7G)
iPod nano (6G)
Minimum iOS 5.0 or higher

5. The Bluetooth word mark and logos are registered trademarks owned by the Bluetooth SIG, Inc. and any use of such marks by Clarion Co., Ltd is under license. Other trademarks and trade names are those of their respective owners.

6. Sirius, XM and all related marks and logos are trademarks of Sirius XM Radio Inc. All rights reserved.

7. IC warning
   This device complies with Industry Canada licence-exempt RSS standard(s).
   Operation is subject to the following two conditions:
   (1) This device may not cause interference.
   (2) This device must accept any interference, including interference that may cause undesired operation of the device.
   Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

   - French:
   Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions

   suivantes :
   (1) l'appareil ne doit pas produire de brouillage, et
   (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement."

CE MODEL **CMS20** clarion	
12V (+) GROUND	USA: AM530-1710kHz, FM 87.9-107.9MHz EUROPE: AM531-1602kHz, FM87.5-108.0MHz AUSTRALIA: AM531-1620kHz, FM87.5-108.0MHz ASIA: AM531-1620kHz, FM87.5-108.0MHz

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interfe rence, and (2) This device must accept any interference received, including interference that may cause undesired operation.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Manufacture : Soundmax Electronics Limited
17/F EU YANG SANG TOWER,11-15CHATHAM ROAD ,T.S.KOWLOON,HONG KONG
Importer: Clarion Europe S.A.S.
244 rue du Pré à Varois, 54670 Custines, France

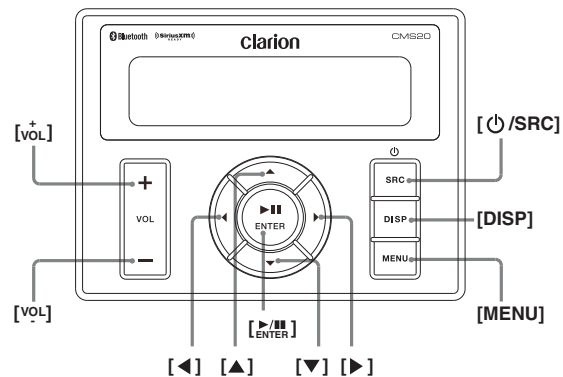| SERIAL NO.	FCC ID: 3AB7S-CMS20 IC : 11888A-CMS20 *CANICES-3(*)/NMB-3(*)*

MADE IN CHINA

INFORMATION FOR USERS:

Changes or modifications to this product not approved by the manufacturer will void the warranty and will violate FCC approval.
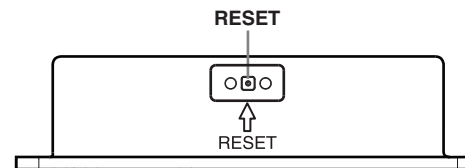
CMS20   3

## Operational Panel

◆ Display Controller

[VOL +]

[⏻ /SRC]

[DISP]

[MENU]

[VOL -]

[▶/‖ ENTER]

[◀] [▲] [▼] [▶]

◆ Black Box

RESET

RESET

Names of Buttons

[⏻ / SRC] Button
- Toggle the audio source.
- Power On/Off (Press and Hold).

[VOL +] [VOL –] Knob
- Press **VOL +** to increase the volume.
- Press **VOL –** to decrease the volume.

[MENU] Button
- Access menu items for necessary functions in every mode
- In differen modes, the menu items are different. Please see the operation introduction of every mode for more details.

[▶‖] Button
- Press to confirm operation.
- **Tuner -** Mute or Unmute the audio output
- **USB/iPod/Bluetooth -** Play / Pause
- **SiriusXM** – Instant Replay Mode. In Instant Replay mode, Long Press for Live mode.

[▶/‖ ENTER] Button
- **USB/iPod/Bluetooth -** Play / Pause
- **SiriusXM** – Instant Replay Mode. In Instant Replay mode, Long Press for Live mode.

[◀ / ▶] Buttons
- **Menu** – Press to page up or down.
- **Tuner** mode – SP Station Up/Down, LP Scan Up/Down.
- **SiriusXM** mode – SP Channel Up/Down, LP Rapid Channel Up/Down
   SiriusXM Instant Replay - Skip forward or skip backwards, hold to fast forward/rewind 5/10/30 seconds.
- **USB/iPod** – Press for next or previous track, Press and hold to fast forward or rewind.
- **BT** – Press for next or previous track, Press and hold to fast forward or rewind.

[▲ / ▼] Buttons
- **Menu** – Press to page up or down.
- **Tuner** mode – Advance to previous/ next stored station
- **SiriusXM** mode – Advance to previous/ next stored station
   – Press to browse up/down through list in menu
- **USB** – Press for next or previous folder, Press and hold to top/bottom folder.
- **BT/iPod** – Press to browse up/down through list in menu

[DISP] Button
- Adjust LCD backlight level, High or Low (LP)/Display information for digital sources (SP)

[RESET] Button
- Press RESET button with a ball point pin to:
   1. Perform a complete system resetl
   2. In the event that button do not respond or operate correctly.
   3. When an Error Code or Message is display

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Turning the Power On

Start the engine. The power is supplied to this unit.

Press **[⏻ SRC]** button on the panel to turn on the unit.

⏻ SRC ⇒ clarion
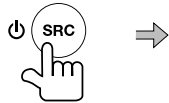
Selecting a Source

Press the **[⏻ SRC]** button to change the operation mode.

FM

⏻ SRC ⇒ SiriusXM

Sources are displayed in the following order: TUNER, SIRIUSXM, USB/IPOD, PANDORA, AUX IN, BT AUDIO.,

Display System Information

Press the **[DISP]** button on the front panel to switch the display information, System time and playing source.

Display OFF/ON

This feature will allow the user to turn the display OFF in the event the display is too bright in different lighting conditions.

To use this feature, please follow these steps:

1. To turn the display OFF, press and hold the **[DISP]** button and the display will turn OFF, but the audio from the current source will continue to play.

2. To turn the display ON, press any button and the display will turn back ON.

Volume Adjustment

Press **VOL +** / **VOL −** button on the front panel to increase / decrease the volume. The adjustable range of volume is 0 to 46.

+
VOL
− ⇒ VOLUME 22
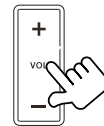
NOTE: While boating, keep the volume at a level at which external sounds can still be heard.

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Tuner Operations

Selecting Tuner Mode

Press **[⏻ SRC]** button to select the TUNER mode.

Manual Tune

During manual tuning, the frequency will be changed in steps according to selected region.
Press the **[◀]** or **[▶]** button to tune to a lower / higher station.

Seek Tune

Press and hold the **[◀]** or **[▶]** button to seek a lower / higher station.

Recalling a Stored Preset Station

A total of 10 preset positions (P1~P10) exits. to store individual radio stations in memory.
Press **[◀]** or **[▶]** button to select the desired preset station.

Saving a Preset Station

When deciding to save a ratio staton:
1. Press and hold **[▲ / ▼]** button which is
2. Press the **[▲ / ▼]** button to select a preset number.
3. Which is available, press the **[▶/❚❚ ENTER]** button to store in radios memory.

Auto Store

Only stations with sufficient signal strength will be detected and stored in the memory.
1. Press the **[MENU]** button into source menu
2. Press the **[▲ / ▼]** button until **"AUTO STORE"** is displayed.
3. Press the **[▶/❚❚ ENTER]** button to start automatically select nine strong stations and store them into nine presets. The new stations replace any stations already stored in the band.

LO/DX

When LOCAL seeking is ON, only those radio stations with strong radio signal could be received.
1. Press the **[MENU]** button into source menu
2. Press the **[▲ / ▼]** button until **"LO/DX"** is displayed.
3. Press the **[◀ / ▶]** button to select local **(LO)** or distant **(DX)** mode.

Area Set

This option allows you to select the appropriate frequency spacing for your area.
1. Press the **[MENU]** button into source menu
2. Press the **[▲ / ▼]** button until **"AREA U.S.A"** is displayed.
3. Press the **[◀ / ▶]** scroll through the Area options.

USB Operations

### Play/Pause a Track

1. Press the **[▶/❚❚ ENTER]** button to play or pause audio playback.

Selecting a Track

Track-up
1. Press the **[▶]** button to move to the beginning of the next track.
2. Each time the **[▶]** button is pressed, playback proceeds to another track in the advancing direction.

Track-down
1. Press the **[◀]** button to move to the beginning of the current track.
2. Each time the **[◀]** button is pressed, playback proceeds to previous track in the reverse direction.

Selecting a Folder

This function allows you to select a folder containing MP3/WMA files and start playing from the first track in the folder. Press the **[▲ / ▼]** button to select a folder.

Fast-forward/Fast-reverse

Fast-forward
Press and hold the **[▶]** button.
Fast-reverse
Press and hold the **[◀]** button.

NOTE:
USB devices containing a large amount of audio files can take several moments to begin the search and increase the delay between tracks. Additionally, some errors may occur during playback.

Connecting to your device

iPod/iPhone

Connect an iPod, iPhone or to the USB connector via accessory cable for iPod/iPhone.
When connecting a device, the unit will read the les automatically. The track information displays on the screen once playback starts.

Bluetooth Operations

BT Pairing
1. Turn on Bluetooth function of your mobile device.
2. Enter mobile device's Bluetooth setup menu.
3. Search for new Bluetooth devices.
4. Select **CMS20** from the pairing list on the mobile device.
5. After pairing successfully, "**BT CONNECTED**" will appear on the display.
6. Press **[SRC]** button to select "**BT**".

Play/Pause a Track
1. Press the **[►/❚❚ ENTER]** button to play or pause audio playback.

Selecting a Track
Track-up
1. Press the **[►]** button to move to the beginning of the next track.
2. Each time the **[►]** button is pressed, playback proceeds to another track in the advancing direction.

Track-down
1. Press the **[◄]** button to move to the beginning of the current track.
2. Each time the **[◄]** button is pressed, playback proceeds to previous track in the reverse direction.

Fast-forward/Fast-reverse
Fast-forward
Press and hold the **[►]** button.
Fast-reverse
Press and hold the **[◄]** button.

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SiriusXM Satellite Radio Operations

Displaying the Radio ID

Before you listen to satellite radio, you must subscribe to the service using the SiriusXM Radio ID number.

1. Press the **[/SRC]** button to enter SirusXM mode.
2. Press the **[◄]** or **[►]** buttons and select channel "0". The Unit displays the Radio ID.

NOTE:

1. The Radio ID is also located on the bottom of the SiriusXM Connect Vehicle Tuner.
2. Please note that the SiriusXM Radio ID does not include the letters I, O, S or F.
3. In the USA, to activate the SiriusXM Connect Vehicle Tuner go online to www.siriusxm.com/activatenow or call 1-866-635-2349.
4. In Canada, to activate the SiriusXM Connect Vehicle Tuner go online to www.siriusxm.ca/activatexm or call 1-877-438-9677.

Channel Tune

1. Press the **[◄]** button to advance to the next channel.
2. Press the **[►]** button to go to the previous channel.

Storing Channel Presets

1. Press and the **[▲/▼]** button to enter into the Manual Store.
2. Press the **[▲/▼]** button to select a preset number.
3. Press the **[►/ⅠⅠ ENTER]** button to strore current channel into preset.

Tuning To Channel Presets

1. Press and the **[▲/▼]** button to enter into the Preset List.
2. Press the **[▲/▼]** button to select the desired Preset you wish to access.
3. Press the **[►/ⅠⅠ ENTER]** button to confirm tune to that channel.

Parental Controls:

The SiriusXM Parental Control feature allows you to prevent unauthorized access to mature content channels. When enabled the Parental Control feature requires you to enter a passcode to tune to the locked mature content channels. Information on setting up the passcode, setting up the mature content channels to be locked, and the method to access the locked channels is described below.

Mature Channel

1. Press the **[MENU]** button to access the SiriusXM Menu
2. Press the **[▲/▼]** button to select **"MATURE CH"**
3. Press the **[◄/►]** button to select the **"LOCK" or "UNLOCK"**
4. Press the **[◄/►]** button to enter passcode.

Direct Tuning

To access the Mature Content channels, select channel by **"DIRECT TUNE"**

1. Press the **[MENU]** button to access the SiriusXM menu.
2. Press the **[▲/▼]** buttons to select **"DIRECT TUNE"** . Input desired locked channel an input passcode, then you can tune to that locked channel.

Parental Passcode

1. Press the **[MENU]** button to access the SiriusXM Menu
2. Press the **[▲/▼]** button to select **"PARENTAL"**
3. Press the **[►/ⅠⅠ ENTER]** button to access the chanage passcode mode.
4. Press the **[▲/▼]** button to decide number and press **[◄/►]** to enter Old passcode and then the NEW passcode.
5. Press the **[►/ⅠⅠ ENTER]** to confirm the New passcode, enter it second time.
6. If the passcode change is successful, the LCD will display **"SUCCESSFUL"**

Note:

The default passcode set fro the Parental Lock is 1111.

SiriusXM Replay™ function

The Replay feature allows you to pause, rewind, and replay live SiriusXM Satellite Radio.

1. While listening to a SiriusXM channel, press the **[►/ⅠⅠ ENTER]** button to enter Replay mode. The display will show "PAUSE" when entering this mode.
2. Press the **[►/ⅠⅠ ENTER]** button to resume playback of the stored audio from the point at which it was paused. During playback, the SiriusXM Tuner will continue to store the channel audio until you exit the Replay mode.

During REPLAY playback

* Fast rewind: Press and hold **[◄]**
* Fast forward: Press and hold **[►]**
* To return to the beginning of the current song press **[◄]**
* To advance to the beginning of the next song press **[►]**.
* Press and hold the **[►/ⅠⅠ ENTER]** button to exit Replay mode.

NOTE:

* If you continue to press the **[►]** button until the end, the Replay mode is canceled, and the unit will change to live SiriusXM radio mode.
* If you change channels while in Replay mode, the unit will exit Replay mode to live Satellite mode and clear the Replay memory.
* Replay mode will not exit if you change to another source and then back to SiriusXM.

Category Browse

1. Press the **[MENU]** button to access the SiriusXM Menu.
2. Press the **[▲/▼]** button unit **"CATEGORY SCH"** is displayed.
3. Press the **[►/ⅠⅠ ENTER]** button to enter Category Search mode.
4. Press the **[▲/▼]** to scroll avaiable categories.
5. Press the **[◄/►]** to scroll channels with in the category.
6. Press the **[►/ⅠⅠ ENTER]** button to confirm to tune to taht channel.

Note:

If no operation is performed for 10 seconds, the Category Browsing mode is canceled.

Changing the Display

Text information, such as the channel name, artist name, song title and content is available with each SiriusXM channel. The unit can display this text information as explained below:
In SiriusXM mode, press the **[DISP]** button. Each time you press this button, the display changes as shown below:

Channel name->Artist name->Song Title->Content Info->Category Name->Clock

Note:

If there is not text information, nothing will be displayed.

Software Updates

Please periodically check the Clarion website for software updates and improvements for your Clarion product. These updates can be found under the "Get Support" tab, then "Software Update / Download".

Wire Connection

RUBBER STOPPER

RESET BUTTON

BLACK BOX

RESET

clarion

ANTENNA   BLACK

WHITE
RED
WHITE
RED
WHITE
RED
WHITE
RED

PURPLE

BLACK

GREY

RED

SUBWOOFER
REAR CHANNEL
FRONT CHANNEL
AUX

BLACK   USB
BLACK   DISPLAY CONTROLLER
BLACK   SIRIUS XM
BLACK   WIRED REMOTE

12 PIN MOLEX Connector   RED
FUSE
15A
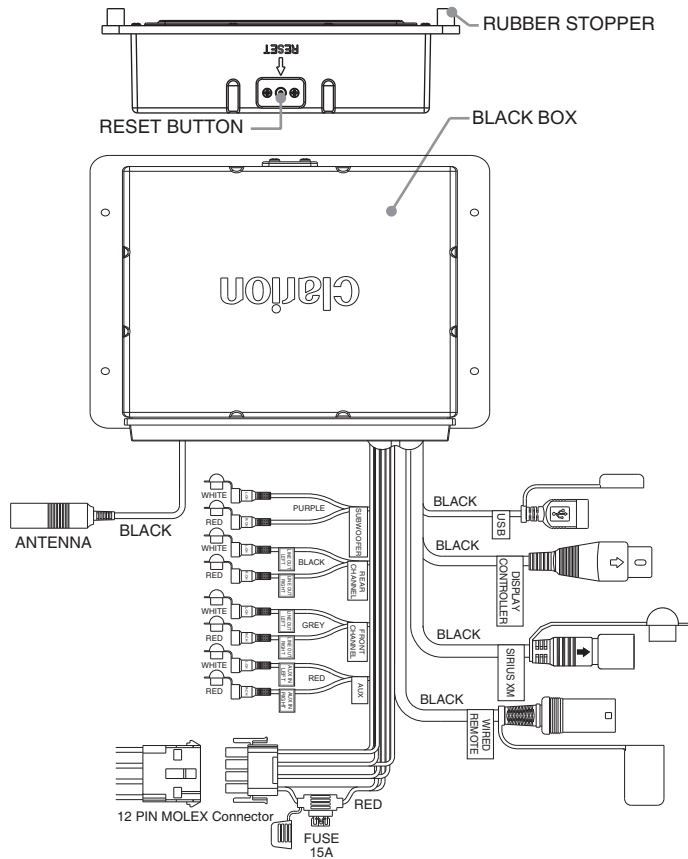
ORIENTATION

SECTION A-A   SECTION B-B

PIN NO.	WIRE COLOR	WIRE DEFINTION	AWG
1	GREEN	SPEAKER REAR LEFT (+)	20
2	GREEN/BLACK	SPEAKER REAR LEFT (-)	20
3	RED	ACCESSORY/IGNITION SWITCHED (+12V)	16
4	WHITE	SPEAKER FRONT LEFT (+)	20
5	WHITE/BLACK	SPEAKER FRONT LEFT (-)	20
6	ORANGE/WHITE	ILLUMINATION	20
7	GREY	SPEAKER FRONT RIGHT (+)	20
8	GREY/BLACK	SPEAKER FRONT RIGHT (-)	20
9	BLUE/WHITE	AMPLIFIER REMOTE TURN ON (+)	20
10	PURPLE	SPEAKER REAR RIGHT (+)	20
11	PURPLE/BLACK	SPEAKER REAR RIGHT (-)	20
12	BLACK	GROUND (-)	16

12 PIN MOLEX Connector
Wire Code

BLACK   RED
PURPLE/BLACK   GREEN/BLACK
PURPLE   GREEN
BLUE/WHITE   ORANGE/WHITE
GREY/BLACK   WHITE/BLACK
GREY   WHITE

3048mm (10 feet)

Female   Male   Big 8Din Cable   Female

DISPLAY CONTROLLER

DISPLAY CONTROLLER

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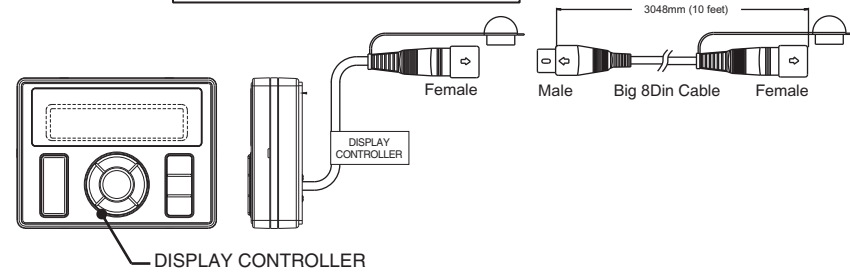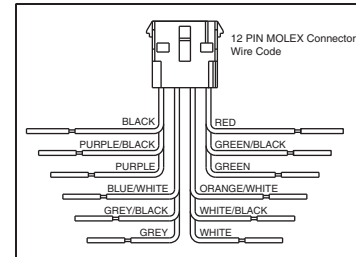
Specifications

FM Tuner

Frequency Range: USA   87.9 - 107.9MHz
                    Europe   87.5 - 108.0MHz
                    Asia   87.5 - 108.0MHz
                    Australia   87.5 - 108.0MHz
Usable Sensitivity: 4μV (S/N=30dB)
Image Rejection: >45dB
Stereo Separation: >25dB

AM Tuner

Frequency Range: USA   530 -1710KHz
                    Europe   531 - 1602KHz
                    Asia   531 - 1629KHz
                    Australia   531- 1629KHz

Usable Sensitivity: 40dB (S/N=20dB)

Weather Band Selection

CH.1 162.400MHz CH.2 162.425MHz
CH.3 162.450MHz CH.4 162.475MHz
CH.5 162.500MHz CH.6 162.525MHz
CH.7 162.550MHz

Audio

Maximum Power Output: 50W x 4
Bass Control (60Hz):   ± 12dB
Treble Control (10kHz): ± 12dB
Middle Control:(1kHz): ± 12dB

USB

USB: 2.0 High Speed
USB Port: 1.0A
USB Voltage: 5.0V
Maximum MP3/WMA Songs: 65535
Maximum MP3/WMA Folder: 255
Maximum Songs per Folder: 65535
Maximum USB Memory Size: 32G
USB Flash Drive and Hard   FAT/FAT32
Drive Compatible Format:

Bluetooth

Specification: Bluetooth Version. 3.0+EDR
                      (Enhanced Data Rate)
Supported Profiles: A2DP (Advanced Audio
                      Distribution Profile)
                    AptX (CD Quality audio
                      bandwidth matching and
                      reproduced)
                    AVRCP 1.4 (Audio/Video
                      Remote Control Profile)
                    SPP (Serial Port Profile)
                    SSP (Simple Secure Pairing)
Send/Receive Sensitivity: Class 2
Operating Frequency: 2402MHz to 2480MHz
RF Output Power: ≤ 20dBm

General

Power Supply Voltage: 14.4V DC (10.8 to 15.6V
                       allowable)
Grounding System: Negative Ground
Speaker Impedance: 4-8 ohms per channel

Note: *Specifications and design are subject to change without notice for further improvement.*

Power Output:
20W × 4 RMS (4 Ω @14.4V
≤ 1% THD+N)
Signal to Noise Ratio:
74dB (reference: LPF 1 W into 4Ω)

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Clarion Co., Ltd.