

MMC36BT

INSTALLATION/OWNER'S MANUAL

Marine Receiver with Speaker Zone Control

Made for



iPod



iPhone

Weather
Band
Tuner



IP66
rated waterproof

AUX
Inputs



Bluetooth®

USB



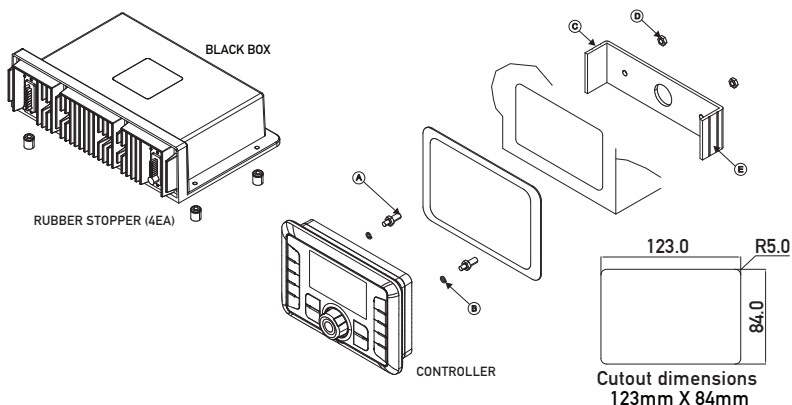
Installation

Please read entire manual before installation.

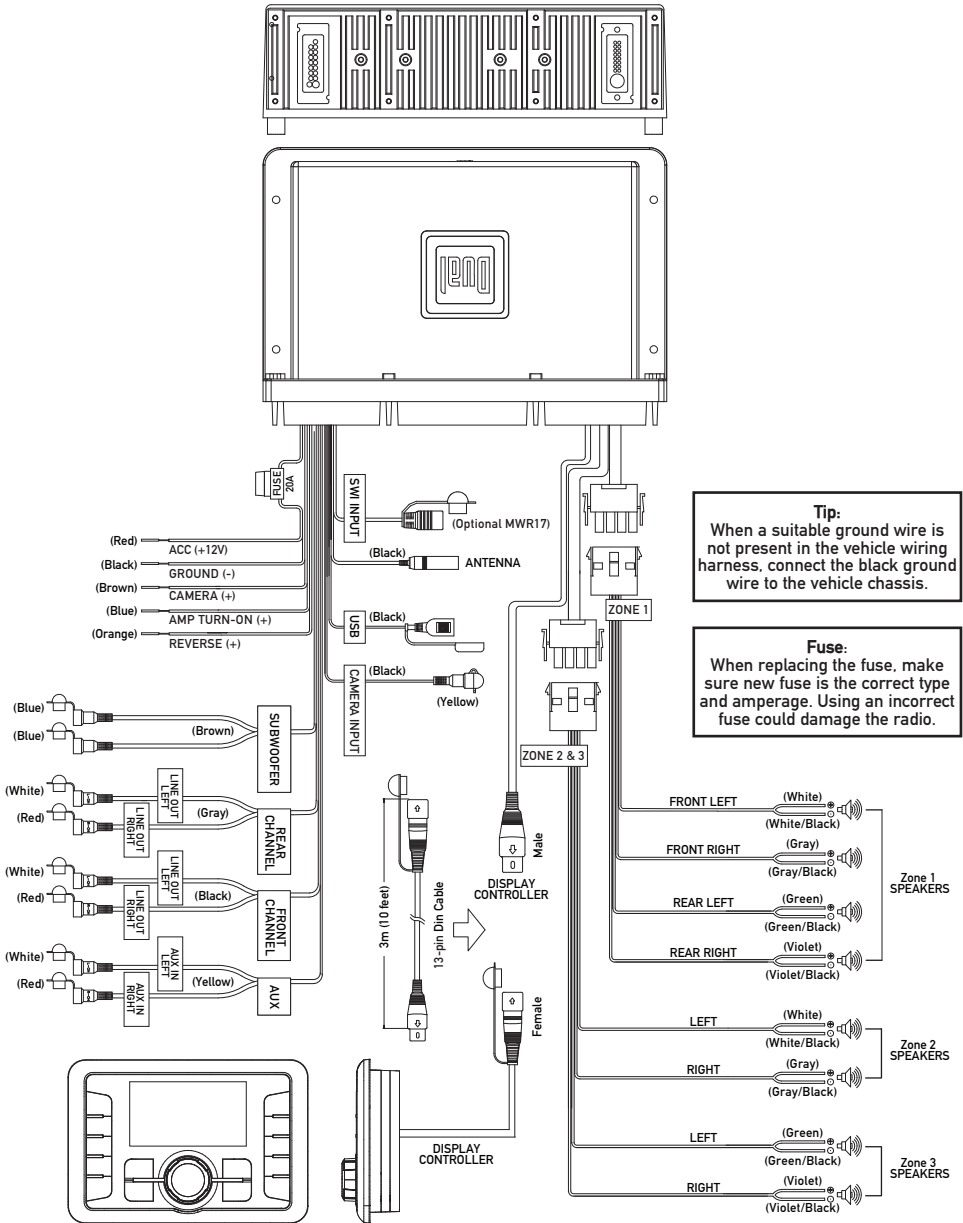
Mounting the Controller

1. Choose a mounting location in the dash board or instrument panel that will allow room behind to run the cables to the black box. Consider how you will use the AUX IN, LINE OUTPUTS and USB connector and route the appropriate extension and RCA cables to an accessible area for installation.
2. The controller should be mounted to a dry, clean and flat surface.
3. Once you have determined a mounting location, you will need to cut a rectangular shaped hole in the panel (4.84" X 3.15" / 123mm X 80mm).
IMPORTANT! Do not mount the commander or black box where they are submerged in water.
4. After the hole is cut slide the commander and wiring into the hole.
5. Slide the included spring washers (B) over the screw posts (A) and attach the screw posts to the back of the commander.
6. Place the "U" bracket (C) over the screw posts and secure the radio to the dash using the included hex nuts (D). If necessary, cut the score marks (E) on either side of the mounting bracket to custom fit the bracket length for your application.
7. When the black box installation, use the 4 rubber mounting stoppers (included in package) on the bottom of the black box. This provides clearance from surface moisture and provides sufficient ventilation for the heat.
8. Connect the controller to the black box using the supplied 13-pin DIN cable.
9. Plug in all wiring harnesses and cables.

NOTE: Before final installation, test the wiring connections to make sure the unit is connected properly and the system works.



Wire Connection








Control Locations - Receiver



- | | |
|-----------------------------|-------------------------|
| ① Preset Up / Folder Up | ⑨ Tune / Track Down |
| ② Preset Down / Folder Down | ⑩ Mode / Camera |
| ③ Speaker Zone 1 | ⑪ Disp / Function |
| ④ Speaker Zone 2 | ⑫ Screen / Play / Pause |
| ⑤ Speaker Zone 3 | ⑬ Audio / Menu |
| ⑥ Select | ⑭ Band / ESC |
| ⑦ Tune / Track Up | ⑮ Power / Mute |
| ⑧ Volume Knob | |

General Operation

Power On/Off	Press the  button to turn the unit on. Press and hold  to turn unit off.
Changing Modes	Press MODE to select between Radio, Weatherband Tuner, AUX, Bluetooth, USB, iPod. Modes of operation are shown in the display.
Volume	Adjust volume using the volume knob .
Mute	Press  to silence the audio. Press  again to resume listening at the previously selected volume.
Auxiliary Inputs	The MMC36BT includes the IP35USB adapter which allows the AUX and USB inputs on the black box to be mounted in the boats console for easy access. Refer to the wiring diagram for connection instructions. Press the Mode button to select the AUX input or USB input depending on which input you have connected your device to.
Display	Press DISP to toggle display between various displayed information.
Audio/Menu	Press Audio/Menu to access the audio and setup menu options.
Speaker Zone 1	Press the Zone 1 button to turn on/off the sound from this zone
Speaker Zone 2	Press the Zone 2 button to turn on/off the sound from this zone.
Speaker Zone 3	Press the Zone 3 button to turn on/off the sound from this zone.
Reset	If abnormal operation occurs, press and hold Audio/Menu and TUNE  for 3 seconds to reset the unit to the default factory settings.

General Operation

Setup Menu

Press **MENU** to toggle through and select one of the following setup menus: Audio, General, Gain and Radio.

1. Once the desired menu is displayed, rotate the **volume knob** to scroll through the list of menu features.
2. Press **SELECT** to select a specific feature to adjust, then rotate the **volume knob** left/right to adjust or activate the desired feature.
3. Press **SELECT** to confirm and save the changes.

Audio Setup Menu

Menu Function	Options
EQ Presets	Rotate the volume knob to cycle through the following EQ presets : Flat, Pop, Jazz, Classic, Beat, Rock and User. Any manual adjustment to the Bass or Treble settings are automatically saved as User.
Loudness	Rotate the volume knob to cycle through the following Loudness curves: Off, High, Low LOUD Off : Disables the loudness function. LOUD Low : Enables the loudness function. Activating this feature will enhance the bass and treble frequencies when listening to music at low volumes. LOUD High : Enables the loudness function. Activating this feature will enhance the bass and treble frequencies when listening to music at low volumes.
Bass Level	Rotate the volume knob to adjust the bass level setting (-6 minimum / +6 maximum).
Bass Frequency	Rotate the volume knob to select one of the following bass frequency settings: 60 Hz, 80 Hz, 100 Hz or 200 Hz.
Mid Level	Rotate the volume knob to adjust the middle level setting (-6 minimum / +6 maximum).
Mid Frequency	Rotate the volume knob to select one of the following middle frequency settings: 500 Hz, 1 kHz, 1.5 kHz or 2.5 kHz.
Treble Level	Rotate the volume knob to adjust the treble level setting (-6 minimum / +6 maximum).
Treble Frequency	Rotate the volume knob to select one of the following treble frequency settings: 10 KHz, 12.5 KHz, 15 KHz or 17.5 KHz.
Balance	Rotate the volume knob to adjust the balance setting. (12-L to 12-R; 0 represents equal balance).
Fader	Rotate the volume knob to adjust the fader setting. (12-F to 12-R; 0 represents equal balance)
Subwoofer	Rotate the volume knob to turn subwoofer output ON or OFF.
Subwoofer Level	Rotate the volume knob to adjust subwoofer level between 0 and 12.
Subwoofer Frequency	Rotate the volume knob to select one of the following subwoofer center frequency settings: Off, 80 Hz, 120 Hz and 160 Hz. "Off" represents a full range subwoofer output.

General Operation

General Setup Menu

Menu Function	Options	Action
Scrolling Option	Off	Programs the unit to not scroll any information on the display.
	Once	Programs the unit to only scroll information once.
	15Sec	Programs unit to scroll information once every 15 seconds (default).
	On	Programs unit to scroll information continuously.
Beep Confirmation	Off	Disables the confirmation beep.
	On	Enables the confirmation beep.
Programmable Turn On Volume	Variable Value	Programs unit to always turn on at a specific volume (default is Off). A volume level of 1-30 can be selected.
Low Battery	On	Battery Voltage drops(10.8V+/-0.03V)a Beep will sound.(default)
	Off	Battery Voltage drops(10.8V+/-0.03V)a Beep will not sound.
Backlight	Variable Value	Rotate the volume knob to adjust the brightness settings of the display screen from 1 to 7.
Demo		Rotate the volume knob to enable (ON) or disable (OFF) the demonstration mode.

General Operation

Radio Setup Menu

Menu Function	Options	Action
Tuner Frequency Spacing	USA	Programs the unit to USA tuner spacing. (200kHz for FM and 10kHz for AM).
	S-America	Programs the unit to South American tuner spacing. (100kHz for FM and 10kHz for AM).
	Europe	Programs the unit to European tuner spacing. (50kHz for FM and 9kHz for AM).
Auto Station Store	AUTO STORE	Press SELECT to seek and save 6 strong stations in the current band.
Local/Distance Tuning	OFF	Activates distance tuning.
	On	Activates local tuning for strong station reception only.

Gain Setup Menu

Menu Function	Options
Tuner Gain	Rotate the volume knob to adjust the tuner gain. (-6 minimum / +6 maximum)
Aux Gain	Rotate the volume knob to adjust the gain for the front auxiliary input. (-6 minimum / +6 maximum)
Bluetooth	Rotate the volume knob to adjust the gain for the rear auxiliary input. (-6 minimum / +6 maximum)
USB Gain	Rotate the volume knob to adjust the gain for USB playback. (-6 minimum / +6 maximum)
iPhone/iPod Gain	Rotate the volume knob to adjust the gain for iPod playback. (-6 minimum / +6 maximum)

AM/FM Tuner Operation

Manual Tuning	Press TUNE ◀◀ or TUNE ▶▶ momentarily to change radio frequency up or down one step at a time. Press and hold to advance quickly.
Seek Tuning	Press TUNE ◀◀ or TUNE ▶▶ for more than two seconds (then release) to automatically seek and tune to the next strong station.
Band	Press BAND to select between FM1, FM2, FM3, WB, AM1 and AM2 bands.
Storing Station Presets	Select the desired band and station. Press the (F)unction button, turn the volume knob until the desired preset number is highlighted, then press SELECT to store the preset.
Recalling Station Presets	Press the P+ or P- buttons to cycle through the 1-6 presets in the current band.

Weather Band Tuner Operation

Manual Tuning	Press TUNE ◀◀ or TUNE ▶▶ momentarily to seek the next weather band station.
Band	Press BAND to select Weatherband(WB)
Recalling Station Presets	Press the P+ or P- buttons to cycle through the 1-6 presets in the current band.

MP3 Operation

Playing MP3 Files

To play MP3 files, connect a USB device containing MP3 files. "Loading" will flash in the display. Depending on the number of files and folders, this may take several seconds.

Displaying Information

Press **DISP** to cycle between track information and file/folder information.

*Song title, artist name and album name will only be displayed if included with the MP3 file.

When referring to MP3 playback, the following terms are synonymous:

- File name and track name
- Folder name and directory name

Repeat

Press **(F)unction** to enter the Function Menu, then rotate the **volume knob** until Repeat is highlighted. Press **SELECT**, then rotate the **volume knob** to select one of the following repeat options.

- All - Plays all songs on device.
- Track - Continuously repeats selected song.
- Folder - Continuously repeats all songs in selected folder.

Random

Press **(F)unction** to enter the Function Menu, then rotate the **volume knob** until Random is highlighted. Press **SELECT**, then rotate the **volume knob** to select one of the following options for random playback.

- Off - Cancels the Random function.
- All - Plays all songs in random order.
- Folder - Plays all songs in folder in random order.

Intro

Press **(F)unction** to enter the Function Menu, then rotate the **volume knob** until Intro is highlighted. Press **SELECT**, then rotate the **volume knob** to select one of the following options for intro playback.

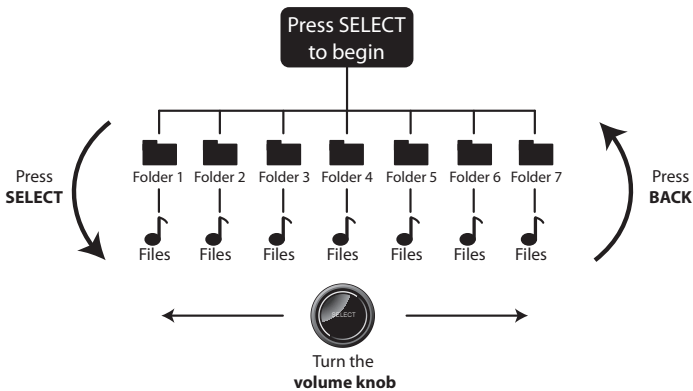
- Off - Cancels the Intro function.
- All - Plays first 10 seconds of each song.
- Folder - Plays first 10 seconds of each song in folder.

Note: Folder repeat, random and intro options only function on devices recorded with more than one folder.

MP3 Operation

File/Folder Search

- Begin Searching** Press **SELECT** to enter the file/folder search mode. A list of all the folders from the device will be displayed.
- Note:** Any files located in the root directory will be located in the folder named "ROOT".
- Choose a Song** Turn the **volume knob** to cycle through all the folders on the device, and press **SELECT** to choose the desired folder. The list of files in the selected folder will be displayed. Turn the **volume knob** to cycle through the list of files.
- Menu Navigation** Pressing **ESC** when viewing the contents of a folder will return to the list of folders on the device. Press **ESC** again to exit the search menu.
- Playing a Song** Once the desired song is displayed, press **SELECT** to begin playback of the desired song.



MP3 Operation

File/Folder Compatibility and Support

Type	Specification
Compatible File Types	<ul style="list-style-type: none"> • MP3 data (.mp3)
Incompatible File Types	<ul style="list-style-type: none"> • DRM protected files • WMA lossless • Apple lossless • WMA Pro • MP3 Pro • MP3 playlists • M4A/AAC data • WAV lossless • WMA data (.wma)
Sampling Frequency Rate Compatibility	<ul style="list-style-type: none"> • MP3: 8kHz - 48kHz
Transfer Bit Rate Compatibility	<ul style="list-style-type: none"> • MP3: 32kbps - 320kbps
Character Support	<ul style="list-style-type: none"> • Song Title: 32 characters • Artist Name: 32 characters • Album Name: 32 characters • File Name: 32 characters • Folder Name: 32 characters
ID3 Tag Support	<ul style="list-style-type: none"> • MP3 Tags: Version 1.0 - 2.4
File/Folder Limit	<ul style="list-style-type: none"> • Maximum number of files: 999 • Maximum number of folders: 500 (plus the root folder) • Maximum number of files in each folder: 999 <p>Note: For devices with more than the maximum number of files/folders, some files will be ignored and may not function properly.</p>
USB/SD File System	<ul style="list-style-type: none"> • FAT/FAT32 file system supported. • HFS/NTFS/EXT2/EXT3 not supported.

iPhone / iPod Operation

Connect an iPod Device
(Not Included)



The MMC36BT features direct USB control for iPhone and iPod. To play music from an iPhone or iPod device, connect the USB cable (included with your Apple device) to the IP35USB adapter in the console.

Once connected, "Loading" will flash in the display, then playback will begin automatically. If a song is playing on the iPhone or iPod device before it is connected, it will continue to play.

Song Select

Press ►► to skip to the beginning of next song. Press ◄◄ to return to the beginning of current song. Pressing ◄◄ again skips to the beginning of previous song.

Fast Forward and Reverse

Press and hold ►► or ◄◄ to fast forward or reverse a song.

Pause

Press ►/|| to temporarily stop playback.
Press ►/|| again to resume playback.

Repeat

Press (F)unction to enter the Repeat menu, then turn the **volume knob** to select one of the following options:

- Off - Repeats all tracks.
- Current Song - Repeats selected track.

Random

Press (F)unction to enter the Random menu, then turn the **volume knob** to select one of the following options:

- Off - Cancels the RDM function.
- All Songs - Plays all tracks in random order.
- Current Album - Plays all tracks in the selected album in random order.

Intro

Press (F)unction to enter the Intro menu, then turn the **volume knob** to select one of the following options:

- Off - Cancels the INT function.
- On - Plays first 10 seconds of each track.

Character Support

Only alphanumeric characters can be displayed (ASCII type). "NO SUPPORT" will be displayed if the file contains characters that can not be displayed. "NO FILE" will be displayed if there are no songs in the selected playlist.

Maximum character display information

- *Song title – 32 character maximum
- *Artist name – 32 character maximum
- *Album name – 32 character maximum

*Song Title, Artist Name and Album name will only be displayed if included with the file.

Bluetooth Operation

Pairing a Device

Preparation	Before you can use a Bluetooth device, it must be paired and connected. Make sure that Bluetooth is activated on your device before you begin the pairing process.
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Pairing a New Device	The MMC36BT broadcasts the pairing signal constantly when no devices are currently connected. Complete the pairing sequence from your Bluetooth device. Refer to the owner's manual for your device for more details.
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The device name is "MMC36BT"

Note: The MMC36BT can be in any mode of operation when pairing is performed.

Pairing Additional Devices	If a device is currently connected, press and hold BAND to disconnect the current device before a new device can be paired. Then begin the pairing sequence from the new Bluetooth device.
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Connecting a Paired Device

Most Bluetooth devices support the auto-connect feature, and will connect automatically if the device is in range when the MMC36BT is powered-on. If your device was previously paired but does not connect, use these instructions below.

- If your most recently connected Bluetooth device becomes disconnected or does not reconnect, press **BAND** from Bluetooth mode to reconnect your mobile device.
- To connect a previously paired device that was not recently connected:
 - 1) If applicable, press and hold **BAND** to disconnect any connected mobile devices.
 - 2) From Bluetooth mode, press **SELECT**. "Paired Devices" will appear on the LCD.
 - 3) Turn the volume knob to cycle through the list of devices.
 - 4) Press **SELECT** or **BAND** to connect to the desired device. It must be in range to connect.

Note: If the Auto Connect setup menu setting is set to OFF, you must press **BAND** to connect you device after pairing, and each time the MMC36BT is powered-on.

Disconnecting a Device

Press and hold **BAND** for 3 seconds to disconnect a connected device. The device will remain paired and appear in the **SEARCH** menu but will not be connected.

Bluetooth Operation

Streaming Audio Operation

The MMC36BT supports A2DP (advanced audio distribution profile) wireless streaming audio from your Bluetooth mobile device directly to your head unit. You can also control your music from the front panel of the head unit using AVRCP (audio video remote control profile).

- To stream music to your head unit, your mobile device must support the A2DP and AVRCP Bluetooth profiles. Check the owner's manual of your mobile device for details.
- Streaming audio must be enabled from your mobile device. This option will vary depending on the device. Some devices allow streaming audio to be disabled.

After pairing, connecting and enabling streaming audio from a compatible mobile device, begin playing music using the music player on your mobile device. Once the music is playing, the following functions can be used to control the music:

- The ►► button will skip to the next available audio track.
- The ◀◀ button will skip to the previous audio track.
- The ►/|| button will toggle between play and pause during playback.

Note: Some Bluetooth devices may not fully support these commands.

Bluetooth Reset

Resetting the Bluetooth module will remove the list of paired phones

To reset Bluetooth, perform the following steps:

- 1) Press **SOURCE** until the head unit is in Bluetooth mode.
- 2) Press and hold **MENU** for 3 seconds to reset Bluetooth settings back to factory default.

Compatibility Note:

Due to the differences in Bluetooth technology, some mobile devices may be incompatible, function improperly or may not support all features when used with the MMC36BT.

Bluetooth Setup Menu Options

Function	Options	Action
Bluetooth	BLUETOOTH (ON/OFF)	Enables/disables Bluetooth functionality.
Auto Connect	AUTO CON (ON/OFF)	Set to On to allow a Bluetooth device to connect automatically or Off to require manual connection.

Limited Two-Year Warranty

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

Dual Electronics Corp. warrants this product to the original purchaser to be free from defects in material and workmanship for a period of one year from the date of the original purchase.

Dual Electronics Corp. agrees, at our option, during the warranty period, to repair any defect in material or workmanship or to furnish an equal new, renewed or comparable product (whichever is deemed necessary) in exchange without charges, subject to verification of the defect or malfunction and proof of the date of purchase. Subsequent replacement products are warranted for the balance of the original warranty period.

Who is covered? This warranty is extended to the original retail purchaser for products purchased from an authorized Dual dealer and used in the U.S.A.

What is covered? This warranty covers all defects in material and workmanship in this product. The following are not covered: software, installation/removal costs, damage resulting from accident, misuse, abuse, neglect, product modification, improper installation, incorrect line voltage, unauthorized repair or failure to follow instructions supplied with the product, or damage occurring during return shipment of the product. Specific license conditions and copyright notices for the software can be found via www.dualav.com.

What to do?

1. Before you call for service, check the troubleshooting guide in your owner's manual. A slight adjustment of any custom controls may save you a service call.
2. If you require service during the warranty period, you must carefully pack the product (preferably in the original package) and ship it by prepaid transportation with a copy of the original receipt from the retailer to an authorized service center.
3. Please describe your problem in writing and include your name, a return UPS shipping address (P.O. Box not acceptable), and a daytime phone number with your shipment.
4. For more information and for the location of the nearest authorized service center please contact us by one of the following methods:

- Call us toll-free at 1-866-382-5476
- E-mail us at cs@dualav.com

Exclusion of Certain Damages: This warranty is exclusive and in lieu of any and all other warranties, expressed or implied, including without limitation the implied warranties of merchantability and fitness for a particular purpose and any obligation, liability, right, claim or remedy in contract or tort, whether or not arising from the company's negligence, actual or imputed. No person or representative is authorized to assume for the company any other liability in connection with the sale of this product. In no event shall the company be liable for indirect, incidental or consequential damages.

Troubleshooting

Problem	Cause	Action
Unit will not turn on (no power)	Yellow wire not connected or incorrect voltage Red wire not connected or incorrect voltage	Check connections for proper voltage (11-16VDC)
	Black wire not connected	Check connection to ground
	Fuse blown	Replace fuse
Unit has power (but no sound)	Speaker wires not connected	Check connections at speakers
	One or more speaker wires touching each other or touching chassis ground	Insulate all bare speaker wires from each other and chassis ground
Unit blows fuses	Yellow or red wire touching chassis ground	Check for pinched wire
	Speaker wires touching chassis ground	Check for pinched wire
	Incorrect fuse rating	Use fuse with correct rating
NO FILE appears on display	No playable MP3 files found on the device	Check the device for valid MP3 files
	Communication error	Remove and reconnect the device
NO SUPPORT appears on display	An invalid ID3 tag version is present	Version 1.0 to 2.4 ID3 tags are supported.

Specifications

FM Tuner	Tuning range: 87.5MHz-107.9MHz Usable sensitivity: 10dBf 50dB quieting sensitivity: 20dBf Stereo separation @ 1kHz: 38dB Frequency response: 30Hz-13kHz
AM Tuner	Tuning range: 530kHz-1710kHz Usable sensitivity: 24uV Frequency response: 30Hz-2.3kHz
USB	Compatibility: High Speed USB 2.0 USB Class: Mass storage class Charging: 5VDC / 2.1A
Monitor	Panel size: 3" diagonal Resolution: 320(H) x 240 (V) Brightness (cd/m ²): 250 NITS Contrast ratio: 400:1 Pixels: 230,400
General	Speaker output impedance: 4 ohms Line output voltage: 4 volt RMS Line output impedance: 200 ohms Dimensions: -Controller : 5.43"(138mm) x 3.74"(95mm) x 1.22"(31mm) -Black Box : 2.56"(65mm) x 9.13"(232mm) x 6.10"(155mm)

Design and specifications subject to change without notice.



CEA-2006 Power Standard Specifications (reference: 14.4VDC +/- 0.2V, 20Hz-20kHz)

Power Output: 18 Watts RMS x 8 channels at 4 ohms and $\leq 1\%$ THD+N
Signal to Noise Ratio: 80dBA (reference: 1 watt into 4 ohms)

FCC Compliance

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, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Warning: Changes or modifications to this unit 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 generates, uses and can radiate radio frequency energy and, 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.



Dual Electronics Corp.
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Monday-Friday, 9AM-5PM, EST

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