



MXD136BT

INSTALLATION/OWNER'S MANUAL

AM/FM Marine Receiver with Bluetooth

USB

MP3

AUX

 **Bluetooth®**

Dual®



Preparation

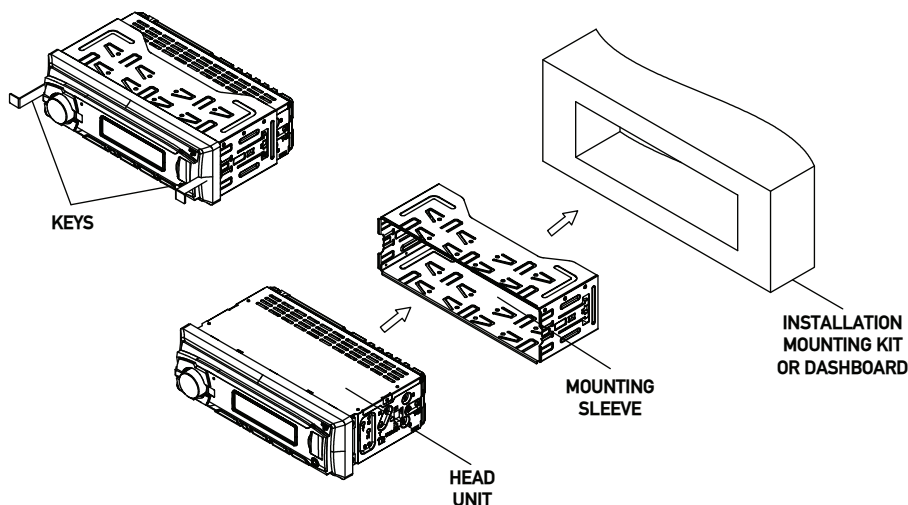
Please read entire manual before installation.

Before You Start

- Disconnect negative battery terminal. Consult a qualified technician for instructions.
- Avoid installing the unit where it would be subject to high temperatures, such as from direct sunlight, or where it would be subject to dust, dirt or excessive vibration.

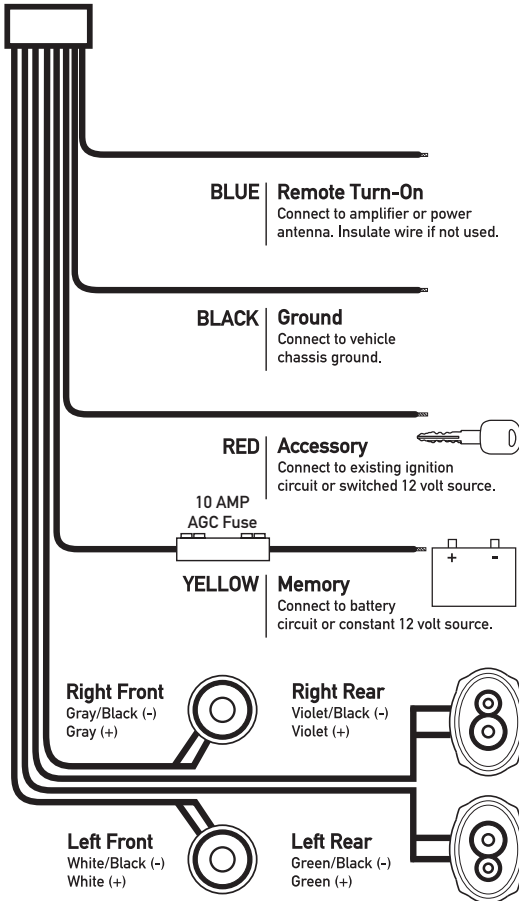
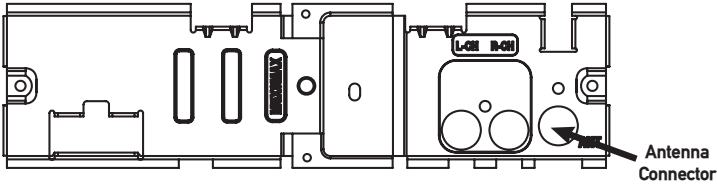
Getting Started

- Remove trim ring from unit.
- Remove 2 transit screws located on top of the unit.
- Insert the supplied keys into the slots as shown, and slide the unit out of the mounting sleeve.
- Install mounting sleeve into opening, bending tabs to secure.
- Connect wiring harness and antenna. Consult a qualified technician if you are unsure.
- Certain vehicles may require an installation kit and/or wiring harness adapter (sold separately).
- Test for correct operation and slide into mounting sleeve to secure.
- Snap trim ring into place.



**TYPICAL FRONT-LOAD
DIN MOUNTING METHOD**

Wiring Diagram



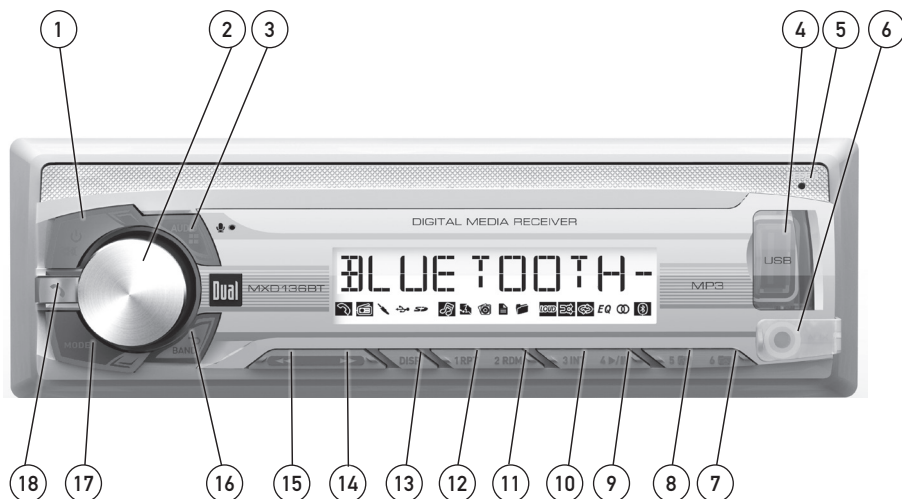
FUSE

When replacing the fuse, make sure new fuse is the correct type and amperage. Using an incorrect fuse could damage the radio.

The unit uses one 10 amp AGC fuse located in-line.





Control Locations



- | | |
|---------------------------|---------------------|
| ① Power / Mute | ⑩ Preset 3 / Intro |
| ② Volume Knob | ⑪ Preset 2 / Random |
| ③ Audio / Menu | ⑫ Preset 1 / Repeat |
| ④ USB Port | ⑬ Display |
| ⑤ Reset | ⑭ Tune Up |
| ⑥ Auxiliary Input | ⑮ Tune Down |
| ⑦ Preset 6 / Folder Up | ⑯ Band / Go Back |
| ⑧ Preset 5 / Folder Down | ⑰ Mode |
| ⑨ Preset 4 / Play / Pause | ⑱ Bluetooth Talk |

General Operation


Power On/Off	Press  or any other button to turn the unit on. Press  again to turn the unit off.
Mode	Press MODE to select between AM/FM, USB, Bluetooth or auxiliary input modes. Modes of operation are indicated in the display. USB mode will not appear unless a USB device is connected.
Display	<p>The radio frequency (tuner mode) or MP3 title/track information (USB mode) will be shown by default. Press DISP to display the clock. The default display will return after five seconds.</p> <p>When in USB mode, the display will alternate between track number/elapsed time and available MP3 information, including file name, song title, artist name, album name and folder name.</p>
Reset	Press RESET upon initial installation or if abnormal operation occurs. Reset button is located in the top right corner.
Set the Clock	Press DISP to display the clock, then press and hold DISP until the hours will flash. Rotate the volume knob to adjust the hours. Press the volume knob , and the minutes will flash. Rotate the volume knob to adjust the minutes.
Auxiliary Input	Insert a 3.5mm connector in the front panel AUX port. Connect the other end of the 3.5mm connector to the headphone output of an audio device, MP3 player, etc.
Volume	Adjust volume using the volume knob (00-40).
Preset EQ Curves	<p>Press EQ to select between the following preset equalization curves: Pop, Jazz, Classic, Beat, Rock and Off.</p> <p>Note: Ability to manually adjust Bass and Treble settings is disabled when a preset equalization curve is selected. Setting equalization curves to OFF enables manual Bass and Treble adjustments.</p>



General Operation

Audio / Menu	Press the volume knob to select between Bass, Treble, Balance, Fader, Loudness, Distance and Stereo. → BASS → TREBLE → BALANCE → FADER → LOUDNESS → EQ → STEREO
Bass	Press the volume knob until BASS appears. Rotate the volume knob left/right to adjust. (-7 minimum / +7 maximum)
Treble	Press the volume knob until TREBLE appears. Rotate the volume knob left/right to adjust. (-7 minimum / +7 maximum)
Balance	Press the volume knob until BAL appears. Rotate the volume knob left/right to adjust. L10 (left) to R10 (right). "EVEN" represents equal balance.
Fader	Press the volume knob until FADER appears. Rotate the volume knob left/right to adjust. R10 (rear) to F10 (front) "EVEN" represents equal balance.
Loudness	Press the volume knob until LOUD ON or LOUD OFF appears, then rotate the volume knob to select desired option. Activating this feature will enhance the bass and treble frequencies when listening to music at low volumes.
EQ	Press EQ, then turn the volume knob to cycle through the equalization curves: FLAT (default), POP, JAZZ, CLASSIC, BEAT, ROCK and USER. Any manual adjustment to the Bass or Treble settings are automatically saved as USER.
Stereo / Mono	From tuner mode only, press the volume knob until STEREO or MONO appears, then rotate the volume knob to select desired option. Selecting MONO can improve listening in areas with a weak FM signal.
Audible Beep	Press and hold the volume knob until BEEP ON or BEEP OFF appears, then rotate the volume knob to select desired option. Activating this feature programs the unit to beep each time certain buttons are pressed.
Area Selection	From tuner mode only, press and hold the volume knob until BEEP ON or BEEP OFF appears. Press the volume knob again to display AREA USA or AREA EURO , then rotate the volume knob to select option appropriate for your location.
12/24-Hour Clock	The clock will display 12-hour AM/PM time in USA frequency spacing mode (PM 10.00). In European frequency spacing mode, the clock will display 24-hour time (22.00).
Setup Menu	Press and hold AUDIO for more than 3 seconds to access the setup menu. Press AUDIO momentarily to select between the menu functions and rotate the volume knob left/right to adjust or activate the desired function.

General Operation - Setup Menu

Menu Function	Options	Action
Auto Station Store	AUTO STORE	Press SELECT to seek and save 6 strong stations in the current band. (Tuner mode only)
Local/Distance Tuning	LOCAL OFF	Activates distance tuning (Tuner mode only).
	LOCAL ON	Activates local tuning for strong station reception only (Tuner mode only).
Tuner Frequency Spacing	FREQ USA	Programs the unit to USA tuner spacing. (200kHz for FM and 10kHz for AM). (Tuner mode only)
	FREQ EURO	Programs the unit to European tuner spacing. (50kHz for FM and 9kHz for AM). (Tuner mode only)
Beep Confirmation	BEEP OFF	Disables the confirmation beep.
	BEEP ON	Enables the confirmation beep.
Auto Answer	ANSWER ON	Programs unit to automatically answer every incoming phone call after 2-3 rings.
	ANSWER OFF	Programs unit to require the  button must be pressed to answer incoming phone calls.

AM/FM Tuner Operation

Seek Tuning

Press **TUNE** ◀◀ or **TUNE** ▶▶ momentarily to seek to the next strong station.

Manual Tuning

Press and hold **TUNE** ◀◀ or **TUNE** ▶▶ until "MANUAL" appears, then press **TUNE** ◀◀ or **TUNE** ▶▶ momentarily to change radio frequency up or down one step at a time. Press and hold to advance quickly.

Band

Press **BAND** to select between FM1, FM2, FM3, AM1 and AM2 bands.

Storing and Recalling Station Presets

Up to 18 FM stations and 12 AM stations can be stored. To store a station, select the desired band and station. Press and hold the desired preset button (1-6) for more than 2 seconds. When stored, the preset number will appear in the display. The station can be recalled anytime by pressing the corresponding preset button.



USB Operation

Connecting a USB Device (sold separately)

To play MP3 files from most USB mass storage devices, line up the USB connector and insert the USB device into the unit's USB port.

Playing Music

When a USB device is first connected, "LOAD" will appear in the display and playback will begin momentarily. Depending on the number of files and folders, it may take several seconds for the device to begin playing. If no valid MP3 files are detected, "NO FILE" will be displayed and the last mode will be resumed.

Track Select

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

Fast Forward and Reverse

Press and hold **TRACK** ►► or **TRACK** ◄◄ on the remote control to fast forward or reverse a track.

Pause

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

Displaying Information

ID3 tag and file/folder information will be automatically changed during playback. Press **DISP** to view the clock. Default display will resume after five seconds.

Repeat

Press **RPT** to choose between:

- Current Song - Continuously repeats selected track.
- Current Folder - Continuously repeats all files in folder.

Random

Press **RDM** to choose between:

- Off - Cancels RDM function.
- All Songs - Plays all tracks in random order.
- Current Folder - Plays all tracks in folder in random order.

Intro

Press **INT** to enter the Intro menu, then turn the volume knob to select one of the following options:

- Off - Cancels the INT function.
- All Songs - Plays first 10 seconds of each track.
- Current Folder - Plays first 10 seconds of each track in folder.

Character Support

Maximum character display information

- Track name - 64 character maximum
- Directory name - 64 character maximum
- *Song title - 64 character maximum
- *Artist name - 64 character maximum
- *Album name - 64 character maximum

USB Operation

Media Compatibility

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

The following types of files are compatible:

- MP3 data

The following types of files are not compatible:

- MP3 PRO format
- MP3 playlists
- WAV format

Playback Order

MP3 playback sequence is based on order the files are copied to the USB device and begins in the root folder. Any empty folders or folders that do not include MP3 files are skipped. Depending on your software, the playback order may vary.

Playback Capacity

- Maximum number of files: 1024
- Maximum number of folders: 512
- Maximum number of folder levels (sub folders): 8

Note: If the number of files/folders exceeds the maximum outlined above, the additional files/folders will be ignored.

Note: Devices that exceed the maximum number of files or folders may not function properly.

USB Device Compatibility

Due to the differences of USB devices, some devices may not be compatible. USB devices must be 'mass storage class' and formatted to the FAT or FAT32 file system in order to ensure compatibility. USB devices must be 32GB or smaller in capacity to be compatible.

Additional MP3 Information

Only MP3 files with filename extension (.mp3) can be played. Do not attempt to play non-MP3 files with the MP3 extension.

Sampling Frequency Rates

8kHz ~ 48kHz

Transfer Bit rates

8kbps ~ 320kbps constant
Variable bit rates

Note: Some files may not play or be displayed correctly, depending on sampling rates and bit rates.

MP3 Tag Display

ID3 tags Version 1.0 to 2.0

Note: If an invalid ID3 tag version is detected, "NO SUPPORT" will scroll on the display.



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.

Pairing a New Device

The unit 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.

The device name is "DUAL BT"
The Bluetooth passcode "1234"




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


Pairing Additional Devices

If a device is currently connected, press and hold  to disconnect the current device before a new device can be paired. Then begin the pairing sequence from the new Bluetooth device.


(Re)Connecting a Paired Device

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

- If your most recently connected Bluetooth device becomes disconnected or does not reconnect, press  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  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  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  to connect you device after pairing, and each time the unit is powered-on.

Disconnecting a Device

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



Bluetooth® Operation

Receiving and Ending Phone Calls

Receiving a Phone Call


Incoming phone calls will automatically appear on the display and a ring tone will be heard.

Note: The volume of the ring tone depends on the volume level of the unit. The incoming ring tone may not be heard if the volume is set to a low level or mute is activated.

- Press  to receive the incoming phone call.
- Press  to refuse the incoming phone call.

Note: If **Auto Answer** is set to **ON** in the setup menu, all phone calls will be received automatically.

Ending a Phone Call

During an active phone call, press  to end a phone call. If the phone call was received when listening to music in another mode, the unit will resume the previous mode.

During a Phone Call

Volume

Turn the **volume knob** to adjust the volume level during a phone call. Bluetooth mode has a separate volume level from the main volume of other modes. The unit will remember the volume level in Bluetooth mode and always return to the last volume level for each phone call.



Microphone Mute

Press **MUTE** during a phone call to turn the unit's external microphone off. Press **MUTE** again to resume microphone operation.

Audio Transfer

Press **DISP** during a phone call to transfer the call from the unit to the cell phone. Press **DISP** again to toggle the audio back to the unit.

Call Hold

During a phone call, when there are no additional incoming calls, press  to place the call on hold. Press  again to resume the phone call.

Note: Audio transfer, call waiting and call hold must be supported by the mobile phone and service provider to function properly.



Bluetooth® Operation

Streaming Audio Operation

The unit 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).

Notes:

- 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.
- The ⏏ button will stop the audio playback.

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

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
NO SUPPORT appears on display	An invalid ID3 tag version is present	Version 1.0 to 2.0 ID3 tags are supported.



Limited One 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.



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.



Specifications

FM Tuner	Tuning range: 87.5MHz-107.9MHz Usable sensitivity: 10dBf 50dB quieting sensitivity: 25dbu Stereo separation @ 1kHz: >30dB Frequency response: 30Hz-13kHz
AM Tuner	Tuning range: 530kHz-1710kHz Usable sensitivity: <42dBu Frequency response: 30Hz-2.2kHz
General	Speaker output impedance: 4~8 ohms Line output voltage: 2 Volts RMS Dimensions: 7" x 4.3" x 2" (178 x 110 x 50 mm) Design and specifications subject to change without notice.



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

Power Output: 13 Watts RMS x 4 channels at 4 ohms and $\leq 1\%$ THD+N
Signal to Noise Ratio: 70dBA (reference: 1 watt into 4 ohms)





Dual Electronics Corp.
Toll Free: 1-866-382-5476
9AM-5PM EST, Monday-Friday

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