MXD105

INSTALLATION/OWNER'S MANUAL

AM/FM Receiver with Detachable Face

MP3 WMA
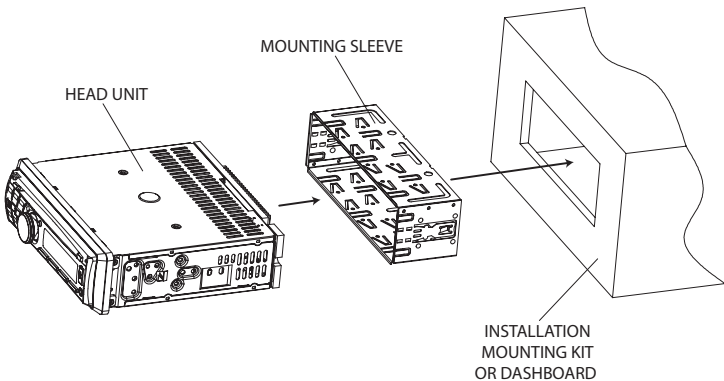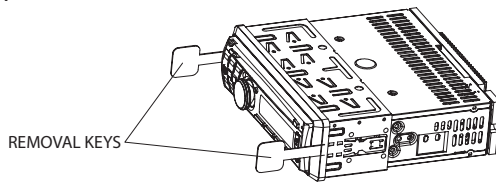
USB *AUX*

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.
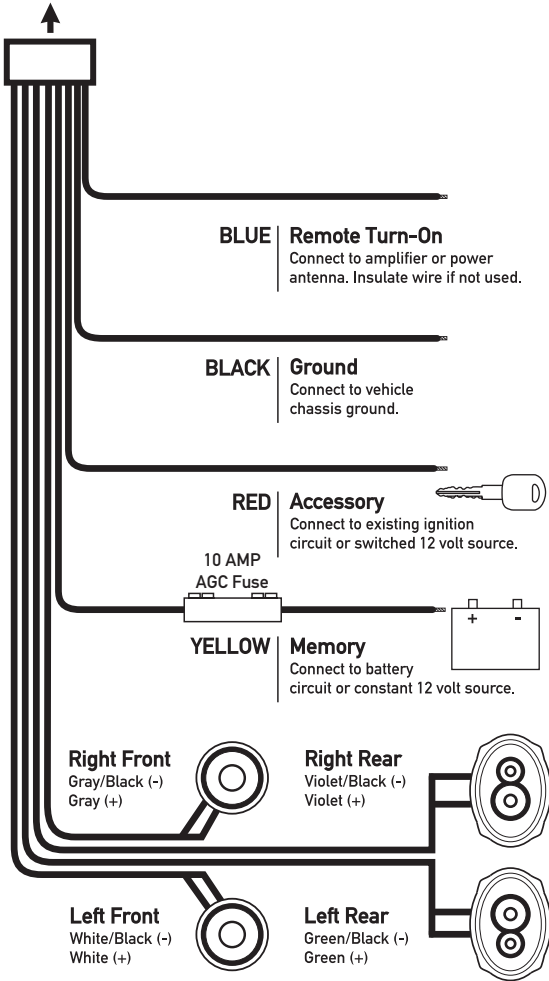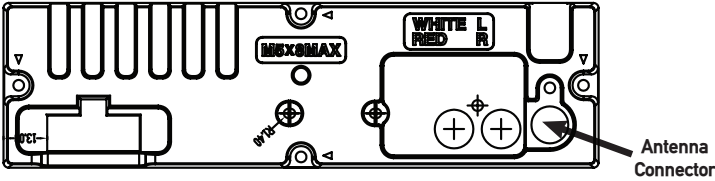
Getting Started
• Remove trim ring from unit.
• Remove 2 transit screws located on top of the unit.
• Insert the supplied keys into the slots as shown, and slide the unit out of the mounting sleeve.
• Install mounting sleeve into opening, bending tabs to secure.
• Connect wiring harness and antenna. Consult a qualified technician if you are unsure.
• Certain installations 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.

REMOVAL KEYS

MOUNTING SLEEVE

HEAD UNIT

INSTALLATION
MOUNTING KIT
OR DASHBOARD

**TYPICAL FRONT-LOAD
DIN MOUNTING METHOD**

Wiring Diagram

Antenna
Connector

BLUE | **Remote Turn-On**
Connect to amplifier or power antenna. Insulate wire if not used.

BLACK | **Ground**
Connect to vehicle chassis ground.

RED | **Accessory**
Connect to existing ignition circuit or switched 12 volt source.

10 AMP
AGC Fuse

YELLOW | **Memory**
Connect to battery circuit or constant 12 volt source.

Right Front
Gray/Black (-)
Gray (+)

Right Rear
Violet/Black (-)
Violet (+)

Left Front
White/Black (-)
White (+)
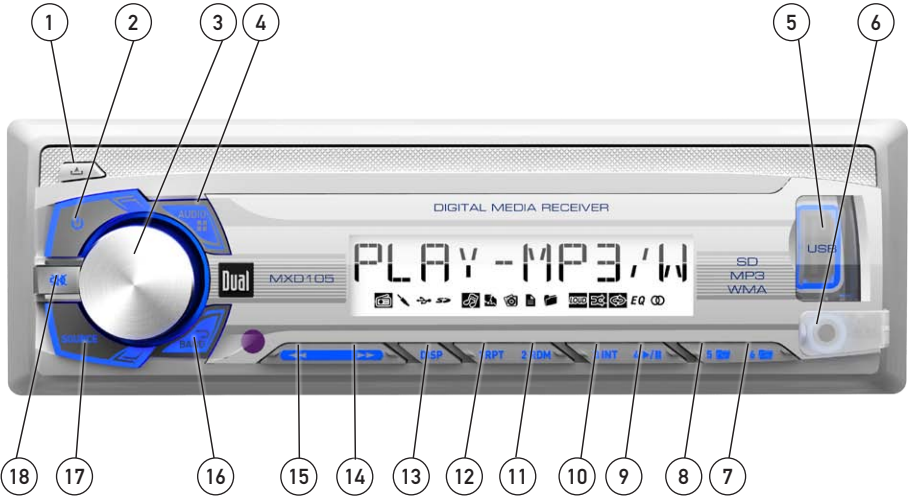
Left Rear
Green/Black (-)
Green (+)

FUSE

When replacing the fuse, make sure new fuse is the correct type and amperage. Using an incorrect fuse could damage the radio. The MXD105 uses one 10 amp AGC fuse located in-line.
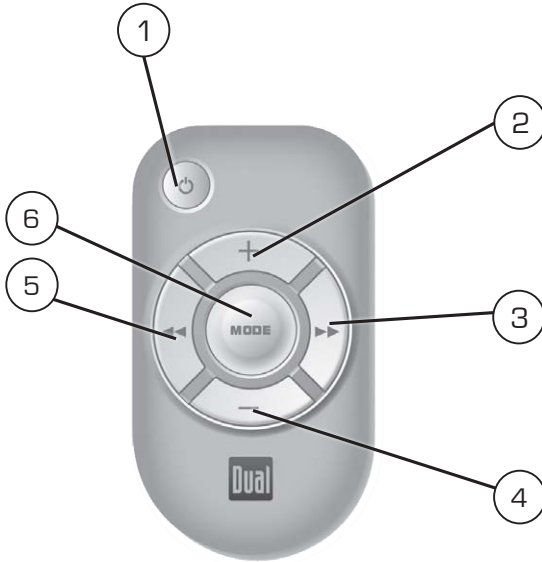
Control Locations - Receiver

1	Release	10	Preset 3 / Intro
2	Power	11	Preset 2 / Random
3	Volume Knob	12	Preset 1 / Repeat
4	Audio / Menu	13	Display
5	USB Port	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	Mute

Control Locations - Remote

1. Power
2. Volume Up
3. Tune Up
4. Volume Down
5. Tune Down
6. Mode

General Operation

Faceplate Removal	Press **RELEASE** and pull away from the left side to remove. To re-install, insert right side of faceplate first then push left side to secure.
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, SD or auxiliary input modes. Modes of operation are indicated in the display. SD and USB modes will not appear unless an SD Card is inserted or a USB device is connected.
Display	The radio frequency (tuner mode) or MP3/WMA title/track information (USB and SD modes) will be shown by default. Press **DISP** to display the clock. The default display will return after five seconds.
	When in USB or SD mode, the display will alternate between track number/elapsed time and available MP3/WMA information, including file name, song title, artist name, album name and folder name.
Reset	Press **RESET** upon initial installation or if abnormal operation occurs. Reset button is located behind the front panel.
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	Press **EQ** to select between the following preset equalization curves: FLAT, POP, JAZZ, ROCK and OFF.
	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 as outlined on page **7**.

General Operation

Audio / Menu	Press the **volume knob** to select between Bass, Treble, Balance, Fader, Loudness, Distance and Stereo.

→ **BASS** → **TREBLE** → **BALANCE** → **FADER** → **LOUDNESS** → **DISTANCE** → **STEREO** →

Bass	Press the **volume knob** until **BAS** appears. Rotate the **volume knob** left/right to adjust. (**-7** minimum / **+7** maximum)
Treble	Press the **volume knob** until **TRE** 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. **10L** (left) to **10R** (right). "L=R" represents equal balance.
Fader	Press the **volume knob** until **FAD** appears. Rotate the **volume knob** left/right to adjust. **10R** (rear) to **10F** (front) "F=R" 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.
Distance Tuning	From tuner mode only, press the **volume knob** until **DX** or **LOCAL** appears, then rotate the **volume knob** to select desired option. Selecting LOCAL programs the unit to stop at only strong stations when seek tuning.
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).

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 / SD Card Operation

Connecting a USB Device (sold separately)	To play MP3/WMA files from most USB mass storage devices, line up the USB connector and insert the USB device into the MXD105's USB port.
Inserting an SD Card (sold separately)	To play MP3/WMA/WAV files from an SD card, insert an SD card into the SD card slot with the label facing left. It will click into place when properly inserted. To remove the card, press in until it clicks, then pull to remove.
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/WMA 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.

USB / SD Card Operation

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 Character Support	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.
Media Compatibility	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 *Song title, artist name and album name will only be displayed if included with the MP3/WMA file. The following types of files are compatible: • MP3 data • WMA data The following types of files are not compatible: • WMA files that are protected by DRM (Digital Rights Management). • WMA lossless format • MP3 PRO format • MP3 playlists • WAV format
Playback Order	MP3/WMA playback sequence is based on order the files are copied to the USB/SD device and begins in the root folder. Any empty folders or folders that do not include MP3/WMA files are skipped. Depending on your software, the playback order may vary.

USB / SD Card Operation

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/WMA Information	Only MP3 files with filename extension (.mp3) can be played. Only WMA files with filename extension (.wma) can be played. Do not attempt to play non-MP3/WMA files with the MP3/WMA extension.
Sampling Frequency Rates **MP3**	8kHz ~ 48kHz
WMA	8kHz ~ 48kHz
Transfer Bit rates **MP3**	8kbps ~ 320kbps constant Variable bit rates
WMA	8kbps ~ 384kbps 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.

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/WMA files found on the device	Check the device for valid MP3/WMA 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 7" x 2" (178 x 178 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: 18 Watts RMS x 4 channels at 4 ohms and $\leq$ 1% THD+N
Signal to Noise Ratio: 70dBA (reference: 1 watt into 4 ohms)

Notes

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