XRM405BT

INSTALLATION/OWNER'S MANUAL

AM/FM Receiver with Detachable Face

MP3   WMA

USB   *AUX*

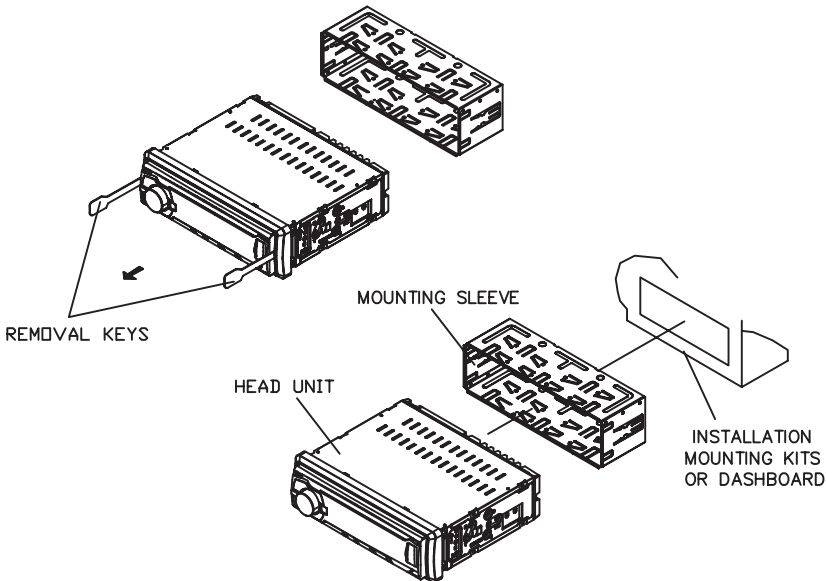Bluetooth®

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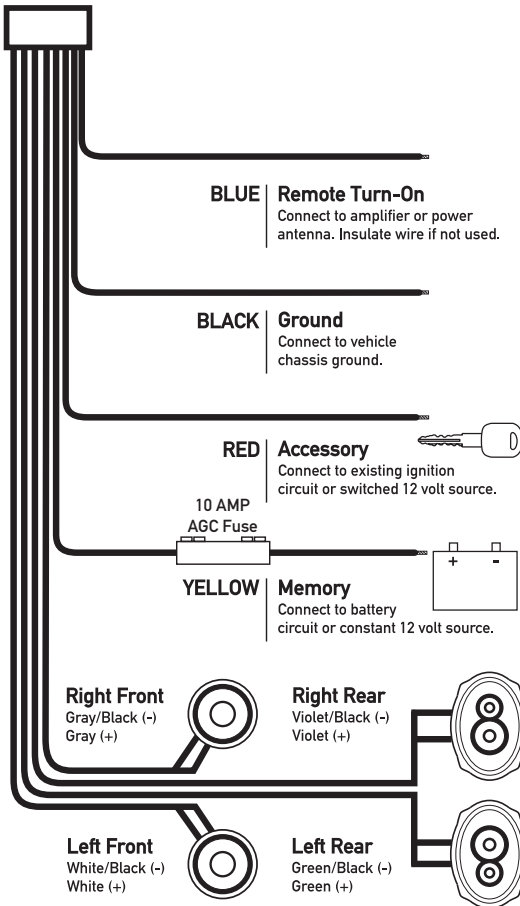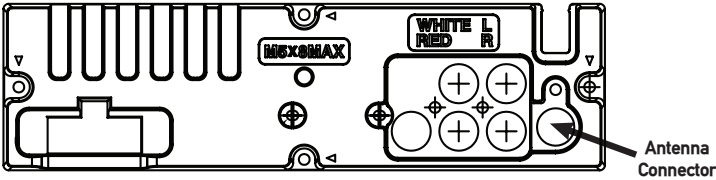
Getting Started
• Remove trim ring from unit.
• Remove 2 transit screws located on top of the unit.
• Insert the supplied keys into the slots as shown, and slide the unit out of the mounting sleeve.
• Install mounting sleeve into opening, bending tabs to secure.
• Connect wiring harness and antenna.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

REMOVAL KEYS

MOUNTING SLEEVE

HEAD UNIT

INSTALLATION MOUNTING KITS 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 XRM405BT uses one 10 amp AGC fuse located in-line.
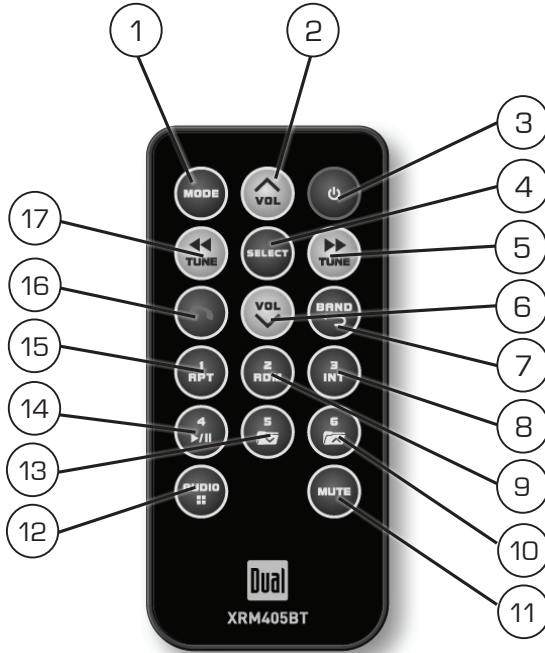
WHITE L
RED R

M5X8MAX

3

Control Locations - Receiver

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

Control Locations - Remote

1	Mode	10	Preset 6 / Folder Up
2	Volume Up	11	Mute
3	Power	12	Audio / Menu
4	Select	13	Preset 5 / Folder Down
5	Tune / Track Up	14	Preset 4 / Play / Pause
6	Volume Down	15	Preset 1 / Repeat
7	Band / Go Back	16	Bluetooth Talk
8	Preset 3 / Intro	17	Tune / Track Down
9	Preset 2 / Random		

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 and hold ⏻ again to turn the unit off.
Mute	When the unit is on, press ⏻ momentarily to mute the audio. Press ⏻ again to return to previously-selected volume.
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	The radio frequency (tuner mode) or MP3/WMA title/track information (USB mode) will be shown by default. Press **DISP** to display the clock. The default display will return after five seconds. When in USB 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. Press **TUNE ◄◄** to adjust the minutes and **TUNE ►►** to adjust the hours.
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).

General Operation

Audio / Menu | Press the **AUDIO/MENU** to select between Bass, Treble, Balance, Fader, Loudness, Distance and Stereo.

BASS → TREBLE → BALANCE → FADER → LOUDNESS → EQ → STEREO

Bass | Press **AUDIO/MENU** until **BAS** appears.
Rotate the **volume knob** left/right to adjust.
(**-7** minimum / **+7** maximum)

Treble | Press **AUDIO/MENU** until **TRE** appears.
Rotate the **volume knob** left/right to adjust.
(**-7** minimum / **+7** maximum)

Balance | Press **AUDIO/MENU** until **BAL** appears. Rotate the **volume knob** left/right to adjust from **10L** (left) to **10R** (right). "BAL EVEN" represents equal balance.

Fader | Press **AUDIO/MENU** until **FAD** appears. Rotate the **volume knob** left/right to adjust from **10R** (rear) to **10F** (front). "FADER EVEN" represents equal balance.

Loudness | Press **AUDIO/MENU** 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 **AUDIO/MENU** until **EQ** appears, then rotate the **volume knob** to select between the following preset equalization curves: FLAT, POP, JAZZ, ROCK and OFF.

Stereo / Mono | From tuner mode only, press **AUDIO/MENU** 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.

Setup Menu | Press and hold **AUDIO/MENU** for more than 3 seconds to access the setup menu. Press **AUDIO/MENU** momentarily to select between the menu functions and rotate the **volume knob** left/right to adjust or activate the desired function. Options are outlined on the following page.

General Operation - Setup Menu

Menu Function	Options	Action
Auto Station Store	AUTO STORE	Press the **volume knob** 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**)
Subwoofer	SUBWFR ON	Enables the subwoofer.
	SUBWFR OFF	Disables the subwoofer.
Beep Confirmation	BEEP OFF	Disables the confirmation beep.
	BEEP ON	Enables the confirmation beep.
LED Color	LED AUTO	Programs unit to automatically rotate through all LED colors.
	BLUE	Programs unit to use blue LED display.
	GREEN	Programs unit to use green LED display.
	RED	Programs unit to use red LED display.
	YELLOW	Programs unit to use yellow LED display.
	PURPLE	Programs unit to use purple LED display.
	CYAN	Programs unit to use cyan LED display.
	WHITE	Programs unit to use white LED display.
	LED ADJ	**Press and rotate the volume knob to adjust each RGB color level. After adjustment, that color will appear on the LCD.**
Bluetooth	BT ON	Enables Bluetooth functionality.
	BT OFF	Disables Bluetooth functionality.
Auto Answer	ANSWER AUTO	Programs unit to automatically answer every incoming phone call after 2-3 rings.
	ANSWER MANU	Programs unit to require the 📞 button to be pressed manually to answer incoming phone calls.

AM/FM Tuner Operation

Seek Tuning

Press and hold **TUNE ◄◄** or **TUNE ►►** to seek to the next strong station.

Manual Tuning

Press **TUNE ◄◄** or **TUNE ►►** 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/WMA files from most USB mass storage devices, line up the USB connector and insert the USB device into the 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/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.
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.

USB Operation

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

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

Media Compatibility
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 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 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.

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 XRM405BT 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 XRM405BT 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 XRM405BT 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 XRM405BT 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

Making a Phone Call

Manual Dialing
- Press 📞 once. "Enter Phone Number" will be shown, then an "_" will appear on the display.

- Using the remote control, enter the phone number using the 0-9 buttons. Press 📞 on the remote control or XRM405BT front panel to begin dialing.

Note: Placing a phone call from your cell phone will also use the Bluetooth function of the XRM405BT.

Recent Calls List
- Press **SELECT** from Bluetooth mode to view the 10 most recent phone calls that were dialed, received or missed while connected to the XRM405BT.

- Turn the **volume knob** to cycle through the recent phone numbers. Press **SELECT** or 📞 to dial the phone number.

Redialing the last number
To redial the last phone number, press 📞 two times from Bluetooth mode. Press 📞 again to redial the phone number.

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 XRM405BT. 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 XRM405BT will resume the previous mode.

Bluetooth® Operation

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 XRM405BT 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 XRM405BT'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 XRM405BT to the cell phone. Press **DISP** again to toggle the audio back to the XRM405BT.
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 Setup Menu Options

Function	Options	Action
Bluetooth	BT (ON/OFF)	Enables/disables Bluetooth functionality.
Auto Answer	AANS (OFF/ON)	When set to ON, every incoming phone call will automatically be answered after 2-3 rings. When set to OFF, the 📞 button must be pressed to answer incoming phone calls.

Bluetooth® Operation

Streaming Audio Operation

The XRM405BT 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 ►/ǁ 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.

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: **1.2 Volts RMS**
	Dimensions: **7" x 6" x 2" (178 x 152 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)

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.

Notes

Dual

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

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