



USER'S MANUAL, MOTOR 2

*RetroRadio*™

*RetroSound*®

MODERN SOUND FOR YOUR CLASSIC

[www.retromanufacturing.com](http://www.retromanufacturing.com)

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# WELCOME

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Thank you for purchasing a RetroSound® Apache RetroRadio™. Apache has the advanced features you expect from a modern car stereo.

## General Features

- Built-in Bluetooth® for hands-free calling and audio streaming
- Selectable 32,000 color LCD illumination with user pre-sets
- AM/FM tuner with 30 pre-sets
- Plays MP3, WMA and FLAC files via USB input
- Selectable international tuner frequencies
- Built-in amplifier with TRUE 25 watts RMS x 4-channels  
(45 watts peak x 4-channels)
- 3 EQ pre-sets plus user-controlled bass, mid-range,treble, fader, and balance adjustments
- InfiniMount bracket system for maximum installation flexibility
- Available with period-correct knobs, bezel and/or faceplate
- Inputs: 1 rear-mounted standard USB port and 2 rear auxiliary inputs
- Outputs: 4-channel pre-amp outputs (front, rear)
- Separate power antenna and amplifier turn-on lead(s)
- 1 year parts and labor warranty

The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Retro Manufacturing, LLC is under license.

The information enclosed in this user's manual is to be used as a guide to assist you with installation and operation of your radio. This guide does not cover every installation possibility, vehicle, or every aspect of the installation process.

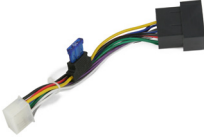
Retro Manufacturing, LLC, RetroSound®, or its subsidiaries, assume no responsibility for any installation. This manual may be updated from time to time.

Visit our website for the latest updates: [www.retromanufacturing.com](http://www.retromanufacturing.com).

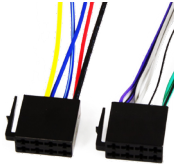
# WHAT'S IN THE BOX

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The items shown below are packaged with your Motor box.



Main Wiring Harness  
(plugs into back of radio)



Power and Speaker  
Wiring Harnesses  
(both plug into  
Main Wiring Harness)



Motor 2 Radio Body



Bluetooth® Microphone



Metal Mounting Backstrap  
and Hardware



Plastic Washer Kit



InfiniMount Brackets



Bracket Mounting Hardware

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The items shown below are packaged with your RetroRadio™ face box.



RetroRadio™ Face



Radio Face  
Mounting Screws



Shafts



Shaft Mounting Hardware

# PRECAUTIONS

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## PLEASE OBSERVE THESE PRECAUTIONS WHEN INSTALLING AND USING THIS UNIT:

This user's manual does not cover all possible installation scenarios. If you feel that you can't install this unit yourself take it to a local car audio professional. If you have questions about installing your radio contact us at [tech@retromanufacturing.com](mailto:tech@retromanufacturing.com) or by calling us at 888.325.1555.

- Do not disassemble, modify the unit or attempt to repair the unit yourself. If the unit needs to be repaired, consult your dealer or Retro Manufacturing, LLC.
- Do not use the unit when it is out of order. If the unit is out of order or is in an abnormal state (has foreign objects in it, is exposed to water, smokes or smells), turn it off immediately and consult your dealer or Retro Manufacturing, LLC.
- Refer fuse replacement to qualified service personnel. If the fuse fails, eliminate the cause and have it replaced by a qualified service technician with the fuse prescribed for this unit. Incorrect replacement of the fuse may lead to smoke, fire or damage to the unit.
- If the unit does not turn on, check the connections first. Then check the fuse in your vehicle's fuse panel and the fuse at the unit's wiring harness. Do not expose the unit to direct sunlight or excessive heat. Excessive heat will raise the interior temperature of the unit which may damage it.
- Do not use the unit where it is exposed to moisture or dust. Exposure of the unit to moisture or dust may lead to smoke, fire or other damage to the unit and will void your warranty. Make sure the unit does not get wet in car washes or on rainy days.

# PRECAUTIONS

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- Refer wiring and installation to qualified service personnel. Installation of this unit requires special skills and experience. Retro Manufacturing, LLC is not liable for any problems resulting from improper installation of the unit. Please be sure to follow the instructions carefully while attempting installation.
- Follow the instructions to wire the unit. Failure to follow the instructions could cause damage to the unit, fire, injury or death.
- Be careful not to damage the leads. Prevent them from being caught in the vehicle chassis or from being damaged by screws or moving parts such as seat rails. Do not scratch, pull, bend or twist the leads. Do not install them near heat sources or place heavy objects on them. If the wiring must be routed around sharp metal edges, protect them by wrapping them with vinyl tape or similar protections.

**NOTE: Cutting the main wiring harness, antenna lead, USB or auxiliary cables will void the warranty of your radio.**

- We recommend only using the supplied parts when installing this unit. If mounting the radio face or body remotely, use extreme caution not to damage internal parts when choosing brackets and screws.
- Do not interfere with safety-related vehicle components. Do not wire or affix this unit to the fuel tank, brakes, suspension, steering wheel, pedals, etc. Check for electric wiring, piping and other items before installing the unit.
- Never install the unit in a location where it interferes with your field of vision.
- Use the supplied metal backstrap to secure the rear of the unit. Failure to secure the rear of the unit will damage the shafts and void your warranty.

# PRECAUTIONS

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- Never splice into the power lead to supply other equipment with power.
- After installation and wiring, always check the normal operation of other electrical equipment.
- Make sure that no wires interfere with driving or entering/exiting of the vehicle.
- Insulate all exposed wires to prevent short-circuiting or electric shock.
- Do not operate the unit for prolonged periods with the engine off. Prolonged operation with the engine turned off will drain the battery.
- Keep the volume of your radio at a level that allows you to hear outside noises such as emergency sirens and train crossing warnings. Prolonged exposure to high volume levels may result in hearing loss.
- This unit requires 12-volts to both the red and yellow power leads. The unit will not work without 12-volts to both of these leads.
- Always disconnect the negative (-) battery cable before beginning installation. Verify the battery ground by checking that one wire is connected to the vehicle's starter mounting bolt or engine block and the other to the vehicle's chassis using at least 8 gauge wire. Make sure the alternator or generator connections are secure and free from corrosion, rust or dirt.
- This unit is designed for operation with a negative ground 12-volt DC battery system. Do not operate this unit with other battery systems, especially an 18 or 24-volt DC or a positive ground system. If you have a 6-volt system, you need to either convert to 12-volt DC or purchase a separate inverter that would increase the voltage to 12-volts.

**NOTE: The inverter needs to be rated at 10 amps or higher in order for the radio to operate properly.**

# INSTALLATION INSTRUCTIONS

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## STEP 1: Install the Radio Face

Plug the ribbon cable (included with the Motor) into the front of the Motor radio body and the back of the radio face. After doing this, attach the radio face to the front of the radio body using the four radio face mounting screws provided in the radio face box.

The RetroSound® logo on the Motor radio body should be facing upwards. Make sure to not install the face to the body upside down.

**NOTE:** Optionally, the radio face can be mounted remotely up to nine feet away from the Motor radio body using an optional Face to Body Extension Cable (sold separately). In some installation applications, a bracket (not included) can be used to mount the radio face to the radio body at an angle.

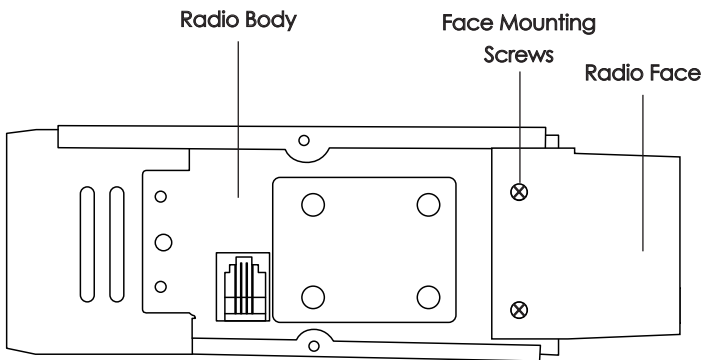


Figure 1 - Installing the Radio Face



# INSTALLATION INSTRUCTIONS

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## STEP 2: Install InfiniMount Brackets

Attach each InfiniMount bracket to the correct side of the radio using the supplied screws. Before tightening the screws, you need to adjust the brackets up, down, forward or backward. You may also rotate, cut, or bend the brackets to achieve the perfect fit (See Figure 2). Complete the assembly with at least two screws tightened on each side.

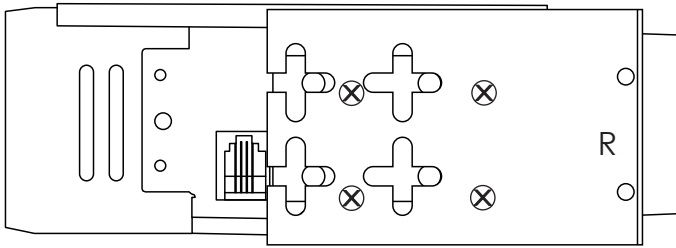


Figure 2 - Attach InfiniMount Brackets

**NOTE:** In some installations the brackets must be moved far enough forward or backwards or rotated so that only two screws will align with the threaded screw holes on the radio. Two screws are sufficient to hold the brackets in place.

You may need to cut, trim or bend the brackets to achieve a perfect fit. You can even drill new mounting holes into the bracket if you need to. The InfiniMount system is designed to be modified. Modifying your brackets will NOT void your warranty.

# INSTALLATION INSTRUCTIONS

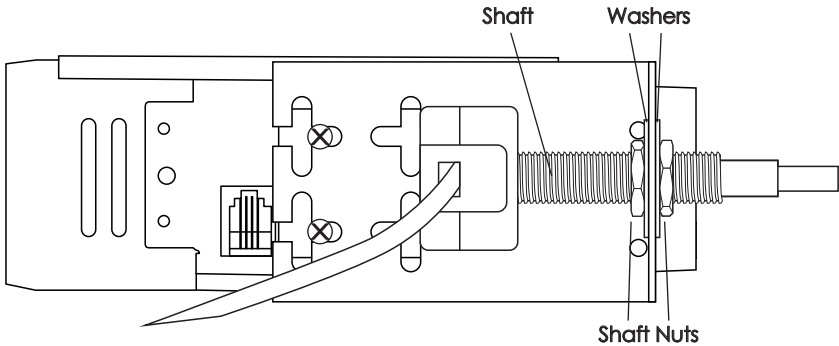
## STEP 3: Mount Shafts to Brackets

To match the the location of your shafts to the proper width of your vehicle's dash, first measure the distance between your existing shaft holes from center to center.

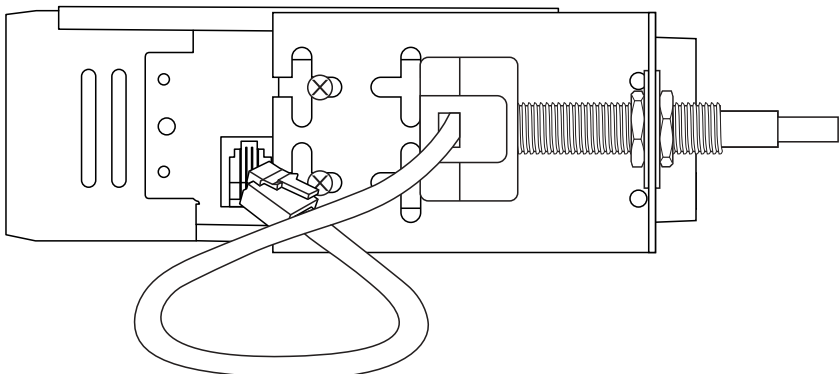
Mount a shaft to each bracket using the supplied shaft nuts and washers. Finger tighten the shaft nuts to prepare for the final installation (See Figure 3). Once you ensure proper width, tighten the screws and nuts (DO NOT OVERTIGHTEN).

**OVERTIGHTENING THE SHAFT NUTS WILL DAMAGE THE SHAFTS.  
DAMAGE FROM OVERTIGHTENING WILL VOID YOUR WARRANTY.**

Finally, plug the shafts into each side of the body (See Figure 4).



**Figure 3 - Mount Shafts to Brackets**



**Figure 4 - Plug Shafts into the Body**

# INSTALLATION INSTRUCTIONS

## STEP 4: Complete Wiring Connections

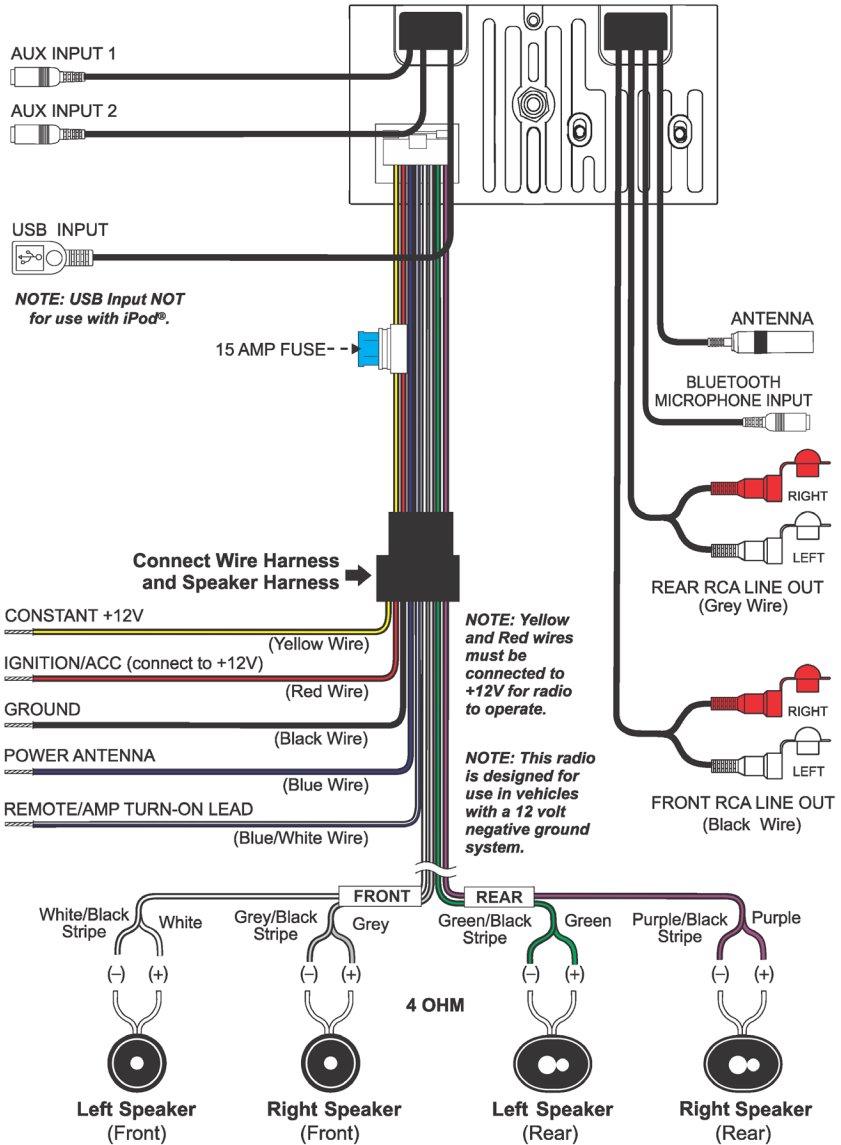


Figure 5 - Wiring Diagram

NOTE: Cutting the main wiring harness, antenna lead, USB or auxiliary cables will void the warranty of your radio.

# INSTALLATION INSTRUCTIONS

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**NOTE:** This unit requires +12-volts to both the red and yellow wires to operate properly.

Locate the three wire harnesses: main wire harness, power wire harness and speaker wire harness (See "What's in the Box" on page 3). First connect the main wire harness to the back of the radio. Then connect both the power and speaker wire harnesses to the black female plug of the main wire harness.

After doing this, connect the bare wire ends of your power and speaker wires to the appropriate power and speaker locations in your vehicle (Refer to Figure 5 on the previous page). Have your radio installed by a professional if this part of the install is too difficult, or contact us if you have questions.

## Installation Notes

- To prevent damage to the unit, do not connect the power connector until you have completed the wiring process.
- This is a 12-volt negative ground ONLY radio. If you have a positive ground, or a 6-volt system, you need to either convert to 12-volts or purchase a separate inverter that would increase the voltage to 12-volts.
- Please note that any inverter must be rated at 10 amps or higher in order for the radio to operate properly.

## Rear AUX and USB Inputs

Two AUX 3.5mm inputs are located at the rear of the Motor radio body. These auxiliary inputs allow you to listen to any external source with a standard headphone output. An example of an external source would be a MP3 player, iPod® or iPhone®, portable CD player or portable satellite radio receiver. To use this input, the auxiliary cables must be routed to an accessible area during installation.

# INSTALLATION INSTRUCTIONS

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One USB connector cable is located at the rear of the Motor radio body. During installation, you must route the cable to a convenient and accessible location for plugging in USB devices.

If the cables provided are not long enough, you may use our optional USB/AUX Extension Cable (USB PORT, not included) to extend the reach of the cable. This cable also allows you to install the USB/AUX port into the factory location for the cigarette lighter for a factory look and easy access.

## Bluetooth Microphone

Plug in the Bluetooth® microphone and route it to an accessible area such as the steering column or A-pillar. Mount the Bluetooth® microphone inside the vehicle close to the driver where the wires will not obstruct the view or interfere with driving. The microphone is very sensitive, and you may speak at normal volume when using hands-free operation.

## STEP 5: Finish the Installation

**IF USING A BEZEL**, Place the bezel on the face of the radio, then install the assembled radio from behind the dash until the bezel and radio face are flush with the front of the dash and the radio shafts protrude through the shaft openings in the dash. Using the supplied washers and shaft nuts (see “What’s In the Box” on page 3), secure the radio to the dash.

**IF USING A FACEPLATE**, slide the radio into the hole from behind the dash, then align the faceplate over the radio shafts from the front. Using the supplied washers and shaft nuts (see “What’s In the Box” on page 3), secure the faceplate to the dash and the radio.

## **DAMAGE RESULTING FROM OVERTIGHTENING THE SHAFT NUTS WILL VOID YOUR WARRANTY.**

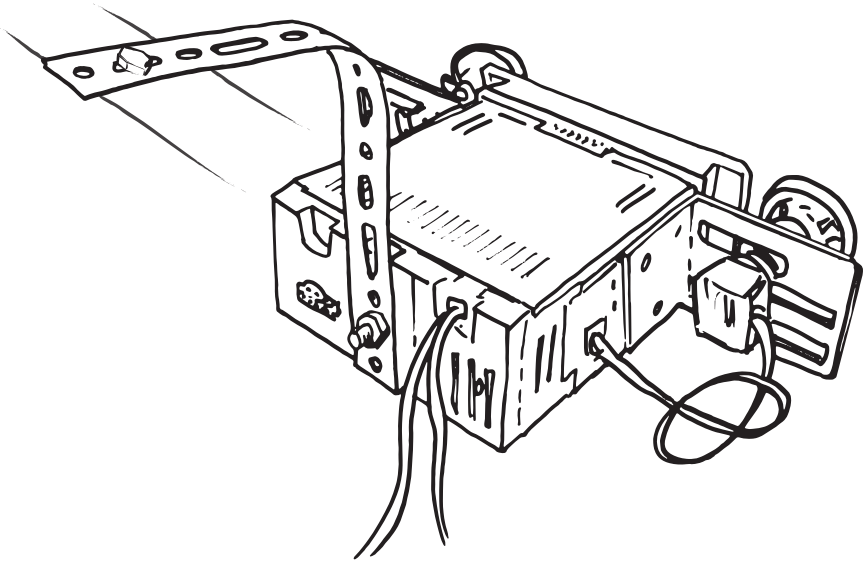
Next, you'll need to secure the rear of the radio using the supplied backstrap and hardware (see “What’s in the Box” on page 3). The backstrap mounts using the threads in the rear of the radio body and can be bent and adjusted to align with the mounting point of the original factory radio behind the dash. (refer to Figure 6 on the next page)

# INSTALLATION INSTRUCTIONS

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THE SHAFTS ARE NOT STRONG ENOUGH TO SUPPORT THE WEIGHT OF THE RADIO. FAILURE TO SECURE THE RADIO WITH THE BACKSTRAP CAN DAMAGE YOUR SHAFTS AND WILL VOID YOUR WARRANTY.

Figure 6 - Installing the Backstrap



View from behind dash

Finally, slide the rear knobs over the shafts, rotating them into the correct position, and push them into place. Mount the front knobs by gently pressing them onto the shaft.

**DO NOT PRESS TOO HARD. PRESSING TOO HARD CAN DAMAGE YOUR SHAFTS AND WILL VOID YOUR WARRANTY.**

# OPERATING YOUR RADIO

## General Operation



Figure 7 - Front Panel Controls

- 1. Left-front Knob
- 2. Left-rear Knob
- 3. Right-rear Knob
- 4. Right-front Knob

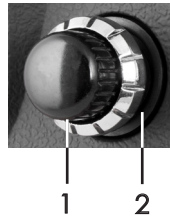


Figure 8 - Left Shaft with Knobs

# OPERATING YOUR RADIO

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## General Operation

### Power On/Off

Press the left-front knob (#1) to turn the unit on. **RETROSOUND** will appear on the screen.

Press and hold the left-front knob (#1) to turn the unit off. **GOODBYE** will appear on the screen to confirm that it has turned off.

### Volume

Turn the left-front knob (#1) to adjust the volume between 0-46.

### Source Mode

Turn the left-rear knob (#2) clockwise to select from available listening sources: **RADIO**, **AUX 1**, **AUX 2**, **USB**, **BT-AUDIO**.

(The USB source modes will not appear unless a USB device is plugged in).

The auxiliary and USB inputs are located at the back of the radio body. The auxiliary inputs may be used to play music from any portable device with a standard 3.5mm headphone output, such as a MP3 player, iPod® or iPhone®, portable CD player or portable satellite radio receiver. The USB inputs allow you to play music from a flash drive. To use these inputs, the cables must be routed to an accessible area during installation.

### Radio Tuning

Turn the right-front knob (#4) to tune to the next or previous AM/FM frequency.

**NOTE:** When the radio is tuned to a strong stereo FM station, the stereo indicator will appear on the upper right corner of the LCD screen (two oval circles).



# OPERATING YOUR RADIO

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## Radio Bands

Turn the right-rear knob (#3) counter-clockwise to toggle through five independent radio bands (two AM and three FM).

## Storing Radio Pre-sets

There are six radio pre-sets for each radio band. To toggle through pre-sets 01 to 06 rotate right-rear knob (#3) clockwise. To store a pre-set: Using right-front knob (#4) tune to desired station then toggle right-rear knob (#3) to the desired pre-set location (1-6) once pre-set location is selected press right-front knob (#4) to store.

## Selecting Radio Pre-sets

To recall radio pre-sets, turn the right-rear knob (#3) clockwise and release it. Repeat to move through the pre-sets.

## Mute

Press the right-front knob (#4) to mute or unmute.

# OPERATING YOUR RADIO

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## tone controls

This sub-menu allows advanced tonal adjustments, balance and fader controls and the preset equalizer options. To access this sub-menu, press the left-front knob (#1). Keep pressing the left-front knob to scroll through the available options. To adjust within the sub-menu, turn the left-front knob clockwise or counter-clockwise.

### Digital Signal Processor (DSP)

This sub-menu toggles the Digital Signal Processor (DSP) on and off. Factory default is **DSP OFF**. Activating DSP allows you to choose one of three preset equalization settings:

- **CLASSIC** This setting offers subtle sonic adjustments that lend themselves to classical music.
- **POP** This setting accentuates bass and treble frequencies and is suitable for popular music.
- **ROCK** This setting accentuates treble frequencies and is suitable for rock music.

### Bass

This sub-menu (**BASS**) allows bass tone adjustments. You may boost or cut low frequencies from +7 to -7.

### Middle

This sub-menu (**MIDDLE**) allows mid tone adjustments. You may boost or cut mid frequencies from +7 to -7.

### Treble

This sub-menu (**TREBLE**) allows treble tone adjustments. You may boost or cut high frequencies from +7 to -7.

# OPERATING YOUR RADIO

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## Balance

This sub-menu (**BRL**) allows adjustment of stereo sound to left or right. This may be helpful in compensating for the position of the driver in relation to the vehicle's speakers. Adjustment range is from 0-12 between left and right speakers.

## Fader

This sub-menu (**FADER**) allows you to adjust the sound between the front and rear speakers. Adjustment range is from 0-12 between front and rear speakers.

## XBAS

This sub-menu (**XBAS**) boosts bass and treble for listening at low volumes. This should only be used at low volume levels and should be set to XBAS OFF at higher volumes.

## Bass Crossover Frequency

This sub-menu (**BAS 80H**) adjusts the frequency crossover of the bass-tones between 60Hz, 80Hz, 100Hz or 200Hz.

## Middle Crossover Frequency

This sub-menu (**MID 1.0K**) adjusts the frequency crossover of the mid-tones between 0.5KHz, 1.0KHz, 1.5KHz or 2.5KHz.

## Treble Crossover Frequency

This sub-menu (**TRE 10.0K**) adjusts the frequency crossover of the treble-tones between 10.0KHz, 12.5KHz, 15.0KHz or 17.5KHz.

## SYSTEM SETTINGS

The System Settings sub-menu system enables access to numerous additional features of your radio. Press and hold the right-front knob (#4) for three seconds to access the System Settings sub-menu. Then rotate the right-front knob (#4) clockwise to scroll through the available sub-menu options. In a specific sub-menu, press the right-front knob (#4) to change the options.

# OPERATING YOUR RADIO

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## Auto Seek/Manual

This sub-menu allows you to select either **AUTO SEEK** or **MANUAL** tuning when listening to the radio. In Auto Seek mode, the radio will tune to the next available station when tuning. Press the right-front knob (#4) to change this function.

## A Store

This sub-menu will automatically fill FM pre-sets on all three FM bands of six pre-sets each (eighteen total pre-sets) with the strongest stations. To activate this feature, once in the system settings, rotate the right-front knob (#4) clockwise until **A STORE** appears on the screen, then press the right-front knob (#4) to activate. This process can take up to one minute.

## Local/Distant

Using the right-front knob (#4), this sub-menu changes the sensitivity of the FM tuner. When listening to the FM tuner, selecting between **LOCAL** and **DISTANT** can aid in listening to weak FM stations or compensate for stations that have too strong a signal.

## Clock

This sub-menu allows you to set the clock. To adjust hours, rotate right-front knob (#4) clockwise until **CLK** appears. Press right-front knob (#4) to adjust hours. Adjusting past **12** will toggle the AM/PM indicators. Once the hour is set, press the right-front knob (#4) to adjust minutes. Once minutes are set, press the right-front knob (#4) to access the 12/24 menu.

## Clock 12/24

Using the right-front knob (#4), this sub-menu allows you to adjust the clock from a twelve hour clock to a twenty-four hour clock. The factory default setting is for a twelve hour clock (**CLK 12**).

# OPERATING YOUR RADIO

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## Display Frequency/Clock

Using the right-front knob (#4), this sub-menu allows you to adjust the priority screen view between radio frequency (**DISP FREQ**) and clock (**CLK**).

## Clock ON/OFF

Using the right-front knob (#4), this sub-menu allows you to turn off the clock when the radio is off. Default is **CLK ON**.

## Beep On/Off

Using the right-front knob (#4), this sub-menu controls the audible beep confirmation that sounds during operation of the radio. Select **BEEP ON** to hear the audible beep, and **BEEP OFF** to disable the audible beep.

## Display Color (SCAN)

This sub-menu changes the display color. The default setting is **SCAN**, which will scan through all of the available colors. To customize your display color, look for the word **SCAN** in the sub-menu (if a custom color has already been chosen, look for that color name in the sub-menu), then press the right-front knob (#4) to select one of the pre-set colors: **WHITE, GREEN 1, GREEN 2, GREEN 3, ORANGE, RED, PINK, PURPLE 1, PURPLE 2, BLUE 1, BLUE 2, USER, SCAN**.

To create a custom color, select **USER** in the pre-set color menu, then rotate the right-front knob (#4) once. The display will say **RGB**. Now press the right-front knob (#4) once. This will allow you to edit the RGB values for 32,000 color variations. Rotate the right-front knob (#4) to adjust the reds, then press the same knob (#4) to move to the greens. Repeat this process to adjust the greens and the blues.

**NOTE:** If you lower all RGB settings down to "00" the display will go black, and you will need to reset the radio by disconnecting all power from the unit for 2 minutes.

# OPERATING YOUR RADIO

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## Dimmer High/Low

Using right-front knob (#4), this sub-menu allows you to adjust the radio's display brightness between high (**DIMM HIGH**) and low (**DIMM LOW**).

## Bluetooth® ON/OFF (BT)

Using right-front knob (#4), this sub-menu turns Bluetooth® on or off. Bluetooth® must be enabled in order to connect a Bluetooth® device for hands-free operation or streaming audio.

## Bluetooth® Connect/Disconnect

Using right-front knob (#4), this sub-menu allows the radio to be discoverable on your Bluetooth® device. Choose **BT CONNCT** to allow your device to connect, and **BT DISCON** to disable Bluetooth® connections.

To connect your device, choose **BT CONNCT**, then search for "RETROSOUND" in your phone's Bluetooth® device list. Enter password "0000" if prompted.

## Area USA/EUR/AUS/JAP/RUS

Apache has the capability to receive radio broadcasts from around the world. This sub-menu allows you to adjust to broadcasts in your country. Factory default setting is United States (**USA**). Turn the right-front knob (#4) to toggle between Europe (**EUR**), Australia (**AUS**), Japan (**JAP**) and Russia (**RUS**). To confirm the change, pause to let the sub-menu revert to your tuner. You will see your selected tuner mode: **AREA USA**, **AREA EUR**, **AREA AUS**, **AREA JAP**, **AREA RUS**.

## Volume Last/Adjust

Using right-front knob (#4), this sub-menu allows you to adjust the volume level that the radio first turns on to. The factory default setting is **VOL LAST**, which sets the turn on volume at the last volume used. **VOL ADJUST** allows you to pre-set the volume level between 0-46 upon radio activation.

# USB DEVICE INSTRUCTIONS

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## Connecting a USB Device

The USB input is located at the rear of the radio body. The USB cable must be routed to a convenient and accessible location for plugging in USB devices.

Once you have turned on your radio and connected your flash drive or supported USB device to the USB input, the radio will find your songs and automatically begin playing them.

The **USB** icon appears on the LCD during USB playback.

To change songs, rotate the right-front knob (#4) to access the next or previous song. To cycle through folders, turn the right-rear knob (#3) clockwise, then rotate the right-front knob (#4) to cycle through the folders. To play/pause, listen to 10 seconds of each song (**INT**), repeat the track you're listening to (**RPT**) or randomly select from all songs on the attached flash drive or supported USB device (**RDM**), press the left-front knob (#1) to access the USB menu.

## About MP3/WMA/FLAC

MP3 (MPEG Audio Layer-3) and WMA (Windows Media Audio) are for compressed audio files. When your radio is in USB mode, you can play MP3 and unprotected (no DRM) WMA files off the flash drive.

### Common facts about these compressed-sound formats:

- High bit rate and high sampling frequencies are recommended for high sound quality.
- Selecting VBR (Variable Bit Rate) is not recommended because playing time is not displayed properly and there may be some audible skipping artifacts. The playback sound quality differs depending on the encoding circumstances. For details, refer to the user manual of your encoding software.

# USB DEVICE INSTRUCTIONS

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- When adding MP3 files to your flash drive, it is recommended to set the bit rate to 128 kbps or more and “fixed.”
- When adding WMA files to your flash drive, it is recommended to set the bit rate to 64 kbps or more and “fixed.” Do not set the copy protect attribute on the WMA file or you will not be able to play the track.
- Apache will read only FAT32 formatted flash drives. This radio will NOT read NTFS formatted drives.
- Apache will read files placed in the root directory first before playing files in the folder structure of the drive. Please note that files are read in order of creation NOT alphabetically or numerically. Older files will get read first in a folder.

## Viewing MP3/WMA Song Information

When playing MP3/WMA files from the USB source, you can view the track name, album, artist (ID-3) information automatically from these files. Once the USB drive is inserted, the following information will scroll across the screen in the following order: **F-DIR** (folder directory), **MP3 FILE** (file name of song), **ALBUM** (name of album) **ARTIST** (name of artist), **SONG** (name of song).

To access the clock when in USB mode, turn the left-rear knob (#2) counter-clockwise. The clock will time out after a few seconds and will revert to the ID-3 information. Turning the left-rear knob (#2) counter-clockwise again will revert to viewing the ID-3 information on-screen.

**NOTE: FLAC format does not support ID-3 information and will not display the artist or song information. Not all music software handles ID-3 information the same way. Some software will produce MP3 files with ID-3 information that is not readable by the radio Motor. If this occurs, you may need to use a converter or ID-3 editor to change the ID-3 information for the artist, album and song information to display properly on your radio.**



# BLUETOOTH® DEVICE INSTRUCTIONS

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## Bluetooth® Instructions

### Bluetooth® Hands-Free and A2DP Streaming Operation

You can make or receive phone calls using a Bluetooth® enabled phone connected to your radio and control basic functions via the radio interface. During a call, the radio music source will be muted and the call will broadcast through your car speaker system. You can also listen to music stored on a A2DP enabled Bluetooth® device.

### Pairing a Bluetooth® Device

When connecting a Bluetooth® device for the first time, you must first pair the device with the unit. For most devices, pairing only needs to be done once.

1. To pair your device, first make sure the Bluetooth® function is turned on in the radio sub-menu.
2. Then, change the **BT DISCON** function to **BT CONNECT** to make your radio discoverable (ensure Bluetooth® is enabled on your device).
3. Next, search for a new Bluetooth® device from the phone (this may take up to 30 seconds) and select “RETROSOUND” from the Bluetooth® device list.
4. If prompted, enter “0000” for the PIN. If successful, “PAIRING OK” will be displayed on the LCD screen.

The paired device will then connect to your radio automatically.

On some devices, you may need to select “SET AS AUTHORIZED” or similar to ensure your radio will automatically pair on future usage.

**PAIRED NOTIFICATION DISPLAY:** When the Bluetooth® device is paired with your radio, the Bluetooth® icon  will appear on the LCD screen. This will occur whenever you use the system while the paired device is within range.

# BLUETOOTH® DEVICE INSTRUCTIONS

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## Placing a Call

1. Dial the desired number on the paired phone.
2. Once dialing is in progress, **CALLING** will appear on the screen.
3. Once the call is in progress, **TALK** will appear on the screen along with the elapsed call time (**TALK 00:00**).

## Receiving a Call

1. If a call is incoming, any audio playback from the current source will either be muted or paused (depending on the source) and **PHONE IN** will be shown on the screen along with the caller ID if it is enabled by the phone/carrier.
2. To accept the call, turn the left-rear knob (#2) counter-clockwise.

## Ending a Call

To end the call, turn the left-rear-knob (#2) counter-clockwise.

## Streaming Music From Your Device

1. Once your device is paired with your radio, make sure the source mode is set to **BT AUDIO**.
2. Next, select your desired playback source on your device (iTunes®, Pandora®, etc) and play the music as you normally would.

# TROUBLESHOOTING

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Problem	Possible Cause	Action to Solve Problem
Radio will not turn on (no lights, no sound)	Yellow Constant +12-volt wire not connected or incorrect voltage.	Check all connections for proper voltage with a volt meter. Voltage range: 12-15-volts
	Red Ignition/Acc wire not connected or incorrect voltage.	Check +12-volt accessory wire connection
	Ground wire not connected	Check ground connection
	Fuse on Batt+ is blown	Replace blown fuse
No sound heard from unit but unit lights up	Volume turned all the way down	Increase radio volume
	Internal amp in protection mode	Check speaker leads for any grounded or shorted wires
	Wrong source mode selected	Make sure the unit is in the desired source mode (RADIO, AUX 1, AUX 2, USB, BT-AUDIO)
Unit blows fuses	Possible short in wiring	Incorrect fuse used, make sure only fuses with correct 15 amp ratings are used and check all wiring connections for possible short
	Battery hooked up backwards	Make sure battery is properly connected
USB Error	Invalid media / device type	Ensure file formats and devices are acceptable for playback

## System Reset

To restore/reset the unit to factory defaults, remove all power from the unit, wait 5 minutes and then reconnect power.

## FREQUENTLY ASKED QUESTIONS

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### **Do your radios work on 6-volt systems or on positive ground systems?**

No. Our radios are 12-volt, negative ground only. After-market converters and inverters are available but must have at least 10 amps of continuous output.

### **I'm having problems getting the radio to turn on.**

RetroSound® radios require 12-volts to both power leads. The red lead (+12-volt accessory) goes to a switched power source, and the yellow to a constant +12-volt power source. Using a volt meter, check the voltage when the key is turned from "off" to "on". If there is a significant drop in the voltage, the circuit that the yellow lead is attached to cannot handle the additional draw of the radio. You will need to find another circuit that can handle the additional draw of the radio, or you will need to go directly to the battery.

### **What speaker wire do you recommend I use?**

We recommend using 16-gauge wire for the speakers.

### **I have all 4 speakers connected to your radio and the display is lit up like it is working, but there's no sound coming out.**

This usually indicates one of two things:

- Speaker wires are touching each other or the vehicle chassis at some point. Check each speaker lead from radio to speaker.
- Speaker impedance is below 4 ohms. Older speakers are usually not compatible with modern electronics.

# FREQUENTLY ASKED QUESTIONS

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**My car originally came with a switch to control my automatic antenna. Can I use the RetroSound® radio's remote antenna wire to control my antenna?**

No you cannot. Your factory antenna is known as “semi-automatic.” It requires a switch to either extend or retract the antenna. You must retain this switch to control your antenna; the RetroSound® radio's power antenna wire is for more modern “fully-automatic” antennas not requiring a separate switch.

**The sound output is all mid-range, with very little bass and a strangled-sounding upper range. What is wrong?**

One of your speaker wires is connected backwards. This is called being “out of phase.” Check to make sure positive is wired to positive and negative to negative on all your speakers.

**Will cutting or bending the InfiniMount brackets void the warranty or harm the unit?**

No. The RetroSound® patented InfiniMount bracket system has been designed specifically to be bent, cut and modified to simplify radio installation. Modification to the radio's brackets is actually encouraged to ensure proper fit.

If you have questions about modifying the bracket system, please contact us.

**How much should I tighten the shaft nuts when installing the brackets and mounting the radio to the dash?**

**DO NOT OVERTIGHTEN** the shaft nuts. The shaft nuts are **NOT** the only means of securing the radio to the dash. There is a backstrap included which works with the shaft nuts to secure the radio to the dash. Please note that overtightening the shaft nuts could break the shafts. Retro Manufacturing, LLC will not be responsible for broken shafts due to overtightening of the shaft nuts.

## FREQUENTLY ASKED QUESTIONS

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**I have your radio with an amp connected, but hear a whining/buzzing sound through the speakers when I step on the accelerator.**

If you have an external amplifier installed and experience a high-pitched noise that varies with the engine's RPM, there are many possible solutions:

- Make sure the amplifier's gain controls are not turned all the way up. Amplifiers amplify everything, including noise.
- Try grounding the amplifier near where it is installed.
- Try a filter on the amplifier's 12-volt power lead. Make sure to use a filter that includes a ground wire.
- On rare occasions, noise can be introduced through the antenna lead. If disconnecting the antenna makes the noise go away, you need to replace or repair the antenna plug where it goes into the radio.

**When I plug in my flash drive the screen says **USB ERR**, and it won't play the files I placed on the drive.**

- Make sure the files on the drive are .mp3 or unprotected .wma (Windows Media Audio) files. iTunes® files are .m4a format and need to be converted to .mp3 format, which can easily be done using iTunes®.
- Verify the capacity of the flash drive. Apache will only play 1 gig up to 32 gig size flash drives.
- Make sure the flash drive is not NTFS formatted. Always use the FAT32 format (most drives are formatted with FAT32 from the factory). Be sure to do a full format rather than a quick format, and check that none of the files or folders have names longer than 64 characters. It is very important that none of the audio files have DRM. Use only MP3 files or unprotected Windows Media format files.

# SPECIFICATIONS

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## FM

Tuning Range (USA, EUR, AUS, JAP, RUS tuning capable)	87.5-107.9MHz
Antenna Terminal	External Antenna Connector
Usable Sensitivity	12.5 dBf
Selectivity	75 dB @ 400kHz
Signal to Noise Ratio	62 dB (Stereo), 67 dB (mono)
Harmonic Distortion @ 1 kHz	0.8% (stereo), 0.5% (mono)
Separation	32 dB @ 1kHz
Frequency Response	30-16,000 Hz

## AM

Tuning Range (USA, EUR, AUS, JAP, RUS tuning capable)	530-1710 kHz
Antenna Terminal	External Antenna Connector

## General

Dimensions (radio face)	3.75"W x 1" H x 1.05" D
Dimensions (radio body)	3.96"W x 1.98"H x 4.30"D
Power Requirements	10.5-14.4-volts
Current Consumption (during operation)	Max. 15A
Current Consumption (car off)	<3.5 mA
Output Power (@ 14.4-volts @ 4 ohm @ 1% THD)	.25x4 watts RMS/45x4 watts Peak Power
Output Impedance	4-8ohm
Low Level Output (4 channels)	2.85-volts
AUX 1 Input (AUX cable length, 8")	>300 mV / 6 kΩ
AUX 2 Input (AUX cable length, 8")	>300 mV / 6 kΩ
USB 1 Input (USB cable length, 20")	.5V (USB female input)

**NOTE: All specifications are subject to change without notice.**

# LIMITED WARRANTY

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## Limited Warranty

If your unit does not work properly because of defects in materials and workmanship, Retro Manufacturing, LLC (collectively referred to as "the warranter") will for the length of the period indicated in the chart below at its option either (a) repair your unit with new or refurbished parts, or (b) replace it with a new or refurbished unit. The warranty period starts with the date of original purchase. The decision to repair or replace will be made by the warranter.

CATEGORIES	Warranty
Apache RetroRadio™	One (1) Year

During the warranty period, there will be no charge for replacement parts. You must mail in your unit prepaid during the warranty period. This warranty only applies to products purchased and serviced in the United States. This warranty is extended only to the original purchaser of a new product which was not sold "as is." A purchase receipt or other proof of the original purchase date is required for warranty service.

To handle a warranty issue, contact us at [tech@retromanufacturing.com](mailto:tech@retromanufacturing.com) or 888.325.1555 for a Return Authorization (RA) number. All returns and warranty issues must be accompanied by a Return Authorization number. Any product received without a RA number will be refused. If a radio is returned for credit any missing parts will be debited from the return price.

### LIMITED WARRANTY-LIMITS AND EXCLUSIONS

This warranty ONLY COVERS failures due to defects in materials and workmanship; warranty DOES NOT COVER normal wear and tear or cosmetic damage. The warranty ALSO DOES NOT COVER damages which occurred during shipment, failures which are caused by products not supplied by the warranter, failures which result from accident, misuse, abuse, neglect, bug infestation, mishandling, misapplication, alteration, faulty installation, set-up adjustment, maladjustment of consumer control, improper maintenance, improper antenna, inadequate signal reception or pickup, power line surge, improper voltage supply, lightning, modification, commercial use (such as use in hotels, offices, restaurants, or other business uses) or rental use of the product, or service by anyone other than Retro Manufacturing, LLC, or damage that is attributable to acts of God.

THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY". THE WARRANTER IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS UNIT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. (As examples, this excludes damages for lost time, cost of having someone remove or re-install an installed unit if applicable, travel to and from the servicer, and loss of media, data or other memory contents. The items listed are not exclusive, but are for illustration only.) ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY, ARE LIMITED TO THE PERIOD OF THE LIMITED WARRANTY.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state. If a problem with this unit develops during or after the warranty period you may contact your dealer or Retro Manufacturing, LLC.



# REPLACEMENT PARTS

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If you need replacement parts, contact us at [sales@retromanufacturing.com](mailto:sales@retromanufacturing.com) or call 888.325.1555

(See “What’s in the Box” on page 3 to confirm the part(s) needed).

## Replaceable Items

- Main Wiring Harness\*
- Power Wiring Harness\*
- Speaker Wiring Harness\*
- Metal Backstrap
- Metal Hardware Pack
- Plastic Washer Kit
- Shaft(s)
- InfiniMount Brackets (pair)
- Bezel / Faceplate
- Knobs
- Bluetooth Microphone

**\* These harnesses combine to make one complete part. They are not available separately.**

## Purchase Notes

Record the place and date of purchase for future reference.

Model No. ....

Serial No. ....

Purchase Date .....

Purchased From .....

Keep this information and your sales receipt in a safe place.

# INSTALLATION NOTES

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# INSTALLATION NOTES

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*Retro*<sup>®</sup>  
**MANUFACTURING**

MODERN SOUND FOR YOUR CLASSIC