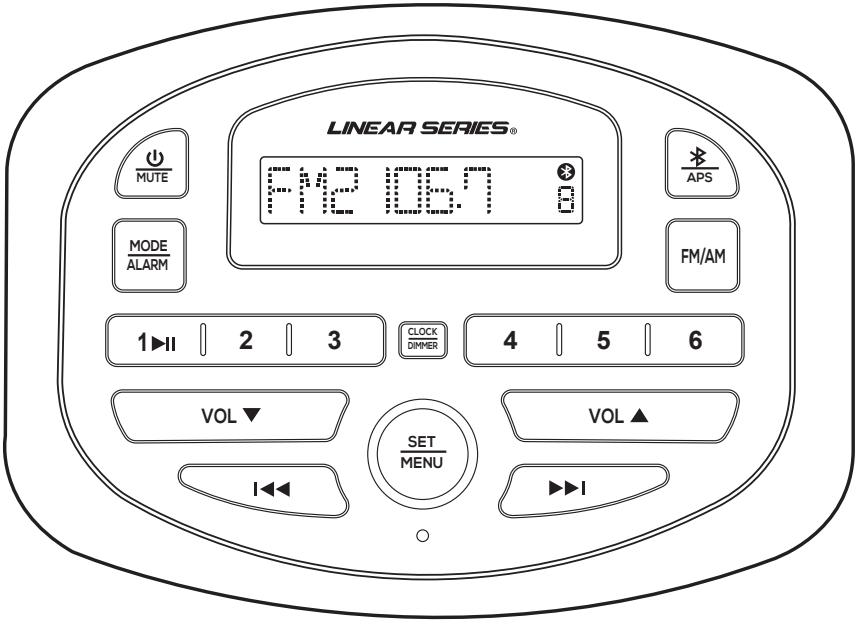
LINEAR SERIES®

# Operation / Installation Manual




## Bluetooth AM/FM Entertainment Center

**SP1** Rev. B

# Introduction

Please take the time to read all of the information in this manual. Familiarity with operation and installation procedures will help you obtain the best possible performance from your new Entertainment Center.

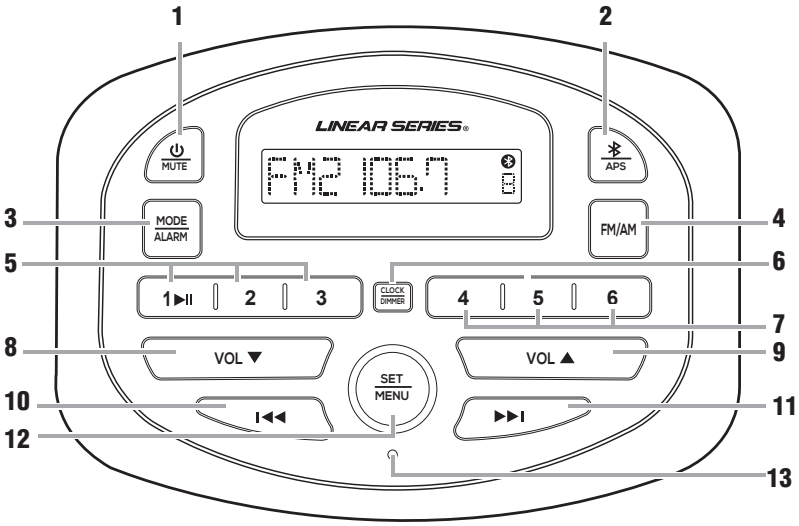
**WARNING!**

- FCC REGULATIONS STATE THAT ANY UNAUTHORIZED CHANGES OR MODIFICATIONS TO THIS EQUIPMENT MAY VOID THE USER'S AUTHORITY TO OPERATE IT.
- THIS DEVICE IS INTENDED FOR CONTINUOUS OPERATION.
- TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK AND ANNOYING INTERFERENCE, USE ONLY THE RECOMMENDED ACCESSORIES.

# Index


Button Locations and Functions . . . . . 4-5
General Operation . . . . . 6
Sound Controls . . . . . 7-8
Speaker Selection . . . . . 8
Clock and Alarm Operations . . . . . 9
Radio Operations . . . . . 10-11
Bluetooth Operations . . . . . 12
Installation . . . . . 13
Wiring . . . . . 14

## Button Locations and Functions




1. **Power and Mute Button:**

   **Power Button:** Press to turn the entertainment center on. Press and hold the button for 3 seconds to turn the unit off.

   **Mute Button:** Press to mute sound. Press again to restore.

2. **Bluetooth and APS Button:**

   **Bluetooth Selection Button:** Press to choose Bluetooth input mode. Bluetooth device must be paired prior to use.

   **APS Button:** Press and hold for radio Automatic Preset Scan and Storage.

3. **Mode Button and Alarm Button:**

   **Mode Button:** Press to toggle between RADIO, and BT AUDIO (Bluetooth).

   **Alarm Button:** Press and hold to enter set Alarm mode. (See Setting the Alarm section for details).

4. **FM/AM Radio Selection:**
   Press to choose Radio mode. Sequential presses will select radio bands: FM1, FM2, FM3, AM1 and AM2.

5. **Radio Station Recall Buttons (1-3):**
   Press and release to recall preset radio stations. Press and hold to memorize a selected station as a numbered preset.

   **Bluetooth mode** (available functions are dependent upon the specific Bluetooth audio device and the audio application)**:**
   **▶II :** Press to pause track, press again to resume**.**

6. **Clock and Dimmer Button:**

   **DIMMER Button:** Short press to toggle between LED High, LED Mid and LED Low.

   **CLOCK Button:** Press and hold to enter set clock mode. (See Setting the Clock section for details).

7. **Radio Station Recall Buttons (4-6):**
   Press and release to recall preset radio stations. Press and hold to memorize a selected station as a numbered preset.

8. **Volume Down Button:**
   Press VOL ▼ to decrease volume level. Also use for selection down through adjustments within the SET/MENU options: sound controls, display, area location, speaker selection and alarm.

9. **Volume Up Button:**
   Press VOL ▲ to increase volume level. Also use for selection up through adjustments within the SET/MENU options: sound controls, display, area location, speaker selection and alarm.

10. **Seek Down Button I◀◀:**
    **Radio Mode:** Short press to automatically seek for next lower tunable frequency. Press and hold to move into manual tuning mode.
    **Bluetooth Mode:** Press to search for the beginning of the previous track.

## Button Locations and Functions (Continued)

11. **Seek Up Button ▶▶I:**
    **Radio Mode:** Short press to automatically seek for next higher tunable frequency. Press and hold to move into manual tuning mode.
    **Bluetooth Mode:** Press to search for the beginning of the next track.

12. **SET / MENU Button:**
    Short press to enter and then short presses to toggle between sound adjustments: Bass, Treble, Balance, Fader then DSP: Pop/Rock/ Classic, Boost On/Off and then back to Volume. Use the VOL ▲ or VOL ▼ to make adjustments.

    Press and hold to enter 2nd menu and then short press to toggle between Area USA1/ AREA USA2/AREA EUR, Speaker A & B Selection, STEREO / MONO, ALARM ON/ OFF and DISP ON/OFF. Use the VOL ▲ or VOL ▼ to make adjustments.

    See desired feature adjustment selection for operation details.

13. **Reset Button:**
    To reset the unit to its factory settings use a pointed object like a ball point pen to press the **RESET** button.

# General Operations

**Power On:**

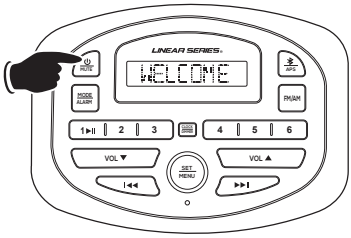
Press the ⏻ / **MUTE** button to turn the unit on.

**Power Off:**

Press the ⏻ / **MUTE** button for 3 seconds to turn the unit off.

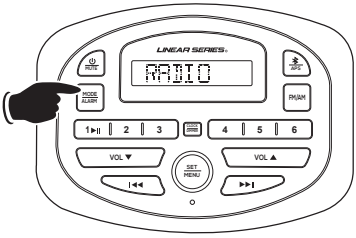
**Mute:**

A short press of the ⏻ / **MUTE** button will mute the audio.




**Selecting a Play Source:**

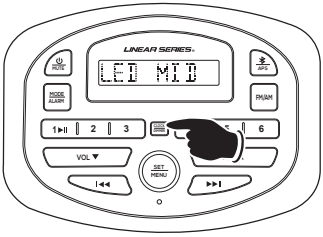
Press the **MODE** button to selected either: “RADIO”, or “BT AUDIO”




**Dimming the Display:**

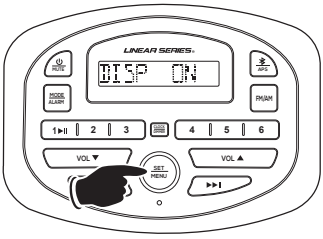
Press the **DIMMER** button to select from the 3 levels of brightness for the display area:

“LED LOW”, “LED MID” or “LED HIGH”



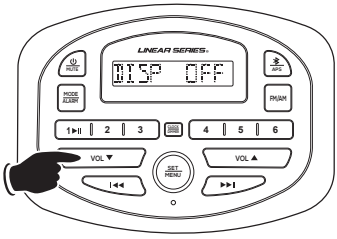

**Priority Clock Display Selection:**

Press and hold the **SET/MENU** button until A_SPK ON appears. Short press the same button until “DISP OFF” or “DISP ON” appears on the screen.




Immediately press Volume buttons to toggle to either of the 2 desired screen appearances:

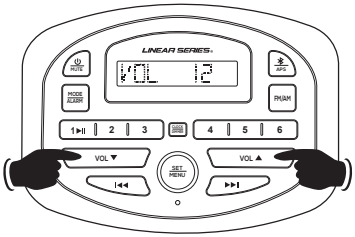
1. **DISP ON:** Screen will remain on current time display.
2. **DISP OFF:** Screen will display current radio station in RADIO mode, or track information in BT Audio mode.



# Sound Controls

## Volume:

Increase the volume by pressing the **VOL ▲** button.
Decrease the volume by pressing the **VOL ▼** button.



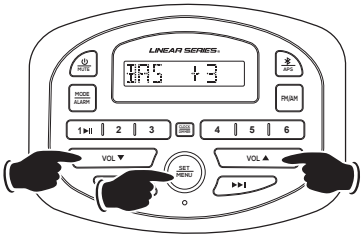

## Bass, Treble, Balance, Fader, DSP, Boost and Volume Control

Select the desired sound mode by pressing the **SET/MENU** button. The modes will be displayed in the following order: Bass, Treble, Balance, Fader, DSP, Boost and Volume.

## Bass:

Press the **SET/MENU**. The first sound mode adjustment displayed will be “BAS” (Bass).

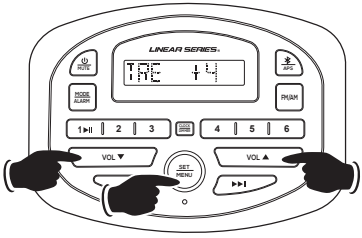
Immediately use the the **VOL ▲** or **VOL ▼** to adjust to desired Bass level -7 to +7.




## Treble:

Press the **SET/MENU** until “TRE” (Treble) appears in the display.

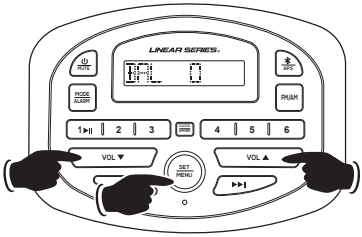
Immediately use the **VOL ▲** or **VOL ▼** to adjust to desired Treble level -7 to +7.




## Balance:

Press the **SET/MENU** until “BAL” (Balance) appears in the display.

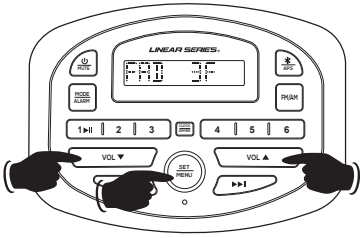
Immediately use the **VOL ▲** or **VOL ▼** to adjust to desired speaker balance - 10L to 0 to 10R. 0 is middle balanced between the Left and Right speakers.




## Fader:

Press the **SET/MENU** until “FAD” (Fader) appears in the display.

Immediately use the **VOL ▲** or **VOL ▼** to adjust to desired Front and Rear speaker balance - 10R to 0 to 10F. 0 is middle balanced between the Rear and Front speakers.



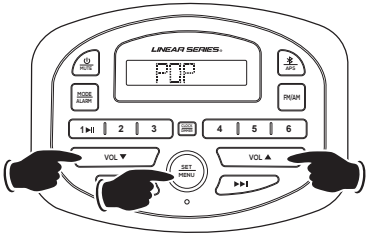
## Sound Controls (continued)

### DSP (Pre-set EQ):

Press the **SET/MENU** until the “DSP” (Digital Signal Processor - Equalizer) options appears in the display. The Equalizer presets to choose from are: “DSP OFF”, “POP”, “ROCK” or “CLASSIC”.

Immediately use the **VOL ▲** or **VOL ▼** to adjust to desired DSP preset.

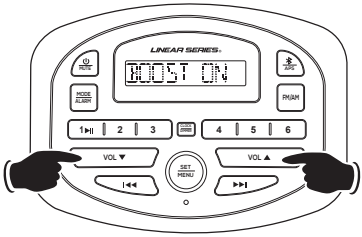
**Note:** If DSP preset is enabled, Bass and Treble settings cannot be manually adjusted.




### BASS BOOST:

Press the **SET/MENU** until “BOOST ON” or “BOOST OFF” appears in the display.

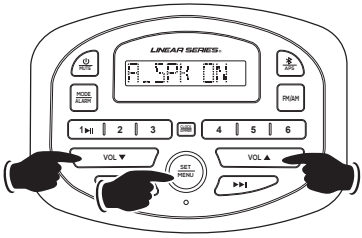
Immediately use the **VOL ▲** or **VOL ▼** to turn ON or OFF.




## Speaker Selection and Stereo/Mono

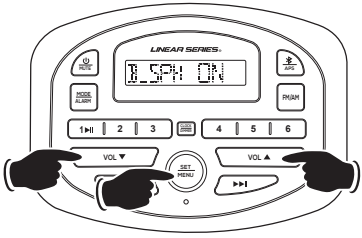
### Speaker Set A On/Off:

- Press and hold the **SET/MENU** button until the display reads AREA USA 1. Immediately press again until either “A SPK ON” or “A SPK OFF” displays. Then press either the **VOL ▲** or **VOL ▼** to turn ON or OFF.




### Speaker Set B On/Off:

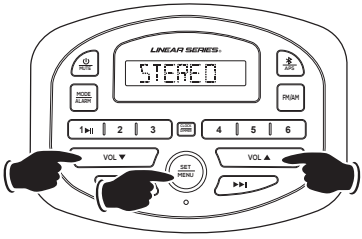
- Press and hold the **SET/MENU** button until the display reads AREA USA 1. Immediately press again twice until either “B SPK ON” or “B SPK OFF” displays. Then press either the **VOL ▲** or **VOL ▼** to turn ON or OFF.




### STEREO / MONO

- Press and hold the **SET/MENU** button until the display reads “AREA USA 1”. Immediately press again 3 times until either “STEREO” or “MONO” displays. Then press either the **VOL ▲** or **VOL ▼** to make selection.

**Note:** In FM mode.



## Setting the Clock

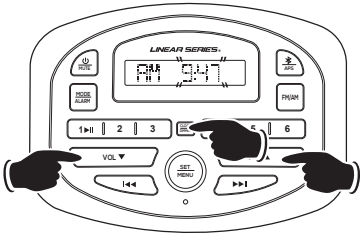
1. Press and hold the **CLOCK/DIMMER** button until the clock appears in the display.

2. Press and hold again until the time begins flashing.

3. Immediately use the **VOL ▲** to set the minutes and **VOL ▼** to set the hour.

   After 5 seconds of inactivity, the display will return back to the main screen and the clock will be set.

**Notes:** Select AM or PM when setting the hour.



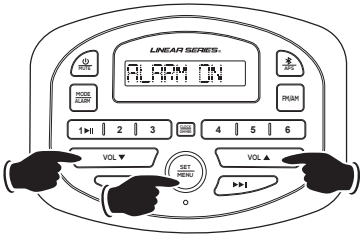

## Alarm Operation

### Setting the Alarm Timer

1. Press and hold the **SET/MENU** button until the AREA_xxx appears in the display.

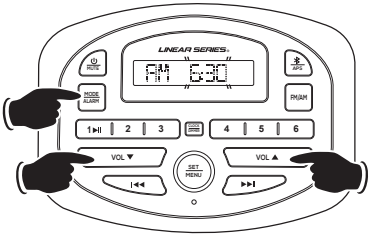
2. Immediately press again 4 times until “ALARM OFF” appears in the display.

3. Immediately press either the **VOL ▲** or the **VOL ▼** to turn the alarm function on - “ALARM ON”.




4. **To set the alarm time:**
   (The radio must be set to “ALARM ON”**)**

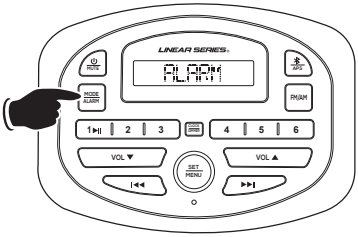
- Press and hold the **MODE/ALARM** button until the alarm time appears in the display.
- Press and hold again until the time begins to flash.
- Immediately use the **VOL ▲** to set the minutes and **VOL ▼** to set the hour to desired time.
- After 5 seconds of inactivity, the display will return back to the main screen and the alarm will be set.




### Shutting off the Alarm

When the alarm sounds, press the **MODE/ALARM** button to shut off.

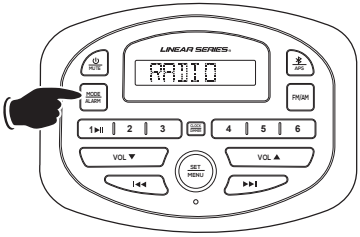
To disable set alarm time use steps 1-3 of **Setting the Alarm Timer** and toggle to “ALARM OFF”.



# Radio Operations

### Selecting the Radio Play Source:

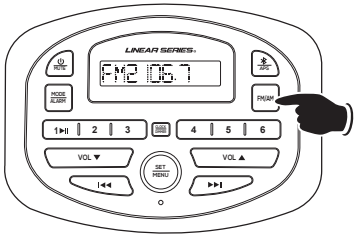
Press the **MODE/ALARM** button until “RADIO” appears in the display.




### Selecting FM or AM:

Press the **FM/AM** button repeatedly to select from: FM1, FM2, FM3, or AM1, AM2.

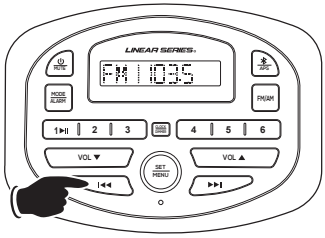
**Note:** If you are in BT, press the **FM/AM** button to switch to radio.




### Tuning in a Radio Station Using Seek:

Press the ⏮ button and the radio will scan down to the next strong station and begin playing.

Press the ⏭ button and the radio will scan up to the next strong station and begin playing.

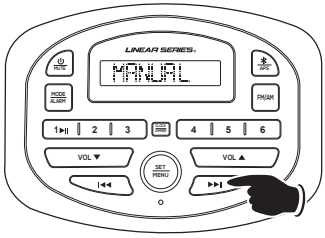



### Manually Tuning in a Radio Station:

Press and hold either the ⏮ or ⏭ button and “MANUAL” will appear on the display screen.

Press either button to tune to desired higher or lower frequency stations. Holding either button down when in “MANUAL” mode will move the scan quickly.

After 5 seconds of inactivity, the radio tuner will move out of the “MANUAL” mode and back into the default seek mode.

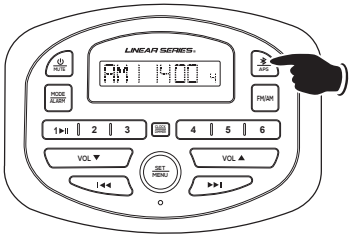


### Scanning and Automatically Storing Radio Stations:

Press and hold the **APS** button until the tuner begins to scan forward to the next strong station and then release. The new stations will replace stations that were previously stored in the current band.

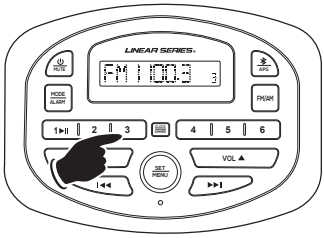
When in FM band mode the 18 strongest frequency stations will be stored: FM1 - 6 stations, FM2 - 6 stations, FM3 - 6 stations.

When in AM band mode the 12 strongest frequency stations will be stored: AM1 - 6 stations, AM2 - 6 stations.




### Memorizing Radio Stations:

1. Tune-in the desired radio station within FM1, FM2, FM3, AM1 or AM2.
2. Hold anyone of the six radio station recall buttons until the preset number appears. The station is now stored into that buttons recall memory.
   (FM - 18 total, AM - 12 total)



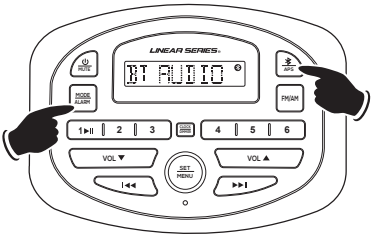
# Bluetooth Operations

## Pairing Bluetooth Devices:

(available functions are dependent upon the specific Bluetooth audio device and the audio application)

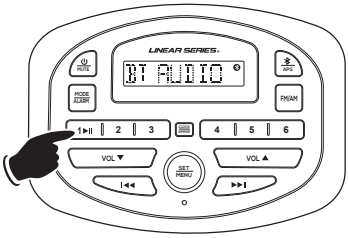
1. Press the ⏻ button to turn on the SP1.
2. Activate Bluetooth from your mobile device and Select “Linear-Series-SP1” which will, if in range, automatically appear in your list of Bluetooth devices.
3. Press the **MODE** or the ✻ button on the SP1 until “BT AUDIO” is displayed.
4. When the mobile device has been paired and an audio application is active on your mobile device, audio can be heard through the speakers.

**Note:** A previously paired Bluetooth mobile device will automatically connect to the SP1 when “BT AUDIO” is selected using the **MODE** or ✻ button (if it is within range).



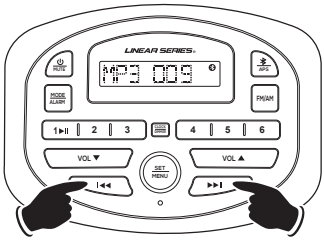

## Bluetooth Operation:

**Play/Pause Button:** Press the ▶II button to pause the Bluetooth playback. Press the ▶II button again to resume playback.




**Changing the Track:**

Press the ▶▶I button to select a higher track.
Press the I◀◀ button to select a lower track.




**Tone and Volume Controls:**

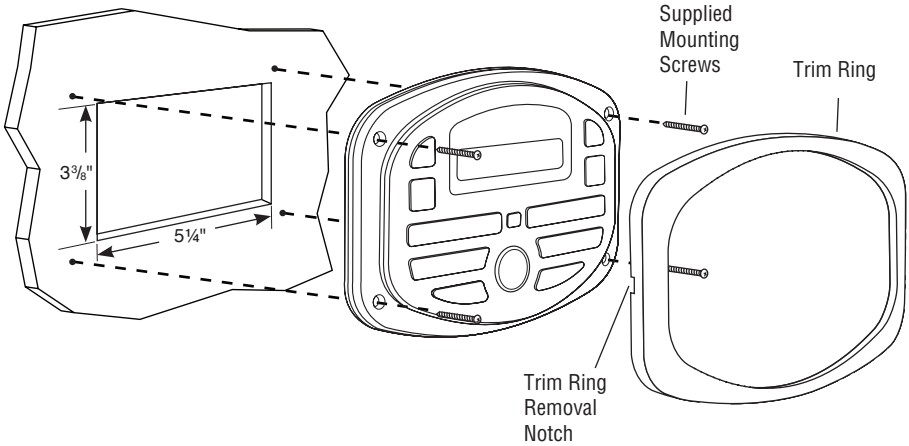
Use the sound controls (page 7-8) to adjust the overall tone of the music being played. Use the **VOL ▲** and **VOL ▼** buttons to adjust the sound output level.

**Note:** For maximum sound output, the media device volume must be set at 100%. Due to factors beyond the radio’s control, maximum audio output may be lower than desired due to music bit rate, music recording level, differences in the music device’s Bluetooth module output and differences in the output levels of different Bluetooth media devices. This is normal and should not be considered a defect.

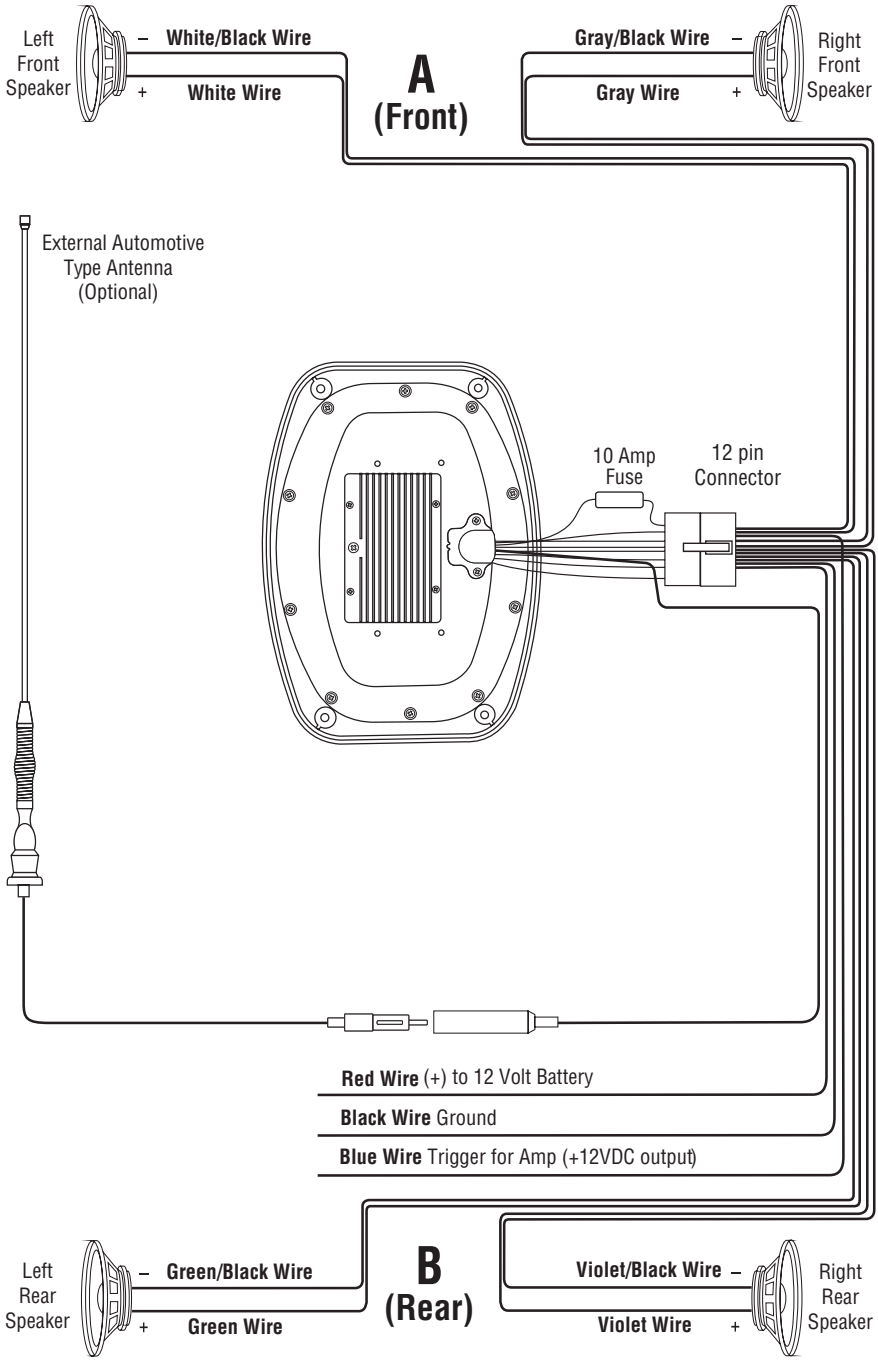
# Installation

**Installing Entertainment Center**

1. Cut out the mounting hole and drill pilot holes for the screws.
2. Mount the entertainment center using the provided screws. Make sure to tighten the screws equally to create a waterproof seal.
   **Note:** If the surface is uneven like wood, use silicone to create a waterproof seal between the uneven surface and the entertainment center.
3. Secure the Trim Ring into place.
   **Note:** When removing the Trim Ring from the entertainment center, place a flathead screw driver or coin into the notch on the side of the Trim Ring and gently pry it off.



## Wiring


Left Front Speaker
– White/Black Wire
+ White Wire
A (Front)
Gray/Black Wire –
Gray Wire +
Right Front Speaker
External Automotive Type Antenna (Optional)
10 Amp Fuse
12 pin Connector
Red Wire (+) to 12 Volt Battery
Black Wire Ground
Blue Wire Trigger for Amp (+12VDC output)
Left Rear Speaker
– Green/Black Wire
+ Green Wire
B (Rear)
Violet/Black Wire –
Violet Wire +
Right Rear Speaker

## ONE (1) YEAR LIMITED WARRANTY

Magnadyne Corporation or its authorized agents will within one year from the date of sale to you, repair, replace or refund the retail sales price of said product or any part thereof, at the option of the Magnadyne Corporation or its authorized agents, if said product or part is found defective in materials or workmanship, when properly connected and operating on the correct power requirements designated for the specific product. This warranty and Magnadyne Corporation or its authorized agent's obligations hereunder do not apply where the product was; damaged while in the possession of the consumer, subjected to unreasonable or unintended use, not reasonably maintained, utilized in commercial or industrial operations, or serviced by anyone other than Magnadyne Corporation or its authorized agents, or where the warning seal on the product is broken or the power and/or plugs are detached from the unit. Magnadyne Corporation or any of its authorized agents will not assume any labor costs for the removal and reinstallation of any product found to be defective, or the cost of transportation to Magnadyne Corporation or its authorized agents. Such cost are the sole responsibility of the purchaser.

This warranty does not cover the cabinet appearance items or accessories used in connection with this product, or any damage to recording or recording tape, or any damage to the products resulting from improper installation, alteration, accident, misuse, abuse or acts of nature.

MAGNADYNE CORPORATION OR ITS AUTHORIZED AGENTS SHALL NOT BE LIABLE TO ANYONE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES OR CLAIMS EXCEPT THOSE ACCORDED BY LAW. NO EXPRESSED WARRANTY OR IMPLIED WARRANTY IS GIVEN EXCEPT THOSE SET FORTH HEREIN. NO IMPLIED WARRANTY SHALL EXTEND BEYOND ONE YEAR FROM THE DATE OF SALE.

This warranty extends only to the original purchaser of the product and is not transferable. Some states do not allow limitations on how long an implied warranty lasts, and some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusion may not apply to you. This warranty gives you specific legal rights, and you may have other rights that vary from state to state.

**"NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the User's authority to operate the equipment."**

Defective merchandise should be returned to the original point of purchase or secondly, to Magnadyne Corporation, 1111 W. Victoria Street, Compton CA 90220.

Return Authorization must be obtained before sending, or merchandise may be refused.

FCC Statement:
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.
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.
Caution: Any changes or modifications not expressly approved by the party responsible
for compliance could void the user's authority to operate the equipment.
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.This equipment should be installed and operated with minimum distance 20cm between the radiator&your body.