Axxess 6-Channel Digital Signal Processor

INTERFACE COMPONENTS

- AXDSP-L interface
- AXDSP-L harness (16-pin & 20-pin)

INTERFACE FEATURES

- 15 Band graphic EQ
- 4 inputs and 6 individually assignable outputs
- Independent equalization for front, rear, and sub
- Independent crossover for front, rear, and sub
- Selectable slope (12, 24, 36, or 48db per octave)
- Front and rear channels can be delayed independently up to 10ms
- Easy behind the radio installation in most applications
- Can be used with OE and aftermarket radios
- Chime control for GM/Chrysler vehicles
- Clipping detection and limiting circuits
- Internal header port for adding interface modules
- Bass knob included
- Retains OE voice prompts (SYNC® and OnStar®)
- Retains factory chimes including parking sensor and cross path detection alerts
- Settings adjusted via Bluetooth® in a smart device application (tablet or mobile phone), compatible with both Android and Apple devices
- Read, write, and store configurations for future recall
- Password protect feature available in the mobile app
- Micro-B USB updatable

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TOOLS & INSTALLATION ACCESSORIES REQUIRED

- Crimping tool and connectors, or solder gun, solder, and heat shrink • Tape • Wire cutter
- Zip ties • Multimeter

Google Play Store

Apple App Store
iOS 12.1 or higher

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PREFACE

The AXDSP-L can be used with an aftermarket system or OEM system. The AXDSP-L can also grow as your stereo system grows. Start off by adding a subwoofer to an OEM system, then add on from there. Simply reference the **Installation Options** page to change the AXDSP-L to the new system. All 6 channels of the AXDSP-L can be assigned however needed for the installation at hand. If 6 channels of a subwoofer signal is needed, the AXDSP-L can do it.

In the following section, **Installation Options**, choose the installation type, then either click on the hyperlink, or reference the page number.

It is highly suggested to use an AXDSP-L pre-wired harness (sold separately) unless you are installing it with an aftermarket radio. As such, the instructions are written in that manner. Certain connections to the vehicle are unique per vehicle and will require the pre-wired harness to reference to.

The AXDSP-L provides a 12v 1-amp output to turn on an aftermarket amplifier. If installing multiple amplifiers, an SPDT automotive relay will be required if the current exceeds that amount. Use Metra part number **E-123** (sold separately) for best results.

If installing the AXDSP-L behind the radio to install a sub amp, the OEM amp can be retained for mids/highs. If installing the AXDSP-L at the OEM amp location, the OEM amp must be fully removed.

In most cases the CAN Bus wires need to be connected in order for the AXDSP-L to communicate with the vehicle to turn on and provide an amp turn-on output.

Inside the interface is a 16-pin header port for adding optional modules (sold separately). Page 8 and Page 9 will show the installation and use of these modules.

- **AXDSPL-BT** - Bluetooth streaming interface
- **AXDSPL-SP** - Toslink digital output

INSTALLATION OPTIONS

Aftermarket radio system:

The **AXDSP-L** can be used with an aftermarket radio to improve the overall listening experience for car audio enthusiasts. Installers will connect the RCA inputs from the **AXDSP-L** to the outputs from the aftermarket radio; **Front**, **Rear**. When using an aftermarket radio with the AXDSP-L, **General** must be chosen for the vehicle type.
(refer to page 4)

Adding a subwoofer to an OEM System:

This feature offers the Installer the ability to add an aftermarket subwoofer to an OEM system. If the vehicle is equipped with noise canceling microphoness, they must be disabled for this type of system.
(refer to page 5)

Adding a full-range amplifier and subwoofer* to an OEM system:

Similar to adding a subwoofer as mentioned prior, except for one extra step required to configure the harness for a full-range setup. Also note, if only adding the **AXDSP-L** to just the front or rear channels is desired, this can be accomplished by just using the necessary front or rear speaker wires and leaving the other speaker wires still connected.
(refer to page 6)
* Subwoofer is optional

Stand-alone Bluetooth system:

The AXDSP-L and AXDSP-BT can be used together as a stand-alone system and used in just about any 12V DC application. Perfect applications would be classic car installations where the dashboard cannot be altered, or in UTV vehicles. This can even be used inside a home with a 12v DC power supply. The options are endless and only limited by ones creativity.
(refer to page 7)

INSTALLATION

Aftermarket Radio Systems

1. Complete all necessary connections to the radio and vehicle, but leave the amp turn-on wire disconnected.

Continue to All Systems

Factory Radio Systems

1. Remove the factory radio*, then unplug all connectors.
2. Install the vehicle specific T-harness (sold separately) and make all necessary connections, but leave the amp turn-on wire disconnected.

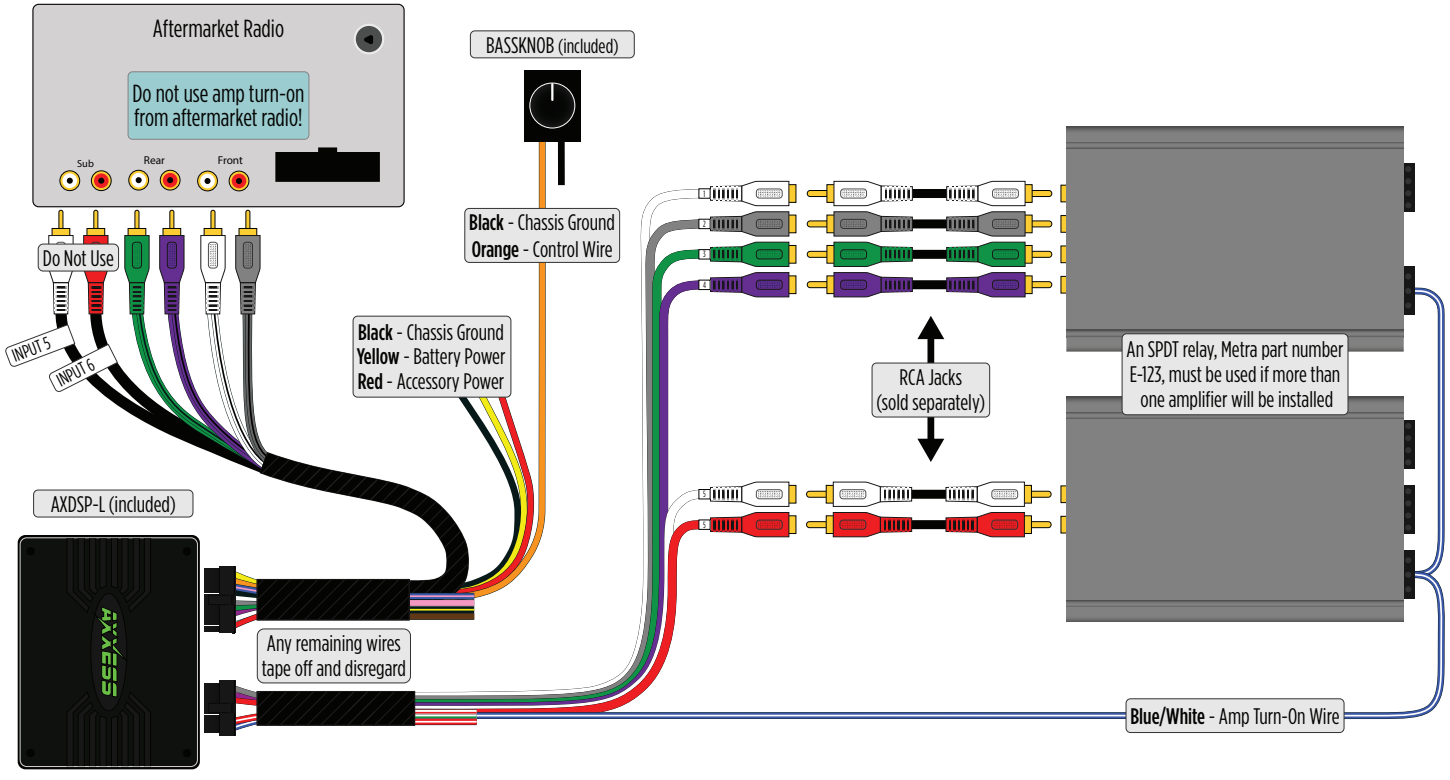
* Refer to Metra online for dash disassembly. If Metra makes a dash kit for the vehicle, disassembly will be within the instruction booklet.

Continue to All Systems

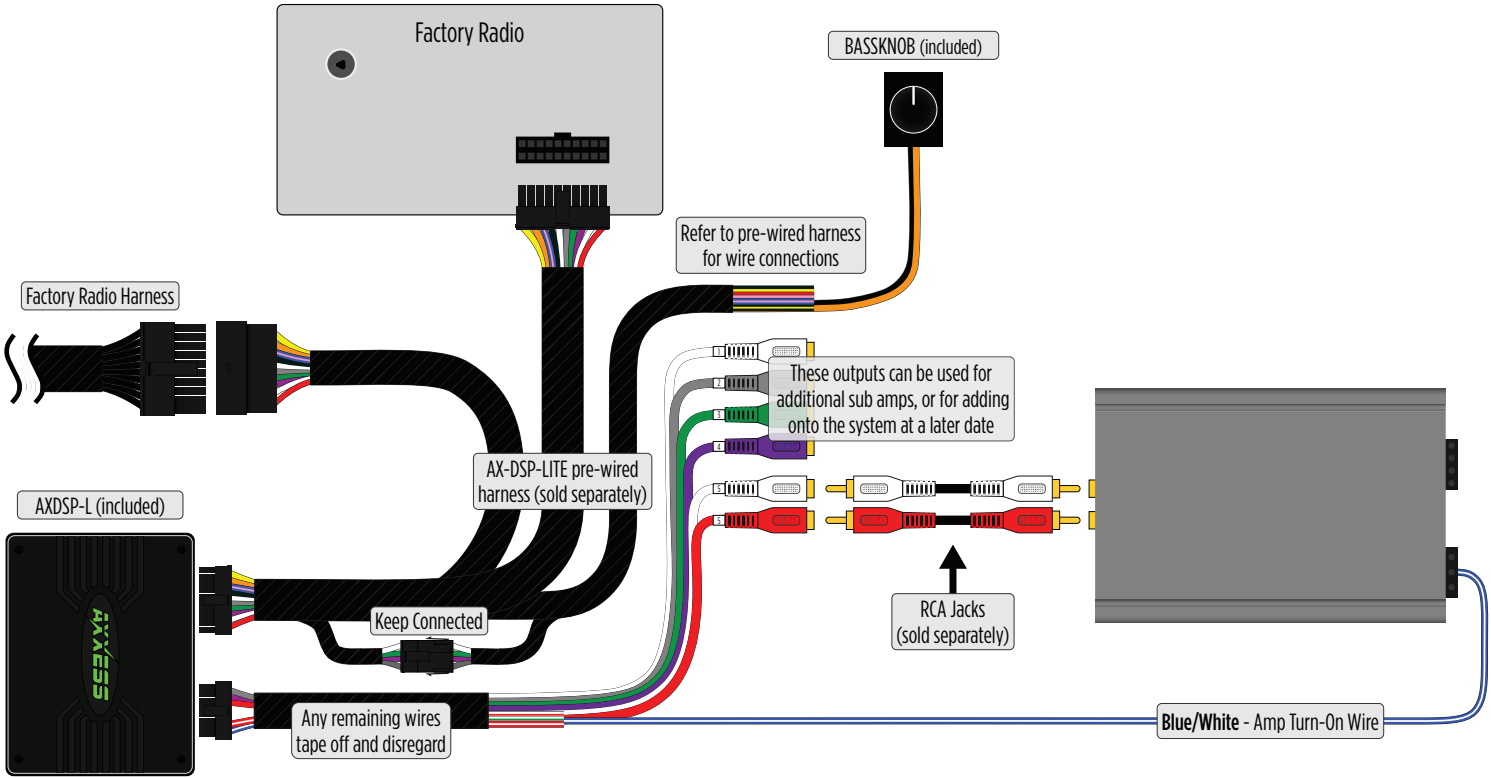
All Systems

1. Plug the **20-pin AXDSP-L** harness into the **AXDSP-L**.
2. Plug the **16-pin AXDSP-L** harness into the **AXDSP-L**.
3. Download and install the **AX-DSP-X app** from the **Google Play Store** or **Apple App Store.**
4. Open the app then select **Bluetooth Connection** tab. Follow the instructions to pair the mobile device to the **AXDSP-L**.
5. Scroll to the **Configuration** tab then select the vehicle type. Press the **Lock Down** button to save the configuration.
6. Connect the amp turn-on wire.
7. Adjust the settings in the app as desired. Press the **Lock Down** button to save any new configurations.

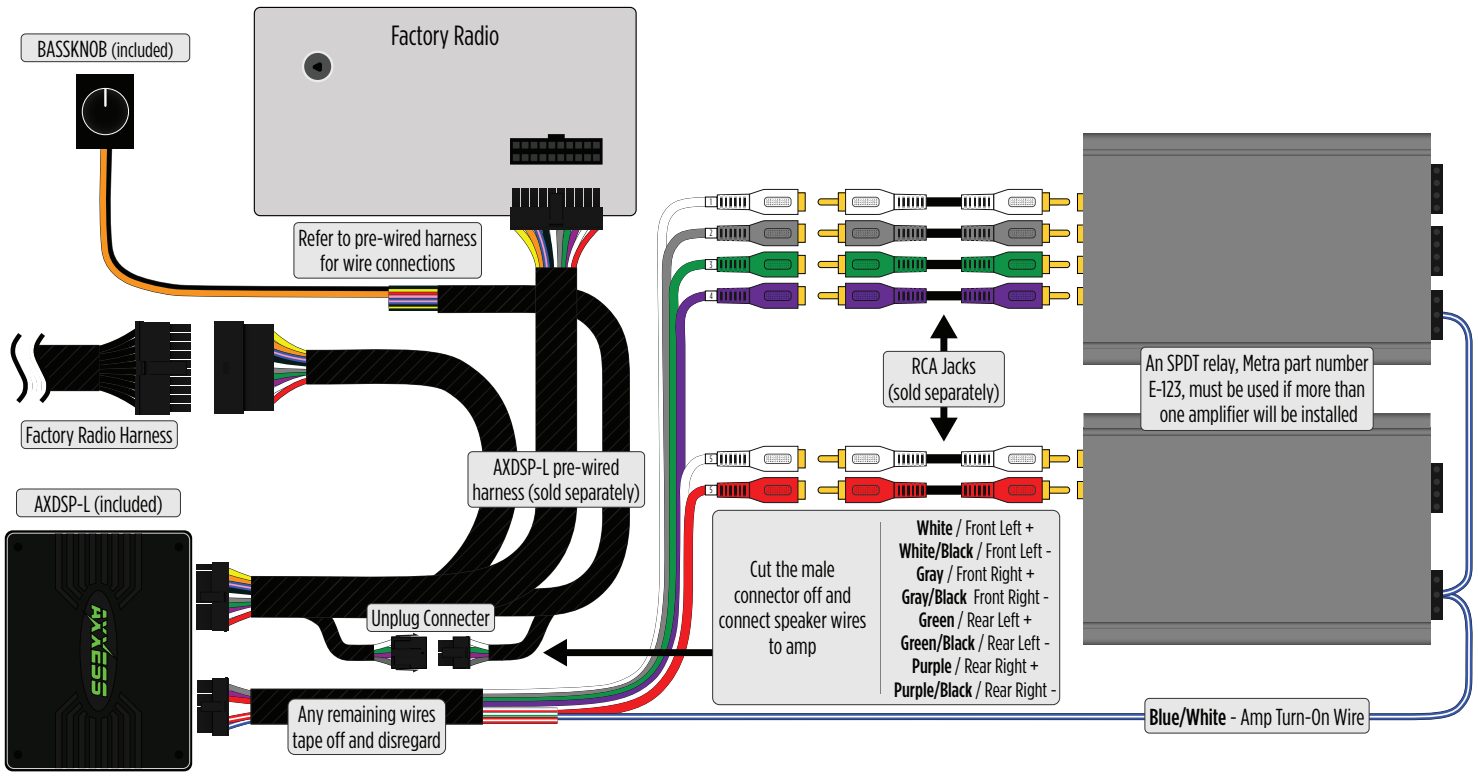
AFTERMARKET RADIO SYSTEM



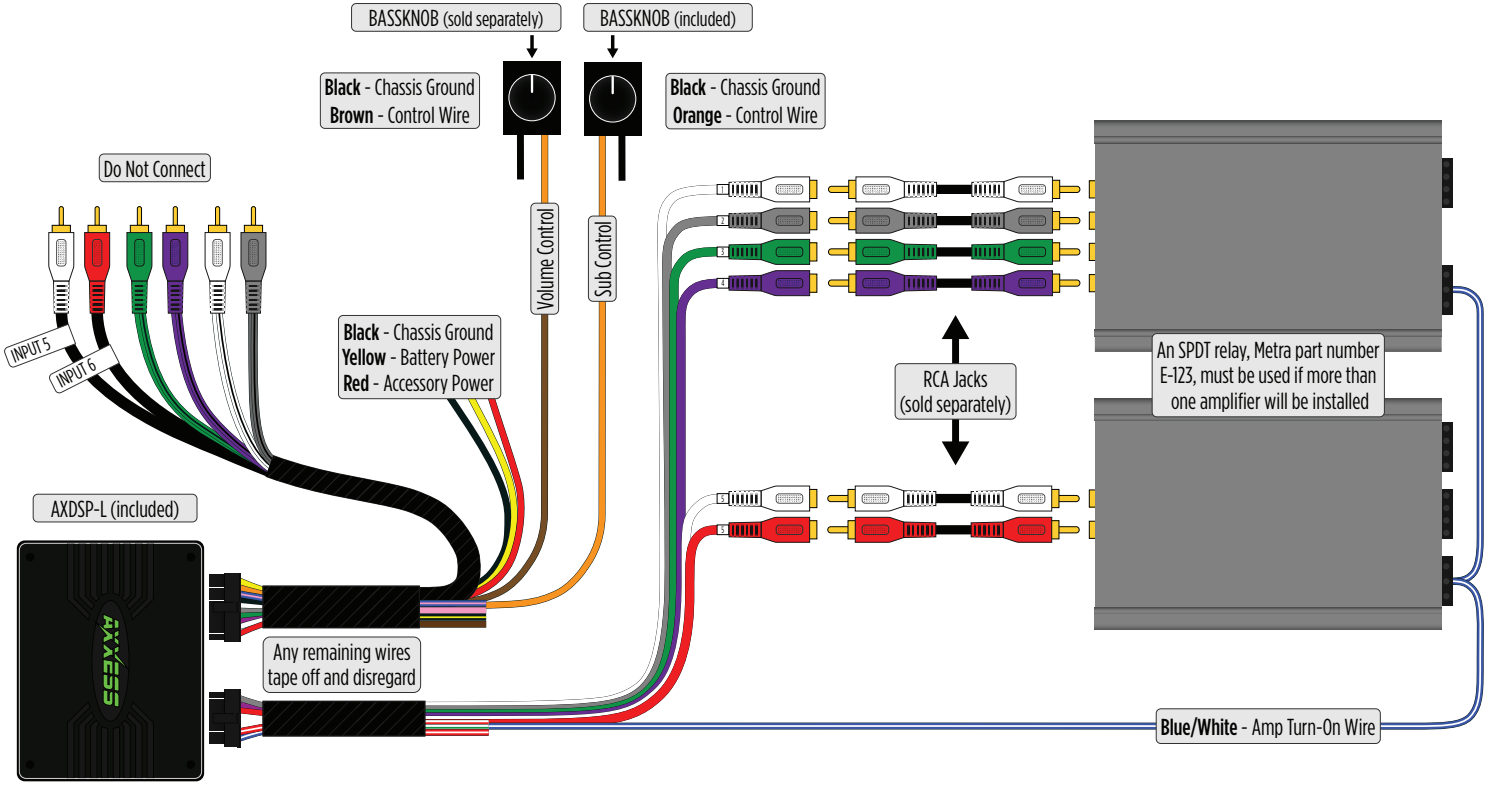
ADDING A SUB TO AN OEM SYSTEM



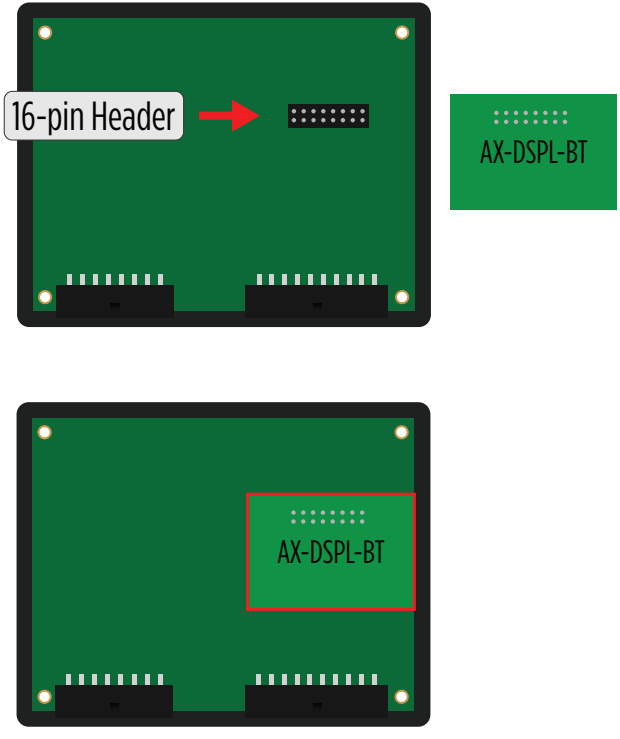
ADDING A FULL-RANGE AMP & SUB TO AN OEM SYSTEM



STAND-ALONE BLUETOOTH SYSTEM



BLUETOOTH INTERFACE



- The **AXDSPL-BT** will be used for adding a Bluetooth interface to the **AXDSP-L** for playing music files directly to the interface.
- While playing music the volume on the phone will be used. As an option, the **AXBK-1** (sold separately) can be used to control the volume.

  Note: The **AXBK-1** included with the **AXDSP-L** can also be used if it will not be used to control a subwoofer.

1. **Important!** Unplug the **AXDSP-L** from the vehicle.
2. Remove (4) Phillips screws securing the **AXDSP-L** interface, then remove the top cover, exposing the circuit board within.
3. Locate the 16-pin header on the circuit board.
4. **Important!** Referencing how the Bluetooth interface is laid out in the picture, carefully line up the header pins to the **AXDSPL-BT** Bluetooth interface. Gently press down to secure.

   Note: Both interfaces may be damaged if installed wrong.
5. Reinstall the top cover to complete the installation.

AXBK-1 installation:

6. Connect the **Brown** wire from the AXDSP-L to the **Orange** wire from the AXBK-1. Ground the **Black** wire from the AXBK-1.

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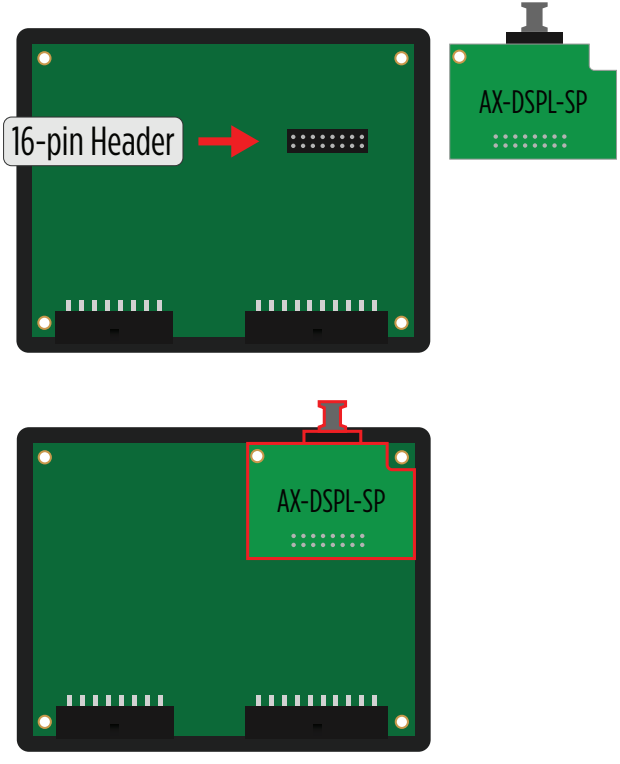
DIGITAL OUT INTERFACE



- The **AXDSPL-SP** will be used for adding a Toslink digital output to the **AXDSP-L**.

1. **Important!** Unplug the **AXDSP-L** from the vehicle.
2. Remove (4) Phillips screws securing the **AXDSP-L** interface, then remove the top cover, exposing the circuit board within.
3. Locate the 16-pin header on the circuit board.
4. **Important!** Carefully line up the header pins to the Toslink interface, with the Toslink port facing outward. Gently press down to secure.

   Note: Both interfaces may be damaged if installed wrong.
5. Reinstall the top cover provided with the **AXDSPL-SP** to complete the installation.

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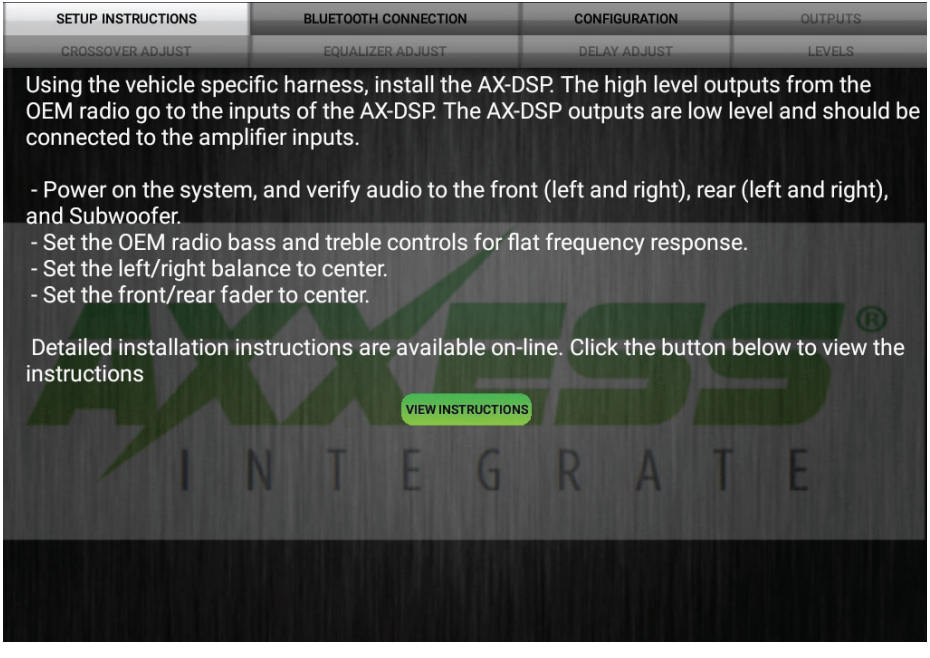
Setup Instructions



The AXDSP-L uses the same app as the AXDSP-X. Only items pertaining to the AXDSP-L will be shown.

• General information tab for installing the AXDSP-L.

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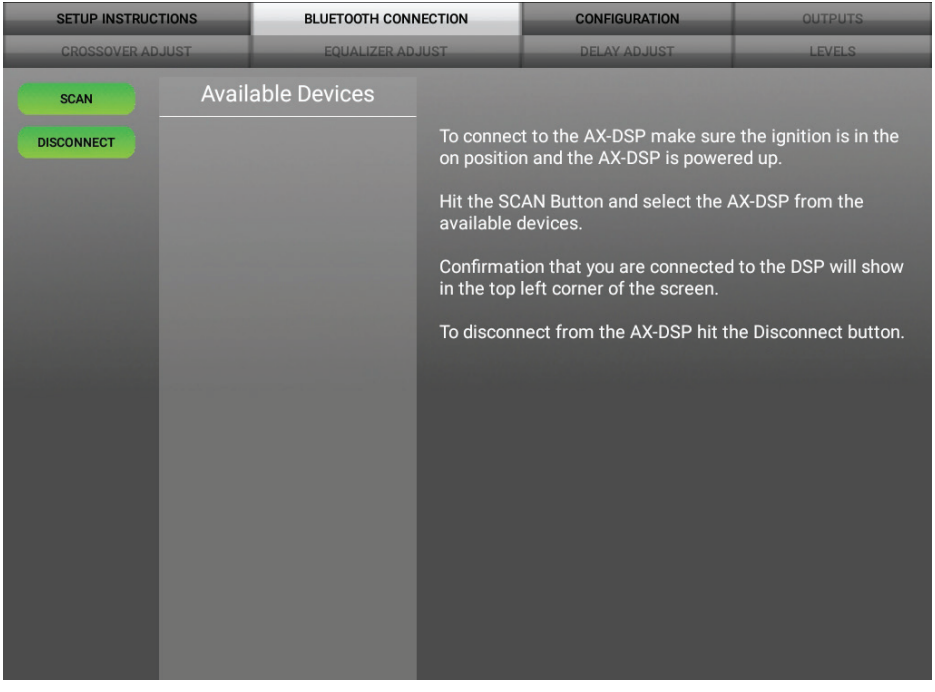
Bluetooth Connection



- **Scan** - Press this button to start the Bluetooth pairing process, then select AXDSP-L from the mobile device. Confirmation that you are connected will show in the top left corner of the app.
- **Disconnect** - Disconnects the AXDSP-L from the app.

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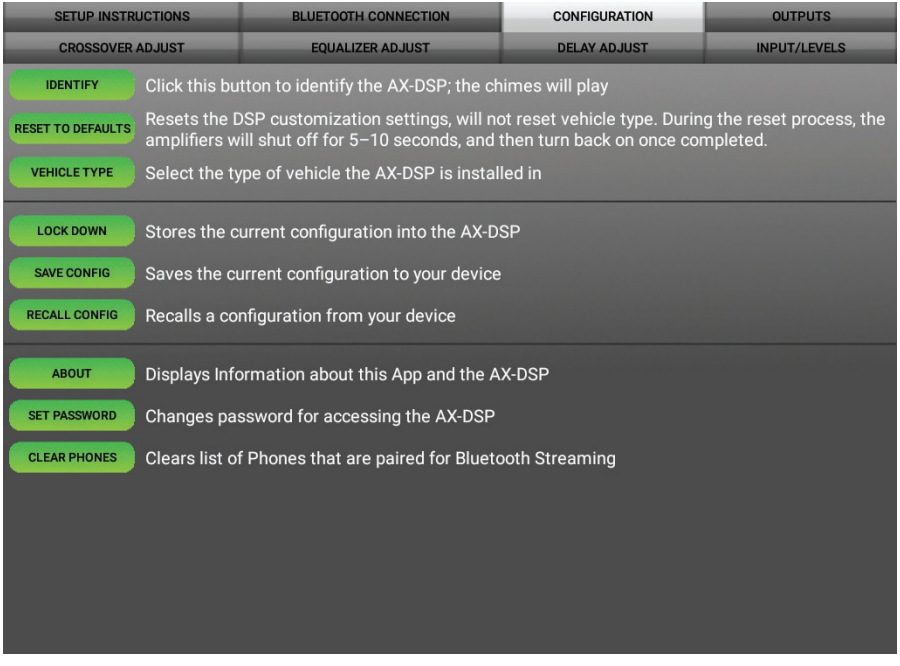
Configuration



- **Identify** - Click this button to confirm that the AXDSP-L is connected properly. If so, a chime will be heard from the front left speaker*.

  * Only installations where the AXDSP-L is connected to a front left speaker.

- **Reset to Defaults** - Resets the AXDSP-L to factory settings. During the reset process the amplifiers will shut off for 5-10 seconds.
- **Vehicle Type** - Select the vehicle type from the drop down box, select either **Without OE Amplifier** or **With OE Amplifier**, then click the apply button.
- **Lock Down** - Click this button to save the selected settings. **Attention!** This button must be selected before closing the app or cycling the key otherwise all settings will be lost.
- **Save Configuration** - Saves the current configuration to the mobile device.
- **Recall Configuration** - Recalls a configuration from the mobile device.

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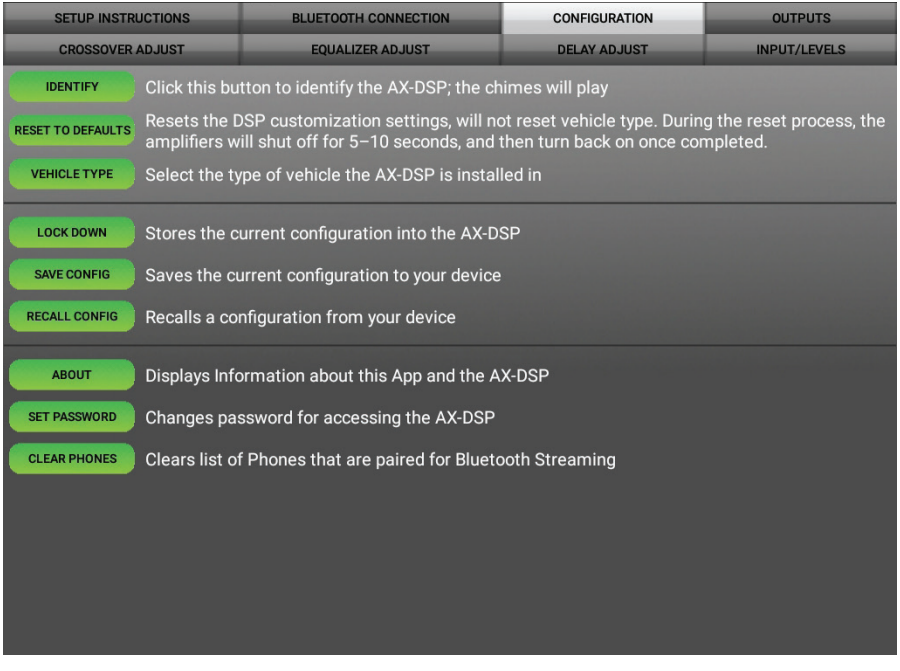
Configuration (Cont.)



- **About** - Displays information about the app, vehicle, AXDSP-L, and mobile device.
- **Set Password** - Assign a 4-digit password to lock the AXDSP-L. If no password is desired, use “0000”. This will clear out any currently set password. It is not necessary to lock down the AXDSP-L when setting a password.

  Note: A 4-digit only password must be chosen otherwise the AXDSP-L will show “password not valid for this device”.
- **Clear Phones** - Clears phones paired from memory

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Outputs

Output Channels

- **Location** - Location of speaker.
- **Group** - Used to join channels together for simple equalization. Example, left front woofer/midrange and left front tweeter will be considered simply left front. The letter **M** denotes the speaker assigned as the master speaker.
- **Invert** - Will invert the phase of the speaker.
- **Mute** - Will mute desired channel(s) for tuning individual channels.

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Crossover Adjust

- If installing a subwoofer, the front and rear outputs will default to a 100Hz high pass filter to keep the low frequency signals out. If a subwoofer is not being installed, change the front and rear crossover points down to 20Hz for a full range signal, or to the lowest frequency the speakers will play down to.
- Selecting **High Pass** and **Low Pass** will provide one crossover frequency adjustment. **Band Pass** should only be chosen if installing just front speakers, with one dedicated amp for the woofers/mids, a second dedicated amp for the tweeters, along with a subwoofer.
- Select the desired crossover slope, 24db, 36db, or 48 db. Higher is steeper.

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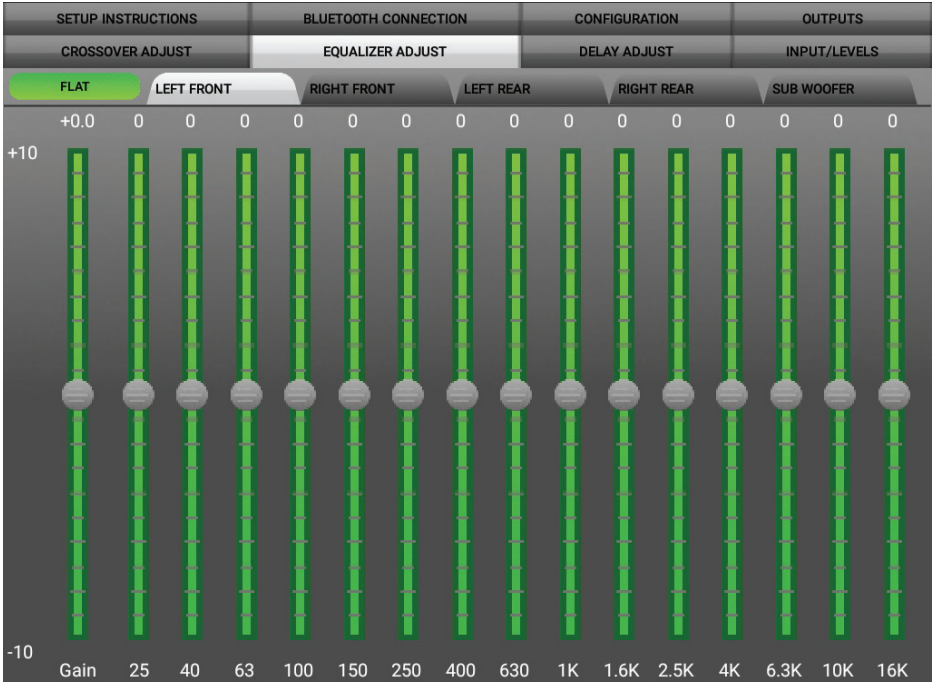
Equalizer Adjust



- The front, rear, and sub channels can be adjusted independently within this tab with 15 bands of equalization available. It is best to tune this by using an RTA (Real Time Analyzer).
- The **Gain** slider on the far left is for the channel selected.

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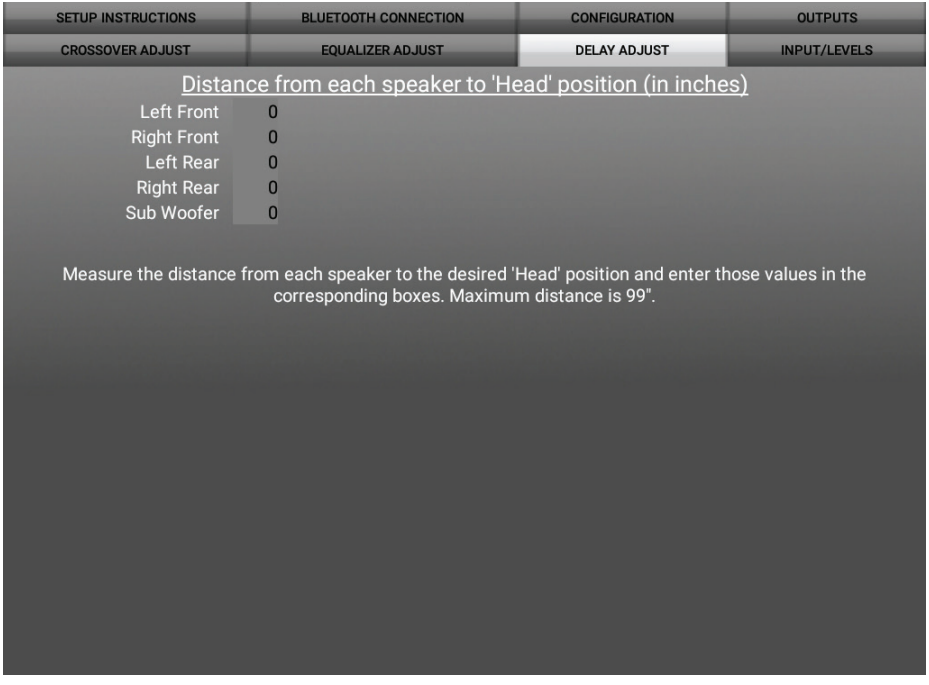
Delay Adjust



- Allows a delay of each channel, up to 10 milliseconds. First measure the distance (in inches) from each speaker to the listening position, then enter those values. If a delay is desired, add to the desired channel(s), up to 99 inches.

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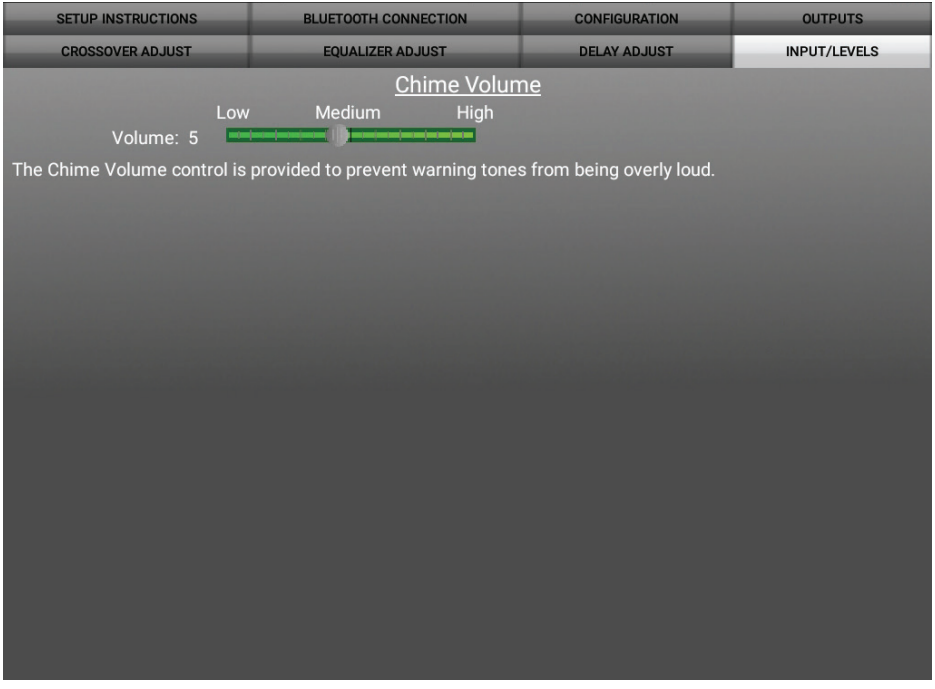
Inputs/Levels



- **Chime Volume** - Allows the chime volume to be adjusted up or down.

  Note: In newer Ford vehicles chimes will be heard through the gauge cluster if the OEM amplifier is removed

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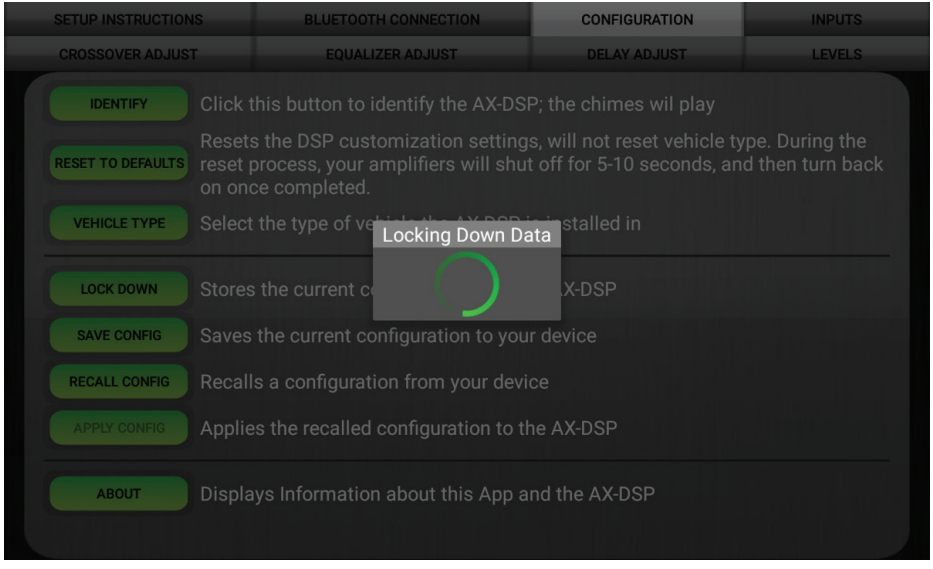
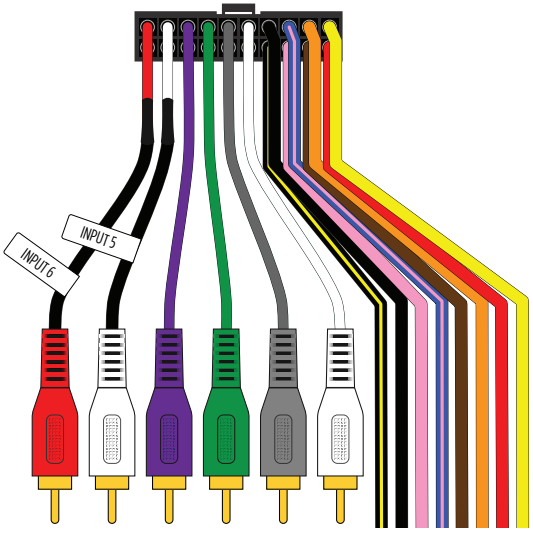
Locking Down Data



Last and the most important.

You must lock down your configuration!!!

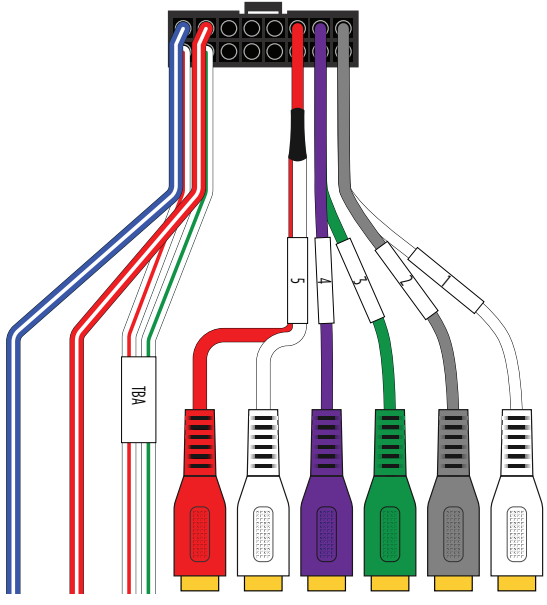
PINOUT



Input 6 - N/A
Input 5 - N/A
Purple RCA Jack - Rear Right Input *
Green RCA Jack - Rear Left Input *
Gray RCA Jack - Front Right Input *
White RCA Jack - Front Left Input *
Black/Yellow - Future Use

* Cut off RCA jack for speaker level input

Black - Chassis Ground
Pink - CAN-HI
Blue/Pink - CAN-LO
Brown - Control Wire for BT Volume Knob
Orange - Control Wire for Bass Knob
Red - Accessory Power
Yellow - Battery Power



Blue/White - Amp Turn-On
Red/White - Future Use
White/Red - Future Use
White/Green - Future Use

RCA Jack 1 - User Assignable Output
RCA Jack 2 - User Assignable Output
RCA Jack 3 - User Assignable Output
RCA Jack 4 - User Assignable Output
RCA Jack 5 - User Assignable Output

SPECIFICATIONS

Specifications

Input Impedance	1M Ohm
Input Channels	4
Input Options	High-level or Low-level selectable
Input Type	Differential-Balanced
Input Voltage High Level Range	0 - 28-volts (peak-to-peak)
Input Voltage Low Level Range	0 - 4.9-volts (peak-to-peak)
Ouput Channels	6
Output Voltage	Up to 5-volts RMS
Output Impedance	50 Ohms
Equalizer Type	15 Band Graphic EQ, +/- 10dB
THD	<0.03%
Frequency Response	20Hz - 20kHz
Crossover	2-Way low-pass (sub), high pass (front & rear)
Crossover Type	Linkwitz-Riley 24db slope, fixed
Sampling	48kHz
S/N Ratio	105dB @ 5-volts RMS

General

Operating Voltage	10-16-volts DC
Standby Current Draw	7mA
Operation Current Draw	150mA
Adjustments/Controls	Application via Bluetooth
Remote Output	12-volts DC (signal sense or with ignition)

Having difficulties? We're here to help.

Contact our Tech Support line at:
1-800-253-TECH

Or via email at:
techsupport@metra-autosound.com

Tech Support Hours (Eastern Standard Time)

Monday - Friday: 9:00 AM - 7:00 PM
Saturday: 10:00 AM - 7:00 PM
Sunday: 10:00 AM - 4:00 PM

KNOWLEDGE IS POWER
Enhance your installation and fabrication skills by enrolling in the most recognized and respected mobile electronics school in our industry. Log onto www.installerinstitute.com or call 800-354-6782 for more information and take steps toward a better tomorrow.

Metra recommends MECP certified technicians

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