Premium Active LOC (Line Output Converter)

PR-LOC2.2PRO 2 IN - 2 OUT with Max Input 40v
PR-LOC2.4PRO 2 IN - 4 OUT with Max Input 40v
PR-LOC4.4PRO 4 IN - 4 OUT with Max Input 40v

Premium Active LOCs

Metra Electronics has launched a full series of **High-Voltage Active Line Output Converters** under its new **Proscenium** brand name, enabling installers to add aftermarket amplifiers to OEM source units and make your factory system sound great! This premium line showcases Proscenium's advanced technology, by featuring incredible input power capabilities, load selector, clip indicator, enhanced output controls, and noise isolation countermeasures. Want to add an external Bass knob? **Proscenium's PR-RM-1** will directly plug into select PRO LOCs and offer that additional Subwoofer level adjustment customers are looking for. (PR-RM-1 sold separately)

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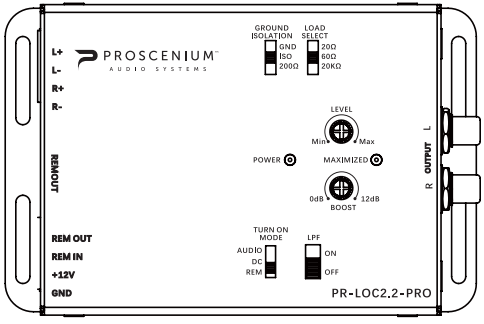
TOOLS RECOMMENDED

- Digital Multi-meter
- Test Tones

COMPONENTS

PR-LOC2.2PRO
Line Out Converter (LOC)



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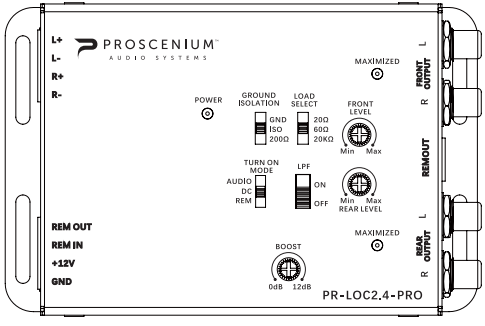

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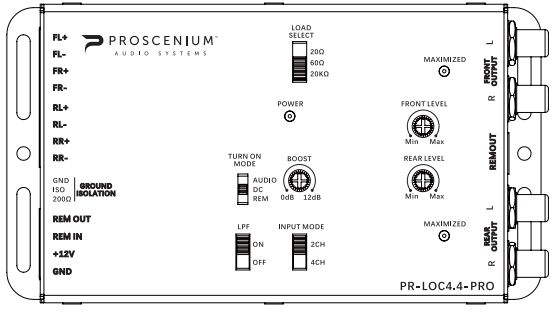


THINGS TO KNOW

1. This is an active LOC and MUST have constant 12 volt and a good ground to operate properly. Having a poor ground can induce noise into your system, use the same gauge wire as the 12 volt line.
2. Determine a suitable mounting location. Make sure you can access all controls and connections.
3. When ready to mount your LOC check under your selected mounting location to make sure it is clear of any wiring harnesses, fuel or brake lines or anything else that may affect the vehicle safety.

CONNECTIONS

1. Connect your 12 volt and ground wires to the terminals. 14-16 gauge wire is recommended.
2. By default the LOCs **Turn On Mode** is set to **DC Offset**. Other turn on options are available and described in the **Turn On Signal Feature Breakdown** portion of this manual.
3. Connecting your **Speaker Input** can happen in a few different places based on your factory system.
   a. If your vehicle doesn't have an OE amplifier your best option is to use the speaker wires located behind the radio. Your LOC only requires two inputs, we recommend a left and right full range signal.
   b. If your vehicle has an OE amplifier your best option is to use the speaker wires on the output side of your factory amplifier, look for a full range signal.
4. Connect your RCAs. **Red** RCA's are for the right channel. **Black, Gray, or White** are for the left channels. An explanation of the RCAs **Main Output** and **Bass Output** are described in the **Feature Breakdown** portion of this manual.
5. If the customer would like to control the Bass level remotely the **PR-RM-1** can be purchased separately and plugs directly into the LOC.

GAIN SETUP

Setting gains is very important, if done incorrectly you can damage your speakers. It is recommended that all settings be adjusted by a professional. **Proscenium LOCs** have a maximum output of 9.5v RMS. On average aftermarket amplifiers have a maximum input voltage range of 3-6 volts.

When adjusting the gains it is important to understand the input sensitivity of your aftermarket equipment and adjust the **Output Levels** of the LOC to match. If the **Output Levels** of the LOC are increased beyond the input capabilities of the amplifier it will cause the input stage of the aftermarket amplifier to clip, creating distortion. The fix would be to lower the output levels of the LOC until the distortion is removed.

Basic Setup - No Tools Required

1. Before turning your system on, set all levels and gains to **Minimum**. This includes the LOC and all aftermarket amplifiers.
2. On your radio make sure all audio adjustments i.e. **Bass, Treble, Balance** and **Fade** are **Centered** and **Flat.** Turn **Loudness** off and any preset EQ to **Flat**.
3. While playing a Pink noise track or a song with dynamic sound, increase radio's volume to 3/4 of the way up.
4. Adjust the output levels of the LOC slowly until the clipping indicator activates, then reduce the levels so the indicator light doesn't come on.
5. Do not adjust the amplifier's gain.

Advanced Setup - Tools Required: Digital Multi-meter, Test Tones

1. During this setup process the RCAs between the LOC and aftermarket amplifier need to be disconnected. They will be reconnected in **Step 11**.
2. Set all levels to **Minimum** on the LOC
3. On your radio make sure all audio adjustments **Bass, Treble, Balance, and Fade** are **Centered** and **Flat**. Turn **Loudness** off and any preset EQ to **Flat**.
4. Open the manual for the aftermarket amplifier and look for **Line Input Maximum Sensitivity** on the specifications page. This measurement will be in volts. (i.e. 3vrms 6vrms)
5. If setting gains for a full range system, play a 1 kHz tone through your radio into the LOC. If setting levels for a subwoofer, play a 100 Hz tone from the factory radio into the LOC.
6. Turn the radio all the way up, you should not hear the tone playing.
7. Using a Digital Multi-meter set to **Volts AC**, touch the **Black** lead to the **OUTPUT RCA** shield and insert the **Red** lead to the center of the **RCA OUTPUT**. You will see a voltage reading show on the Multi-meter's screen.
8. Adjust the **OUTPUT LEVEL** of the LOC until the voltage shown on the screen matches the **Line Input Maximum Sensitivity** of the aftermarket amplifier. If the **Maximized** light comes on before the level is reached, reduce **OUTPUT LEVEL** until the light is off.
9. Repeat **Steps 7** and **8** for the rear output.
10. Turn the radio's volume down
11. Connect the RCAs from the aftermarket amplifier to the LOC.
12. Adjust the gain on your amplifier(s) to **Minimum**.
13. Refer to the amplifier's manual if additional adjustments are required.

FEATURE BREAKDOWNS

Turn On Signal

Audio Sense – When selected the LOC will power up when an audio signal is present regardless of source. If the radio is muted and the LOC doesn't see an audio signal it will turn off.

DC Signal Sense (Default) – Detects when the OE radio or OE amplifier turns on. The **PR-LOC2.2PRO, PR-LOC2.4PRO** and **PR-LOC4.4PRO** detects the DC voltage across the speaker leads and will provide 12 volts to the **REM OUT**.

REM IN – This is the standard way to turn of aftermarket equipment by using a dedicated amp turn on signal or a true ignition signal. When the **REM IN** is powered it will output through the **REM Out**.

Ground Isolation Settings – Different types of ground noise can easily enter into your audio system. The **Ground Isolation Switch** on the LOC will help eliminate some of the most common ground noises with the simple flip of a switch.

GND – The ground for the LOC is tied to the ground shield of the audio signal.

ISO – The ground of the LOC and ground shield of the RCA are separated.

200 Ohm – LOC ground and ground shield of RCAs are connected to each other by a 200 ohm resistor, balancing yet isolating the ground circuit.

Load Select Settings – Factory radios and amplifiers can sometimes stop passing audio when they do not see the original speaker's impedance. This is a common issue found in many Chrysler vehicles. The load selector switch will offer two Ohm Load settings that will make the factory equipment think the original speakers are still connected and start passing audio. In some Chrysler vehicles you will need to let the vehicle go the sleep (turn ignition off for 2 minutes) after each load selection.

20 Ohm – Commonly used in vehicles that do not have a factory amplifier. Mainly late model Chrysler vehicles, which includes RAM, JEEP, DODGE, and some FIATS

60 Ohm – Commonly used in vehicles with a factory amplifier. Mainly late model Chrysler vehicles, which includes RAM, JEEP, DODGE, and some FIATS

20k Ohm – Default setting and used for all other applications.

If none of these Ohm load settings restore the factory audio or if you have distortion, Proscenium offers additional load resistors that plug directly into the speaker level input terminal(s) of each LOC. **PR-LR39** is the only value not built into the Proscenium LOCs.

Boost Adjustment – Works only when the LPS is switched on. This adjustment increases the output levels at 45Hz. Offers a +12dB increase for the rear channels only.

LPF – Low Pass Filter, when **ON** this will allow the LOC to pass low frequencies from 250Hz and below from the rear channels of the LOC. When **OFF** full frequency range will pass through the **REAR OUTPUT.**

For **PR-LOC4.4-PRO** Only: **Input Mode** – **PR-LOC4.4-PRO** offers the ability to have two channels of speaker level input or all four speakers. In applications where you one have two channels of input, select **2CH mode**. The audio signal will pass through both the **FRONT and REAR OUTPUTS**. Having four channels of input would help retain OE features like **Fade** from the factory radio.

QUICK REFERENCE: PR-LOC2.2PRO

Power Indicator - When lit the PR-LOC2.2-PRO is on

Ground Isolation - Three selections : 200 Ohm, ISO, GND. Refer to page 5 for additional information. Default setting: ISO

Load Select - Three selectable ohm load options, 20k, 60, and 20. Adjust resistance loads to keep OE equipment producing audio. Refer to page 5 for additional information.

RCA LEVEL - Adjusts the output level of the RCA's

Speaker Input - Speaker level input. Feed left and right speaker wires from the head unit or amplifier to the respective terminals.

Remote - Dash mount bass knob PR-RM1 (sold Separately)

Maximized - While adjusting the MAIN LEVEL the Maximized LED may light up meaning a clipped signal is detected. Reduce the MAIN LEVEL adjustment until the LED is no longer lit.

REM Out - Remote turn on output. Depending on the Turn on Mode switches position the PR-LOC2.2-PRO will provide a remote output signal. Refer to page 5 for additional information.

REM In - Remote turn on input or true Ignition, may differ if DC or Audio is selected on the Turn on Mode switch.

+12 Volt - Connect to constant 12 volt source.

GND - Connect to chassis ground

RCA OUTPUT - Full Range level adjustment if LPF switch is OFF, if ON only frequencies 250 Hz and down will play.

Boost- Low Frequency boost 0dB to +12dB

Turn on mode - Selectable three position switch that will control when the LOC turns on. Settings are REM, DC, and Audio. Refer to page 5 for additional information.

LPF - ON/OFF, if set to OFF outputs will pass full range, if ON only frequencies 250Hz and down will play.

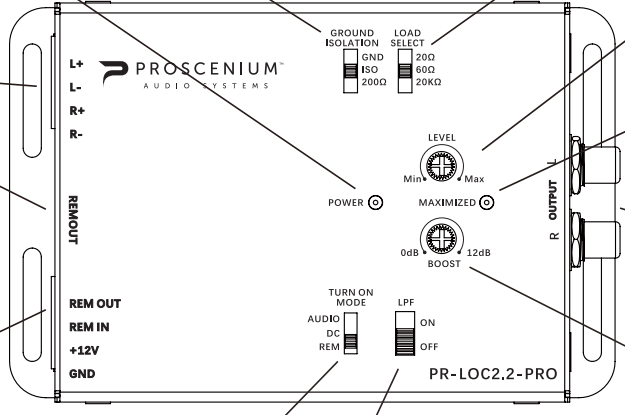
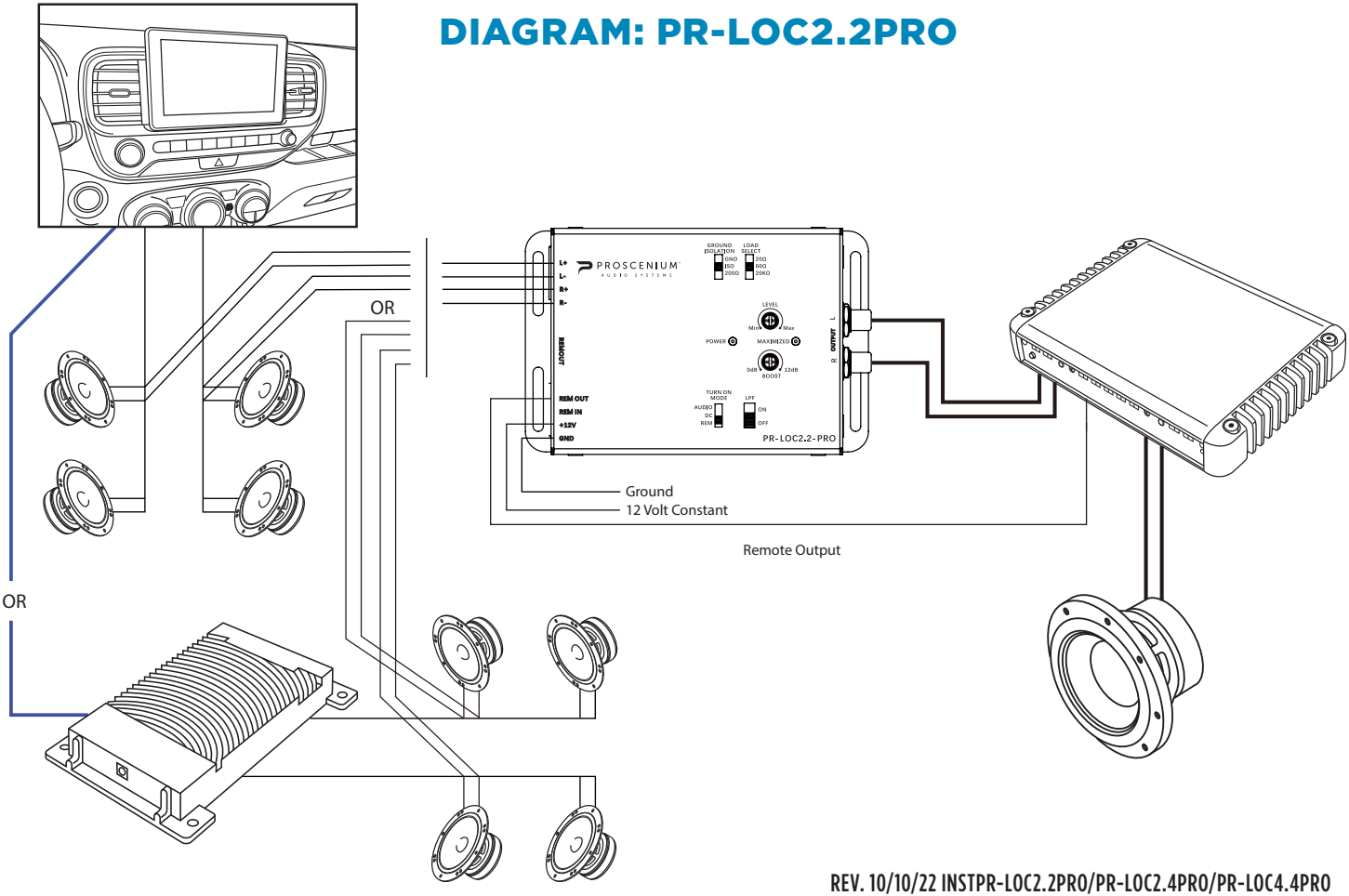
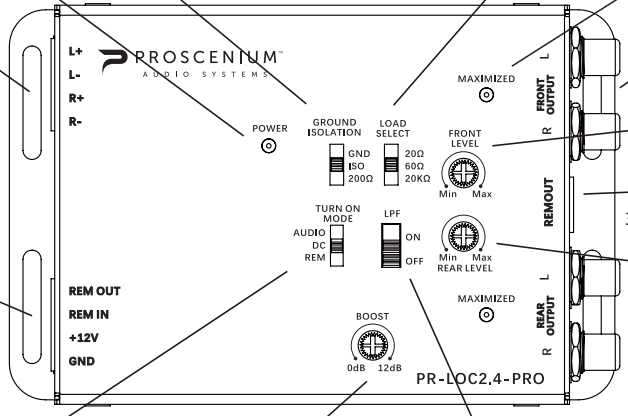


DIAGRAM: PR-LOC2.2PRO



QUICK REFERENCE: PR-LOC2.4PRO



Power Indicator - When lit the PR-LOC2.4-PRO is on

Ground Isolation - Three selections : 200 Ohm, ISO, GND. Refer to page 5 for additional information. Default setting: ISO

Load Select - Three selectable ohm load options, 20k, 60, and 20. Adjust resistance loads to keep OE equipment producing audio. Refer to page 5 for additional information.

Maximized - While adjusting the MAIN LEVEL the Maximized LED may light up meaning a clipped signal is detected. Reduce the MAIN LEVEL adjustment until the LED is no longer lit

Speaker Input - Speaker level input. Feed left and right speaker wires from the head unit or amplifier to the respective terminals.

REM Out - Remote turn on output. Depending on the Turn on Mode switches position the PR-LOC2.4-PRO will provide a remote output signal. Refer to page 5 for additional information.

REM In - Remote turn on input or true Ignition, may differ if DC or Audio is selected on the Turn on Mode switch.

+12 Volt - Connect to constant 12 volt source.

GND - Connect to chassis ground

FRONT OUTPUT - Full Range level adjustment

FRONT LEVEL - Adjusts the output level of the RCA's

Remote - Dash mount bass knob PR-RM1 (sold Separately)

REAR LEVEL - Adjusts the output level of the RCA's

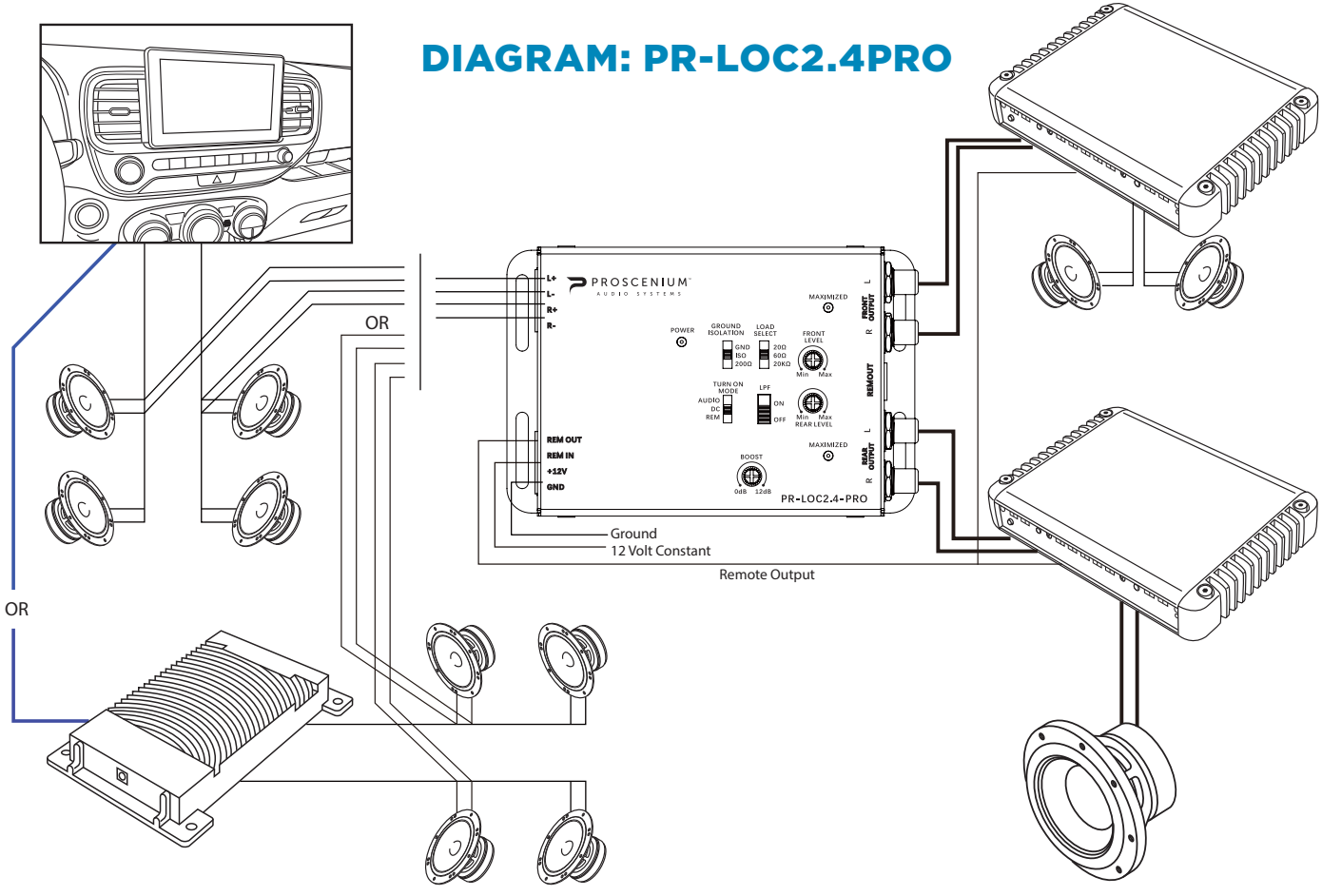
REAR OUTPUT - Full Range level adjustment if LPF switch is OFF, if ON only frequencies 250 Hz and down will play.

Turn on mode - Selectable three position switch that will control when the LOC turns on. Settings are REM, DC, and Audio. Refer to page 5 for additional information.

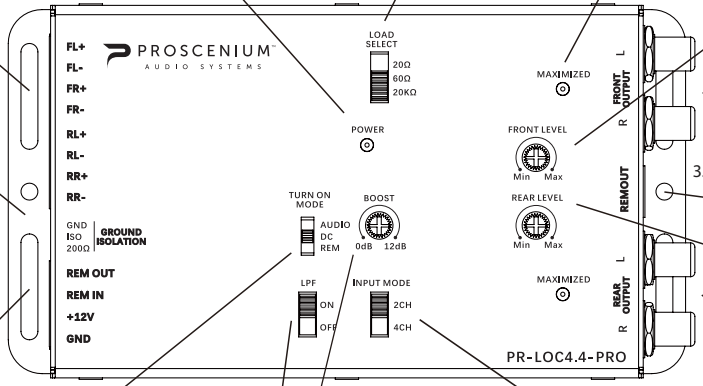
Boost- When LPF is ON the REAR OUTPUT will boost 45hz from 0dB to +12dB

LPF - ON/OFF, if set to OFF outputs will pass full range, if ON only frequencies 250Hz and down will play.

DIAGRAM: PR-LOC2.4PRO



QUICK REFERENCE: PR-LOC4.4



Load Select - Three selectable ohm load options, 20k, 60, and 20. Adjust resistance loads to keep OE equipment producing audio. Refer to page 5 for additional information.

Maximized - While adjusting the MAIN LEVEL the Maximized LED may light up meaning a clipped signal is detected. Reduce the MAIN LEVEL adjustment until the LED is no longer lit.

Power Indicator - When lit the PR-LOC4.4-PRO is on

Speaker Input - Speaker level input. Feed left and right speaker wires from the head unit or amplifier to the respective terminals.

Ground Isolation - Three selections : 200 Ohm, ISO, GND. Refer to page 5 for additional information. Default setting: ISO

REM Out - Remote turn on output. Depending on the Turn on Mode switches position the PR-LOC4.4-PRO will provide a remote output signal. Refer to page 5 for additional information.

REM In - Remote turn on input or true Ignition, may differ if DC or Audio is selected on the Turn on Mode switch.

+12 Volt - Connect to constant 12 volt source.

GND - Connect to chassis ground

FRONT LEVEL - Adjusts the output level of the RCA's

FRONT OUTPUT - Full Range level adjustment

Remote - Dash mount bass knob PR-RM1 (sold Separately)

REAR LEVEL - Adjusts the output level of the RCA's

REAR OUTPUT - Full Range level adjustment if LPF switch is OFF, if ON only frequencies 250 Hz and down will play.

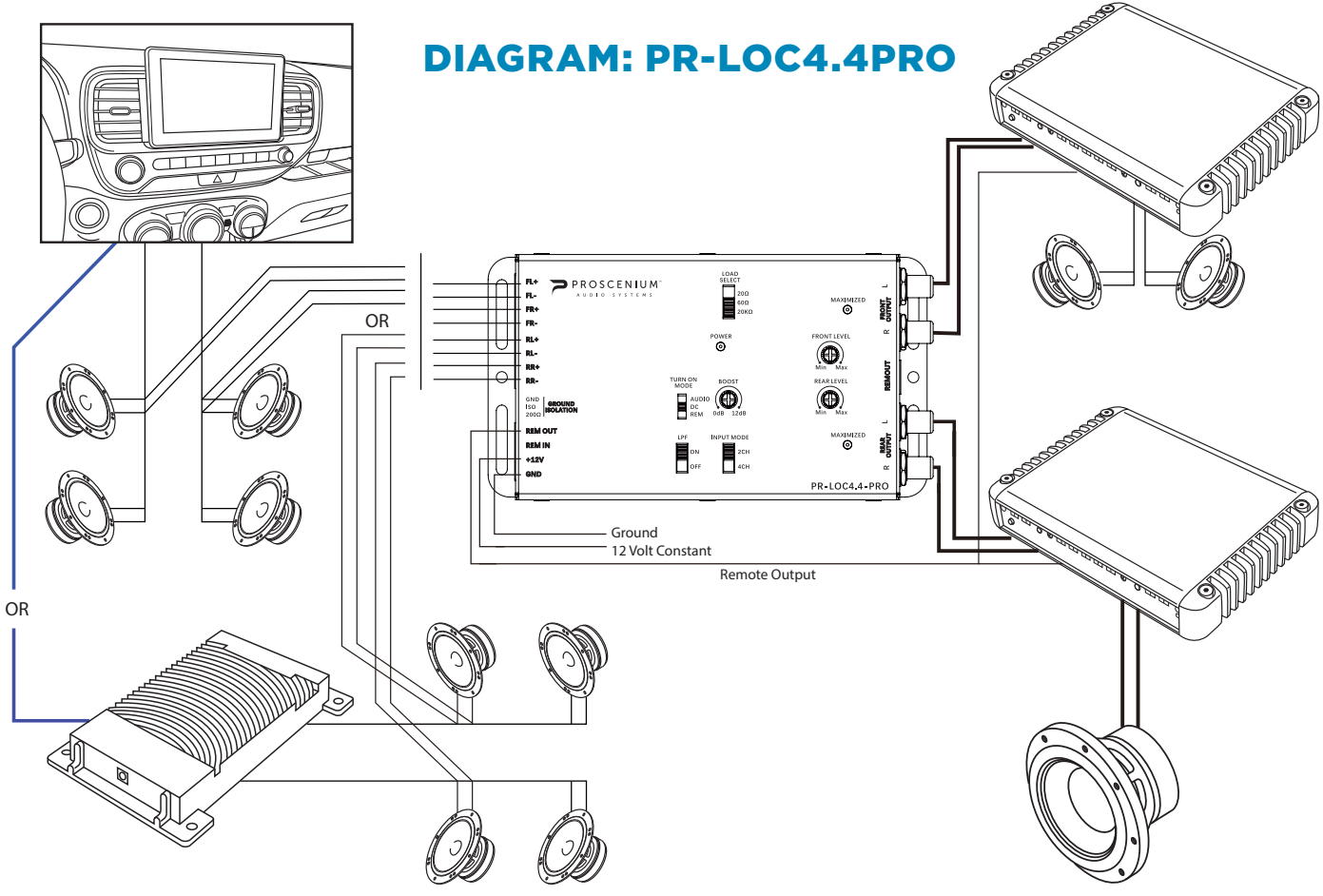
Turn on mode - Selectable three position switch that will control when the LOC turns on. Settings are REM, DC, and Audio. Refer to page 5 for additional information.

Boost- Low Frequency boost 0dB to +12dB

LPF - ON/OFF, if set to OFF outputs will pass full range, if ON only frequencies 250Hz and down will play.

INPUT MODE - Set switch to 2CH if only using FL and FR speaker level inputs. Set to 4CH if using all speaker level inputs.

DIAGRAM: PR-LOC4.4PRO



PROSCENIUM™ AUDIO SYSTEMS

PR-LOC2.2PRO/PR-LOC2.4PRO/PR-LOC4.4PRO

INSTALLATION INSTRUCTIONS

PR-LOC2.2PRO SPECIFICATIONS

Channels	2 IN - 2 OUT
Max Input Level (20kOhm)	40V / 400W @20K Ohm
Operating Voltage	9V - 16V
Trigger Selection	REM / DC / AUDIO
Turn On Trigger (DC)	3V - 7V
Output Max@13.8V	9.5V RMS
Input Impedance Selection (Speaker Level)	20 / 60 / 20k Ohm
Input Impedance (RCA Level)	N/A
Ground Selection	GND / ISO / 2000hm
Gain Adjustment	- 28dB to +1dB
Input Sensitivity	0.5V - 20V
Signal to Noise	>110dB @6.4V Output
THD+N (Total Harmonic Distortion)	<0.01%
Frequence Response	20Hz - 20kHz
Low Pass Filter	< 250Hz (Rear Channels)
Clip Indicator	YES
Bass Boost	0dB + 12dB (Rear Channels)
Remote Control	Optional PR-RM-1
Remote Control w/Voltmeter	N/A

PR-LOC2.4PRO SPECIFICATIONS

Channels	2 IN - 4 OUT
Max Input Level (20kOhm)	40V / 400W @20K Ohm
Operating Voltage	9V - 16V
Trigger Selection	REM / DC / AUDIO
Turn On Trigger (DC)	3V - 7V
Output Max@13.8V	9.5V RMS
Input Impedance Selection (Speaker Level)	20 / 60 / 20k Ohm
Input Impedance (RCA Level)	N/A
Ground Selection	GND / ISO / 2000hm
Gain Adjustment	- 28dB to +1dB
Input Sensitivity	0.5V - 20V
Signal to Noise	>110dB @6.4V Output
THD+N (Total Harmonic Distortion)	<0.01%
Frequence Response	20Hz - 20kHz
Low Pass Filter	< 250Hz (Rear Channels)
Clip Indicator	YES
Bass Boost	0dB + 12dB (Rear Channels)
Remote Control	Optional PR-RM-1
Remote Control w/Voltmeter	N/A

PR-LOC4.4PRO SPECIFICATIONS

Channels	4 IN - 4 OUT
Max Input Level (20kOhm)	40V / 400W @20K Ohm
Operating Voltage	9V - 16V
Trigger Selection	REM / DC / AUDIO
Turn On Trigger (DC)	3V - 7V
Output Max@13.8V	9.5V RMS
Input Impedance Selection (Speaker Level)	20 / 60 / 20k Ohm
Input Impedance (RCA Level)	N/A
Ground Selection	GND / ISO / 2000hm
Gain Adjustment	- 28dB to +1dB
Input Sensitivity	0.5V - 20V
Signal to Noise	>110dB @6.4V Output
THD+N (Total Harmonic Distortion)	<0.01%
Frequence Response	20Hz - 20kHz
Low Pass Filter	< 250Hz (Rear Channels)
Clip Indicator	YES
Bass Boost	0dB + 12dB (Rear Channels)
Remote Control	Optional PR-RM-1
Remote Control w/Voltmeter	N/A

Having difficulties? We're here to help.

Contact our Tech Support line at:
386-257-1187

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.edu or call 386-672-5771 for more information and take steps toward a better tomorrow.

Proscenium recommends MECP certified technicians

REV. 10/10/22 INSTPR-LOC2.2PRO/PR-LOC2.4PRO/PR-LOC4.4PRO