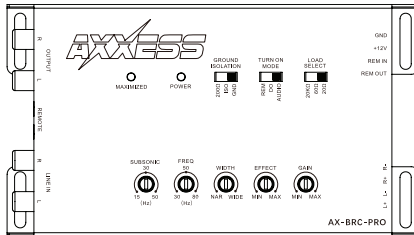


Premium Active LOC with Bass Enhancement 2 IN - 2 OUT, Input Of 400 Watts Per Channel, 40v Max

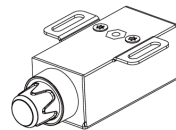
Introduction

Introducing the **AX-BRC-PRO** by Axxess – a pinnacle of audio innovation that redefines the in-car listening experience. Merging advanced technology with a passion for audio excellence, the **AX-BRC-PRO** stands as a testament to Axxess’s unwavering commitment to elevating every note, every beat, and every journey. Crafted for those who demand nothing short of sonic perfection, this remarkable device seamlessly integrates into your vehicle’s audio system, effortlessly breathing new life into your favorite tracks. With its precision bass sculpting, adaptable activation modes, and cutting-edge features, the **AX-BRC-PRO** marks the dawn of a new era in car audio – where sound becomes an immersive masterpiece, and every drive transforms into an auditory adventure.

COMPONENTS



AX-BRC-PRO Line Out Converter (LOC)



Bass Knob

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Visit AxxessInterfaces.com for more detailed information about the product and up-to-date vehicle specific applications.

TOOLS RECOMMENDED

- Digital Multi-meter
- Test Tones

QUICK START GUIDE

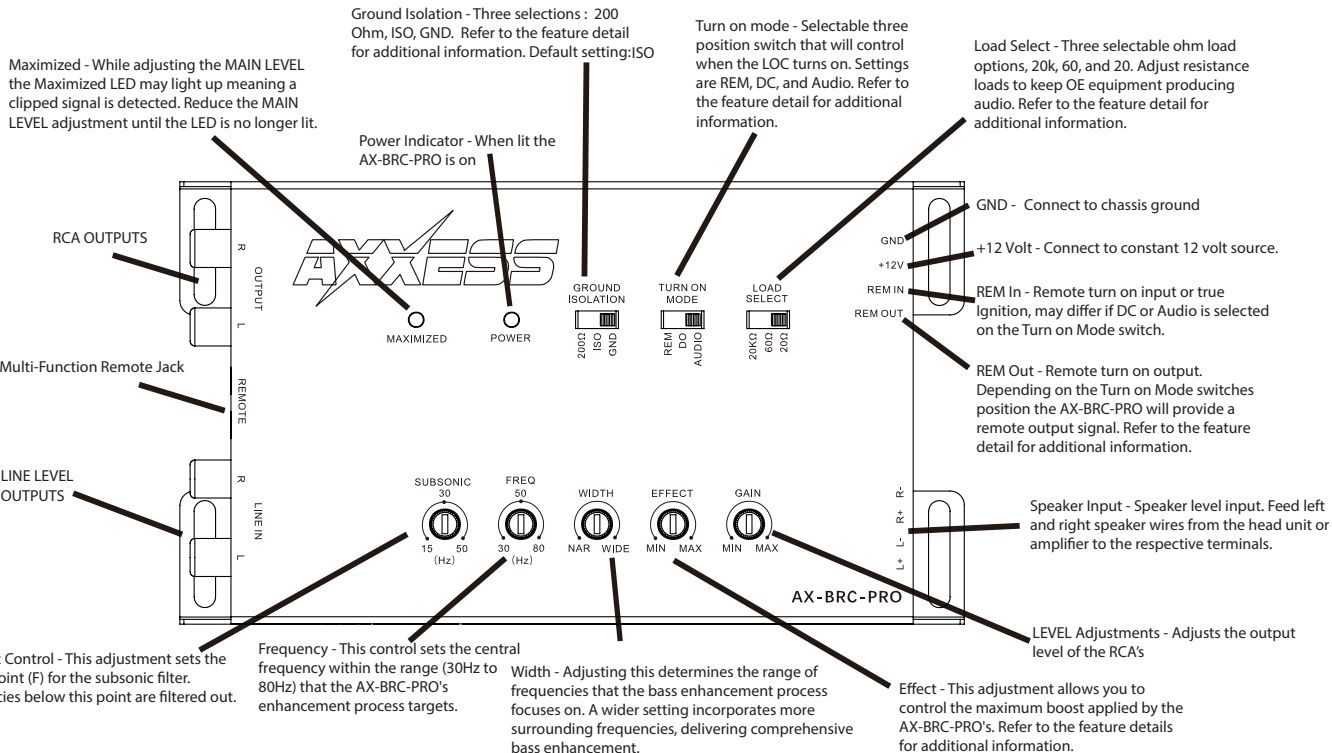
THINGS TO KNOW

1. This is an active LOC and MUST have constant 12volt 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. The **AX-BRC-PRO** gives you two audio input options: 2-channel speaker-level inputs and 2 channels of line level or RCA inputs. These choices enable you to connect your audio sources effectively.
 - a. Speaker-Level Inputs: For devices like OE radios or amplifiers, opt for speaker-level inputs. They can handle input signals ranging from 4Vrms to 40Vrms. Perfect for maintaining compatibility with different setups.
 - b. RCA (Low-Level) Inputs: If you're using sources other than OE radios or amplifiers, RCA inputs are your go-to. These inputs accept signals within the range of 1Vrms to 10Vrms, ensuring adaptability to various audio devices.
3. Remote Level Control Jack: This RJ45 jack is for connecting the remote level control to the main unit with the supplied cable.

CONNECTIONS

1. Connect your 12 volt and ground wires to the terminals. 14-16 gauge wire is recommended.
2. By default the LOC's 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. If using your SPEAKER Level Inputs there are a few different places to get audio into your LOC 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 signal 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. If adding the **AX-BRC-PRO** to your aftermarket radio to improve your bass levels us the RCA outputs from the aftermarket radio plugging into the LINE IN of the LOC.
5. Connect your RCA's. Red RCA's are for the right channel. **Black, Gray, or White** RCA's are for the left channels to your aftermarket amplifier.
6. It is recommend that the included bass knob be installed where the customer can reach it easily. The bass knob will give them the ability to control the output levels of the **AX-BRC-PRO**.

QUICK REFERENCE: AX-BRC-PRO



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 **AX-BRC-PRO** 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 off 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.

200Ω – LOC ground and ground shield of RCA are connected to each other by a 200Ω 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

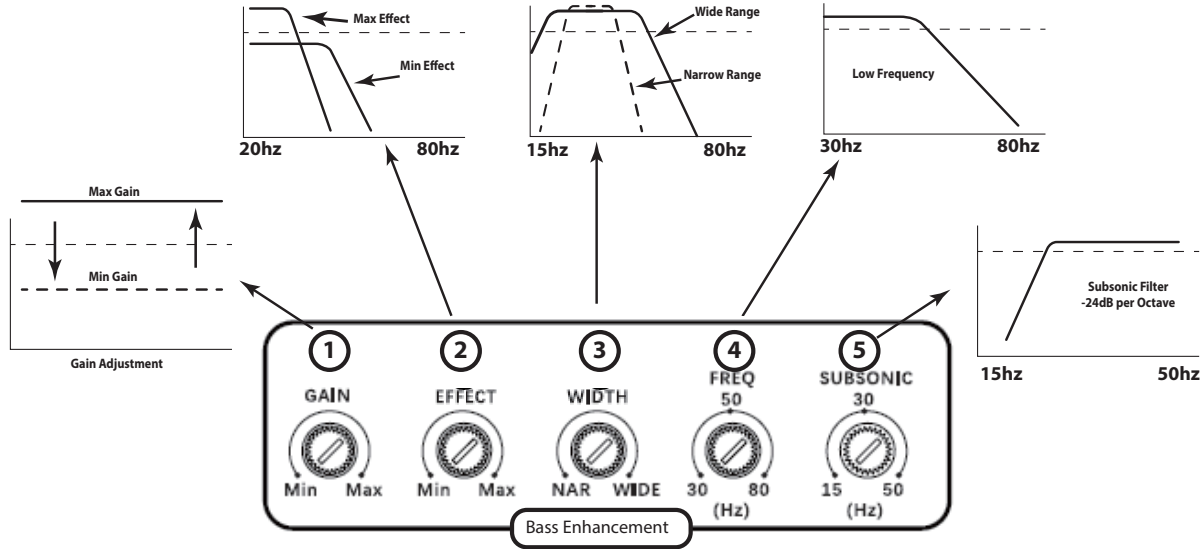
60 ohm – Commonly used in vehicles with a factory amplifier. Mainly late model Chrysler vehicles, which includes RAM, JEEP, DODGE, and some FIATS

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 **AX-LR39** is the only value not built into the **Axxess LOCs**.

FEATURE BREAKDOWNS

Bass Processor - This segment delivers complete control over the bass enhancement process, coupled with a subsonic filter. Unlike other bass restoration products, this feature offers versatile tuning options for dynamically applying bass enhancement to your music, giving the user the ability to adapt to various types of music and subwoofer setups on the fly.



Effect Adjustment- This adjustment allows you to control the maximum boost applied by the **AX-BRC-PRO's** enhancement process. It takes into account the music content, as well as the width and frequency settings. This effect acts as a safeguard, preventing **subwoofers** from being **overdriven** when properly configured. If you've already adjusted the gain, increasing the effect enhancement might result in clipping. In such cases, reducing the gain is necessary to achieve the desired **unclipped** output level. Once the effect level is set, it's recommended to use the remote's outer ring solely for on-the-fly bass level adjustments.

FEATURE BREAKDOWNS

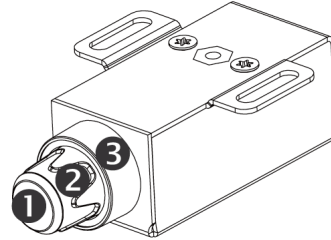
Width and Frequency Settings

Width - Adjusting this determines the range of frequencies that the bass enhancement process focuses on. A wider setting incorporates more surrounding frequencies, delivering comprehensive bass enhancement. Conversely, a narrower setting hones in on specific frequencies. Modifying the width setting, effect setting, or gain settings might require adjustments to maintain optimal performance and prevent clipping.

Frequency - This control sets the central frequency within the range (30Hz to 80Hz) that the **AX-BRC-PRO's** enhancement process targets.

Subsonic Control - This adjustment sets the cut-off point (F) for the subsonic filter. Frequencies below this point are filtered out. This setting proves crucial, as it prevents amplifier power wastage on very low frequencies and safeguards **subwoofers** from potential damage caused by excessive bass enhancement. Particularly, it mitigates the risk of over-exursion in ported enclosures below the tuning frequency.

Multi-Function Remote Overview



- 1. Bass Enhancement On/Off** - With a quick press of the main knob on the multi-function remote, you can activate or bypass the bass enhancement circuit. This feature lets you easily deactivate the effect for music already rich in bass, without altering the bass effect level setting on the outer ring. The LED indicator lights up when bass enhancement is active.
- 2. Total Output Level** - By rotating the remote's main knob, you control the RCA output level, ranging from full output (0dB) down to -30dB. This knob serves as both a subwoofer level and master volume control, functioning regardless of whether bass enhancement is active or not.
- 3. Bass Effect Level** - Adjust the amount of applied bass enhancement on-the-fly by rotating the outer ring. This adjustment spans from the main unit's maximum effect setting (0dB) to no effect (-∞), offering immediate control over the level of enhancement.

GAIN SETUP

Setting gains are very important, if done incorrectly you can damage your speakers. It is recommended that all setting be adjusted by a professional. **Axxess LOCs** have a maximum output of 10v RMS. On average aftermarket amplifiers to 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 increase 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 all **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. Press the Bass Enhancement Knob making sure the LED is lit. **Bass Enhancement** is engaged.
6. Turn **EFFECT** gain to half.
7. Adjust **FREQ** to 50HZ
8. Adjust **Subsonic Filter** to 25Hz

9. Cycle the **WIDTH** from Narrow to Wide until the Bass sounds good.
10. On the **EFFECT** gain adjust up and down until the Bass sound good.
11. The outside ring of the bass knob will adjust the **Bass Effect Level** on the fly.
12. Push bass knob to turn on and off.
13. Do not adjust the amplifier's gain.

NOTE: If at any point during the adjustments of the Enhancement circuit the Maximized LED lights up simply reduce the gain adjustment on the **AX-BRC-PRO** until it is no longer lit.

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 19.
2. Set all levels to minimum on the LOC
3. On your radio make sure all audio adjustments i.e. **Bass, Treble, Balance** and **Fade** are all **Centered** and **Flat**. Turn **Loudness** off and any preset **EQ** to **Flat**.
4. Open the manual form 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.

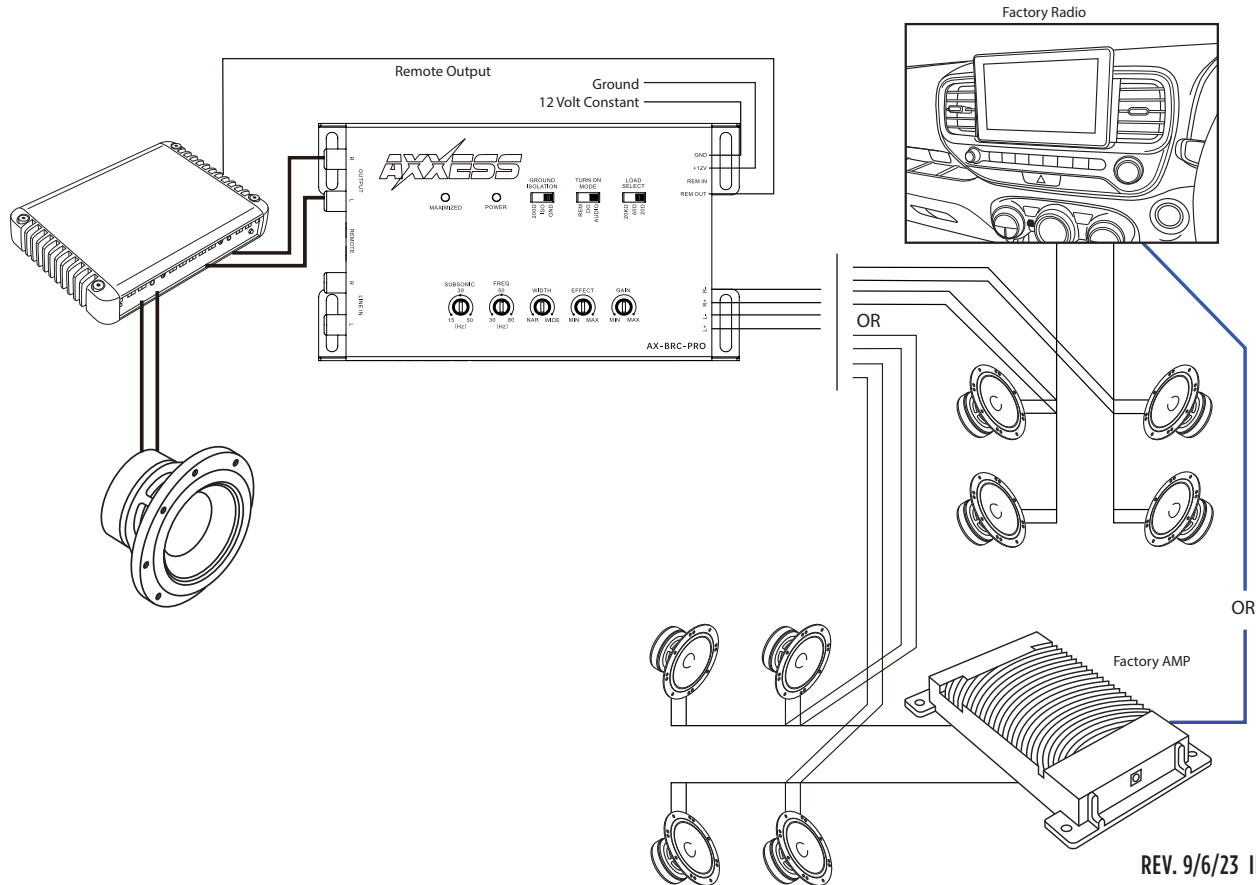
GAIN SETUP

- 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-meters screen.
- 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.
- Repeat steps 7 and 8 for the rear output.
- Press the **Bass Enhancement Knob** making sure the LED is lit. **Bass Enhancement** is engaged. An RTA and Pink noise generator is recommended. If using vehicle source, reduce radio volume reconnect RCAs and play– pink noise.
- Turn **EFFECT** gain to half.
- Adjust **FREQ.** to the expected center of your sub frequency range, between 30hz -80hz.
- Adjust **Subsonic Filter** just below the sub boxes tuning frequency
- Cycle the **WIDTH** from Narrow to Wide. Narrow will effect a small range of frequencies, Wide will effect a larger range of frequencies.
- Adjust **EFFECT** gain increasing the output of the frequencies effected by the Width adjustment.
- Further on the fly adjustment of the **Effect** can be made by using the outside ring of the bass knob.
- Push **Bass Knob** to turn on and off to test.

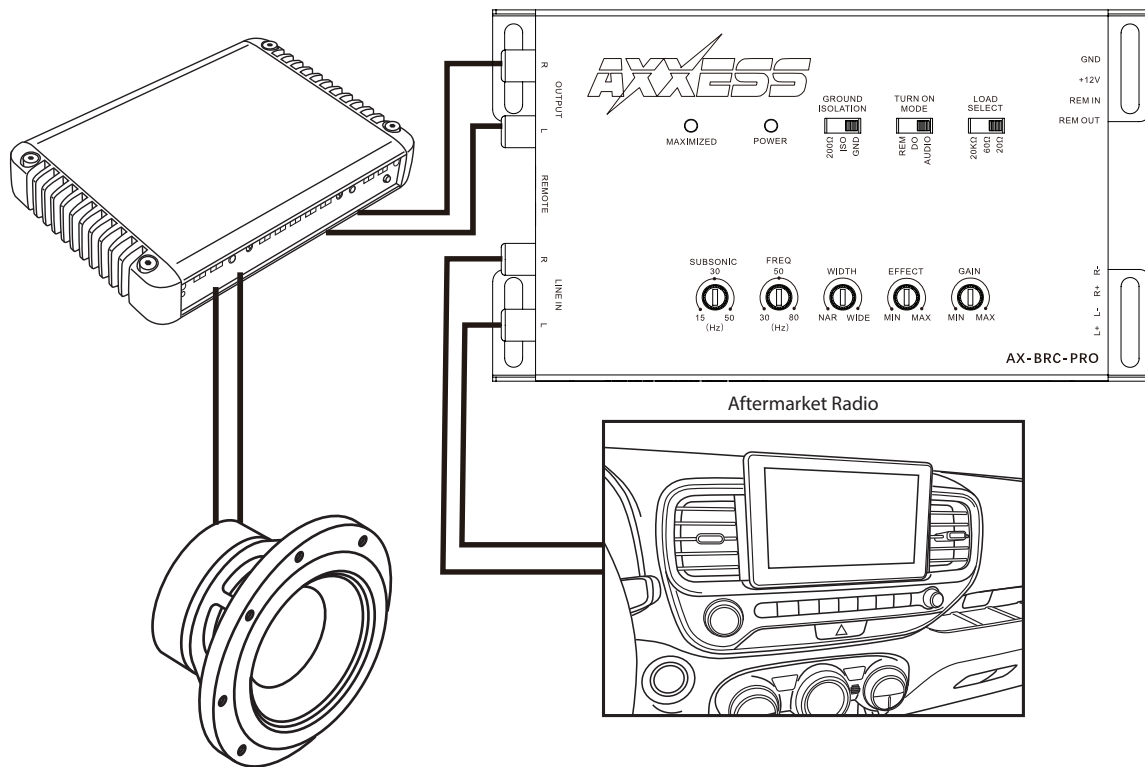
- Turn the radio's volume down.
- Connect the RCAs from aftermarket amplifier to the LOC.
- Adjust the gain on your amplifier(s) to minimum.
- Refer to the amplifiers manual if additional adjustments are required.

NOTE: If at any point during the adjustments of the Enhancement circuit the **Maximized** LED lights up simply reduce the gain adjustment on the **AX-BRC-PRO** until it is no longer lit.

DIAGRAM



DIAGRAM



SPECIFICATIONS

Frequency response	Max Flat (+0/-1dB)	<18Hz to >75kHz	
	Extended (+0/-3dB)	15Hz to >100kHz	
Input Impedance	Spk Input	180Ω / >20kΩ	
	AUX Input	>20kΩ	
Input Sensitivity	Spk Input(max-min gain)	2-20vrms / 4-40vrms	
	AUX Input(max-min gain)	0.5 - 5Vrms / 1 - 10Vrms	
Max Input Voltage	Spk Input	peak, <5sec cont. 40Vrms	
Output Impedance		<50Ω	
Max Output Voltage	at 1% THD+N	>10Vrms	
THD+N	Spk Input at 10V output	<0.05%	
	AUX Input at 10V output	<0.1%	
S/N	Spk Input	at 1V output	>96dBA
		at 4V output	>107dBA
		at 10V output	>115dBA
	RCA Input	at 1V output	>95dBA
		at 4V output	>106dBA
		at 10V output	>114dBA
Bass Enhancement	Effect	up to -18dB	
	Width	Narrow - Wide	
	Frequency	30dB to - 80dB	

Subsonic Filter	Slope	up to -24dB/oct.@ 15Hz	
	Frequency (F _s)	15Hz - 50Hz	
Remote Level	Total Output Level (Main Knob)	0dB to - 30dB	
	Bass EfFect Level (Outer Ring)	0dB to - ∞	
Turn-On Trigger	Remote	via REMIN	>10.5V
	DC-offset	via Spk Input	>1.3V
	Audio Signal	via Spk Input	<100mV
		via AUX Input	<10mV
	Turn-off Delay	up to 60sec	
Remote Output	Current Capacity	>500mA	
	Voltage	Within 3% of B+	
Current Draw	Max Draw (w/o REM OUT)	<300mA	
	Sleep Current	<1.2mA	
Operating Voltage	Power On (B+)	10.5V-18V	
	Power Off (B+)	<8.5V	
Product Dimensions	Main Chassis	1.1" x 3.5" x 5.2"	
	(HxWxD not incl. terminals, jacks)	29 x 90 x 133mm	
	Remote Housing	1.1" x 1.5" x 1.8"	
	(HxWxD not incl. knob, tabs)	28x38x45mm	



AX-BRC-PRO

INSTALLATION INSTRUCTIONS

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 - 5:00 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.



Metra recommends MECP certified technicians