

encore X Plug & Play Power DSP Amplifier (A1)

Thank you for purchasing the Beat-Sonic encore X Plug & Play DSP Power Amplifier. Please read this manual carefully prior to installing this product to ensure correct operation.

FEATURES

- High performance Digital Signal Processor (DSP).
- Class AB high efficiency 4ch x 45W car audio amplifier.
- Precision sound adjustment using the dedicated DSP Sound Controller tool.
- Time alignment & SPL adjustable 4ch speaker output / 6ch RCA output.
- 31 band fully adjustable equalizer.
- Easy to install plug & play installation.
- Retains factory head unit, speakers and connectors.

IMPORTANT

- This product is installed using the factory harness connectors, however there are multiple factory harness connectors of the same size and shape. Do not plug into the wrong connector or serious damage may result. Contact Beat-Sonic if unsure.
- Check the Beat-Sonic website for the latest vehicle compatibility information before installing.
- Ensure all factory head unit audio settings (balance, fader, equalizer etc.) are set to the factory default settings such as OFF and/or flat.
- Adjusting the factory head unit audio settings such as balance, fader equalizer etc. will reduce sound quality when used with this product.
- Factory option independent front / rear seat audio controls, where installed, will not function.
- This product has been optimized to work with the factory head unit and factory speakers. Replacing with aftermarket speakers and/or an aftermarket head unit will require re-tuning of the equalizer settings via the PC Sound Controller tool.
- Turn on / turn off pop noise may be audible in some installations. This is not a defect. Changing the power timing switch to "HIGH" can reduce or eliminate turn on pop noise.
- Turn off power before connecting/disconnecting RCA cables.

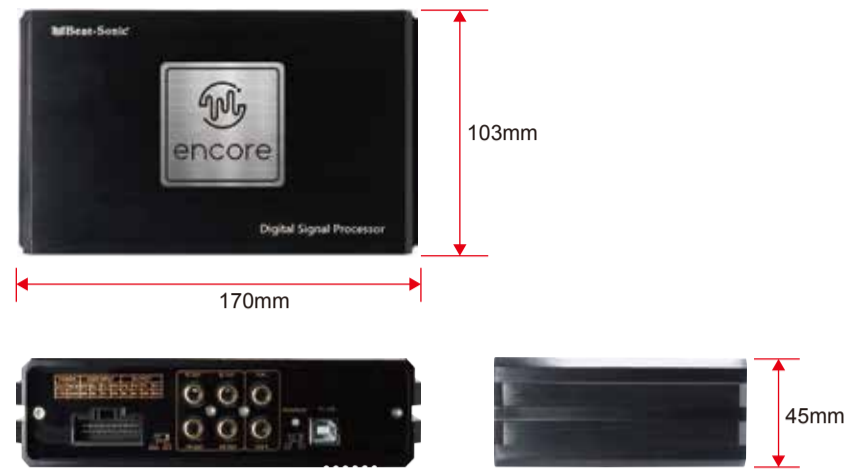
PRECAUTIONS

- This amplifier is suitable for negative ground 12V DC operation only.
- Wrap cables in protective electrical tape when routing near metal brackets and sharp edges.
- Do not install main unit or harness near moving mechanisms such as the steering column, seat rails, pedals etc. Do not install near heater vents or near sources of heat.
- Do not install this product where it may get wet or in areas where it is likely to get dusty or dirty.
- Do not install in close proximity to the head unit or radio antenna cable to avoid risk of radio interference.
- Do not open, disassemble or modify this product.
- Ensure the car battery is in good condition. A weak battery will cause reduced power output and reduced sound quality.

1 Specifications

Output power.....	4 x 45 Watts @ 4Ω (14.4V)
Nominal speaker impedance.....	4Ω
Amplifier class.....	Class AB
Inputs.....	4 x high level speaker input
Outputs.....	4 x speaker output 6 x RCA (2.2V p-p)
Frequency response.....	20Hz-22kHz (+0/-1dB)
S/N ratio.....	105dB
Total Harmonic Distortion (THD).....	0.01%
DSP resolution.....	24bit
Sampling rate.....	48kHz
Crossover.....	Bypass, Bandpass, Lowpass, Highpass
Crossover type (slope).....	Butterworth (6, 12, 18, 24, 36, 48dB/Oct) Bessel (6, 12, 18, 24, 36, 48dB/Oct) Linkwitz Riley (12, 24, 36, 48dB/Oct)
Phase control.....	0/180 deg.
Equalizer frequency range.....	20Hz-22kHz (max. 31 bands)
Equalizer mode.....	Parametric & Graphic
Equalizer band.....	1ch/2ch: 31 band 3ch/4ch: 15 band 5ch/6ch: 9 band
Equalizer adjustment range.....	-15dB ~ +15dB
Q factor.....	0.3 ~ 50.0
Time alignment - distance.....	0 ~ 204cm 0 ~ 136cm (sub-woofer / center speaker)
Time alignment - time.....	0 ~ 6ms 0 ~ 4ms (sub-woofer / center speaker)
Time alignment increments.....	0.021ms / 6.8mm
Storeable presets.....	6
Remote output.....	DC 12V (max. 100mA)
Power.....	DC 12V
Operating voltage.....	10V ~ 15V
Max. current draw.....	15A
Quiescent current.....	350mA
Fuse.....	15A (φ5.2×30mm)
Dimensions (main unit).....	700mm x 103mm x 45mm
Weight (main unit).....	625gm
System requirements (PC only).....	Windows 7 or later USB Type-A

2 Product Dimensions



3 Parts List

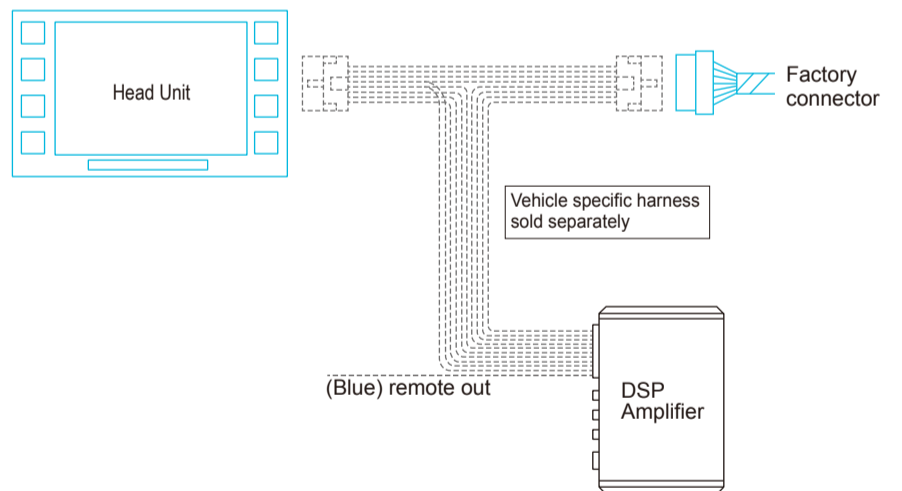


- DSP amplifier main unit
- USB cable - Type A to Type B (approx. 1.35m / 3.3 ft)
- Carpet mounting tape x 2pcs
- Double sided tape x 2pcs
- Instruction manual

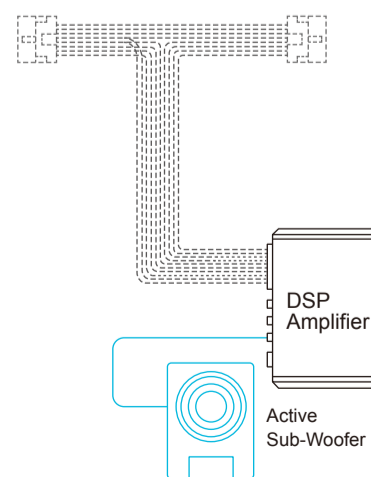
* Vehicle specific harness sold separately

4 Connection Diagram

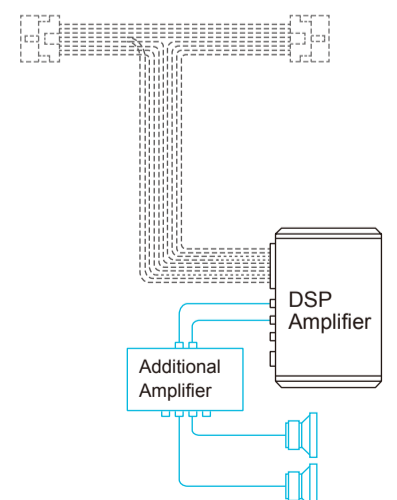
Standard Connection



E.g.1. Active Sub-Woofers Connection



E.g.2. Additional Amplifier Connection



5 Connector Panel



A 20-Pin Connector Pin Assignment

POWER		HIGH INPUT				OUTPUT			
ACC	REM	RR+	RL+	FL+	FR+	FR-	FR+	FL-	FL+
+12V	GND	RR-	RL-	FL-	FR-	RL-	RL+	RR-	RR+

B 20-Pin Connector (Power / Input / Output)

- Connector for vehicle connection harness
- REM blue wire remote output for connection to additional amplifier

C Power On Timing (HIGH / ACC)

- ACC : Amplifier turns on with accessories.
- HIGH : Amplifier turns on with audio signal.

D RCA Line Level Output (6ch)

Provides connection via RCA cables to external amplifiers where installed.

E Power Indicator (LED)

Illuminates red when power is connected and either ACC or HIGH signal is detected.

F USB Connector for PC Interface

Connection to PC for DSP setup & configuration. Ensure the DSP software tool is installed on the PC prior to connecting to the DSP amplifier and use the provided USB Type A - USB Type B cable for the connection.

G DSP Function ON/OFF Switch

Switches ON /OFF the equalizer and time alignment functions only. The mixer and amplifier remain active even in the OFF position.

6 Installation

6.1 Remove all necessary parts to gain access to the rear of the head unit. The method of disassembly varies for each vehicle. If unsure, please contact Beat-Sonic for advice for vehicle specific instructions.

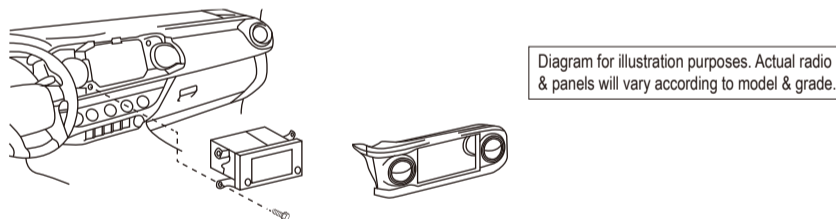


Diagram for illustration purposes. Actual radio & panels will vary according to model & grade.

6.2 Confirm you have the correct vehicle specific harness and locate the corresponding connector(s) on the back of the head unit. Disconnect the connector(s) from the back of the head unit and connect the vehicle specific DSP harness connector(s) inline with the factory connector(s) in a daisy chain configuration (see section 4).

6.3 Decide a suitable location to mount the DSP amplifier. The mounting location will vary depending on the vehicle. Suggested mounting locations are inside the glove compartment or under the passenger seat.

i) If installing inside the glove compartment, use the provided double sided tape strips to secure the amplifier in place. Before installing, confirm the glove compartment can be freely opened and closed with the amplifier in place, and the cables do not obstruct moving parts.

ii) If installing under the passenger seat, first confirm the cable length will reach the desired location under the seat. After confirming, attach the supplied carpet mounting tape to the underside of the DSP amplifier. The carpet mounting tape will grip the carpet and hold the amplifier in place.

6.4 Route the DSP harness to the location of the DSP amplifier and connect the 20-pin connector.

6.5 Confirm all connectors are fully inserted before reinstalling the head unit back into it's original position. Test the system by turning on the radio and confirm that sound is output from all speakers.

6.6 Return panels and trim to the original locations taking care to ensure all connectors are reconnected to complete the installation.

7 DSP Sound Controller Tool

The DSP Sound Controller Tool is required to configure the DSP amplifier settings and/or to download and install the DSP audio files.

■ Follow step 1 & step 2 to configure the DSP amplifier settings.

■ Follow step 1, step 2 & step 3 to install a vehicle specific DSP audio file.

Step 1 : Download & Install the DSP Sound Controller Tool

The dedicated DSP Sound Controller Tool together with other related download files are available from the Beat-Sonic English language website via the URL below:

<https://beatsonicglobal.com/pages/downloads>



Visit www.beatsonicglobal.com website and go to the downloads menu or enter the URL above to download the DSP Sound Controller Tool and the DSP Sound Controller User Guide (PDF). Install the DSP Sound Controller Tool according to the instructions in the user guide. Note the DSP Sound Controller Tool is compatible with PC only.

Minimum system requirements

COMPATIBLE OS : Windows 7, 8, 10, 11
 CPU : 1.6GHz or higher
 MEMORY : 1GB RAM (minimum)
 HDD : 512MB free disk space for installation
 DISPLAY : 1024 × 576 or higher

Step 2 : PC Connection

Connect the supplied USB cable from the PC (laptop) to the DSP amplifier installed in the vehicle. Turn the vehicle ignition to ACC or ON and confirm the DSP amplifier power indicator LED is illuminated. Note that some vehicles may require IGN mode activated to turn on the DSP amplifier.

Launch the Sound Controller application to complete the connection process. Changes to the DSP audio settings are made via the sound controller tool interface. Refer to the DSP Sound Controller User Guide for details.

Step 3 : Install Vehicle Specific DSP Audio Files

Vehicle specific DSP audio files are available for download from the Beat-Sonic website or from your Beat-Sonic dealer. Follow the directions in the DSP Sound Controller User Guide to download and install the vehicle specific audio files.

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