

NO:000003

ENA-2T1

Instruction Manual

Thank you for purchasing the Beat-Sonic Encore Alpha Plug & Play Car Audio Amplifier. Designed and made in Japan, this product represents our commitment to quality and excellence. Please read this manual carefully prior to installing this product to ensure correct operation.

■ Features

- Designed for Toyota 10-pin / 6-pin radio connectors
- Class AB high efficiency car audio amplifier
- Easy to install plug & play installation
- Retains factory head unit, speakers and connectors
- Manufactured using premium hi-fi audio grade components
- Made in Japan

■ 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.
- Some vehicles may require extensive disassembly to install this product. Installation should be performed by an experienced motor vehicle technician or auto electrical professional.

■ 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 this product where it may get wet or in areas where it is likely to get dusty or dirty.
- Do not open, disassemble or modify this product.
- Ensure the car battery is in good condition. A weak battery will cause a significant drop in power output and sound quality.

■ Protection Circuit

This amplifier is provided with a protection circuit that operates in the following conditions:

- When the speaker output terminals are short circuited
- When the battery is connected in reverse polarity
- When the amplifier is overheated

If this occurs, turn off the ignition and determine the cause of the malfunction. In case of overheating, wait until the amplifier has cooled off before using.

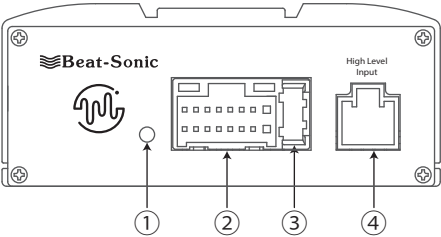
■ Contents

Amplifier x 1	Wire Harness x 1	Double Sided Tape x 2
Instruction Manual x 1	Padding Strips x 2	

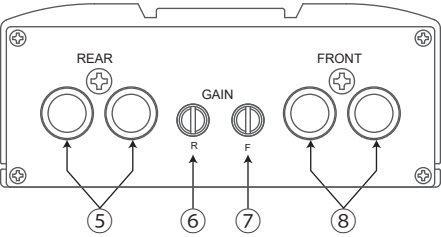
1 Specifications

Class AB amplifier	4 channels
Power output	45W x 4ch (4Ω)
Speaker impedance	4 ~ 8Ω
Input sensitivity	0.5 ~ 5V
Bandwidth	15 ~ 80kHz (+0, -1dB)
Total harmonic distortion	0.01%(1kHz / 4 Ω)
Operating voltage	DC11V ~ 15V
Quiescent current	200mA
Fuse	15A
Audio input	AUX (Line Level RCA) Speaker High Level
Protection	Short circuit / reverse polarity / heat protection
Dimensions	96mm (W) x 114mm (D) x 40mm (H)
Weight	420g (exc. harness)

2 Parts Location

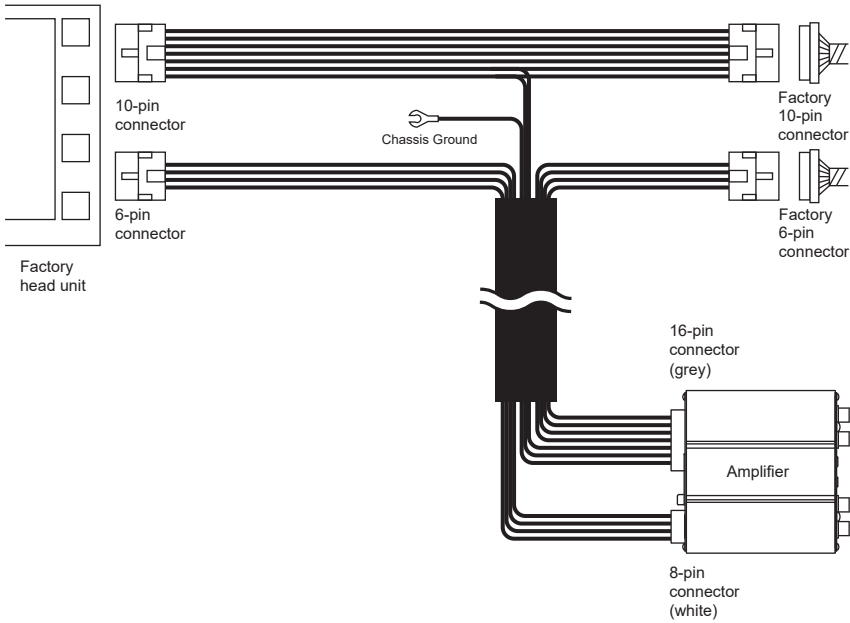


- ① Power Indicator
- ② Power / Speaker Output Connector
- ③ Fuse (15A)
- ④ High Level Input Connector



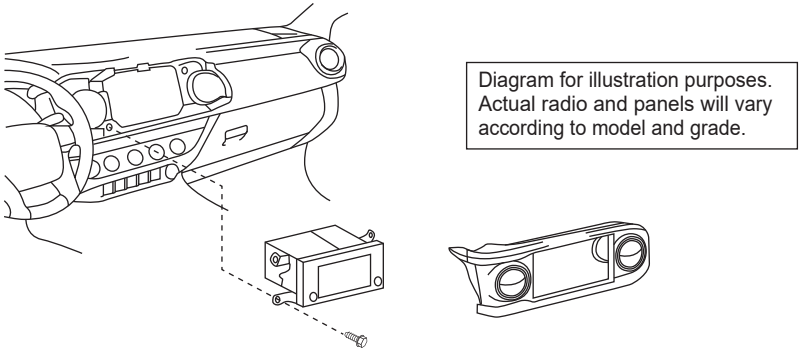
- ⑤ Rear Channel RCA Input
- ⑥ Rear Channel Gain
- ⑦ Front Channel Gain
- ⑧ Front Channel RCA Input

3 Connection Diagram

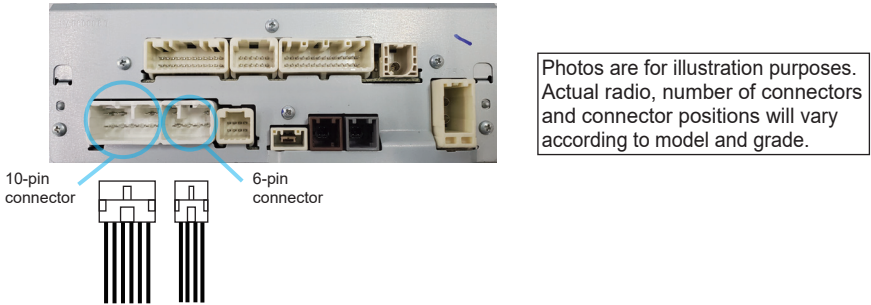


4 Installation

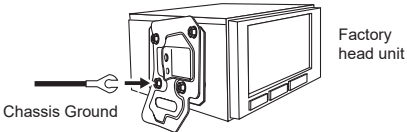
- 4.1 Remove all necessary parts to gain access to the rear of the factory head unit. The method of disassembly varies for each vehicle. If unsure, please contact Beat-Sonic for advice for vehicle specific instructions.



- 4.2 Locate the 10-pin connector and the 6-pin connector on the back of the factory head unit. Disconnect the 10-pin connector and 6-pin connector from the back of the factory head unit and connect the wire harness connectors inline with the factory connectors in a daisy chain configuration (see section 3).



- 4.3 Attach the chassis ground terminal to the mounting bracket for the factory head unit. Loosen one of the fasteners using the correct size socket or spanner then slide the chassis ground terminal underneath before retightening the fastener.



4 Installation (continued)

- 4.4 Decide a suitable location to mount the amplifier. The mounting location will vary depending on the vehicle. Suggested mounting locations include behind the factory head unit, inside the glove compartment or behind the glove compartment.
- i) If installing behind the factory head unit, behind the glove compartment or other location inside the dash, use the supplied foam padding strips by cutting to size to insulate against possible rattles from metal to metal contact.
- ii) If installing inside the glove compartment, use the provided double sided tape strips to secure the amplifier in place. An opening may need to be cut into the top/side of the glove compartment to allow the cables to pass through. 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.
- 4.5 Route the wire harness to the location of the amplifier and connect both the 16-pin grey connector and 8-pin white connector to the amplifier.
- 4.6 Confirm all connectors are fully inserted before reinstalling the head unit back into it's original position. Reconnect all other electrical connectors including AC / heater controls, behind trim panels. Test the system by turning on the radio and confirm sound is output from all speakers. Play music through the sound system and adjust the gain if necessary (see section 5 below).

IMPORTANT

Return all electrical connectors behind the radio, AC / heater controls, behind trim panels etc., to their original locations before powering on the vehicle. Failure to do so may result in check engine light or error codes that requires a reset procedure.

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

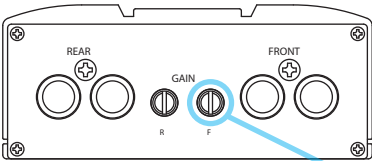
5 Gain Adjustment

Gain adjustment allows optimization of the factory head unit volume range in relation to the amount of power output by the amplifier. In most installations, the gain on the amplifier can be left at the factory set 50% gain (approx. 12 o'clock) position. In some cases however, adjustment may be necessary to prevent overdriving the speakers at relatively low volumes.

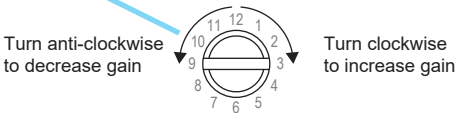
It is important to remember that a lower gain setting does not mean less available power - it just means that the head unit volume needs to be increased to deliver the same output volume.

How to Adjust the Gain

- 5.1 Adjust factory head unit bass, treble, balance and any other equalizer settings to the mid point positions.
- 5.2 Play music with impactful bass, treble and vocals. Slowly increase the volume on the factory radio to a medium-high level while carefully listening for any distortion. Use your finger nail or small flat head screwdriver to adjust the gain on the front and rear channels for maximum volume without distortion or overdriving the speakers.

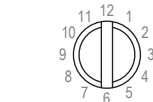


Do not apply excessive force to gain control. Maximum gain is at 5 & minimum gain is at 7.



Caution!

The gain control will turn easily until the maximum or minimum stop position is reached. Do not forcibly turn the gain beyond the max / min stop position otherwise damage can occur.



Factory set gain position (approx. 12 o'clock)



Minimum gain position (approx. 7 o'clock)



Maximum gain position (approx. 5 o'clock)

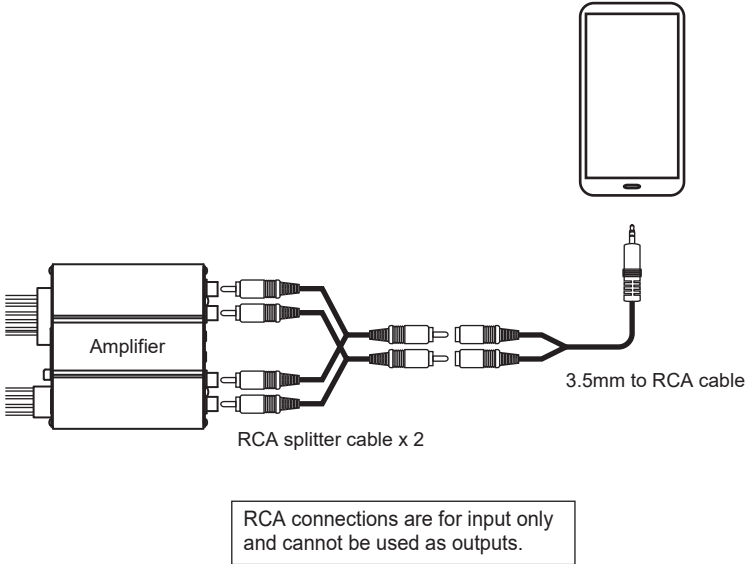
6 Appendix A

Optional Connection - RCA Inputs

This amplifier is provided with 4 channel line level (RCA) inputs. These inputs can be used to connect an additional audio source device that can be played either simultaneously or separately to the high level inputs from the factory head unit.

As an example, the headphone output (3.5mm) from a smartphone can be connected to the RCA inputs on the amplifier by using a 3.5mm to RCA cable together with 2 x RCA splitter cables.

* 3.5mm to RCA cable and RCA splitter cables are sold separately and are not included.



7 Troubleshooting

Symptom	Possible Cause	Action
No sound	Ensure vehicle is in ACC mode or IGN mode.	Vehicle must be in ACC or IGN mode.
	The ground lead is not securely connected.	Ensure ground terminal is securely attached to a metal point on the vehicle.
	The fuse is blown.	Replace the fuse with a new one.
	The battery voltage is too low.	Check battery voltage (11V ~ 15V).
No sound in ACC mode	Vehicle uses digital accessories (ACC) mode.	Place vehicle into IGN mode to turn on the amplifier. Check with Beat-Sonic you have the correct product number for your vehicle.
Steering wheel controls dont work. Intermittent errors.	Connector is not fully inserted into the back of the radio.	Check wire harness connectors are fully inserted. Firmly push in the connector until you hear the "click".
The sound is too quiet	Head unit volume is too low or fader is biased to front or rear.	Adjust volume on radio. Check fader settings are set to neutral.
	The gain setting is not adjusted correctly.	Adjust gain settings as explained in section 5 of this manual.
The sound is distorted	Head unit volume is too high or fader is biased to front or rear.	Adjust volume on radio. Check fader settings are set to neutral.
	The gain setting is not adjusted correctly .	Adjust gain settings as explained in section 5 of this manual.
Adjusting rear gain has no effect on music volume	Vehicle uses factory 2ch input amplifier.	Keep rear gain at 12 o'clock (default) position. The amplifier will provide maximum power using the front 2 channels.
The amplifier gets abnormally hot	Speaker impedance is too low. Inadequate ventilation.	Use speakers with suitable impedance 4 ~ 8Ω. Make sure amplifier is installed in a well ventilated location.

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