cdtaudio

let the music begin

CAR POWER AMPLIFIER

ACD-5CH

OWNER'S MANUAL

8 INPUT MODE
Switch to route input signals to respective amplifier channels.
In switch position 2CH, the input signal is routed from the channel pair CH1/CH2 to CH3/CH4/CH5. This means that only a stereo signal is required at the inputs CH1/CH2.
In switch position 4CH, the input signal is routed from the channel pair CH1/CH2/CH3/CH4 to CH5.

9 BASS BOOST
This controller determines the bass boost (0 - 12dB) on the respective channel.

10 FREQ
These controllers determine the crossover frequency of the low pass filter on the respective channel .
The crossover frequency is adjustable from 50 Hz to 250 Hz.

12 LINE INPUT
RCA inputs for connecting lowlevel line signals.

13 POWER INPUT
Connect the +12V terminal with the +12V pole of the vehicle's battery.
Connect the GND terminal with a suitable contact ground point on the vehicle's chassis. The ground wire must be as short as possible and must be connected to a blank metallic point at the vehicle's chassis. Ensure that this ground point has a stable and safe electric connection to the negative"–"pole of the battery. Check this ground wire from the battery to the ground point if possible and enforce it if required.

14 FUSE
Slot for the device fuse (2*40 A).

15 PRT/PWR
If the LED lights up in green, the amplifier is ready for operation.
If the LED lights up in red, there is a malfunction.

16 SPEAKERS OUTPUT
Speaker outputs of the channels CH1 - CH5 to connect speaker systems.
The impedance CH1-CH4 channels must not be lower than 2 Ohms (4 Ohms in bridged mode).
The impedance CH5 channel must not be lower than 1 Ohms

Specification:

Nominal Power Supply Voltage		11-15 VDC
Pulse Operating Voltage		9-16 VDC
Circuit		Digital Class D
Channels		5
OUTPUT @14.4V	Watts @ 4 Ohms	4 x 100 + (1 x 300 @ 1 Ohms_CH5)
	Watts @ 2 Ohms	4 x 160
	Watts @ 4 Ohms Bridged	2 x 320
Loudspeaker Impedance		2-16 Ohms + (1-16 Ohms_CH5)
Frequency Range		10-30,000 Hz + (10-250 Hz_CH5)
Damping Factor		> 100
Signal-to-Noise Ratio		105 dBA
THD + N		< 0.01 %
Pre-In Sensitivity		0.3 – 6 VRMS
Filter	Cossover Modes	HPF/FULL
	High Pass Filter	50-250 Hz (CH1-CH4)
	Low Pass Filter	50-250 Hz (CH5)
	Bass Boost	0-12 dB (CH5)
Auto Turn On		Yes
Fuse Rating		2 x 40 A
Dimensions(mm/in)		226.5 x 134 x 48mm / 8.92 x 5.3 x 1.89 in
Weight(g/oz)		1663g /5.75oz

Safety precautions

⚠ WARNING

To prevent injury or fire, take the following precautions:

- Mounting and wiring this product requires skills and experience. For safety's sake, leave the mounting and wiring work to professionals.
- When extending the ignition, battery, or ground wires, make sure to use automotive-grade wires or other wires with the range of 5 mm2 (AWG 10) or more to prevent wire deterioration and damage to the wire coating.
- To prevent a short circuit, never put or leave any metallic objects (such as coins or metal tools) inside the unit.
- If the unit starts to emit smoke or strange smells, turn off the power immediately and consult your supplier.
- Do not touch the unit during use because the surface of the unit becomes hot and may cause burns if touched.

⚠ CAUTION

To prevent damage to the machine, take the following precautions:

- Be sure the unit is connected to a 12V DC power supply with a negative ground connection.
- Do not open the top or bottom covers of the unit.
- Do not install the unit in a spot exposed to direct sunlight or excessive heat or humidity. Also avoid places with too much dust or the possibility of water splashing.

NOTE

- If you experience problems during installation, consult your supplier.
- If the unit does not seem to be working right, consult your supplier.

Cleaning the unit

If the front panel gets dirty, turn off the power and wipe the panel with a dry silicon cloth or soft cloth.

⚠ CAUTION

Do not wipe the panel with a hard cloth or a cloth dampened by volatile solvents such as paint thinner and alcohol. They can scratch the surface of the panel and/or cause the indicator letters to peel off.

To prevent battery rise

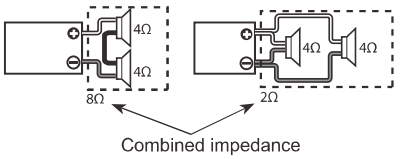
When the unit is used in the ACC ON position without turning the engine ON, it depletes the battery. Use it after starting the engine.

Protection function

The protection function is activated in the following situations:
This unit is equipped with a protection function for protecting this unit and your speakers from various accidents or problems that can occur.
When the protection function is triggered, the power indicator goes off and the amplifier stops operating.
- When a speaker wire may be short-circuited.
- When a speaker output contacts ground.
- When the unit malfunctions and a DC signal is sent to the speaker output.
- When the internal temperature is high and unit won't operate.

■*Speaker selection*

- Using speakers with smaller input ratings than the amplifier's output power would result in smoke generation or equipment failure.
- The impedance of the speakers that are going to be connected should be 2Ω or greater (for stereo connections), or 4Ω or greater (for bridged connections). When more than one set of speakers are going to be used, calculate the combined impedance of the speakers and then connect suitable speakers to the amplifier.
<Example>



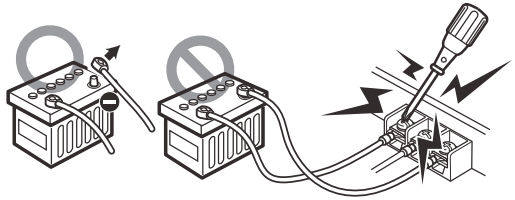
Safety precautions

■Wiring

- Take the battery wire for this unit directly from the battery. If it's connected to the vehicle's wiring harness, it can cause blown fuses etc.
- If a buzzing noise is heard from the speakers when the engine is running, connect a line noise filter (optional) to each of the battery wire.
- Do not allow the wire to directly contact the edge of the iron plate by using Grommets.
- Connect the ground wire to a metal part of the car chassis that acts as an electrical ground passing electricity to the battery's negative ⊖ terminal. Do not turn the power on if the ground wire is not connected.
- Be sure to install a protective fuse in the power cord near the battery. The protective fuse should be the same capacity as the unit's fuse capacity or somewhat larger.
- For the power cord and ground, use a vehicle type (fireproof) power wring cord. (Use a power wiring cord with the range of 5 mm2 (AWG 10) or more.)
- When more than one power amplifier are going to be used, use a power supply wiring wire and protective fuse of greater current-handling capacity than the total maximum current drawn by each amplifier.

⚠ WARNING

Particular attention must be given to making good electrical contact at the amplifier-output and speaker terminals. Poor or loose connections can cause sparking or burning at the terminals because of the very high power that the amplifier can deliver.



⚠ CAUTION

- If sound is not output normally, immediately turn power off and check connections.
- Be sure to turn the power off before changing the setting of any switch.
- If the fuse blows, check wires for shorts, then replace the fuse with one of the same rating.
- Check that no unconnected wires or connectors are touching the car body. Do not remove caps from unconnected wires or connectors to prevent short circuits.
- Connect the speaker wires to appropriate speaker connectors separately. Sharing the negative wire of the speaker or grounding speaker wires to the metal body of the car can cause this unit to fail.
- After installation, check that the brake lamps, turn signal lamps and windshield wipers work properly

Connection

■ Installation procedure

Since there are large variety of settings and connections possible according to applications, read the instruction manual well to select the proper setting and connection.

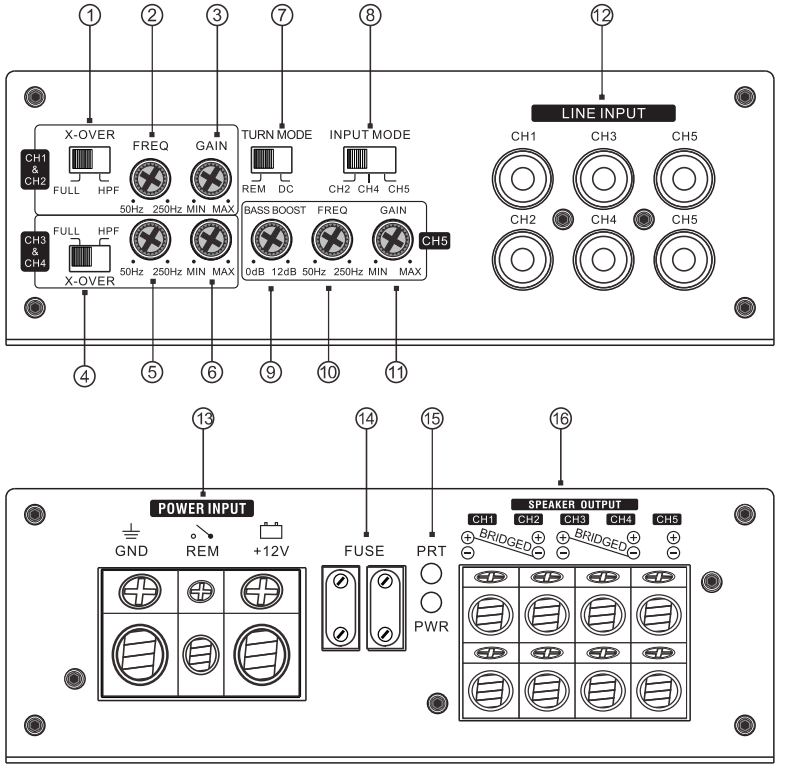
1. Remove the ignition key and disconnect the negative ⊖terminal of the battery to prevent short circuits.
2. Set the unit according to the intended usage.
3. Connect the input and output wires of the units.
4. Connect the speaker wires.
5. Connect the power wire, power control wire and grounding wire following this order.
6. Install the installation fittings in the unit.
7. Attach the unit.
8. Connect the negative ⊖ terminal of the battery.

⚠ CAUTION

- Do not install in the below locations;(Unstable location, In a location that interferes with driving, In a location that gets wet, In a dusty location, In a place that gets hot, In a place that gets direct sunlight, In a location that gets hit by hot air)
- Do not install the unit under the carpet. Otherwise heat build-up occurs and the unit may be damaged.
- Install this unit in a location which allows heat to easily dissipate.Once installed, do not place any object on top of the unit.
- The surface temperature of the amplifier will become hot during use. Install the amplifier in a place where people, resins, and other substances that are sensitive to heat will not come into contact with it.
- When making a hole under a seat, inside the trunk, or somewhere else in the vehicle, check that there is nothing hazardous on the opposite side such as a gasoline tank, brake pipe, or wiring harness, and be careful not to cause scratches or other damage.
- Do not install near the dashboard, rear tray, or air bag safety parts.
- The installation to the vehicle should securely fasten the unit to a place in which it will not obstruct driving. If the unit comes off due to a shock and hits a person or safety part, it may cause injury or an accident.
- After installing the unit, check to make sure that electrical equipment such as the brake lamps, turn signal lamps and windshield wipers operate normally

Product function description/ diagram

■ ACD-5CH



1 4 X-OVER MODE
This crossover switch selects the desired operating mode of the respective channel pair
HPF: High-pass mode (frequency is limited downwards, adjustable via FREQ.)
FULL: Full range mode (entire frequency range is amplified)

2 5 FREQ
These controllers determine the crossover frequency of the high pass filter on the respective channel pair. The crossover frequency is adjustable from 50 Hz to 250 Hz

3 6 11 GAIN
This controller determines the input sensitivity (adaptation to the output signal of the head unit).

7 TURN MODE
If your head unit does not have a turn-on signal (REM), you can use the automatic turn-on function of the amplifier. The amplifier then detects a voltage rise to 6 volts when the head unit is turned on by a so-called "DC offset" and then turns on the amplifier. As soon as the head unit is switched off again, the amplifier switches itself off.
REM: Turn On by the turn-on signal (REM) of head unit
DC : Auto Turn On by Speaker DC (without using the "REM IN" wire)