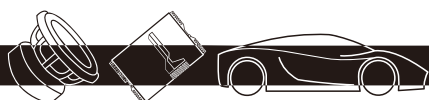


**GLADEN**<sup>®</sup>  
GERMAN TECHNOLOGY

**User's Guide  
for amplifiers**

**FD 1000c1**



## Installation

In case you install the amplifiers by yourself, please read owners' manual very carefully.  
Before you start your installation, please take all steps into consideration.  
If in doubt, please contact with authorized distributors / dealers to check installation and turn in your car audio systems.

### Mounting Preparation

Disconnect the negative (-) battery cable before mounting or making any connections.  
Check the battery and alternator ground (-) connections. Make sure they are properly connected and free of corrosion. Before selecting a mounting location for the amplifiers, please take cooling and safety into consideration.

#### **Avoid areas such as speaker boxes with excessive vibration !**

The amplifiers have been designed with a good heat dissipation heatsink.  
In order to avoid excessive heat from the amplifier, it is recommended to find a mounting location that allows for vertical positioning of the heatsink fins.

For safety purposes, install the amplifier in a dry and well ventilated location and make sure no cables or other harness of the car is interfaced with the mounting location or will present a hazard to the car's cable, control cables, fuel lines/tanks, hydraulic lines or other components of the vehicle.

### **+12V(B+), GND, REM CONNECTION**

#### **+12V / B+ (POWER CONNECTION)**

Before mounting the amplifiers, disconnect the negative (-) wire from the battery to protect any accidental damage to the amplifiers or the audio systems. The amplifiers are equipped with 0 AWG or 4 AWG power and ground terminals. Connect the power cables to power terminal labeled as + 12V.  
Some of the amplifiers are not equipped with fuses, so external fuses are required.  
Connect one end of the fuse holder to the power cable and the other end of the fuse holder to the positive battery terminal within 20 cm of the same cable.  
This fuse location will protect the system and the vehicle against the possibility of a short circuit in the power cable.

Make sure that the fuses and the fuse holder are adequate for the desired application.

#### **GND (GROUND CONNECTION)**

Locate a secure grounding connection as close as possible to the amplifier.  
Make sure the location is clean and provides a direct electrical connection to the chassis of the vehicle.  
Connect one end of an equal sized cable as the positive cable to the location of ground.  
It is important that the ground cable is as short as possible, but no longer than 75 cm at maximum.  
Run one end of the cable to the grounding point.  
Run the other end of the cable to the mounting location.  
Connect the ground cable to the terminal labeled as GND.

#### **REM (REMOTE CONNECTION)**

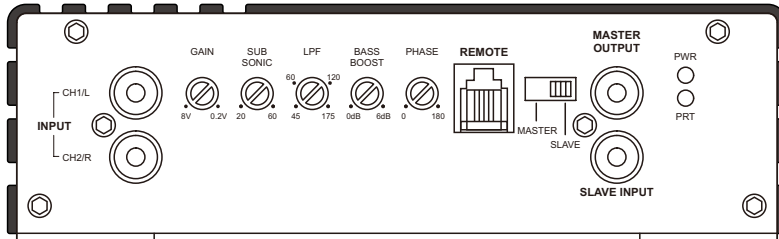
Run a remote turn on cable from the switched + 12V source.  
This may be a toggle switch, a relay, the source unit's remote output cable or power antenna trigger cable.  
Connect the remote turn on cable to the power terminal labeled as REM.

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## Panel Layout



### 1) INPUT

Connect preamp signal cables from head unit to RCA input of the amplifiers. A minimum level input of 0.2V is essential for correct operation.

### 2) GAIN (8V ~ 0.2V)

Matching the output voltage of the head unit's RCA line-outs to the input section.

### 3) SUBSONIC FILTER (20Hz ~ 60Hz @ 24dB OCTAVE SLOPE)

Control the high pass point for the speaker outputs to eliminate xtreme low frequencies.

### 4) LOW PASS FILTER (45Hz ~ 175Hz @ 24dB OCTAVE SLOPE)

Control the low pass point for the speaker outputs.

### 5) BASS BOOST

Variable bass boost with 0-6 dB @ 45Hz.

### 6) PHASE CONTROL

Variable phase adjustment from 0~180 degrees

### 7) REMOTE LEVEL CONTROL PORT

Connect external level control.

### 8) REMOTE CONTROL (OPTIONAL ITEM)

If you turn knob to clock-wise (MAX), it is maximum level position.

If you turn knob to counter clock-wise (MIN), it reduces level.

### 9) MASTER OUTPUT / SLAVE INPUT

For linkable connection of 2 same amplifiers. Minimum impedance is 1  $\Omega$ .

In this mode, the master amplifier will control gain settings on the subsequent slaved amplifier.

### 10) SPEAKER OUTPUTS

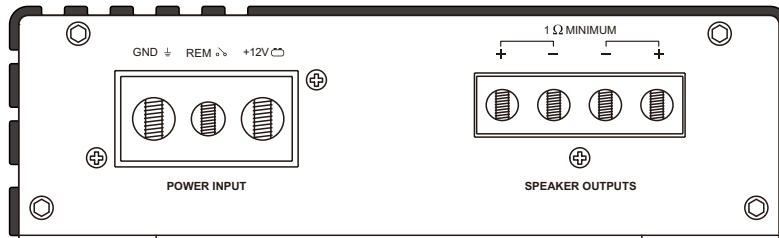
Amplifier connection to the loudspeakers. Minimum speaker cable is 12 gauge.

Minimum impedance is 1  $\Omega$ .

### 11) POWER & PROTECTION INDICATOR

Power LED, green-lit or blue-lit shows correct operation. Protect LED, Red-lit shows general malfunction, faulty connection or thermal protection.

## +12V(B+), GND, REM



### **GND (GROUND CONNECTION)**

For connection to the chassis' ground. For optimum performance 0 gauge cable is recommended.

### **REM (REMOTE)**

Connect to switched +12V from the head unit.

### **+12V / B+ (POWER CONNECTION)**

For connection to the positive terminal of the battery (+12).  
For optimum performance 0 gauge cable is recommended.

### **SPEAKER OUTPUTS**

Amplifier connection to the loudspeakers. Minimum speaker cable is 12 gauge.  
Minimum impedance for single unit is  $1\Omega$ .  
Minimum impedance in linked connections is  $1\Omega$ .

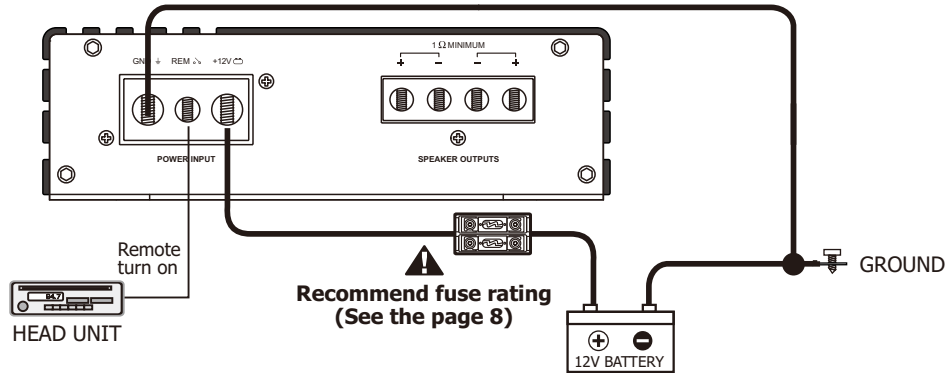
### **⚠ CAUTION**

Installation of the amplifier should be done in the following steps:

1. Ensure that the ground is appropriate, then connect it to the amplifier.
2. Next step is to connect the +12V wire. Ensure all power terminals are used.  
This cable has to be fused at the battery for safety precautions.
3. The final step is connecting the switched remote.

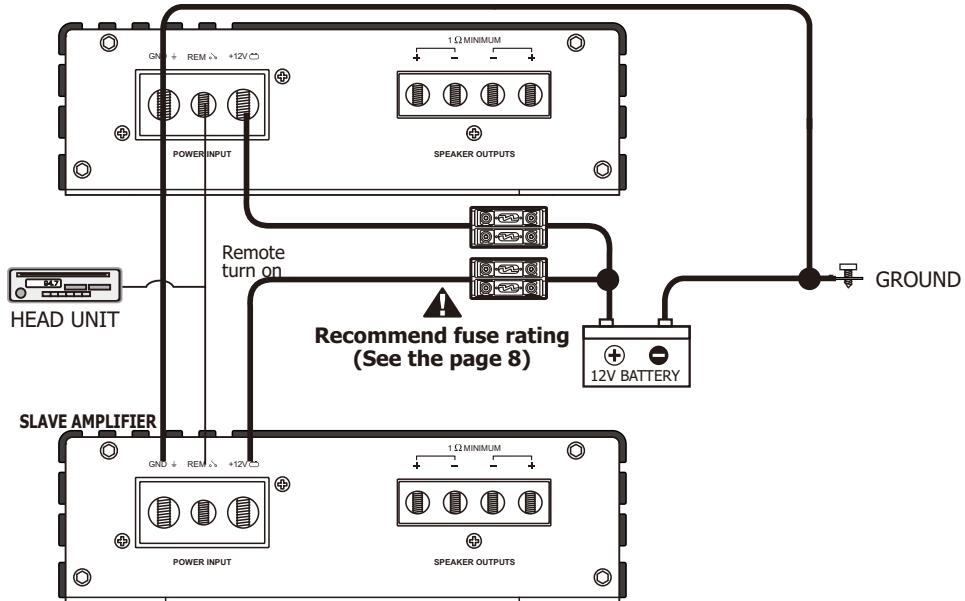
## +12V(B+), GND, REM Connection

### SINGLE CONNECTION



### DAISY CHAIN (LINKED) CONNECTION

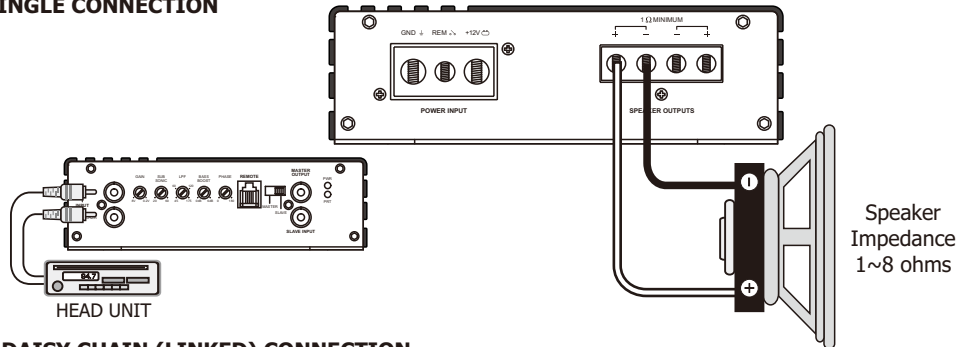
#### MASTER AMPLIFIER



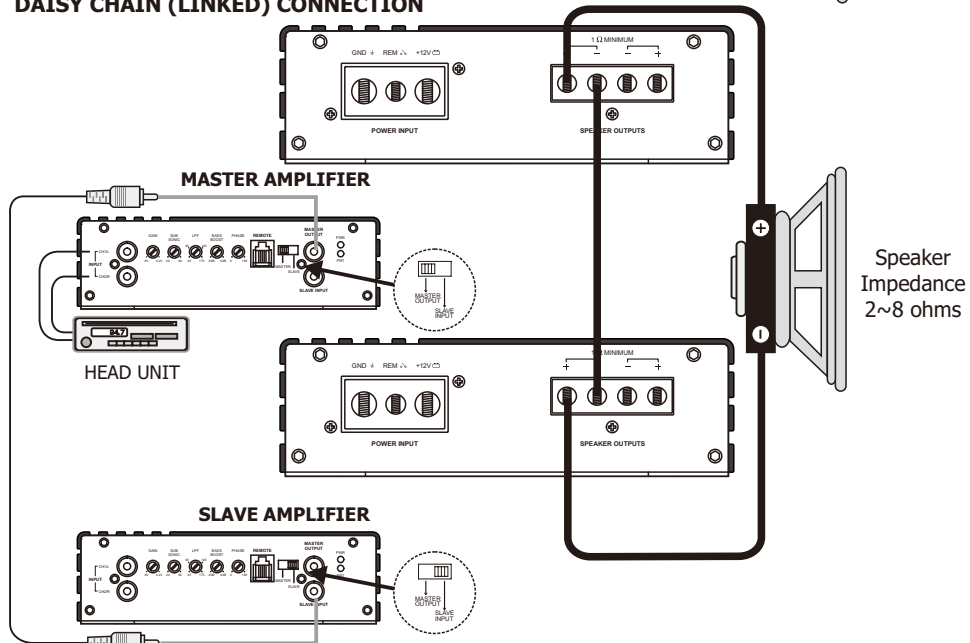
Keep GROUND of equal length. This drawing is for illustration purposes only!  
We recommend using 12 AWG speaker cables to obtain increased performance.  
Run 12 AWG speaker cables from your speakers to the amplifier's mounting location  
Keep the speaker cables separate from the power cables and the amplifier's input cables.  
Use grommets where the cables have to penetrate the vehicle's chassis.  
Connect the speaker wires according to the terminals on each speaker.  
Strip 1cm, 3/8" of insulation of the end of each cable and twist the cables strands together tightly.  
Make sure there are no stray strands that might touch other cables or terminals and cause a short circuit.  
Crimp spade plugs over the cable ends or tin the ends with solder to provide a solid terminal.  
Connect the cable ends to the amplifier as shown in the speaker wiring diagram.

# Speaker Connection



## SINGLE CONNECTION



## DAISY CHAIN (LINKED) CONNECTION



Daisy chain connection allows linking of 2 same amplifiers to work as 1 single amplifier. Please read the following connection diagram cautiously to ensure the correct connection.

- Step 1. Connect the master amplifier to the head unit and set its output master and input slave switch to output master position (  )
- Step 2. Connect the master and slave amplifier in daisy chain RCA jack as shown in the diagram.
- Step 3. Set **slave** amplifier output master & input slave switch to **slave input** position (  )
- Step 4. Connect speaker cable (+) on master amplifier to subwoofer (+)
- Step 5. Connect speaker cable (+) on slave amplifier to subwoofer (-)
- Step 6. Connect speaker cable (-) on master amplifier to speaker cable (-) on slave amplifier using 8 AWG wire cable.



The minimum impedance as 1 unit is 1Ω.  
In a daisy chain configuration the minimum impedance is 1Ω.

## Troubleshooting

Assure that the Power LED is on, if so please proceed with step # 3, if not, continue with the steps below;

1. Check the in line fuse (s) on the battery's positive cable, replace if needed.
2. Assure that the Ground is properly attached to the vehicle's chassis on a clean metal point, tighten or grind the connection point once again.
3. Our amplifiers have a high voltage protection. Make sure that the operating voltage is between 8.5V~16V and voltages above this range will cause the amplifier to go into protect.

### Protect LED is on

1. The Protect LED will come on due to the possible circumstances;
  - a) The impedance connected is under the specified load.
  - b) Thermal (Overheat), allow for a more suitable mounting as recommended in the install section. Thermal may also appear if the impedance is under the specified or the voltage is inadequate.
  - c) Short circuitry, voltage and DC offset.
    - Short circuitry, go through all cables including speaker wires, GND, battery's positive cable. Voltage, please check step # 3, for DC offset, make sure that a voltage of no more than 4V is available. Remove the RCA from the input and check whether the amplifier comes out of protect. If so, check if the output from the Head unit has a DC of 4V, replace / repair if needed.

### Audio output (no sound)

1. Assure that RCA connections from the Head unit and the amplifier is properly connected. Check the entire cable for damages or its like. Test the RCA inputs for DC volts with the source unit on, replace / repair if needed.
2. Check the routing of the cables, fuses and verify that all connections are connected accordingly.
3. Check whether the speakers are functional.

### Turn on thump

1. Disconnect the signal input to the amplifier, then turn it on and off.
  - a) If the noise is cancelled, then connect a delay turn on module on the REM wire running from the source unit to the amplifier.
  - b) Use another 12V source for REM lead to the amplifier. If the noise is cancelled, use a relay to isolate the amplifier from the turn on thump.

### Poor bass response

1. Check that the polarity of the speaker cables are correct. Speakers connected in anti-phase will cancel each other, thus the bass response will be absent.

### Engine noise

1. Ensure that all signal transferring wires (RCA, speaker cables etc) are kept separately / away from the power and the ground wires.
2. Bypass all electrical components between the Head unit and the amplifier. Connect the Head unit directly to the amplifier's input. If the noise is eliminated, the unit bypassed is the one causing the noise.
3. Remove the existing ground wires for all electrical components installed. Ensure that the point of ground is 100% metal which has been grinded free of rust, paint etc.
4. Replace the ground cable from the OEM battery / alternator and ensure it is grounded accordingly.
5. Test the battery and alternator load (can be carried out by a professional). Ensure that the vehicle's electrical system is in a good condition, this includes distributor, spark plugs / wires, voltage regulators etc.



## Specifications

### MODEL CODE

### FD 1000c1

Continuous Power Output @14.4V Input

-RMS power, 4 ohms mono

: **300W x 1CH**

-RMS power, 2 ohms mono

: **550W x 1CH**

-RMS power, 1 ohm mono

: **1000W x 1CH**

-RMS power, 1 ohms linkable/dual mono

: **2000W x 1CH**

Signal To Noise Ratio

: **>90dB**

Low Pass Frequency Crossover

: **45Hz~175Hz**

Subsonic Filter

: **20Hz~60Hz**

Bass Boost

: **0~6dB**

Phase shift control

: **0~180 degree**

Frequency Response

: **10Hz~350Hz (+/- 1dB)**

T.H.D Continuous @ 4 ohm, 100Hz

: **<0.15%**

Efficiency @ 4 ohm, 100Hz

: **86%**

Input Sensitivity

: **Variable 200mV~8V (+/- 5%)**

Dimensions (mm)

: **170(W)x50(H)x280(L)**

Operating Voltage

: **DC 8.5V~16V**

Recommend Fuse Rating

: **100A (linked: 200A)**