AudioVolt
BACKGROUND MUSIC SPECIALIST

How to Install a 100V Line System

****DISCLAIMER****

This guide will go through the basic installation steps needed to install a 100V Line System. The information provided is generic across all 100V line systems and **ISN'T** system or component specific.

The wattages and scenarios are examples only - please configure your system based on your equipment and requirements.

If you are unsure about ANY aspect, big or small please give us a call for advice on **02476 369890,** or **send us an email** BEFORE installing or using the system.

Equipment failure caused by user error is **NOT** covered under warranty.

100V Line Amplifiers

A 100V Line amplifier will have an output Wattage. This wattage will dictate how loud and how many speakers you can connect.

Typically, amplifier Wattages double in power up until a point: 30W, 60W, 120W 240W 480W. These are more than enough for 90% of installs however there are more powerful amplifiers available.

Ensure the amplifier you have or are looking to purchase is powerful enough for your speaker choice before installing.

The speaker terminals on a 100V Line amplifier can vary, however for ALL installations using the equipment we offer, you only need to use these two:

- **COM (Negative / -)**
- **100V (Positive / +)**

Zonal Amplifiers

Zonal Amplifiers work in exactly the same way as the above, they just have a speaker output for each zone, rather than one singular output.

So, for example, a 4-Zone amplifier will have 4x 100V Terminals and 4x COM Terminals.

Wiring

You can wire a 100V Line system in parallel / daisy-chain configuration. As there is only one speaker output (per zone), this will make installing easier and will save on cable usage.

Simply connect the cable into the relevant terminal (COM & 100V), and route this to the speaker, wiring into the same terminal (NEG – NEG, POS – POS). In the same speaker terminal, insert another run of cable and route this to the next speaker in the chain. Follow this until you reach the last speaker, and end the run there.

You don't need to run any more cable back to the amplifier once you have reached the last speaker.

Ensure you don't cross the cables over by inserting a negative cable into a positive terminal as this could damage the equipment.

If required, you can also wire each speaker individually, the wires will have to all be placed in the same terminal, or routed through a block connector first.

On a zonal System, simply duplicate this wiring method across each zone individually – think of a zonal amplifier as multiple amplifiers in one box. If the zonal amplifier only has 1x COM terminal, wire all negative cables into this one terminal.

DO NOT WIRE ANYTHING INTO A LOW IMPEDANCE (Ω) TERMINAL

A low impedance terminal is measured in OHMs (Ω) and will range from 4 / 8 / 16 ohms. Wiring a 100V Line system into this could cause damage to the amplifier or speakers and is NOT COVERED UNDER WARRANTY.

100V Line Speakers

100V Line Speakers will have a power output measured in Watts (W). Usually, there will be multiple wattages that the speaker can be set to – these are called tappings. You can select a tapping via a dial, terminal or wiring. How you select it will depend on the speaker.

The wattage of the speaker in simple terms will determine how loud the speaker is – the higher the wattage, the louder the speaker.

Note: Please ensure when setting the speaker tappings not to overload the amplifier.

The combined wattage of all speakers connected to the amplifier must not exceed the power rating of the amp.

Example with **120W** Amplifier:

6x Speakers set to 20W = 120W ✓

6x Speakers set to 10w = 60W ✓

6x Speakers set to 30W = 180W ✕

Some 100V Line speakers will also have an option for low impedance, which will be indicated by the Ohm symbol (Ω). DO NOT USE THIS, as it could damage the amplifier and speaker.

ONLY USE THE LOW IMPEDANCE OPTION IF YOU HAVE A LOW IMPEDANCE AMPLIFIER OR ARE USING THE SYSTEM IN LOW IMPEDANCE.

What Should I set the Speaker Tapping To?

The speaker tappings first and foremost should not exceed the output wattage of the amp as outlined above, so ensure this is prioritised.

As long as the tappings are within this though, the settings are down to preference and what's best for the room.

For a consistent sound throughout, it's most common to set all speakers to the same wattage. For general background music, 10W is usually fine. Sound will be absorbed when a room is full of people, so it may need slightly adjusting IF it can't be fixed with a volume change on the amplifier.

In some instances, you may want to adjust the tappings based on where the speakers are located. For example, if you only have a single zone amplifier and want the entrance to a restaurant to be quieter than the main room, set the tapping of the entrance speaker to a lower wattage than the main area.

If you're unsure about the wiring or setting of your amplifier or speakers, please contact us for advice before installation to avoid any future faults or damages.

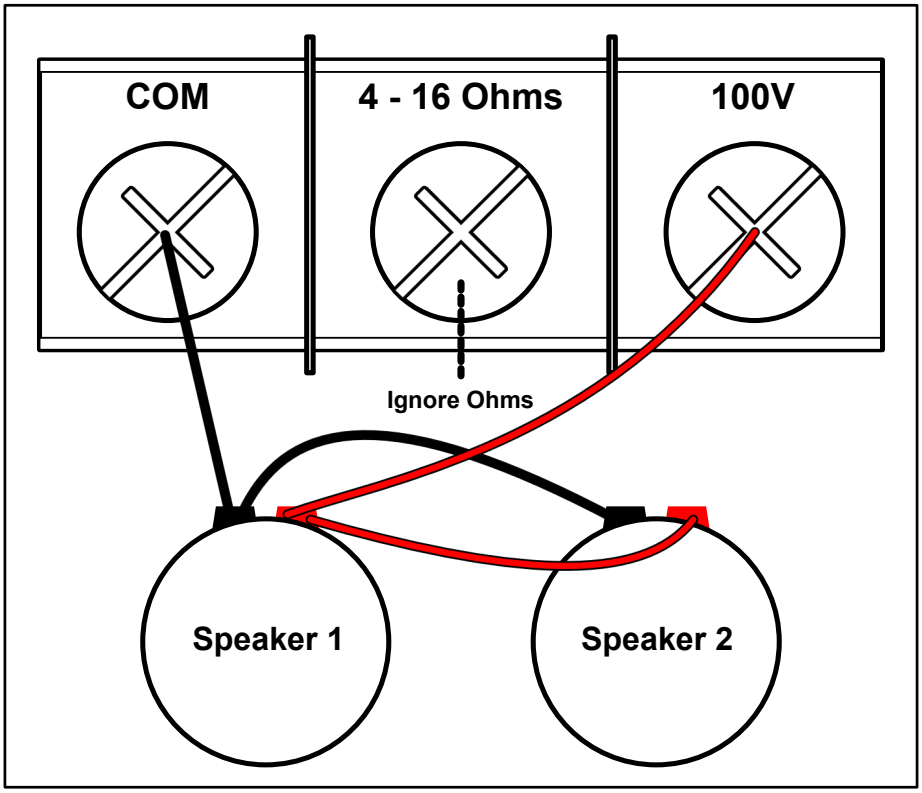
Email: info@audiovolt.co.uk

Tel: 024 76 369890

100V Line Wiring Example Setup

Please note, your amplifier may look different to the images below however the practice is the same on ANY 100V Line amplifier.

Single Zone



4-Zone