Zone Controller Installation Guide

ZONEC2

Overview

The ZONEC2 Zone Controller provides access to the following signals:

- 2 General Purpose Inputs
- 1 General Purpose Output Relay (N.O. or N.C; optional 12VDC, 1A max)
- Line-level Audio Input and Output
- 8-ohm Speaker Output
- Microphone Input

Device Requirements and Restrictions
- PoE+ power source recommended for AND-STROBE-KIT-1.

NOTE: ANetD products require an IEEE 802.3af/at/bt compatible switch or injector to correctly classify and supply the power needed for our devices. Use of non-standard PoE powering schemes (such as 24V passive PoE) may cause damage and void your warranty.

- Output relay functionally tested to operate with the System Sensor Strobe (AND-STROBE-KIT-1). The purchaser should test any other peripheral before deployment.

Installation
The device can mount on a wall using the four keyhole features located at the corners of the device and wall anchors appropriate to the installation surface. Power the device with PoE or PoE+, connected via an Ethernet cable to the PoE/PoE+ input. With power applied, the green Power LED will illuminate. If configured for switched 12VDC (Output Mode is "Sw DC"), please make sure not to leave the output in a manner that could result in 12VDC shorted to ground.

Setup and Use
Use stranded or solid core wire to connect to the terminal blocks. See pages 3 and 4 for details on setting up an interface to an amplifier for traditional analog speakers.

General Purpose Output (GPO)
Configure the general purpose output for use as a dry contact closure or to provide switched 12VDC:

Dry Contact Closure
Set the Output Mode switch to "Relay". Connect the external circuit between "COM" and "N.O." (normally open) or "COM" and "N.C." (normally closed) on the terminal blocks. When activating the general purpose output, the path between "COM" and "N.O." will close/short, and the path between "COM" and "N.C." will open.
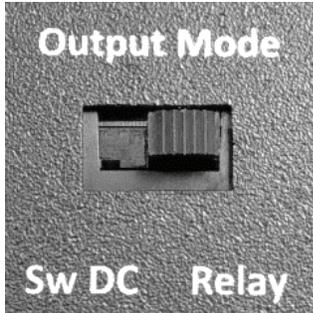
Switched 12VDC

Set the Output Mode switch to "Sw DC". Connect the external circuit between "GND" and "N.O" (normally open) or "GND" and "N.C." (normally closed) on the terminal blocks. When activating the general purpose output 0, 12VDC will run between "GND" and "N.O."; when deactivating the output (off), 12VDC will run between "GND" and "N.C." When using the 12VDC output, the device firmware must account for the power consumption of the external load. Choose this power budget level carefully to provide sufficient current to the external load, while allowing enough power for proper operation of the ZONEC2. For the IPSTROBE (external strobe), we recommend a power requirement of 2700mW, and a PoE+ power source. Select **Device Settings → Peripherals** to set *GPIO 0 Peripheral Power* to "2700" as the output power budget.

If a configuration file is used, add the power budget to the GPIO tag:

```XML
<GPIO peripheral_power_mw_output_ gpio0="2700" />
```

Line Level Output

The RCA connection provides an unbalanced line-level output, typically used to connect to analog amplifiers. This output activates automatically any time the ZONEC2 receives audio streams. More detailed specifications include: 10k Ohm, unbalanced, 2Vpp line-level output.

Speaker Output
The Speaker Out allows for connecting an 8-ohm speaker for local playback of audio. Speaker Out can also connect to an amplifier, but we recommend using the Line Out for this purpose. Details for the speaker level output: 8 Ohm, speaker level output *(8W/15W max using PoE/PoE+ respectively)*. Activating local speaker playback requires no additional configuration. Audio will broadcast whenever the device receives a stream.

Amplifier Interface
ANetD Zone Controllers work with a wide variety of amplifiers. Please refer to the technical documentation for your specific product when connecting the audio input.

Technical specifications for the audio outputs from the Zone controller:

RCA Line Out
10k Ohm, unbalanced, 2Vpp line-level output. Dynamic Range: 93dB. THD+N: 0.008%

8 Ohm Out
8 Ohm, speaker level output (8W/15W max using PoE/PoE+ respectively)

Cables and Adapters

Unbalanced Amplifier Input
The ZONEC2 includes an RCA audio linelevel output port, enabling use of a standard male-tomale RCA cable for unbalanced amplifier inputs. You can purchase this item off-the-shelf from a variety of electronics stores.

Balanced Amplifier Input

If the amplifier only features balanced inputs, then the recommended use of XLR works as the most straightforward method of adapting the unbalanced audio output from the ZONEC2. We recommend a short RCA cable and a longer XLR cable whenever possible due to the enhanced noise rejection on the XLR. These two tested RCA-to-XLR adapter options proved to work.
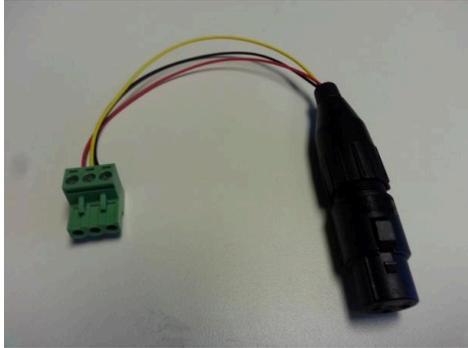
1. Neutrik XLR adapter with audio transformer: Mouser Electronics Website
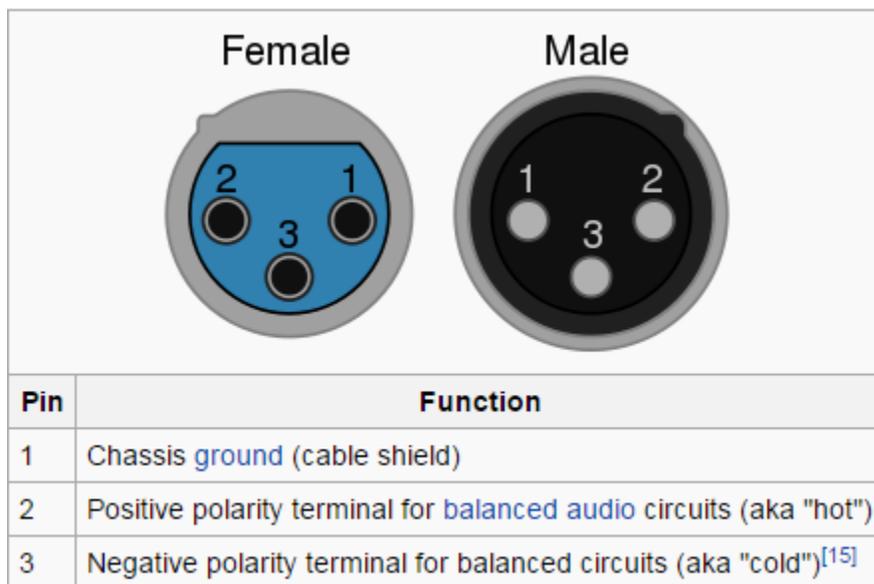

2. Neutrik XLR adapter without transformer: Mouser Electronics Website

If no XLR input exists on the amplifier, you could possibly adapt an XLR connector to interface to the amplifier. As an example, the cable to the right connects an XLR adapter to the balanced input of an amplifier using a 3-position terminal block. However, if the amplifier uses screw terminals, there is no need to use a terminal block. Please refer to the audio input specifications of the amplifier in use to determine the correct wiring solution.

This wiring diagram can assist in the process of creating cables: Source

Pin	Function
1	Chassis ground (cable shield)
2	Positive polarity terminal for balanced audio circuits (aka "hot")
3	Negative polarity terminal for balanced circuits (aka "cold")[15]

Alternatively, if not using XLR connections, Bogen makes a RCA-to-screw terminal balanced signal transformer (the WMT1A), which many vendors offer separately for purchase.

Additional Resources
Support Center: http://www.anetd.com/resources/
Documentation: https://anetd.com/resources/documentation/
ANetD Warranty: https://anetd.com/warranty
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