

# Building a Network



If you wish to use the networking abilities of ZerOS, you will have to connect your console to your show network. "Show network", means the dedicated Ethernet network used to control your show. The term for a local network of devices is LAN (Local Area Network).

Your show network could be as simple as a single Ethernet cable linking your console to another device, or it could be a network with thousands of devices connected.

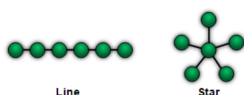
In many situations, it is useful to connect your ZerOS console, to just one device. For example, you may wish to connect your console directly to the following devices:

- DMX to Ethernet Gateway - to give you more physical DMX outputs from your console. The Ethernet gateway could be next to your console, or side of stage with a longer Ethernet cable
- Laptop - to connect to visualisation software on the laptop, or ZerOS Monitor software for an extra external monitor.

This can be done with a single Ethernet cable linking your console to the device. In these situations, there is no "DHCP Server" present.

[See the IP Addressing section for more information](#)

If you want to connect your console to more than one device, then you will need to use an "Ethernet Switch". An Ethernet Switch is used to connect multiple Ethernet devices together. Unlike DMX, Ethernet operates in a different topology. DMX is daisy chained (bus or line topology) from device to device, whereas Ethernet data is connected using a Star topology.

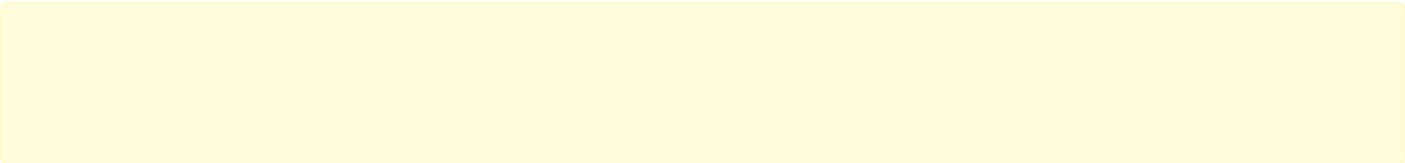


In this simple diagram, the Ethernet Switch would be symbolised by the middle dot of the Star Topology, with 5 devices connected to that switch.

You could start to expand your network, and have multiple Ethernet switches present. For example, one of the dots connected to the middle dot in the diagram above, could also be another Ethernet switch, allowing more devices to be connected to it.

For example, picture you have many Ethernet devices at your console's front of house position that need connecting, and then multiple devices side of stage. You could have an Ethernet switch front of house and side of stage, linked with a single Ethernet cable.

It is strongly recommended to not "daisy chain" Ethernet switches. If you are connecting multiple devices, it is better to use a few Ethernet switches with many ports, rather than lots of Ethernet switches connected to each other with fewer ports.



Zero 88 networking devices are designed for use within a dedicated, stand alone, private, local area network only, for the sole purpose of transmitting and/or receiving nonsensitive entertainment lighting control data. Although they utilize Ethernet networking, these devices should not be connected to the Internet.