Technical Guide
# How to Manage Large IP Camera Systems

If you have an Imperial or Executive/Super NVR, or have a significant portion of your cameras over external PoE switches, you will want to document and map out camera locations for easier troubleshooting in the future. This is especially true for vast systems that cover large buildings and include multiple switches and physically large networks.

Network Maps

Network maps allow you to keep track of what cameras are plugged into what PoE switch and how they connect to the network. This can help quickly identify issues with cameras, network traffic, etc. Network maps are especially important for posterity and for management in years ahead. When initial setup occurs it's easy to remember the details but as the months and years go by and people come and go it's often a major hassle for troubleshooting without one. Keeping a network map handy will significantly reduce the cost and time associated with troubleshooting issues.

Rough/Simple Network Map Example
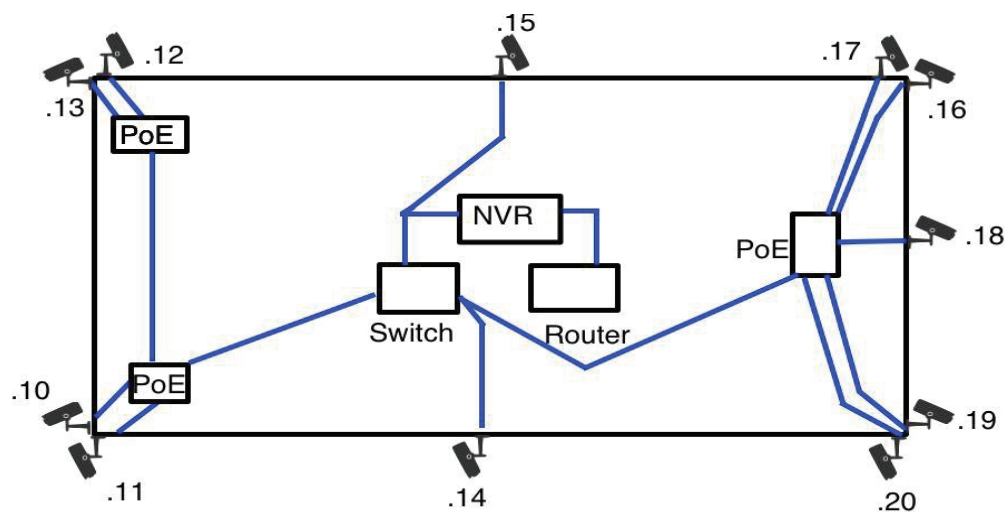
Here's an example of a rough network map which took about 10 minutes to put together, which can assist greatly with troubleshooting. Note the .10-.20 numbers associating the IPs with the cameras. The blue lines represent ethernet cables and "PoE" represents PoE switches.

So let's use this as an example in a troubleshooting scenario.

Let's say cameras on .10, .11, .12, and .13 get disconnected from the system. We know from the network map there is a common link between these in the PoE switch connected to .10. And .11.

Because we have the network map we can quickly identify a possible cause. We might first check the PoE switch connected to .10 and .11 that also connects .12 and .13 to the LAN. We might also check the cable between that PoE switch and main switch in the middle.

Without a network map this becomes far more labor intensive process, especially for someone who is unfamiliar with how everything is wired up. With a network map, this task goes from ~30 minutes to identify the issue over to hours if not days of labor intensive cable tracing, troubleshooting, etc without a map and without solid knowledge of the setup. This is especially true for larger systems or systems spread across a large area.

Cable Labeling / Management

While network maps help understand the large part of the system - it doesn't always help on a camera by camera basis. There are a few ways you can organize cameras on port by port basis to understand where cameras are without having to trace cables.

The most common and easiest way to understand what cables go where is labeling the cables. Labeling cables can be done with a label maker or simply a piece of masking tape with writing on it.

For example if this cables goes to the front door camera, labeling it front door will make it easier to troubleshoot individual camera issues.
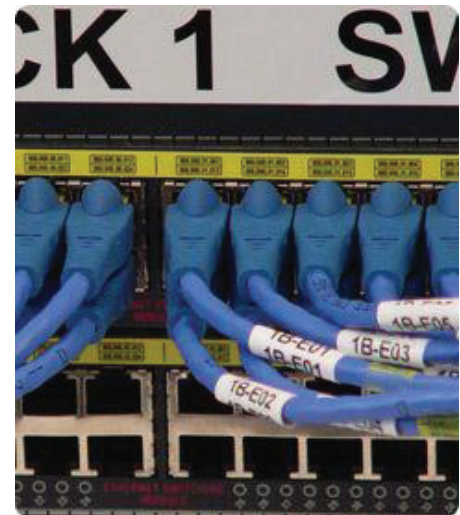
Labeled ethernet cables

For any questions or clarification please let us know at 866-414-2553 and option 2 for support.