

Configuring a TCP/IP Printer On your LAN

These instructions are intended for a simple Local Area Network (LAN). The person who set up your LAN (network administrator) should be involved in setting up the printer on the network as there are many variables to consider and the network administrator would best know how these variables would be answered. In more complex network situations, some of these instructions may not apply.

General concepts that you should know -

- IP addresses consist of 4 groups of 3 numbers - 000 to 255
- The first 3 groups of numbers (or bytes) in an address define the "Neighborhood" of your LAN. Generally speaking, these should be the same for all devices (computers, printers, routers) on you LAN.
- The last group of numbers (or byte) would be similar to the street address of a house. It will be unique. No two devices on the network should have the same number in the last byte or communications will become confused.
- A subnet mask looks like an IP address, but is used to help distinguish between the outside network world (internet) and your local area network. It will typically be 255.255.255.0. On larger networks (multiple locations or more than 200 computers) this may be different. Please consult with your network administrator if you think this may be the case.
- The default Gateway is typically the IP address of your Router. It will be in the same range (the first three groups of numbers for your network) and have a unique fourth set of numbers - like any other device on the network.
- You can find out your computer's IP configuration by Clicking on the Windows Start Menu>Run. Enter CMD in the run box. Type IPCONFIG in the command window and press enter. It will display your computer's IP address, Subnet Mask, and default gateway.
- A modem is used to connect your network to the outside world. Dial-up modems are becoming scarcer all the time and are typically used with just one computer. A DSL or Cable modem has greater bandwidth and speed and can be used to support a larger network of computers (or faster connection to just one computer.)
- Routers "switch" the flow of data from port to port of the router. They also manage the incoming data from another network - the internet for example. If you have only one computer connected to the Modem, you don't need a router. If you want to connect more than one device to

the network, you will need a router. Routers will also typically assign IP addresses to computers as they log into the router. There is usually a range of addresses that are reserved for automatic address assignment (typically computers) and a range of addresses for static IP devices (printers)

- A switch can divide data among its ports as well uplink to other lines, but it must have router to handle the uplink to a modem and the IP address assignment. You could use one in a room that has only one Ethernet connection to connect multiple devices to the LAN.

Options for Networking the Printer:

- Connect the printer directly to the RIP computer with a crossover cable. (One computer, one printer) IP addresses should be the same for the first 3 groups of numbers and different for the last group. (i.e. 192.168.1.10 for the computer and 192.168.1.20 for the printer).
- Connect two or more devices (without internet connection) to each other with a switch. Use regular Ethernet cables to connect the computer Again the first three sets of numbers must be the same and the fourth set must be different (i.e. Computer A 192.168.1.10, Computer B 192.168.1.15, Printer 192.168.1.20)
- Connect computer(s) and printer with a Router connected to the internet. The router typically will default to automatically assign IP addresses. It will also typically have a range of addresses that are reserved for automatic assignment and a range of addresses that can be used for manually assigned (static) addresses. Check to see what these ranges are and use a number in the static range for your printer. Remember this address (you may want to write it on a piece of tape near the Ethernet port on your printer) as you will need it when you set up the printer in your RIP software. Your computer can use an automatically assigned address or a static one.
- Once the printer and computer are set up on the network, you should be able to set up the printer and print from your RIP software. If you are unable to print, test the TCP/IP connection by pinging the printer from your computer - Click on the Windows Start Menu>Run. Enter CMD in the run box. Type PING (IP Address of Printer) in the command window and press enter. If you get a reply (with timer results) your network is set up correctly. If you get a timeout message, then there is something wrong with your network set up. Check cables - there are often indicator lights at the ports, settings (IP addresses, subnet mask, default gateway), make sure that devices are online or ready to print.