



REMOTE MANAGEMENT MANUAL

dSPEC™
and
Resyn®



Table of Contents

Remote Management Options	2
Resyn on Remote Desktop	2
dSPEC on Direct VPN	2
Set up Resyn on Remote Desktop	3
Remote Desktop Tips	3
Set up dSPEC Direct VPN	3
Define Fixed IP Addresses for Remote dSPECS	3
Configure Static dSPEC IP Addresses from Resyn	4
Install Equipment on Site	4
Configure Network Firewalls and Routers	5
Connect to Remote dSPEC(s)	5
Using Remote Management	7
Remote Devices List	7

*How to set up and manage
dSPECS over the Internet
or through a router.*

Remote Management Options

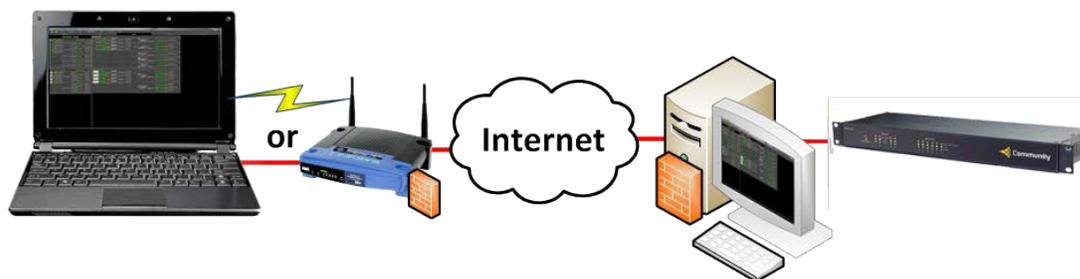
Two options are recommended for managing dSPECs over the Internet or through a router: [Resyn on Remote Desktop](#) or [dSPEC on Direct VPN](#). Which option you choose will be based on your needs and whether or not you need to manage dSPECs on site. However, these are not the only two options. Resyn and dSPEC communicate via specific TCP/IP ports. It is important to understand remote desktop access and/or TCP/IP ports and firewalls well enough to setup and diagnose these connections. Resyn and dSPEC will rely entirely on and only be as secure as the underlying connections you provide.

The remainder of this manual assumes the reader has knowledge about remote desktop software and some networking knowledge: particularly about IPv4, the subnet and host portions of an IP address, public and private IP addresses, assigning unique fixed or static IP addresses across devices on a network, and the ability to reach each of those addresses from a computer through an IP router, Remote Access Server (RAS), or Virtual Private Network (VPN.)

At the time of writing, Microsoft offers a good description of TCP/IP and VPN Fundamentals online at <http://technet.microsoft.com/en-us/library/cc743319.aspx> which is also available in PDF form at http://download.microsoft.com/download/9/4/6/946958ef-7b86-4ddc-bfdb-c7ed2af4ce51/TCPIP_Fund.pdf.

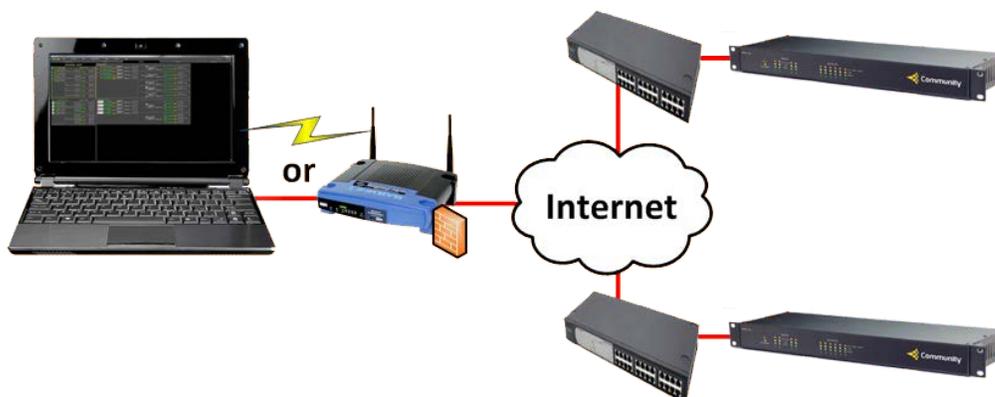
Resyn on Remote Desktop

If there is a need to remotely manage dSPEC as well as manage dSPEC on-site, one option is to set up a Resyn computer on site and log in to that computer using remote desktop software. Many companies such as LogMeIn® or GoToMyPc® offer both free and fee-based software to do this. Once you establish a connection to the remote PC desktop, you can control PC and Resyn software the same as if you were physically at the remote location.



dSPEC on Direct VPN

If there is a need to remotely manage dSPEC and on-site management is not needed, you can connect to a dSPEC at a remote location by establishing a virtual private network (VPN). dSPEC can still be controlled on-site using wall mount controls such as Community's RPS4 or RLC1. Please refer to the *Reference Manual for dSPEC and Resyn* for more information on external control port connections for wall mount controls.



Set up Resyn on Remote Desktop

Set up Resyn and dSPEC on an on-site computer as described in the *Quick Start Guide for dSPEC and Resyn*.

Install remote desktop software on the local and on-site computers as instructed by your remote desktop software provider.

Start Resyn on the on-site computer. Make sure you can access the desktop of the on-site computer from your local computer.

Remote Desktop Tips

It is typically best to make sure power options for the on-site computer are set to **always on**. Additionally companies such as dataprobe.com offer remote control of power outlets which can be useful to reboot the on-site computer.

Please refer to the *Reference Manual for dSPEC and Resyn* for an explanation of how to use dSPEC and Resyn.

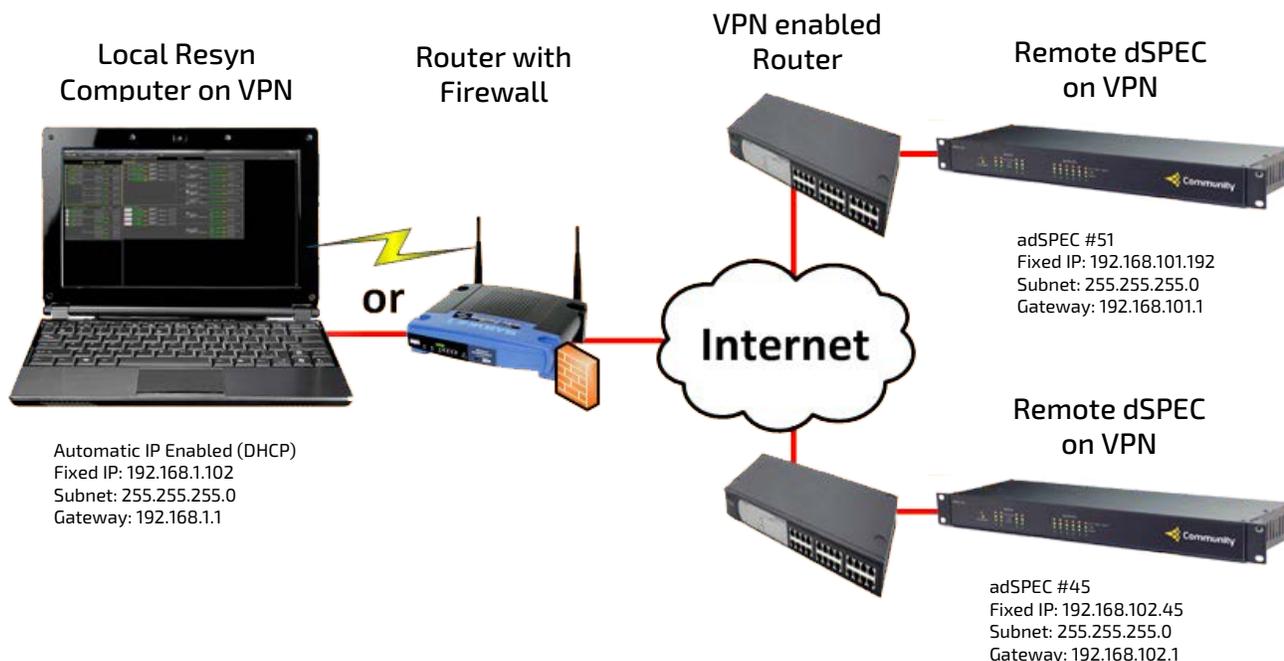


Set up dSPEC Direct VPN

To make a direct connection between Resyn and a dSPEC over a VPN or through a router the dSPEC must have a fixed IP address, the fixed IP address must be configured on the dSPEC and in Resyn, both dSPEC and the Resyn computer must be physically connected to the network, and TCP/IP ports must be allowed in any firewalls between Resyn and dSPEC.

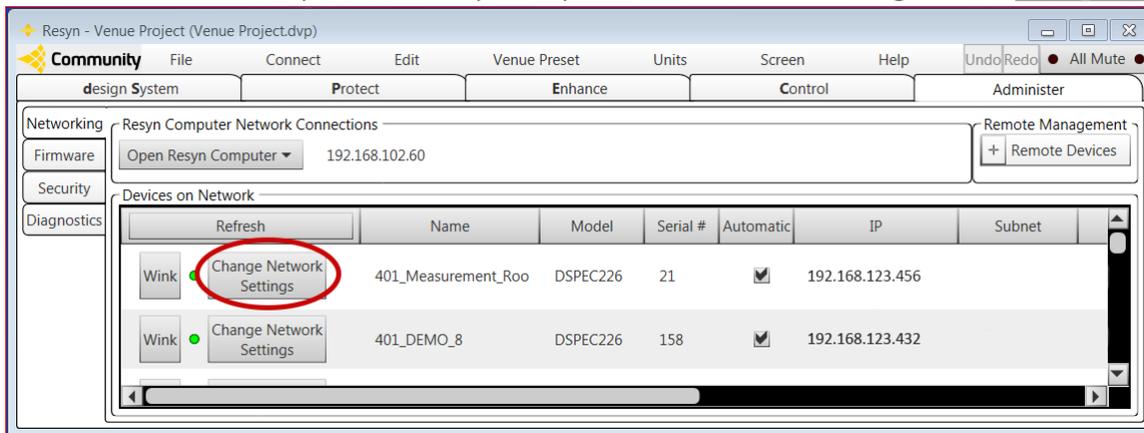
Define Fixed IP Addresses for Remote dSPECs

A remote dSPEC requires a unique, valid fixed IP address that will be reachable from the computer running Resyn. Sometimes it is best to draw a diagram or keep a list of the fixed IP addresses on your network. Following is an example of such a diagram with two remote dSPECs. A Remote Access Server or VPN Router can be used to provide the VPN. It is common practice to use different subnets for each site on the VPN.

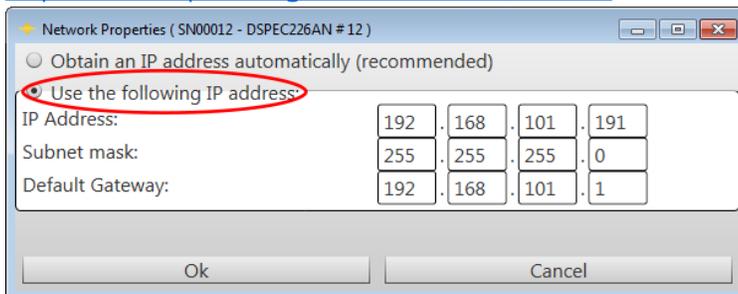


Configure Static dSPEC IP Addresses from Resyn

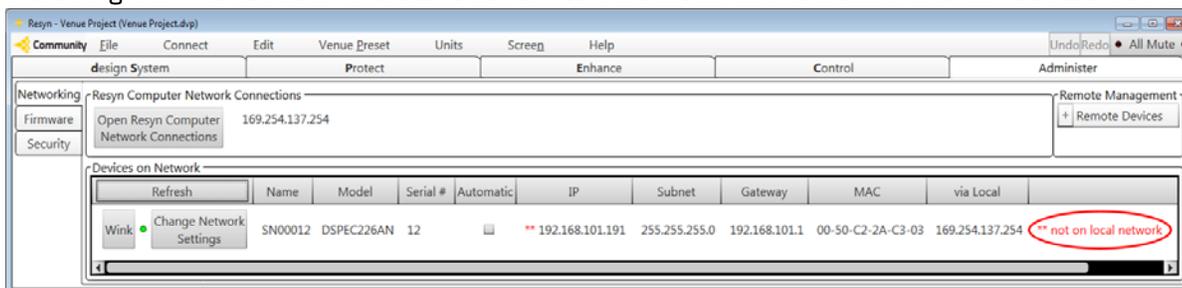
Configure dSPEC IP address via the **Administer | Networking** screen in Resyn. It is typically best to connect an Ethernet cable directly from the Resyn computer to a dSPEC when doing so. Click **Change Network Settings**.



Choose **Use the following IP address** and enter the specifics of the fixed IP address for the dSPEC. Additional information regarding VPNs and static IP addresses are available from your ISP and general information is also at the following link: https://en.wikipedia.org/wiki/Virtual_private_network, or https://en.wikipedia.org/wiki/Private_IP_address.



Click **Ok**. The dSPEC will disappear then reappear after it changes its IP address. It may show an error indicating that the dSPEC IP address is not on local network. That is normal and will be resolved later.



After the dSPEC IP address is configured disconnect the cable between the Resyn computer and dSPEC. Each remote site must have a unique network address. Configure a fixed IP address for each remote dSPEC as described above.

Install Equipment on Site

Install the dSPEC on site and connect it to the VPN. Contact your Internet Service Provider (ISP) and arrange for a means for remote access that will allow for fixed IP addresses on the remote end. Your ISP should help guide you through the process.

Configure Network Firewalls and Routers

You may need to configure the network firewalls and the VPN router. Resyn communicates with Remote dSPEC(s) via unicast IP.

Table 1 Specific Network Firewall Rules for Resyn and dSPEC

Protocol	Outbound Rules (from computer running Resyn to dSPEC)	Inbound Rules (from dSPEC to Resyn)
TCP	Allow Ports 20, 21, 23, 3400, and 1024 through 65523 Allow outbound connections	Allow Ports 1024 through 65535
UDP	Allow Port 3400	Allow Ports 1024 through 65535

Connect to Remote dSPEC(s)

The static IP address of a remote dSPEC must be added to the Resyn Remote Devices List in order to connect. While this example concentrates on **Connect | Load from dSPEC(s)** the steps for adding the static IP address of a remote dSPEC to the Remote Devices List using **Connect | Store to dSPEC(s)** are similar.

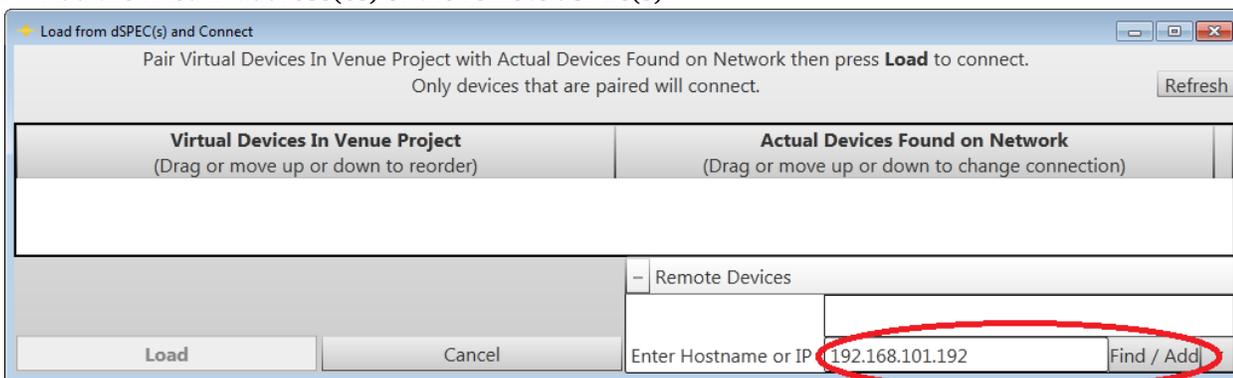
Open Resyn. Choose **Connect | Load from dSPEC(s)**.



Add the remote dSPEC(s) to the Remote Devices to be found by Resyn. Click **+** to expand Remote Devices.

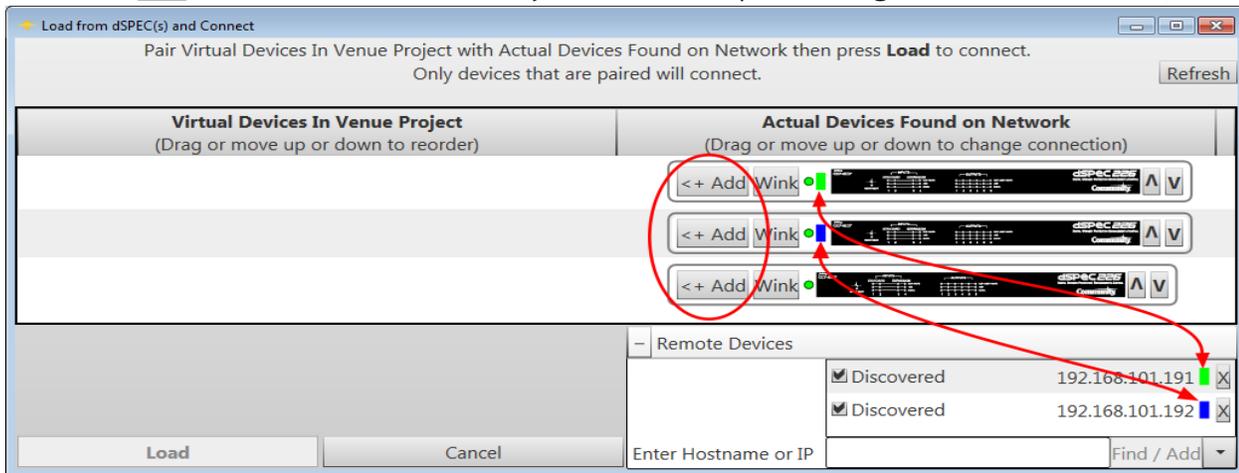


Add the fixed IP address(es) of the remote dSPEC(s).

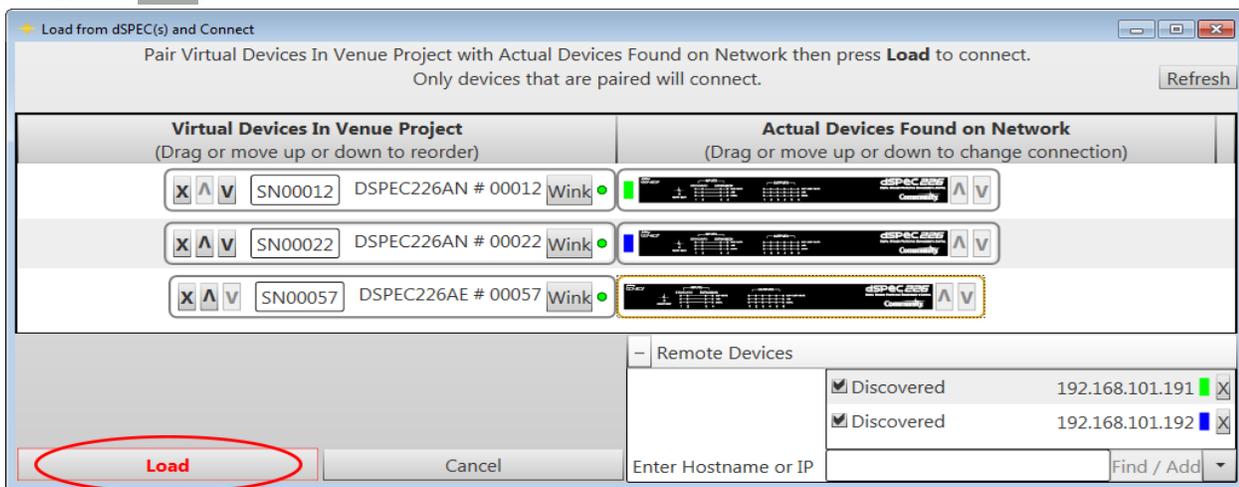


Resyn should resolve the entered IP address and find the Actual dSPEC(s) on the network. If not verified you can ping or otherwise reach the dSPEC IP Address. You may need to call your ISP for assistance.

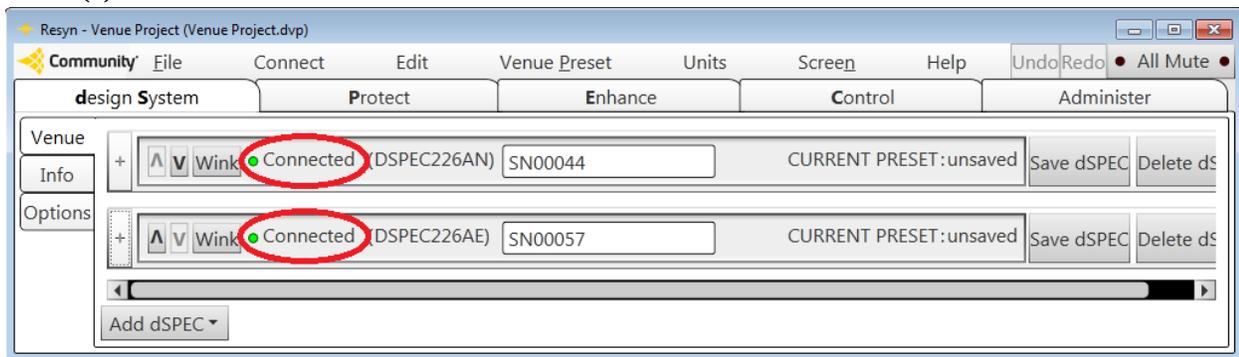
Choose **Add** on each dSPEC to add to Resyn. There are unique color tags for each remote unit (see arrows).



Choose **Load**.



Resyn will show the dSPEC(s) on screen. After loading from the dSPEC(s) is complete Resyn will show each remote dSPEC as **Connected** with its heartbeat LED blinking. You may need to scroll up or down to see all the dSPEC(s).

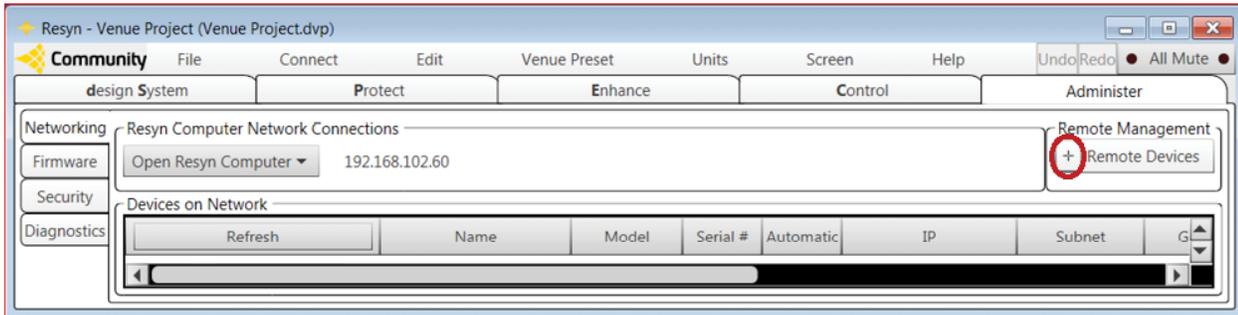


Using Remote Management

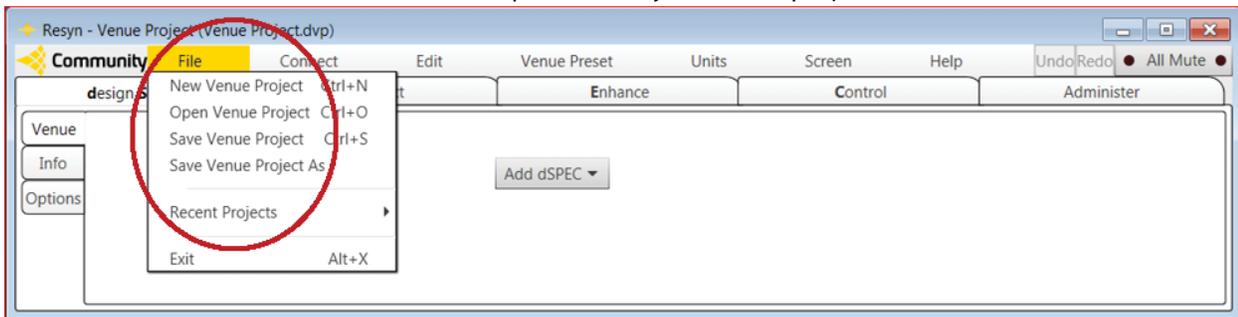
The major difference between locally and remotely managing dSPECs is that remote dSPECs must be added to the [Remote Devices List](#) in order to be found by Resyn.

Remote Devices List

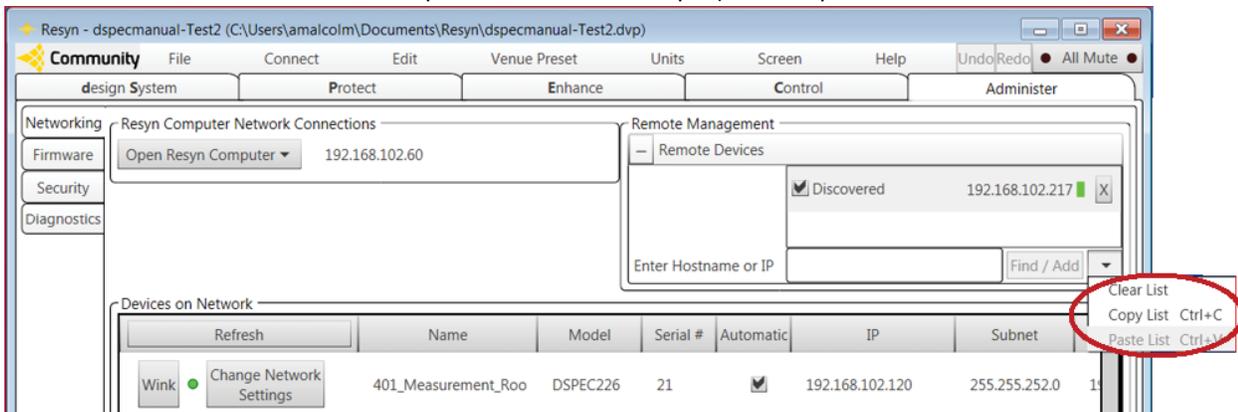
The Remote Devices List is available on the Connect Dialog as well as on the Administer | Networking screen.



The Remote Devices List is saved and opened with your venue project.



A Remote Devices List can be copied from one venue project and pasted into another.





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