

REMOTE MANAGEMENT MANUAL

dSPEC™ and Resyn®

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



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

Remote Management Options

Two options are recommended for managing dSPECs over the Internet or through a router: <u>Resyn on</u> <u>Remote Desktop</u> or <u>dSPEC on Direct VPN</u>. 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 onsite 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.

🔶 Resyn - Ver	nue Project (Venue I	Project.dvp)								
n Commu	nity File	Connect	Edit	Venue	Preset	Units	Scree	n Help	Undo Redo 🏼	All Mute
desig	gn S ystem	Prot	ect		Enhance	1	Co	ntrol	Administe	r _
Networking Firmware Security	- Resyn Computer N Open Resyn Com - Devices on Netwo	Network Connection puter 192.1	ons						Remote Ma	nagement e Devices
Diagnostics	Refr	resh	Nam	e	Model	Serial #	Automatic	IP	Subnet	Â
	Wink Char	nge Network Settings	401_Measure	ment_Roo	DSPEC226	21	×	192.168.123.456		
	Wink Char	nge Network Settings	401_DEMO_8		DSPEC226	158		192.168.123.432		
	•									

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: <u>https://en.wikipedia.org/wiki/Virtual_private_network</u>, or <u>https://en.wikipedia.org/wiki/Private_IP_address</u>.

Network Properties (SN00012 - DSPEC226AN #12))	
Obtain an IP address automatically (re	ecommended)	
Use the following IP address		
IP Address:	192 . 168 . 101	. 191
Subnet mask:	255 . 255 . 255	.0
Default Gateway:	192 . 168 . 101). 1
Ok	Canc	el

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.

+ Resyn - Venue	Project (Ve	inue Project.dvp)										
Community	<u>F</u> ile	Connect	Edit	Venue Preset	Uni	ts So	ree <u>n</u> Help					Undo Redo 🔹 All Mute 🔹
	design	System		Protect			Enhance	Ĩ		Control		Administer
Networking Firmware Security	Open Netw	Computer Network Co Resyn Computer 1 ork Connections	onnections — 169.254.137.2	254								Remote Management
		Refresh	Name	Model	Serial #	Automatic	IP	Subnet	Gateway	MAC	via Local	
	Wink	Change Network Settings	SN00012	DSPEC226AN	12	-	** 192.168.101.191	255.255.255.0	192.168.101.1	00-50-C2-2A-C3-03	169.254.137.254	** not on local network
[<u> </u>											

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 I	Specific Network Filewall Rules for Resylland USPEC	
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 Ports 1024 through 65535
	Allow outbound connections	
UDP	Allow Port 3400	Allow Ports 1024 through 65535

Table 1 Specific Network Firewall Rules for Resyn and dSPEC

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).

🔶 Resyn - Venue Project (Venue	Project.dvp)						_ • •
	Connect	Edit	Venue Preset	Units	Screen	Help	Undo Redo 🔹 All Mute 鱼
design System	Load from dSPEC	s F6	Enhance		Control	1	Administer
Venue	- Store to dSPECs Disconnect	F5 F4					
Info			Add dSPEC -				
Options							

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

Load from dSPEC(s) and Connect							
Pair Virtual Devices In Venue Project with Actual Devices Found on Network then press Load to connect. Only devices that are paired will connect.							
Virtual Devices I (Drag or move up o	n Venue Project r down to reorder)	Actual Devices Found on Network (Drag or move up or down to change connection)					
Load	Cancel	+ Remote Devices					

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

Load from dSPEC(s) and Connect			×					
Pair Virtual Devices In Venue Project with Actual Devices Found on Network then press Load to connect. Only devices that are paired will connect.								
Virtual Devices I	n Venue Project	Actual Devices Found on Network						
(Drag or move up o	r down to reorder)	(Drag or move up or down to change connection)						
		- Remote Devices						
Load	Cancel	Enter Hostname or IP (192.168.101.192 Find / Ac	Id					

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).

Load from dSPEC(s) and Connect				
Pair Virtual Devices I	n Venue Project with Actual Devic	es Found on Network the	n press Load to connect.	
	Only devices that are p	aired will connect.		Refresh
Virtual Devices I	n Venue Project	Actual	Devices Found on Netwo	ork
(Drag or move up o	or down to reorder)	(Drag or move	e up or down to change co	onnection)
		<+ Add Wink		
		< + Add Wink	± TTT III	
		<+ Add Wink •		
		- Remote Devices		
			☑ Discovered	192.168.101.191 📕 🗙
			✓ Discovered	192.168.101.192
Load	Cancel	Enter Hostname or IP		Find / Add 🔻

Choose Load.

Load from dSPEC(s) and Connect										
Pair Virtual Devices In Venue Project with Actual Devices Found on Network then press Load to connect.										
Only devices that are pai	ired will connect.		Refresh							
Virtual Devices In Venue Project	Actual	Devices Found on Networ	k							
(Drag or move up or down to reorder)	(Drag or move	e up or down to change con	nection)							
▼ N00012 DSPEC226AN # 00012 Wink ●										
X V SN00022 DSPEC226AN # 00022 Wink •										
X V SN00057 DSPEC226AE # 00057 Wink •										
	- Remote Devices									
		☑ Discovered	192.168.101.191 📕 🗙							
		■ Discovered	192.168.101.192 📕 🗙							
Load Cancel	Enter Hostname or IP		Find / Add 🔻							

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).

+ Resyn - Venue Project (Venue Proj	ject.dvp)							
- ≪ Community ' <u>F</u> ile	Connect E	dit Venue <u>P</u> re	set Units	Scree <u>n</u>	Help	Undo Redo 🔹 All Mute 🔹		
design System	Protec	t	Enhance	Control		Administer		
Venue Info Options + VWink Add dSPEC *	Connected (DSF	YEC226AN) SN00044 YEC226AE) SN00057		CURRENT PR CURRENT PR	ESET : unsa	aved Save dSPEC Delete dS aved Save dSPEC Delete dS		

Page | 7

Using Remote Management

The major difference between locally and remotely managing dSPECs is that remote dSPECs must be added to the <u>Remote Devices List</u> 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.

🔶 Resyn - Venue P	roject (Venue P	Project.dvp)							- (• 🗙
nity Community	File	Connect	Edit	Venue	Preset	Units	Scree	n Help	Undo Redo 🏼 🖌 All	Mute
design Sy	vstem	Prot	ect		Enhance		c	Control	Administer	
Networking Res Firmware Op Security Dev	yn Computer N en Resyn Comp rices on Networ	letwork Connectio puter 🔻 192.1 rk	ns						Remote Manag + Remote De	ement vices
Diagnostics	Refr	esh	Name		Model	Serial a	# Automatic	Ib	Subnet	G▲

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

🔸 Resyn - Venue Project (Venue Project.dvp)										
Community	File Contect	Edit	Venue Preset	Units	Screen	Help	Undo Redo 🔹 All Mute 🔹			
design s	New Venue Project & trl+N	t	Enhance	1	Control		Administer			
Venue	Open Venue Project Cirl+O									
Info Options	Save Venue Project Grit+S Save Venue Project As Recent Projects		Add dSPEC 🕶							
	Exit Alt+X] 								

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

+ Resyn - dspecmanual-Test2 (C:\Users\amalcolm\Documents\Resyn\dspecmanual-Test2.dvp)										
🤞 Commi	unity File	Connect	Edit Venue	Preset	Units	Scree	en Help	Undo Redo 🔹 A	ll Mute	
design System Prot			ect Enhance		Control		Administer			
Networking Resyn Computer Network Connections Firmware Open Resyn Computer • 192.168.102.60					Remote Mar — Remote	nagement — Devices				
Security Diagnostics					5		Discovered	192.168.102.217		
				l				Find / Ad	Clear List	
	Devices on Network									с
	Re	fresh	Name	Model	Serial #	Automatic	IP	Subnet	Paste List Ctrl+V	4
	Wink • Cha	inge Network Settings	401_Measurement_Roo	DSPEC226	21	V	192.168.102.120	255.255.252.0	19	



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