

Quick Start Guide



Rapid Deployment Wi-Fi Kit



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Part Number: 812-0072-001 Rev E June 1, 2011

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Rapid Deployment Wi-Fi Kit— XK-RDW Quick Start Guide



Figure 1. Array may be used indoors or outdoors

Overview

The Xirrus Rapid Deployment Wi-Fi Array Kit (RDK) enables fast and easy deployment of Wi-Fi service across a large area and for up to hundreds of users using a single, pre-configured device. The RDK provides a complete, portable wireless solution with everything needed to create a Wi-Fi network in two rugged cases. It is easily deployed indoors or outdoors for temporary situations requiring wireless access.

The RDK is designed to quickly and simply provide a robust connectivity solution, supporting voice, video and data access to many users over a large area without the complexity of deploying multiple APs, antennas, controllers, etc. Advanced models support 802.11n, for ultra-high coverage, bandwidth, and throughput. The RDK delivers out-of-the-box capability for deploying a fully functional wireless network.

Applications

Use the RDK in situations that require a powerful wireless connectivity solution to be deployed quickly and easily in a mobile and/or temporary application, whether indoors or outdoors. Examples include:

- Conferences
- Expositions
- Festivals
- Disaster Response
- Command Posts

Components of the RDK

- Xirrus Wi-Fi Array (kits with no Array and power supply are available, if you have purchased the Array separately).
- Tripod Mounting Stand
- Ruggedized Carrying Cases
- Power Supply
- Snap-on Array Cover
- Data and Power Cables



Figure 2. RDK is complete in two cases

Xirrus Wi-Fi Array

Wireless access is provided by just one device—the Wi-Fi Array. The Array integrates 4, 8, 12 or 16 802.11abg+n radios into a single device, along with an onboard switch, firewall, and more.

The kit is available in several models, with or without an Array.

Kit	Array included	Arrays supported
XK-RDW-100-N	XN4 Four 802.11abg+n radios	XN4
XK-RDW-200-N	XN8 Eight 802.11abg+n radios	XN8
XK-RDW-CASE-S	No Array or power supply	XN4
XK-RDW-CASE-L	No Array or power supply	All except XN4

The Xirrus Wi-Fi Array offers a powerful wireless solution. The capacity and performance of the Arrays that are included in kits are summarized below.

Capability	XK-RDW-100-N	XK-RDW-200-N
Wi-Fi bandwidth	1.2 Gb	2.4 Gb
Number of users	100+	200+
Typical outdoor range (unobstructed)	750-1000+ ft	
Typical indoor range (varies with construction materials)	150-200+ ft	

Arrays supplied with a kit (XK-RDW-100-N/200-N) are furnished pre-configured, so that they will be up and running minutes after power and data are supplied. (For a detailed description of the Array's features and configuration options, see the *Wi-Fi Array User's Guide*, Part Number 800-0006-001.)

Tripod Mounting Stand

Supplied in its own rugged case, the tripod stand opens easily to securely support the Array on any relatively flat surface, with no tools required.

Ruggedized Carrying Cases

Two hard-sided wheeled carrying cases are furnished. One safely transports the Array, the power supply, and all needed cables and accessories. The other carries the tripod.

Power Supply

The Xirrus Power over Gigabit Ethernet (PoGE) injector module supplies power to the Array over the same Cat 5e Ethernet cable that carries data traffic to the Array. The Xirrus 75W midspan injector, Model XP1-MSI-75, is supplied with all RDK versions that include an Array.

A power injector and power cord are **not** included with the XK-RDW-CASE-S and XK-RDW-CASE-L.

For more detailed information about the injector (including the significance of its LEDs), see the *Power over Gigabit Ethernet Installation Guide*.

Snap-on Array Cover

A cover is included to protect the Array.

Data and Power Cables

The RDK supplies all data and power cables that are necessary to get the Array up and running. A serial cable is also supplied for use with the console port, complete with a DB-9/USB adapter and driver software.

A power cord is **not** included with the XK-RDW-CASE-S and XK-RDW-CASE-L.

Deployment Requirements

Weather and environmental considerations

- **The Array must be kept away from moisture and dusty conditions.**
- For outdoor use, a shaded location is preferable. The RDK includes a cover to shield the Array from basic weather conditions.

The Array's operating environment should meet these conditions:

- 0-55° C (32-131° F); 0-90% humidity, non-condensing

Location

- Choose a flat, stable location that is central to your users, and where the tripod is not likely to be knocked over. See the *Wi-Fi Array User's Guide* for more placement details.
- The Array can be used outdoors—see [Weather and environmental considerations](#).
- The Array should typically be mounted about 9-10 feet off the ground on a fully extended tripod, to provide a more unobstructed line-of-sight for the wireless signals.
- Keep the unit away from electrical devices or appliances that generate RF noise—at least 3 to 6 feet (1 to 2 meters). Common sources of RF noise include fluorescent lights, power lines, electric motors, walkie-talkies, microwaves, refrigerators, and cordless phones.
- The Array should be sufficiently close to power and network connections. To use the supplied cables, the Array must be within about 100 feet of the network connection. If you supply your own Ethernet cables, the total length of cables from the network connection to the PoGE module and then to the Array must not exceed 328 ft (100m).

Power

Use the supplied power injector module to power the Array. Plug the injector into a 100-240 VAC, 47-63Hz outlet. The injector must also be connected to a data network, and it will then carry power and data traffic to the Array over a single Cat 5e cable. You may also power some Array models directly from a 110-120 VAC outlet using the power cord.

Network connection

The Array requires a 10 Mbps, 100 Mbps, or 1 Gbps Ethernet connection to broadband Internet service. The Array's Ethernet interface will auto-negotiate to the correct speed and settings. Be sure that the Ethernet connection uses auto-negotiation.

If the network has a DHCP server to assign an IP address to the Array, **we recommend that you have the network administrator assign you a reserved IP address** (write it down for later use).

There are a number of options that may be used to provide Internet uplink connectivity for the RDK. They must meet the interface requirement for a 10 Mbps, 100 Mbps, or 1 Gbps Ethernet connection.

- Satellite
- Cable
- DSL
- 3G wireless (mobile broadband wireless)
- Connection to an enterprise Ethernet network

About using mobile broadband wireless for your Internet connection

In some situations, your best source for an Internet connection may be a mobile broadband connection to your laptop. For example, you may have a 3G wireless broadband card that plugs into your laptop from a provider such as AT&T, Verizon, or Sprint. You can then use an Ethernet port on your laptop as your Internet connection.

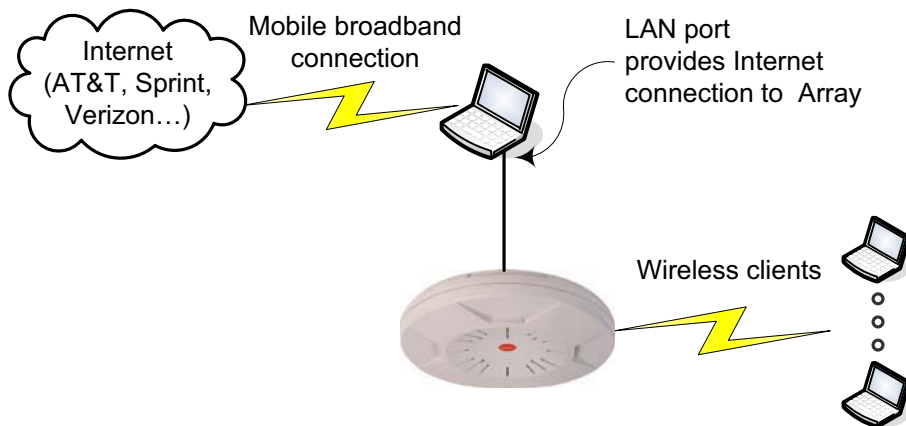


Figure 3. Using a mobile broadband connection

Parts List

The RDK is furnished in two cases. Verify that you have the following parts.

For the XK-RDW-100-N/200-N

- 1 Xirrus Wi-Fi Array as described on [page 4](#).
- 1 Power over Gigabit Ethernet Injector, as described on [page 4](#).

For All Kits

- 1 Tripod for mounting the Array, with wheeled case
- 1 Mounting plate and bracket for mounting the Array on the tripod (furnished attached to the Array—see [Figure 7](#)).
- 1 Snap-on cover: XE-2500 for XN4; XE-2520 for all others
- 1 Array traveling case with custom padding
- 1 Read Me First document
- 1 Quick Start Guide (this document)
- 1 100' Cat 5e orange Ethernet cable with carrier
- 1 black accessories bag containing these items.
 - 1 14' Cat 5e black Ethernet cable
 - 1 short Cat 5e Ethernet cable to connect the Array's DATA OUT and GIGABIT1 ports (not included for 4-radio Array models)
 - 1 AC power cord (not included in XK-RDW-CASE-S and XK-RDW-CASE-L)
 - 1 Console cable (light blue), use with adapter below for direct serial connection to Array.
 - 1 DB-9/USB adapter and software.



Figure 4. RDK Array case components

Passwords

The Array uses the following default passwords and passkey.

- To manage the Array via the Web Management Interface (WMI) or Command Line Interface (CLI), enter the default username **admin** and the password **admin**.
- To connect to one of the Array's predefined secure wireless networks, clients must enter the case-sensitive passkey. This is set to **wifi-now** by default. This is also called a preshared key or passphrase.

Installing the XK-RDW

Before starting installation, carefully select a location. It is critical that the location meets the criteria in [Weather and environmental considerations](#) and [Location](#) on page 6.

Installing the RDK has six main steps.

- "Step 1 — Prepare an Internet connection" on page 9.
- "Step 2 — Connect the power supply" on page 10.
- "Step 3 — Mount the Array on the tripod" on page 11.
- "Step 4 — Connect cables to the Array" on page 12.
- "Step 5 — Change Array configuration (optional)" on page 13.
- "Step 6 — Connecting wireless clients" on page 16.

Step 1 — Prepare an Internet connection

The Array requires a 10, 100 or 1000 Mbps Ethernet connection using auto-negotiation.

The use of a DHCP server to assign local IP addresses on the network is optional. If the network uses DHCP, we strongly recommend that you have the network administrator configure the DHCP server to assign a reserved IP address to the Array. You will need the MAC address of the Array's Gigabit1 port. This is found on a label on the bottom of the Array.

*Note: The label for 8-port and larger Arrays specifies an **Ethernet MAC Address Range**, for example: **00:0F:7D:00:41:9B - 00:41:9D**. The Gigabit1 port's address is in the middle of the range. Thus, for the example range, the address would be **00:0F:7D:00:41:9C**.*

The power injector's IN port is connected to this Ethernet port in the next step. (Figure 5)

About using mobile broadband wireless to supply the Internet connection:

If you have a mobile broadband wireless card on your laptop and you will use it to provide the Internet connection, you must change some network settings on the laptop. Please see "Setting Up Your Laptop to Provide an Internet Connection" on page 23.

Step 2 – Connect the power supply

The injector supplies power and data to the Array on a single Cat 5e Ethernet cable.

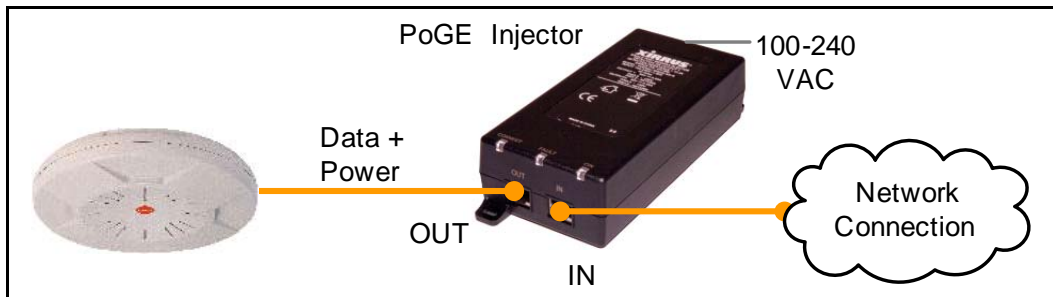


Figure 5. Power over Gigabit Ethernet (PoGE) supplies power and data to the Array

1. Select a location for the injector. It must be in a dry, dust-free location, close to a 100-240 VAC power source. The injector may be placed closer to the Internet connection (within 14 feet), or closer to the Array, whichever is more convenient.
2. Plug the supplied power cord into the back of the injector unit and into a dedicated AC power outlet (100 - 240 VAC). The injector's **ON** LED should light (green).
3. Using either the 14' black Cat 5e cable or the long **orange** cable, connect the injector's **IN** port to the Ethernet port providing your Internet connection. Use the shortest cable that will work.
4. Connect the other supplied Cat 5e cable to the injector's **OUT** port.

Step 3 – Mount the Array on the tripod

1. Remove the tripod from the travel case and place it in the selected location.
2. In situations where the tripod is susceptible to tipping over, you should brace the tripod, for example by placing sand bags on the tripod legs.
3. Loosen the top two knobs and leave the tripod's poles at their lowest levels for now. This is a convenient height for working with the Array.



Figure 6. Tripod and mounted Array

4. Secure the Array to the tripod using the black tripod mounting bracket that comes attached to the Array. (Figure 7) Ignore the small hole drilled into the top pole of the tripod—this is not used for the RDK. Tighten the knob on the mount to secure the Array to the tripod.



Figure 7. Bottom of Array Assembly, showing Tripod Mounting Bracket

Step 4 – Connect cables to the Array

Remove the snap-on cover from the Array so that you can observe the Array's LEDs after you connect the cables.

Connections are slightly different for the XN8 and the XN4. Use the proper procedure below.

To connect the XN4

1. Connect the Cat 5e data cable from the injector's **OUT** port to the Array's **GIGABIT1** port. (Figure 8)



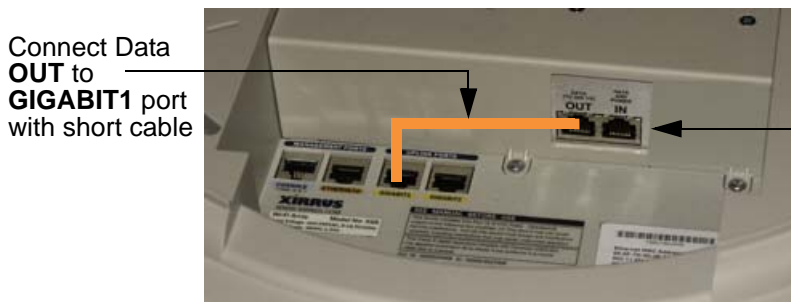
Connect Cat 5e from PoGE Injector to **GIGABIT1**

Figure 8. XN4 Power/Data Connections

To connect the XN8

*NOTE: Do **not** connect the data cable from the injector to a Gigabit port on the XN8 Array! It **must** be connected to the **IN** port (on the right in Figure 9).*

1. Connect the Cat 5e data cable from the injector's **OUT** port to the Array's Data and Power **IN** port as shown in Figure 9.



Connect Data **OUT** to **GIGABIT1** port with short cable

Connect Cat 5e from PoGE Injector to **IN** port

Figure 9. XN8 Power/Data Connections

2. Connect the supplied short (approx. 6") Cat 5e data cable from the Array's Data **OUT** port to the uplink port, **GIGABIT1**.

When all connections are complete:

1. The injector's **CONNECT** LED will light (green) after it senses a good connection to the Array using the supplied power.
2. On the top of the Array, verify that the **GIG1** LED is on, and that the LED boot sequence begins—the LEDs distributed around the front of the Array will light in rotation. When the LEDs stop circling the Array in about 3 minutes, booting is complete.
3. Push the snap-on cover on top of the Array until it snaps in place.
4. The Array should typically be raised to the maximum height of the tripod. Loosen the top tripod knob and pull the top pole to its maximum extent. Tighten the knob securely. Repeat this for the middle knob and rod. Make sure that all knobs are tightened securely.

Step 5 – Change Array configuration (optional)

The main tool for configuring the Array is the Web Management Interface (WMI), accessed from your web browser. The Array also has a Command Line Interface (CLI) that may be used to enter commands.

Arrays that are furnished with the RDK are preconfigured to be immediately useful in many network environments, but in some cases you may wish to make changes. For example, to have your clients connect to a secure SSID (network) that does not use DHCP, use the WMI to edit the example SSID named **ExampleSecureNoDHCP**. See “[Alternative Settings](#)” on page 17.

Starting the WMI

1. You will need a computer to access the WMI.
2. You must know the Array's IP address (the address of its Gigabit1 port) to start the WMI in your browser. After the Array finishes booting, there are several options for finding the IP address. By default, Gigabit1 uses DHCP to automatically obtain an IP address.
 - a. If the Array is connected to a network running DHCP, and the network administrator assigned you a reserved address, skip to [Step 3](#).
 - b. If you do not have a reserved address, examine the tables on the network's DHCP server to find the IP address that was assigned to the Array. Write down this address. Tip: the MAC addresses of Array Ethernet ports are shown on a label on the bottom of the Array and begin with 00:0F:7D. Look for a DHCP server table entry with a MAC address that starts with this number.

- c. If the network uses DHCP but you don't have a reserved address and can't examine the DHCP server tables, you have two options to find the Array address that was assigned by DHCP:
 - If you have an 8-, 12-, or 16-radio Array (for example, the XN8 furnished with XK-RDW-200-N), you may use an extra Ethernet cable (not supplied) to connect port **Ethernet0** on the bottom of the Array directly to an Ethernet port on your laptop computer (we'll call this the *computer port*). Use Ethernet0's default address of **10.0.1.1** to access the WMI as described starting with [Step 3](#) below. You must first set the IP address of your laptop's *computer port* to be in the same IP subnet as Ethernet0. If you need instructions for doing this on Windows, see "[Setting the IP Subnet of Your Laptop Port to Access the Array](#)" on page 26.

Once you have entered the WMI, click **Status>Network**. Write down the IP address of **Gigabit Ethernet 1**.
 - Otherwise, see "[Using the Console \(Serial\) Port to Find the Array IP Address](#)" on page 26.
 - d. If there is no DHCP server being used on the network, you may connect directly to an Ethernet port on the Array using its default IP address, as described below. In either of these two cases, **after you log in to the WMI in Step 4, be sure to change the Gigabit1 port's IP address to one that is part of your network**, as described in "[Change the Array IP address \(if needed\)](#)" on page 17.
 - For an Array with 8, 12, or 16 radios, connect to the **Ethernet0** port following the directions in [Step c](#) above, using its default IP address of **10.0.1.1** to access the WMI.
 - 4-radio Arrays have no Ethernet0 port. Since the Gigabit1 port (called Gigabit POE on some Arrays) supplies power to the Array, you cannot connect your laptop to this port directly. Connect your laptop computer to the power injector's **IN** port instead. Access the WMI using the Gigabit1 port's default IP address (**10.0.2.1**). Set the IP address of your laptop's computer port to be in the same IP subnet as Gigabit1. Note that in this case, you must change the instructions in "[Setting the IP Subnet of Your Laptop Port to Access the Array](#)" on page 26 to set the IP address of your computer port to **10.0.2.2**.
3. Open a Web browser. In the URL field, enter the IP address of the Array. Your computer's IP address must be on the same IP subnetwork as the Array. You must have connectivity to the Array at that IP address, via a wired LAN or a wireless connection (see "[Step 6 — Connecting wireless clients](#)" on page 16).

If a window appears notifying you of a problem with the Array's security certificate, click **Continue to this website** for Internet Explorer. For Firefox, click **Add an exception** (on two consecutive windows) until the **Add Security Exception** window is displayed. Click **Get Certificate**, and then click **Confirm Security Exception**.

- At the login prompt (Figure 10), enter the default username **admin** and the password **admin**.

Name: XN4-Rapid-Deployment (10.100.47.16)	
Current Status:	Logged Out
User Name:	<input type="text" value="admin"/>
User Password:	<input type="password" value="•••••"/>
<input type="button" value="Login"/>	

Figure 10. Login Prompt

You are now logged in to the Wi-Fi Array. The WMI is displayed in the browser, showing the Array Summary page. Note that the Array's IP address (for the Gigabit ports) is displayed.

XN8 Wi-Fi Array

Status	Name: BruceX-XN8-Array (10.100.47.10)		Location: Desk		Uptime: 29 days, 7 hours, 13 mins											
▶ Array	Ethernet Interfaces															
Summary	Static Route															
Information	Interface	State	Mgmt	Auto Neg	LED	Link	Duplex	Speed (Mbps)	MTU Size	Port Mode	DHCP	IP Address	Subnet Mask	Gateway	Address	Mask
Configuration	eth0	enabled	on	on		down			1500		enabled	10.0.1.1	255.255.255.0			
Admin History	gig1	enabled	on	on	on	up	full	1000	1504	Link backup	enabled	10.100.47.10	255.255.255.0	10.100.47.1		
▶ Network	gig2	enabled	on	on	on	down			1504	Link backup	enabled	10.100.47.10	255.255.255.0	10.100.47.1		
▶ RF Monitor	Integrated Access Points															
▶ Stations	IAP	State	Channel	WiFi Mode	Antenna	Cell Size	TX Power	RX Threshold	Stations	WDS Link	MAC Address / BSSID		Description			
▶ Statistics	abgn1	up	1	bgn	int-dir	manual	1	-75	0		00:0f:7d:0b:a5:10-12					
System Log	abgn2	up	monitor	abgn	int-omni	monitor	20	-95	0		00:0f:7d:0b:a5:30-32					
Configuration	abgn3	up	11	bgn	int-dir	small	5	-75	0		00:0f:7d:0b:a5:50-52					
Express Setup	abgn4	up	153	an	int-dir	manual	1	-75	0		00:0f:7d:0b:a5:70-72					
▶ Network	an1	up	40	a-only	int-dir	manual	1	-75	0		00:0f:7d:0b:a5:20-22					
▶ Services	an2	up	161+157	manual	an	int-dir	manual	1	-75	0	00:0f:7d:0b:a5:40-42					
▶ VLANs	an3	up	48		an	int-dir	manual	1	-75	0	00:0f:7d:0b:a5:60-62					
▶ Security	an4	up	60+64	manual	an	int-dir	manual	1	-75	0	00:0f:7d:0b:a5:00-02					
▶ SSIDs																

Figure 11. WMI Array Summary

To go to a different page, click its name in the frame on the left. In most cases, this will display additional choices. The **Status** entries in the left frame display information about the Array's operation. The **Configuration** entries allow you to change the Array's settings.

You may make any of the changes described in "Alternative Settings" on page 17.

Step 6 – Connecting wireless clients

1. Make sure that you have all the desired settings on the Array ([Alternative Settings](#)). In particular, consider the following settings:
 - Do you want wireless clients to use the default, secure **ConnectHereSecure** network, or your own SSID?
 - The Array uses the DNS servers at [opendns.com](#) by default (208.67.222.222 and 208.67.220.220). Do you want clients to use different DNS servers?
 - To use the Public Safety Channels, you must enable them. A license is required to use these channels.
2. Clients may connect to the Array's Wi-Fi network in the usual way. For Windows Vista or XP, a user may click the Windows **Start** button and then select **Connect to**. This displays a network connection window similar to [Figure 12](#) (the Windows Vista dialog box is shown).
3. By default, the Array provides the secure, encrypted **ConnectHereSecure** network to clients. If one of the Array's predefined secure networks is enabled (see "Set up an open or secure Wi-Fi network, with or without DHCP" on [page 18](#)), clients may connect to it by entering its passkey, which is set to **wifi-now** by default.

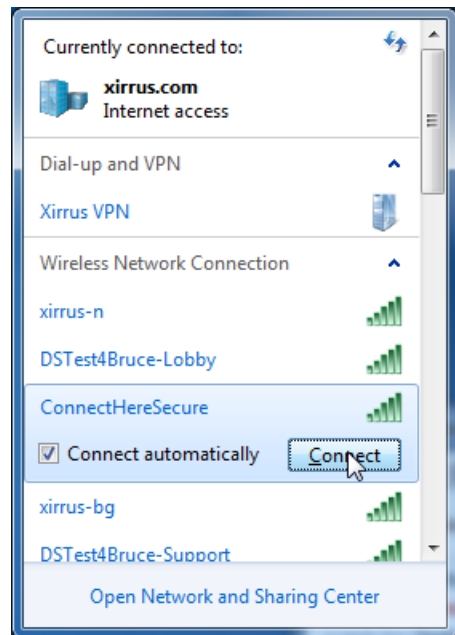


Figure 12. Connecting a Wi-Fi client to the Array Wi-Fi network

Alternative Settings

Settings may be changed by selecting the appropriate page from the list on the left-hand side of the WMI, as described in the procedures below. After making changes, you must click the **Save** button at the bottom right of the page to apply your changes and make them permanent. To change settings not mentioned below, please see the *Wi-Fi Array User's Guide*.

The Arrays that are furnished with the RDK are shipped with several predefined wireless networks (called SSIDs). Use them to easily set up your Array to offer an open or a secure wireless network, with or without assigning DHCP addresses to clients.

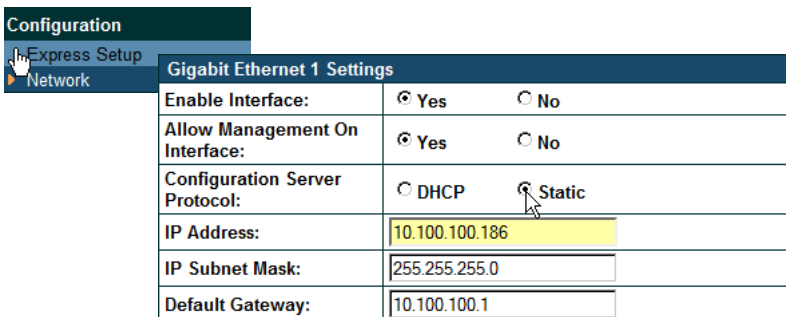
Changes should be made in this order:

1. "Change the Array IP address (if needed)" on page 17.
2. "Set up an open or secure Wi-Fi network, with or without DHCP" on page 18.
3. Make any other desired changes after the steps above are complete.

Change the Array IP address (if needed)

If the IP address of the Array was not set by DHCP, then the default address of the Gigabit1 port is 10.0.2.1. Typically, you will want to replace this with an address that is part of your subnetwork. Note that the assigned address **must be unique**. If you duplicate an IP address that is used by another device on your network, both devices using that address may become unreachable!

1. On the left of the WMI, click **Express Setup**. (Figure 13) Note that the current IP address (in orange) is displayed in the top green bar.



Gigabit Ethernet 1 Settings	
Enable Interface:	<input checked="" type="radio"/> Yes <input type="radio"/> No
Allow Management On Interface:	<input checked="" type="radio"/> Yes <input type="radio"/> No
Configuration Server Protocol:	<input type="radio"/> DHCP <input checked="" type="radio"/> Static
IP Address:	10.100.100.186
IP Subnet Mask:	255.255.255.0
Default Gateway:	10.100.100.1

Figure 13. Setting an IP address in the Gigabit section of the Express Setup page

2. In the **Gigabit Ethernet 1 Settings** section, set **Configuration Server Protocol** to **Static**. Then enter the desired **IP Address**, **IP Subnet Mask**, and **Default Gateway**.
3. Click the **Save** button.

4. To continue using WMI, you must point your browser to the new IP address. You may also wish to undo the changes you made in “Setting the IP Subnet of Your Laptop Port to Access the Array” on page 26.

Set up an open or secure Wi-Fi network, with or without DHCP

The Array furnished with the RDK is shipped with predefined wireless networks (called SSIDs) that you can use to offer a secure or non-secure wireless connection, with or without having the Array assign IP addresses to clients via DHCP. By default, only the secure SSID **ConnectHereSecure** is enabled. To offer your clients one of the other predefined wireless networks, you must enable it first. However, we recommend that you create a new SSID for your clients with a name that is familiar to them, using the procedure “Creating, “renaming”, and enabling SSIDs” on page 19. For instance, you might use the name of your company, agency, or event.

Predefined SSIDs

The **ConnectHereSecure** SSID is shipped in the enabled state. All the other SSIDs are shipped in the disabled state. Thus, when the Array is first powered up, your clients will only be able to connect to the **ConnectHereSecure** network.

- **ConnectHereSecure**—provides a secure (encrypted) wireless connection. Wireless users must provide the passkey **wifi-now** to connect to the Array. Users are assigned an IP address by DHCP in the range 192.168.1.2 through 192.168.1.254, and Network Address Translation (NAT) is enabled.
- **ExampleOpenDHCP**—provides an unsecured (open) wireless connection. No passkey or login is needed to connect to the Array. Users are assigned an IP address by DHCP in the range 192.168.1.2 through 192.168.1.254, and NAT is enabled.
- **ExampleOpenNoDHCP**—provides an unsecured (open) wireless connection. No passkey or login is needed to connect to the Array. Users are not assigned an IP address by the Array.
- **ExampleSecureNoDHCP**—provides a secure wireless connection. Wireless users must provide the passkey **wifi-now** to connect to the Array. Users are not assigned an IP address by the Array.

Creating, “renaming”, and enabling SSIDs

The default Array configuration presents your users with a generic name for the wireless network—for example, ConnectHereSecure. To make it easier for them to identify and connect to the correct wireless network, you may wish to use a more meaningful name, like “County Response” or “Worldwide Events”.

You cannot rename an SSID. Instead, create a new SSID with a meaningful name, give it the same settings as the preferred example SSID, and enable the new SSID. To simply enable a predefined SSID, just perform [Step 1](#) and skip to [Step 4](#) below.

1. On the left of the WMI, click **SSIDs**, then click **SSID Management**.
2. In the field next to the **Create** button (underneath the list of SSIDs, as shown in [Figure 14](#)), enter a meaningful name for your wireless network. Click **Create**.

SSID	Enabled	Brdct	Band	VLAN ID / Number	QoS	DHCP Pool	Filter List	Authentication / Encryption	Global	Xirrus Roaming	WPR	Delete
ConnectHereSecure	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Both	(none)	2	DHCPNAT	(none)	802.1x	WPA2	<input type="checkbox"/>	L2	<input type="checkbox"/>
ExampleOpenDHCP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Both	(none)	2	DHCPNAT	(none)	Open	None	<input checked="" type="checkbox"/>	Off	<input type="checkbox"/>
ExampleOpenNoDHCP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Both	(none)	2	(none)	(none)	Open	None	<input checked="" type="checkbox"/>	Off	<input type="checkbox"/>
ExampleSecureNoDHCP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Both	(none)	2	(none)	(none)	802.1x	WPA2	<input type="checkbox"/>	L2	<input type="checkbox"/>

SSID ConnectHereSecure Limits
 Stations:
 Overall Traffic: Packets/Sec Unlimited
 Traffic per Station: Packets/Sec Unlimited
 Days Active: Everyday Sun Mon Tue Wed Thu Fri Sat
 Time Active: Always
 Time On:
 Time Off:

WPA Configuration
 Encryption Ciphers: AES TKIP
 Authentication: EAP PSK
 Preshared Key: Verify Key:

Enter new SSID here

Figure 14. Creating an SSID

3. Your new SSID appears in the list above the Create button. The easiest way to configure the new SSID is to mimic the settings from one of the [Predefined SSIDs](#). Copy the settings for each field from the desired model SSID.
4. For a secure network, make sure to set the **Encryption** field to **WPA2**. An additional section will be displayed below for **WPA Configuration**. Check the **PSK** checkbox and clear the **EAP** checkbox.

Enter a **Preshared Key** for your wireless network in both fields. Clients must enter this key to connect to the network. The key must be from 8 to 63 ASCII characters long. This passkey is case-sensitive, and users must enter it exactly as you have typed it. The preshared key for the predefined SSIDs is **wifi-now**. This is the default key

mentioned in [Step 6 — Connecting wireless clients](#). If you set a different key for an SSID, clients must use that key to connect to the SSID.

5. Click the **Enabled** checkbox for your new SSID. Uncheck the **Enabled** checkboxes for the other SSIDs if you do not want your clients to use them.
6. Click the **Save** button.
7. Your clients can now connect to the new SSID. They will lose any existing connections to SSIDs that have been disabled.

Change DNS servers (if needed)

The Array is pre-configured to use DHCP to assign IP addresses to wireless clients. At the same time, DHCP will tell clients which DNS servers to use. By default, servers at [OpenDNS.com](#) are used. To specify your preferred DNS servers instead:

1. On the left of the WMI, click **Services**, then click **DHCP Server**. ([Figure 15](#))
2. Select a DHCP entry. In the **DNS Servers** column, enter the IP addresses of up to three servers. The first server is normally used, and the second and third servers are used in case of failure of the primary (and secondary) servers.
3. Enter DNS servers for the other DHCP entry in the same way.
4. Click the **Save** button.

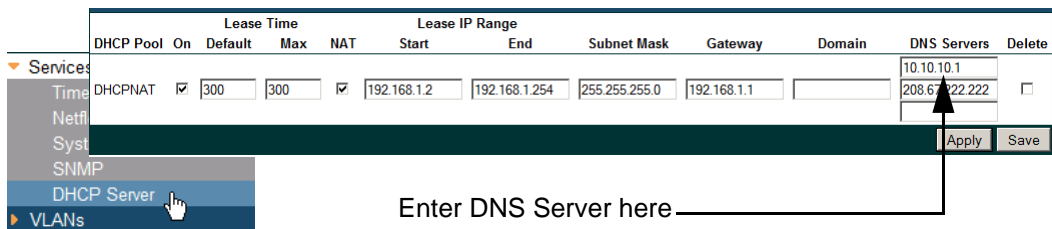


Figure 15. Changing DNS servers on the DHCP Servers page

Change the Array host name

You may wish to change the host name of the Array to something that is more meaningful to your group, for example, WorldWideEvents or CityEmergencySvcs.

Configuration	
Express S	Name: WorldWideEvents (10.100.47.15) Location: SS Area Uptime: 0 days, 0 hours, 43 mins
Network	
Host Name:	WorldWideEvents
Location Information:	SS Area
Admin Contact:	J Smith
Admin Email:	jss@xyzcorp.com
Admin Phone:	805-555-1212

Figure 16. Changing the Host Name

1. On the left of the WMI, click **Express Setup**. (Figure 16)
2. In the top section, set **Host Name** to the desired name. You may enter values in the other fields of this top section, if desired. The rest of the fields are informational only - they do not affect the operation of the Array.
3. Click the **Save** button. Click **OK** if the following message appears.

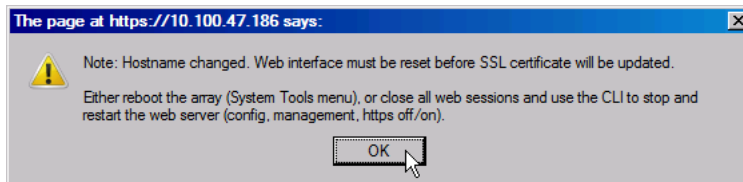


Figure 17. Host Name change message

4. Now you must reboot the Array. On the left of the WMI, click **Tools** and then click **System Tools**. In the **System** section at the top, click the **Save & Reboot** button. Wait about 2 minutes for the Array to reboot.
5. If you wish to continue using the WMI, enter the Array's IP address in your browser again. You may need to tell the browser to accept a new security certificate in order for your browser to connect to the Array and display the WMI.

Set the Time Zone

The Array is pre-configured to use SNTP (Simple Network Time Protocol) to automatically fetch accurate time information from a public server. Thus the Array just needs to be set to your time zone so that system logs and other information will show the correct local time.

1. On the left of the WMI, click **Express Setup**. (Figure 18)

Configuration	
Express Setup	
Network Time and Date Settings	
TimeZone:	(GMT - 08:00) Pacific Time (US & Canada); Tijuana
Auto Adjust Daylight Savings:	<input checked="" type="checkbox"/>
Use Network Time Protocol:	<input checked="" type="radio"/> Yes <input type="radio"/> No
NTP Primary Server:	time.nist.gov
NTP Secondary Server:	pool.ntp.org

Figure 18. Changing the Time Zone

2. Scroll down to find the **Time and Date Settings** section near the bottom of the page. In the **Time Zone** field, select your zone from the drop-down list.
3. Click the **Save** button.

Use Public Safety Channels

There are two wireless channels reserved for public safety usage—channels 191 and 195 in the 4.9GHz spectrum range. Operating these channels requires a license—using them without a license violates FCC rules. Warning notices are displayed when you select these channels.

1. On the left of the WMI, click **IAPs**, then click **Advanced RF Settings**. (Figure 19)

IAPs	Channel List Selection:	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input checked="" type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10 <input checked="" type="checkbox"/> 11
		<input checked="" type="checkbox"/> 36 <input checked="" type="checkbox"/> 40 <input checked="" type="checkbox"/> 44 <input checked="" type="checkbox"/> 48 <input checked="" type="checkbox"/> 52 <input checked="" type="checkbox"/> 56 <input checked="" type="checkbox"/> 60 <input checked="" type="checkbox"/> 64 <input type="checkbox"/> 100 <input type="checkbox"/> 104 <input type="checkbox"/> 108 <input type="checkbox"/> 112
		<input type="checkbox"/> 116 <input type="checkbox"/> 132 <input type="checkbox"/> 136 <input type="checkbox"/> 140 <input checked="" type="checkbox"/> 149 <input checked="" type="checkbox"/> 153 <input checked="" type="checkbox"/> 157 <input checked="" type="checkbox"/> 161 <input type="checkbox"/> 165
	Auto Channel List:	<input type="button" value="Use Defaults"/> <input type="button" value="Use All Channels"/>
	Public Safety:	<input type="radio"/> Off <input checked="" type="radio"/> On

Figure 19. Enabling Public Safety bands

2. In the **Public Safety** row at the bottom, click the **On** button. A warning message will appear. Click **OK**.
3. Click **Save**. A message will inform you that the Array IAPs (wireless radios) have been taken down and brought back up (the message lists the currently enabled IAPs).

4. To set an IAP to use channel 191 or 195, open the **IAP Settings** page (also under **IAPs**).
5. In the **Channel** column for the selected IAP, select **191** or **195** from the drop-down list. Note that 191 and 195 are not listed in numerical order. They will be at or near the top of the list. A warning message will appear asking whether you have a license to operate these channels. Click **OK**. For more information about IAPs and channel selection, see the *Wi-Fi Array User's Guide*. Each channel may be used by only one IAP. To use both channels, set one IAP to 191 and another IAP to 195.
6. Click the **Save** button.

Setting Up Your Laptop to Provide an Internet Connection

If you are using a mobile broadband connection on your laptop to provide the Internet access for your Array, you must change some network settings on the laptop to enable **Internet Connection Sharing**. This allows the host laptop to serve as an Internet gateway for the Array.

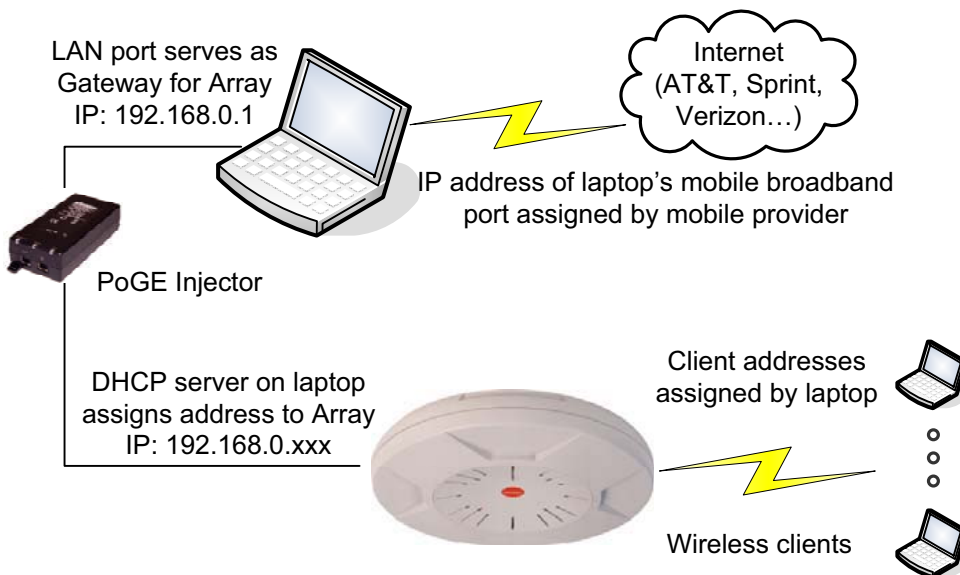


Figure 20. Network settings for using a mobile Internet connection

As shown in [Figure 20](#), you must have a mobile broadband connection on your host laptop. Then you must configure an Ethernet port on the laptop to provide the Internet access for the Array. Use the following procedure to set up your network.

1. Make sure that your mobile broadband connection is working correctly and is able to access the Internet. Verify your Internet access by browsing to a web site.
2. Enable Internet Connection Sharing on your host laptop.
 - **For Windows XP**

From the Windows **Start** button, open the **Control Panel** and double-click **Network Connections**.

In the **Network Connections** window, find your mobile broadband connection. Right-click it and select **Properties**. The **Properties** window appears.

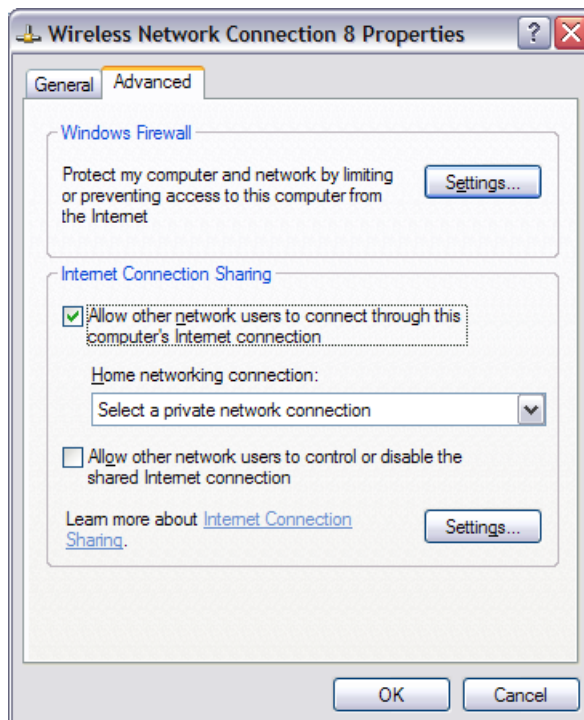


Figure 21. Windows XP Properties window for the mobile connection

Click the **Advanced** tab. In the **Internet Connection Sharing** section, enable the check box labeled **Allow other network users to connect through this computer's Internet connection**. In the field displaying **Select a private network connection**, select the LAN (Ethernet) port that you will connect to the Array (via the PoGE injector). Leave the checkbox titled **Allow other network users to control or disable the shared Internet connection** disabled. Click **OK**.

For a more detailed discussion, see <http://support.microsoft.com/kb/306126>.

- **For Windows Vista or Windows 7**

From the Windows **Start** button, open the **Control Panel**. Under **Network and Internet**, select **View Network Status and Tasks**. On the left, for Windows 7 click **Change Adapter Settings**. For Vista, click **Manage Network Connections**.

In the **Network Connections** window, find your mobile broadband connection. Right-click it and select **Properties**. The **Properties** window appears.

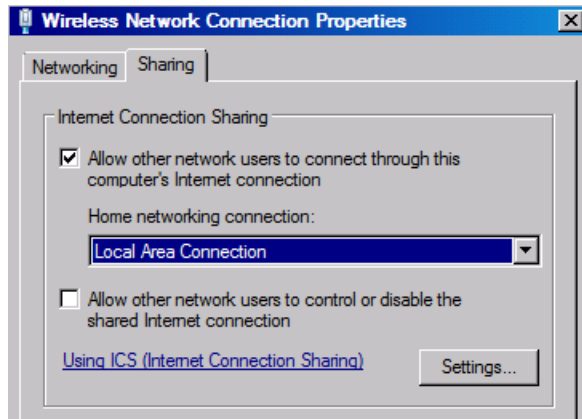


Figure 22. Windows 7 Properties window for the mobile connection

Click the **Sharing** tab. In the **Internet Connection Sharing** section, enable the check box labeled **Allow other network users to connect through this computer's Internet connection**. In the field displaying **Select a private network connection**, select the LAN (Ethernet) port that you will connect to the Array (via the PoGE injector). Leave the checkbox titled **Allow other network users to control or disable the shared Internet connection** disabled. Click **OK**.

For a more detailed discussion, you may see [Internet Connection Sharing](#) on the Microsoft Vista Help and How-to web site.

3. Your host laptop now serves as a simple router to provide Internet access.

- The selected LAN port on your host laptop has the IP address 192.168.0.1 and serves as an Internet gateway.
- Your host laptop has a DHCP server that will provide an IP address to the Array. The address will be in the 192.168.0.xxx subnetwork, with subnet mask 255.255.255.0.
- We recommend that you disable the Array's DHCP server (see ["Set up an open or secure Wi-Fi network, with or without DHCP"](#) on page 18). The host laptop's DHCP server will provide IP addresses to the Array's wireless clients, using the same 192.168.0.xxx subnetwork.

- The laptop will provide Network Address Translation (NAT) for DHCP addresses that it assigns. It will also provide DNS service (domain name resolution).

Setting the IP Subnet of Your Laptop Port to Access the Array

If you are connecting an Ethernet port on your laptop directly to the **Ethernet0** port on an Array model with eight or more radios, you must change the IP address of your *Computer Port* to be on the same IP subnet as Ethernet0. You do not need to enter a default gateway value. Use one of the following procedures.

- **For Windows Vista or Windows 7**

From the Windows **Start** button, open the **Control Panel**. Under **Network and Internet**, select **View Network Status and Tasks**. On the left, for Windows 7 click **Change Adapter Settings**. For Vista, click **Manage Network Connections**.

When the **Network Connections** window is displayed, find your *Computer Port*. Double-click it and then click the **Properties** button. Select **Internet Protocol Version 4** and click the **Properties** button.

In the **TCP/IP properties** window, click **Use the following IP address**. Set the **IP address** to **10.0.1.2**, and set the **Subnet mask** to **255.255.255.0**. Click **OK**, then **Close**.

- **For Windows XP**

From the Windows **Start** button, open the **Control Panel** and double-click **Network Connections**.

In the **Network Connections** window, find your *Computer Port*. Double-click it and select **Properties**. Select **Internet Protocol (TCP/IP)** and click the **Properties** button.

In the **TCP/IP properties** window, click **Use the following IP address**. Set the **IP address** to **10.0.1.2**, and set the **Subnet mask** to **255.255.255.0**. Click **OK**, then **Close**.

Using the Console (Serial) Port to Find the Array IP Address

If the IP address is unknown, then it can be read by connecting to the Array's **CONSOLE** (serial) port and using the CLI.

If your computer has a DB-9 port, plug the DB-9 end of the light blue Console cable into it, and connect the other end into the **CONSOLE** port on the Array

If your computer does not have a DB-9 port, use the supplied **USB to Serial adapter**. Follow the instructions in the package to load the required driver software, and then plug the adapter into a USB port on your laptop. Plug one end of the light blue Console cable into this adapter, and plug the other end into the Array's **CONSOLE** port.