



High Performance Wireless Networks

Quick Installation Guide

for

XR-1000H Series

Wireless Arrays

November, 2012

XIRRUS is a registered trademark of Xirrus, Inc. All other trademarks and brand names are marks of their respective holders.

All rights reserved. This document may not be reproduced or disclosed in whole or in part by any means without the written consent of Xirrus, Inc.

Document Part Number: 812-0085-003, Revision B, November, 2012

CONTENTS

1) You Need the Following Items 1

2) Choose a Suitable Location 1

3) Prepare the Mounting Location..... 2

4) Install the Mounting Plate 2

5) Mount the Array on a Pole or Wall..... 3

 5a) Pole Mounting..... 3

 5b) Wall Mounting..... 5

6) Ground to Earth Ground 5

7) Install an Antenna..... 6

8) Prepare the Ethernet Cable with the Waterproof Shell 6

9) Connect the Cables 7

10) Log In to the Array 8

11) Configure the Array 9

12) Secure Low Level Access to the Array 10

Drawings 11

 XR-1230H Dimensions 11

 Mounting Bracket Dimensions..... 12

Customer Support..... 12

Notices, Warnings, & Compliance Statements 12

 Notices 12

 Warnings 14

 WiFi Alliance Certification 15

 Federal Communications Commission (FCC) Statements & Instructions..... 15

 Industry Canada Statements and Warnings 17

 EU Directive 1999/5/EC Compliance Information..... 18

 RF Exposure 21

Software License and Product Warranty Agreement 24

Hardware Warranty Agreement..... 28



High Performance Wireless Networks

XR-1000H Quick Installation Guide

The XR-1000H Series Hardened Wireless Array provides Xirrus Array technology in a hardened case for installation outdoors and in other harsh environments. This guide describes how to install the XR-1000H on a pole or wall and execute the initial power up of the Array. The pole or wall can be a structure that is installed at ground level or on a roof. The XR-1000H is not compatible with other Xirrus mounting options. For additional information, see the Wireless Array User's Guide.



This document is intended ONLY for XR-1000H model Arrays. For other XR models, please see the Quick Installation Guide for that Array family.

1) You Need the Following Items

- Accessory Kit (included in each Wireless Array carton) contains mounting bracket and short ground wire.
- Appropriate tools, bands, screws, and/or anchors required for the desired mounting location. (not provided with the Array)
- Workstation with a Web browser to configure the Wireless Array.
- RJ-45 Ethernet connection(s) to your wired network.
- Power—XR-1000H Arrays are powered via Power over Gigabit Ethernet (PoGE) using an Ethernet Cat 5e or Cat 6 cable that also carries data traffic. You must provide a network connection and Ethernet cable run from a Xirrus PoGE Power Injector port for the Array Gigabit port. The Xirrus PoGE Power Injector requires an AC outlet. Use *only* Xirrus-supplied PoGE injectors. See the *PoGE Installation Guide* for more information. XR-1000H Arrays are powered by one injector port rated at 33W or higher.

2) Choose a Suitable Location

The XR-1000H series is tested to IP67 water proof and dust proof requirements to protect against severe wet and dusty environments. For optimal placement, we recommend that a site survey be performed by a qualified Xirrus partner.

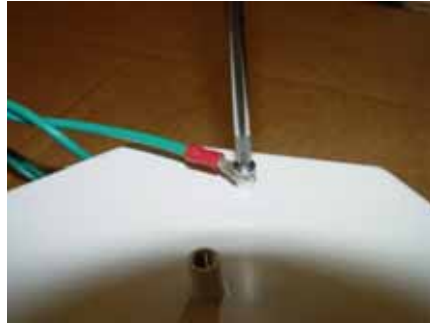
- Choose a location that is not subjected to submersion.
- Direct sunlight may raise the effective ambient temperature many degrees above the air temperature. It is best to choose a location that has some level of protection from the sun.
- The maximum cable length between the XR-1000H and the RJ-45 Ethernet Network/PoGE Injector is 100 meters.
- The XR-1000H series can operate from a Wireless Distribution System (WDS) link. However, the unit will need to be configured via the Ethernet connection prior to mounting and power must still be supplied via the RJ-45 Ethernet connector.

- Keep the unit away from electrical devices or appliances that generate RF noise—at least 3 to 6 feet (1 to 2 meters).

3) Prepare the Mounting Location

Part of the mechanical installation is to ensure that the Array is grounded to earth ground to dissipate any static electric charge that may develop due to wind.

- Determine a good electrical earth ground point near the Array mounting location. If an earth ground point is not available, consult an electrician to have one installed.
- Crimp a terminal lug to a sufficient length of 16 gauge wire to reach from the mounted Array to the earth ground point.
- Before the Array is attached to a wall or pole, secure the terminal lug to the Array with the #6 screw provided in the location shown.



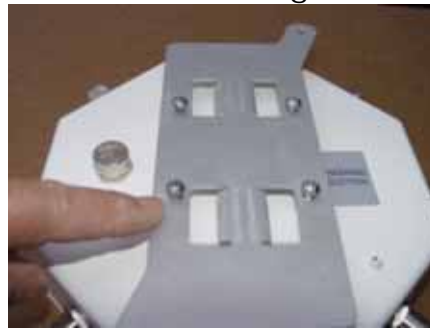
4) Install the Mounting Plate

The accessory kit includes a small mounting plate. Mounting plate dimensions are included in the Drawings section at the end of this guide. The mounting plate can be used for wall or pole mounting based on reversing the side of the plate exposed.

For Pole Mounting:



For Wall Mounting:

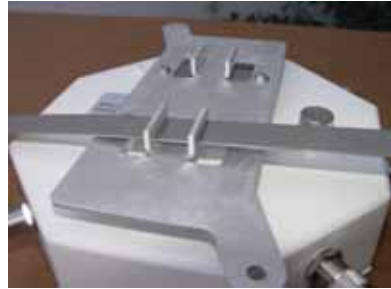


5) Mount the Array on a Pole or Wall

5a) Pole Mounting

For pole mounting, Xirrus recommends using metal straps (not included with the Array). The metal straps can be obtained from BAND-IT-IDEX, Inc. (www.BAND-IT-IDEX.com). See their web site for additional contact information. Complete the following steps to mount the Array to a pole.

- Install the metal bands through the holes in the mounting bracket.



- Hand tighten the Band-It strap through the pole mounting bracket, thread it through the strap buckle and then bend the strap back.



- Using the Band-It tool, place the tool onto the strap.



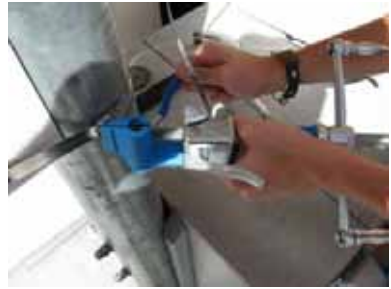
- Rotate the Band-It tool so that it can pull the excess strap through the buckle and turn the crank until the strap is very tight.



- Once the strap is satisfactorily tight, rotate the Band-It tool back so that the strap cannot slide back through the buckle.



- Using the built in cutting tool on the Band-It tool, cut the excess strap.



- Your installation should now appear as shown here.



- Using a hammer, bend back and flatten the remaining strap.



- Using a hammer, bend and flatten the two tabs on the buckle, so that they hold the flattened strap end in place.



- The completed attachment should have the mounting bracket firmly seated against the pole. One band should be enough for most installations however a second band can be used for additional mounting security.

5b) Wall Mounting

- Place the Array in the desired location and mark the location of the mounting holes on the wall.
- Drill and prepare the holes for the desired screw type. In metal walls the holes may be tapped to the proper thread or alternatively the Array may be mounted with sheet metal screws. For concrete walls a plastic anchor and screw are suggested.
Note: Mounting screws for attaching the plate to the wall are not provided in the kit.
- Attach the Array to the mounting plate before attaching the mounting plate to the wall.



6) Ground to Earth Ground

WARNING: *This equipment must be externally grounded using a customer-supplied ground wire before power is applied. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.*

Part of the mechanical installation is to insure that the Array is grounded to earth ground to dissipate any static electric charge that may develop due to wind. In Step 3, you secured a terminal lug to the Array with the provided #6 screw (see Step 3 if this has not been done).

- After Step 3 is completed and the Array is mounted to the wall or pole, attach the 16 gauge wire from the Array to the electrical earth ground point that you located or had installed in step 3. The following illustration shows an earth ground connection where the Array is mounted on a pole at ground level and the 16 gauge wire is attached to a stake driven into the ground.



- Continue the installation by mounting the antenna and attaching the cables as described in Steps 7, 8, and 9.

7) Install an Antenna

NOTE: Use only Xirrus-approved external antennas supplied by the manufacturer or purchased from Xirrus. Also see the Notices and Warnings regarding external antennas in the Warning & Notices section of this guide.

Low loss cable is available such that the antenna can be mounted in an appropriate location that could be several feet away from the Array. Use one of the following Xirrus-approved antennas:

- MIMO Omnidirectional Antenna with N-Style Plug Connectors
- 2.4/5.8GHz Dual Polarized Panel Antenna

Either antenna can be purchased from Xirrus or from the antenna manufacturer.

Antenna	Xirrus	Manufacturer
MIMO Omnidirectional Antenna with N-Style Plug Connectors	Part #: ANT-OMNI-MIMO-01 Description: 6dBi dual band 3 x 3 omni-directional antenna	Part #: M6060060MO1D33607 Manufacturer: Terrawave Solutions (www.terrawave.com)
2.4/5.8GHz Dual Polarized Panel Antenna	Part #: ANT-DIR-MIMO-01 Description: 14dBi, dual band polarized 3 x 3 panel antenna	Part #: HG2458-14DP-3NF Manufacturer: L-COM, Inc. (WWW.L-COM.COM)

The MIMO Omnidirectional antenna includes an L-Bracket for mast or wall mounting. The Dual Polarized Panel antenna is supplied with a tilt and swivel mast mount kit.

For the Dual Polarized Panel Antenna N-Female connector interface, you will need a male-to-male cable to connect the antenna to the Array. This cable can be ordered from Xirrus (Cable Part Number: ANT-CAB-400-2-MM) or from the manufacturer (L-COM Part Number: CA-NMRNMF002).

8) Prepare the Ethernet Cable with the Waterproof Shell

- Place the split washer and split rubber grommet over the cable.
- Slide all the sections together and tighten the nut on the end to 5kg but not more than 8kg torque force to insure a water tight fit.



9) Connect the Cables

All XR-1000H Arrays are powered directly via their Gigabit Ethernet connection and that power must be provided using a Xirrus PoGE Injector. See the *PoGE Installation Guide* for details on the Xirrus-supplied injector modules and Array compatibility.

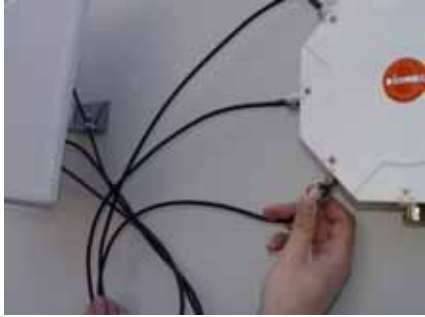
- **Power:** These Arrays are only powered through the **GIG POE** port. Only Xirrus-supplied power injectors may be used.
- **Data:** Data is supplied to the Gigabit port via the same cable that powers the Array.
- Connect the Ethernet cable carrying data and power from the PoGE injector to the Array's **GIG POE** port as indicated.



The following illustration shows a typical pole mounted XR-1000H installation after the antenna is installed and cable attachments have been completed.



The following illustration shows a typical wall mounted XR-1000H installation after the antenna is installed and cable attachments have been completed.



10) Log In to the Array

- Establish a network connection to the Array using a web browser. In the URL field, enter the IP address assigned by your DHCP server. If you are using DHCP and DNS, use the Array's default host name, which is its serial number (for example, XR0823090CACD).
- Be aware of the following:
 - By default, the Array tries to obtain an IP address via DHCP. If it cannot do so, the factory default is a static IP address of 10.0.2.1 with a mask of 255.255.255.0 on its Gigabit POE port.

Take care to ensure that your network is not using the 10.0.2.1 IP address prior to connecting the Array to the network.

- To connect to the Array in this case, you must set your computer to be in the same subnet as the Array: set your IP address to be in the 10.0.2.xx subnet, and set its subnet mask to 255.255.255.0. If this subnet is already in use on your network, you may connect your computer directly to the Array by connecting the computer to the power injector's IN port temporarily (this port may be called the SWITCH port or the DATA port on your injector).
- If the assigned IP address is unknown, you may use the Xirrus Xircon utility to communicate with any XR-1000 on the local network. Note that the XR-1000 Series does not have a console port, so Xircon has been specifically designed to substitute for the use of a console port. See "Secure Low Level Access to the Array" in Step 12 for more information about Xircon. For the best results, you may wish to connect your computer directly to the Array as described in the previous paragraph.
- If your browser reports a Security exception, accept it and continue on to the Array's Web Management Interface (WMI).
- At the login prompt, enter the default user name / password (the default is **admin** for both).

Name: Robin XR1230 (10.100.48.66)	
Current Status:	Logged Out
User Name:	admin
User Password:	*****

- You are now logged in to the Wireless Array


11) Configure the Array

- Click Express Setup

Xirrus XR1230H WiFi Array 

Status: Name: XR1000H [10.100.55.149] Uptime: 5 days, 17 hours, 37 mins

Array	Host Name:	XR1000H	
Network	Location Information:		
RF Monitor	Admin Contact:		
Stations	Admin Email:		
Statistics	Admin Phone:		
System Log	License Key:	DW90J-H706M-MY009	<input type="button" value="Apply"/>
IDS Event Log	SNMPv2 Settings		
Configuration	Enable SNMPv2:	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Express Setup	Read Only Community String:	*****	
Network	Read Write Community String:	*****	
Services	Gigabit Ethernet 1 Settings		
VLANs	Enable Interface:	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Security	Allow Management On Interface:	<input checked="" type="radio"/> Yes <input type="radio"/> No	
SSIDs	Configuration Server Protocol:	<input type="radio"/> DHCP <input checked="" type="radio"/> Static	
Groups	IP Settings:	Address: 10.100.55.149	Subnet Mask: 255.255.255.0
IAPs		Default Gateway: 10.100.55.1	<input type="button" value="Apply"/>
WDS	SSID Settings		
Filters	SSID (Wireless Network Name):		
Clusters	Wireless Security:	Open	
Tools		<input type="button" value="Apply SSID Settings"/>	
Help	Admin Settings		
System Tools	New Admin User (Replaces user "admin"):		
CU	New Admin Privilege Level:	1: read-write	
Options	New Admin Password:		
Logout	Confirm Admin Password:		
Log Messages		<input type="button" value="Apply Admin Settings"/>	
Critical 20	Time and Date Settings		
Warning 20	Current Array Date and Time:	Tue Oct 02 2012 04:19:29	
Information 716	Time Zone:	(GMT - 08:00) Pacific Time (US & Canada) Tijuana	
	Auto Adjust Daylight Savings:	<input checked="" type="checkbox"/>	
	Use Network Time Protocol:	<input type="radio"/> Yes <input checked="" type="radio"/> No	
	Adjust Time (hrs:min:sec):	4 : 10 : 15 AM <input type="button" value="Set Time"/>	
	Adjust Date (month/day/year):	10 / 02 / 2012 <input type="button" value="Set Date"/>	
	IAP Settings		
	Enable/Configure All IAPs:	<input type="button" value="Execute"/>	



Copyright © 2005-2012 by Xirrus, Inc.

- A license is needed to enable the full functionality of the Array. Without a license, the Array can be powered up and will only have a basic wireless network configuration including just one operating radio. The Array's license is not installed at the factory. Enter the key in the **License Key** field. The key was provided to you in an email as an attachment in the form of an Excel file (.xls). Enter the key exactly as it appears in the file. Click the **Apply** button.
- In the **Admin Settings** section, change both the default admin username and password to improve Array security. Enter **New Admin User** and **New Admin Password**, then **Confirm Admin Password**. Leave **New Admin Privilege Level** at read/write. Click **Apply Admin Settings** when done.

Be sure to record the new account name and password, because the default admin user will be deleted!
- If you make changes to the **SSID Settings** section, click the associated **Apply** button to apply your changes.

- Click **Save Changes to Flash** on the upper right to save your settings.
- Click **Execute** at the bottom of the page to set up/enable all IAPs (radios) automatically.
For improved security, you must also take the additional steps described in “Secure Low Level Access to the Array” in Step 12.
- With a basic configuration established the Wireless Array is now functional. Refer to the *Wireless Array User’s Guide* for additional configuration information. Look for the section titled *Performing the Express Setup Procedure* near the end of the *Installing the Wireless Array* chapter of the *Guide* for more details on Express Setup settings. The chapter titled *Configuring the Wireless Array* discusses all of the settings available for the Array.
Note: The channel set available in an outdoor application is different than indoor so some channels typically used will not be shown.

12) Secure Low Level Access to the Array

Management of the Xirrus Array is done via the Web Management Interface (WMI) or Command Line Interface (CLI). The Array also has a lower level interface: XBL (Xirrus Boot Loader), which allows access to more primitive commands. You won’t normally use XBL unless instructed to do so by Xirrus Customer Support. For proper security, you should replace the default XBL login username and password with your own, as instructed below. XBL has its own username and password, separate from the ArrayOS Admin User and Password (used for logging in to the WMI and CLI).

Xirrus also provides the Xircon utility for connecting to Arrays that are not reachable via the normal access methods (such as Secure Shell (SSH) or WMI) and that do not have a physical console port (XR-1000), or whose console port is not accessible. Xircon discovers Arrays on your network subnet and can then establish an encrypted console session to the Array via the network even if the Array IP configuration is incorrect. Xircon allows you to manage the Array using CLI, just as you would if connected to the console port. Xircon also has an option for easily accessing XBL.

Xircon access to the Array may be controlled. Since XR-1000 Array models do not have a console port, these models have Xircon access to both XBL and CLI enabled by default. For Arrays that do not have a console port, to avoid potentially being locked out of the Array, Xircon should always be enabled at the XBL level at least.

If you disable Xircon access to both XBL and CLI on XR-1000 models, you must ensure that you do not lose track of the username and password to log in to CLI/WMI! In this situation, there is no way to recover from a lost password, other than returning the Array to Xirrus. If you have Xircon access to XBL enabled, you can reset the password, but this recovery will require setting the unit to factory defaults with loss of all configuration data.

Use the following steps to replace the default XBL username and password. These steps use CLI commands.

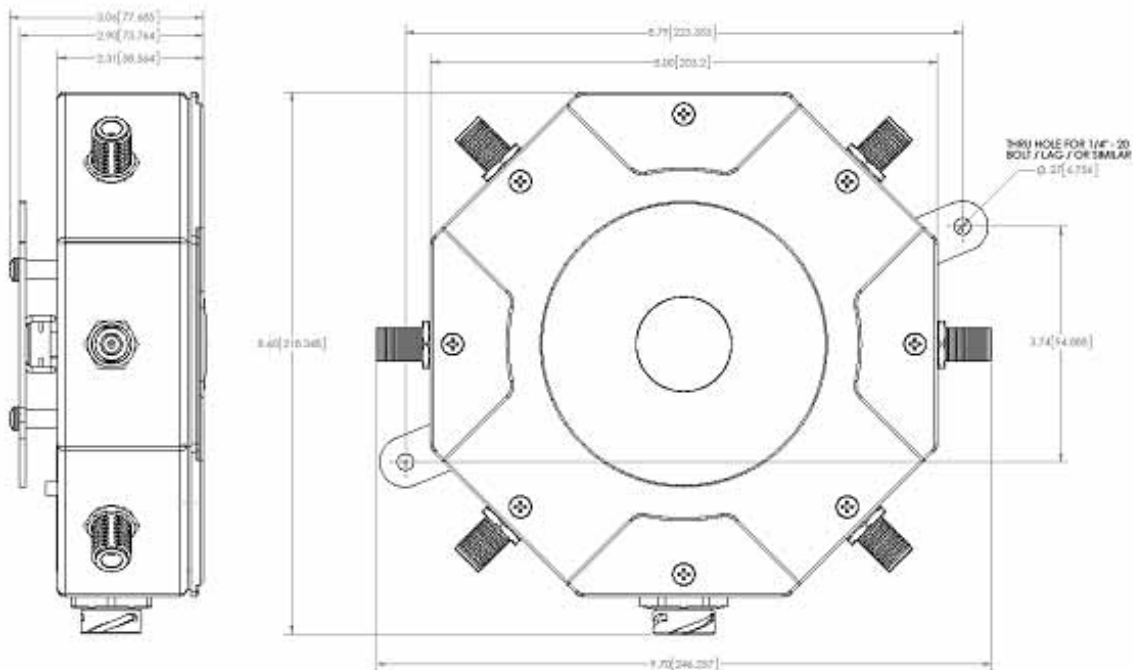
1. To access CLI via the WMI, click **CLI** under the **Tools** section on the left.
2. If Xircon access at the XBL level is to be allowed, use the following three commands to change the XBL username and password from the default values of **admin/admin**. In the example below, replace **newusername** and **newpassword** with your desired entries. Note that these entries are case-sensitive.

```
(config)#boot-env set username newusername
(config)#boot-env set password newpassword
(config)#save
```

3. It is possible to change Xircon access permission to allow Xircon to access the Array at the CLI level only, or at the XBL level only. See the *Xircon User Guide* for details.

Drawings







XR-1230H Dimensions









- Software used by the modular Access Points (APs) is covered by the Xirrus Software License and Product Warranty Agreement.
- Non-Modification Statement: Unauthorized changes or modifications to the device are not permitted. Use only Xirrus-approved external antennas supplied by the manufacturer. Modifications to the device will void the warranty and may violate FCC regulations.
- UL Statement: Use only with listed ITE product.
- Operating Frequency: The operating frequency in a wireless LAN is determined by the access point. It is important that the access point is correctly configured to meet the local regulations. If you have questions regarding the compliance of Xirrus products, please contact us at: Xirrus, Inc., 2101 Corporate Center Drive, Thousand Oaks, CA 91320, USA. Tel: 1.805.262.1600/1.800.947.7871 Toll Free in the US, Fax: 1.866.462.3980, www.xirrus.com
- The 2-GHz b/g/n radio operates in 2.4 GHz ISM band. It supports channels 1-11 in US, 1-13 in Europe, and 1-13 in Japan. It has two transmitters with a maximum total output power of 25dBm for 802.11b/g/n operation. Output power is configurable to 5 levels. It has three receivers that enables maximum-ratio combining (MRC).
- The 5-GHz a/n radio operates in the UNII-2 band (5.25 - 5.35 GHz), UNII-2 Extended/ETSI band (5.47 - 5.725 GHz), and the upper ISM band (5.725 - 5.850 GHz). It has two transmitters with a maximum total output power of 26 dBm for UNII-2 and Extended/ETSI bands for the A-domain. The total maximum output power for the upper ISM band is 28 dBm for A-domain. Power settings will change depending on the regulatory domain. Output power is configurable for 5 power levels in 3-dB steps. Its three receivers enable maximum-ratio combining (MRC).
- High power radars are allocated as primary users (meaning they have priority) in the 5250MHz to 5350MHz and 5650MHz to 5850MHz bands. These radars could cause interference and/or damage Wireless LAN devices.
- Calculating the Maximum Output Power: The regulatory limits for maximum output power are specified in EIRP (equivalent isotropic radiated power). The EIRP level of a device can be calculated by adding the gain of the antenna used (specified in dBi) to the output power available at the connector (specified in dBm).
- The FCC limits the amount of power this device can transmit. Power transmitted is a combination of the amplification of the signal and the antenna gain. The effective antenna gain (antenna gain minus cable loss) must be less than or equal to 6dBi at 5GHz and 4dBi at 2.4GHz.

Warnings

GENERAL SAFETY GUIDELINES

	WARNING: This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents.
	WARNING: Only trained and qualified personnel should be allowed to install, replace, or service this equipment.
	WARNING: Ultimate disposal of this product should be handled according to all national laws and regulations.
	WARNING: Incorrect installation of Xirrus Arrays may invalidate FCC, CE mark, or other regulatory compliance approvals. Customers are responsible for any legal violations from operation of un-approved equipment or incorrect installation.
	WARNING: Do not operate the Array near unshielded blasting caps or in an explosive environment unless the device has been modified to be especially qualified for such use.
	CAUTION: The liquid-tight adapters must be used on all input/output connections to the Array where the installation is a non-hazardous location (and conduit is not used).

POWER

	WARNING: Read the installation instructions before connecting the system to the power source.
	WARNING: Installation of the equipment must comply with local and national electrical codes.
	WARNING: This equipment must be externally grounded using a customer-supplied ground wire before power is applied. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.
	WARNING: Do not work on the system or connect or disconnect cables during periods of lightning activity.
	WARNING: To reduce the risk of fire, use only No. 26 AWG or larger telecommunication line cord.
	CAUTION: When the Array is installed outdoors or in a wet or damp location, the AC branch circuit that is powering the Injector should be provided with ground fault protection (GFCI), as required by Article 210 of the National Electrical Code (NEC).

	<p>CAUTION: Xirrus PoGE Injectors rely on the building’s installation for over current protection. Ensure that a fuse or circuit breaker no larger than 120 VAC, 15A (U.S.) or 240 VAC, 10A (International) is used on all current-carrying conductors.</p>
--	--

EXTERNAL ANTENNAS

	<p>WARNING: In order to comply with radio frequency (RF) exposure limits, the antennas for this product should be positioned no less than 20 cm from your body or nearby persons.</p>
	<p>WARNING: Do not locate the antenna near overhead power lines or other electric light or power circuits, or where it can come into contact with such circuits. When installing the antenna, take extreme care not to come into contact with such circuits, because they may cause serious injury or death. For proper installation and grounding of the antenna, please refer to national and local codes (for example, U.S.:NFPA 70, National Electrical Code, Article 810, Canada: Canadian Electrical Code, Section 54).</p>
	<p>This device has been designed to operate with antennas having a maximum gain of 4 dBi for 802.11 and 14 dBi for the sensor (802.15.4) radio in the 2.4 GHz band and 7 dBi in the 5 GHz band. Antennas having a gain greater than 6 dB are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.</p>
	<p>To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (EIRP) is not more than that permitted for successful communication.</p>

WiFi Alliance Certification



Federal Communications Commission (FCC) Statements & Instructions

FCC Declaration of Conformity Statement

This device complies with Part 15 of the FCC Rules, with operation subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause unwanted operation. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate RF energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful

interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following safety measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.

Consult the dealer or an experienced wireless technician for help. Use of a shielded twisted pair (STP) cable must be used for all Ethernet connections in order to comply with EMC requirements.

FCC-Specific Instructions

The FCC, National Telecommunications and Information Administration (NTIA), Federal Aviation Administration (FAA), and industry are working to resolve interference to Terminal Doppler Weather Radar (TDWR) systems used near airports that has occurred from some outdoor wireless systems operating in the 5470 MHz – 5725 MHz band. These wireless devices are subject to Section 15.407 of our rules and while operating as a master device they are required to implement radar detection and Dynamic Frequency Selection (DFS) functions.

- Devices must be professionally installed when operating in the 5470 – 5725 MHz band
- Any installation of either a master or a client device within 35 km of a TDWR location shall be separated by at least 30 MHz (center-to-center) from the TDWR operating frequency (as shown in the TDWR location at <http://www.spectrumbridge.com/udia/home.aspx>). This will require that channel 116 is not used in these locations.
- The installers and the operators must register the devices in the industry-sponsored database with the appropriate information regarding the location and operation of the device and installer information. A voluntary Wireless Internet Service Providers Association (WISPA) sponsored database has been developed that allows operators and installers to register the location information of the Unlicensed National Information Infrastructure (UNII) devices operating outdoors in the 5470 – 5725 MHz band within 35 km of any TDWR location (see <http://www.spectrumbridge.com/udia/home.aspx>). This database may be used by government agencies to expedite resolution of any interference to TDWRs.

FCC Safety Compliance Statement

The FCC with its action in ET Docket 96-8 has adopted a safety standard for human exposure to radio frequency (RF) electromagnetic energy emitted by FCC certified equipment. When used with approved Xirrus antennas, Xirrus XR products meet the uncontrolled environmental limits found in OET-65 and ANSI C95.1, 1991. Proper installation of this radio according to the instructions found in this manual will result in user exposure that is substantially below the FCC recommended limits.

Industry Canada Statements and Warnings

Industry Canada Notice and Marking: This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Xirrus Arrays are certified to the requirements of RSS-210. The use of this device in a system operating either partially or completely outdoors may require the user to obtain a license for the system according to the Canadian regulations. For further information, contact your local Industry Canada office.

RF Radiation Hazard Warning: To ensure compliance with FCC and Industry Canada RF exposure requirements, this device must be installed in a location where the antennas of the device will have a minimum distance of at least 30 cm (12 inches) from all persons. Using higher gain antennas and types of antennas not certified for use with this product is not allowed. The device shall not be co-located with another transmitter.

Installez l'appareil en veillant à conserver une distance d'au moins 30 cm entre les éléments rayonnants et les personnes. Cet avertissement de sécurité est conforme aux limites d'exposition définies par la norme CNR-102 relative aux fréquences radio.

High Power Radars: High power radars are allocated as primary users (meaning they have priority) in the 5250MHz to 5350MHz and 5650MHz to 5850MHz bands. These radars could cause interference and/or damage to Wireless LAN devices used in Canada.

Les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5 250 - 5 350 MHz et 5 650 - 5 850 MHz. Ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

EU Directive 1999/5/EC Compliance Information

This section contains compliance information for the Xirrus Wireless Array family of products. The compliance information contained in this section is relevant to the European Union and other countries that have implemented the EU Directive 1999/5/EC.

This declaration is only valid for configurations (combinations of software, firmware and hardware) provided and/or supported by Xirrus Inc. The use of software or firmware not supported/provided by Xirrus Inc. may result that the equipment is no longer compliant with the regulatory requirements.

Declaration of Conformity

Cesky [Czech] Toto zařízení je v souladu se základními požadavky a ostatními odpovídajícími ustanoveními Směrnice 1999/5/EC.

Dansk [Danish] Dette udstyr er i overensstemmelse med de væsentlige krav og andre relevante bestemmelser i Direktiv 1999/5/EF.

Deutsch [German] Dieses Gerät entspricht den grundlegenden Anforderungen und den weiteren entsprechenden Vorgaben der Richtlinie 1999/5/EU.

Eesti [Estonian] See seade vastab direktiivi 1999/5/EU olulistele nõuetele ja teistele asjakohastele sätetele.

English This equipment is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Español [Spain] Este equipo cumple con los requisitos esenciales así como con otras disposiciones de la Directiva 1999/5/CE.

Ελληνική [Greek] Αυτό το εξοπλισμό είναι σε συμμόρφωση με τις ουσιαστικές απαιτήσεις και άλλες σχετικές διατάξεις της Οδηγίας 1999/5/EC.

Français [French] Cet appareil est conforme aux exigences essentielles et aux autres dispositions pertinentes de la Directive 1999/5/EC.

Íslenska [Icelandic] Þetta tæki er samkvæmt grunnkröfum og öðrum viðeigandi ákvæðum Tilskipunar 1999/5/EC.

Italiano [Italian] Questo apparato è conforme ai requisiti essenziali ed agli altri principi sanciti dalla Direttiva 1999/5/CE.

Latviski [Latvian] Šī iekārta atbilst Direktīvas 1999/5/EK būtiskajā prasībām un citiem ar to saistītajiem noteikumiem.

Lietuvių [Lithuanian] Šis įrenginys tenkina 1995/5/EB Direktyvos esminius reikalavimus ir kitas šios direktyvos nuostatas.

Nederlands [Dutch] Dit apparaat voldoet aan de essentiële eisen en andere van toepassing zijnde bepalingen van de Richtlijn 1995/5/EC.

Malti [Maltese] Dan l-apparat huwa konformi mal-htigiet essenzjali u l-provedimenti l-oħra rilevanti tad-Direttiva 1999/5/EC.

Magyar [Hungarian] Ez a készülék teljesíti az alapvető követelményeket és más 1999/5/EK irányelvben meghatározott vonatkozó rendelkezéseket.

Norsk [Norwegian] Dette utstyret er i samsvar med de grunnleggende krav og andre relevante bestemmelser i EU-direktiv 1999/5/EF.

Polski [Polish] Urządzenie jest zgodne z ogólnymi wymaganiami oraz szczególnymi mi warunkami określony mi Dyrektywą. UE:1999/5/EC.

Português [Portuguese] Este equipamento está em conformidade com os requisitos essenciais e outras provisões relevantes da Directiva 1999/5/EC.

Slovensko [Slovenian] Ta naprava je skladna z bistvenimi zahtevami in ostalimi relevantnimi popoji Direktive 1999/5/EC.

Slovensky [Slovak] Toto zariadenie je v zhode so základnými požiadavkami a inými príslušnými nariadeniami direktiv: 1999/5/EC.

Suomi [Finnish] Tämä laite täyttää direktiivin 1999/5//EY olennaiset vaatimukset ja on siinä asetettujen muiden laitetta koskevien määräysten mukainen.

Svenska [Swedish] Denna utrustning är i överensstämmelse med de väsentliga kraven och andra relevanta bestämmelser i Direktiv 1999/5/EC.

Assessment Criteria: The following standards were applied during the assessment of the product against the requirements of the Directive 1999/5/EC:

- Radio: EN 301 893 and EN 300 328 (if applicable)
- EMC: EN 301 489-1 and EN 301 489-17
- Safety: EN 50371 to EN 50385 and EN 60601

CE Marking: For the Xirrus Wireless Array, the CE mark and Class-2 identifier opposite are affixed to the equipment and its packaging:



WEEE Compliance: Natural resources were used in the production of this equipment.



- This equipment may contain hazardous substances that could impact the health of the environment.
- If you need more information on collection, re-use and recycling systems, please contact your local or regional waste administration.
- Please contact Xirrus for specific information on the environmental performance of our products.

National Restrictions: In the majority of the EU and other European countries, the 2.4 GHz and 5 GHz bands have been made available for the use of Wireless LANs. The following table provides an overview of the regulatory requirements in general that are applicable for the 2.4 GHz and 5 GHz bands.

Frequency Band (MHz)	Max Power Level (EIRP) (mW)	Indoor	Outdoor
2400–2483.5	100	X	X**
5250–5350*	200	X	N/A
5470–5725*	1000	X	X

*Dynamic frequency selection and Transmit Power Control is required in these frequency bands.

**France is indoor use only in the upper end of the band.

The requirements for any country may change at any time. Xirrus recommends that you check with local authorities for the current status of their national regulations for both 2.4 GHz and 5 GHz wireless LANs. The following countries have additional requirements or restrictions than those listed in the above table:

Belgium: The Belgian Institute for Postal Services and Telecommunications (BIPT) must be notified of any outdoor wireless link having a range exceeding 300 meters. Xirrus recommends checking at www.bipt.be for more details.

Draadloze verbindingen voor buitengebruik en met een reikwijdte van meer dan 300 meter dienen aangemeld te worden bij het Belgisch Instituut voor postdiensten en telecommunicatie (BIPT). Zie www.bipt.be voor meer gegevens.

Les liaisons sans fil pour une utilisation en extérieur d'une distance supérieure à 300 mètres doivent être notifiées à l'Institut Belge des services Postaux et des Télécommunications (IBPT). Visitez www.bipt.be pour de plus amples détails.

Greece: A license from EETT is required for the outdoor operation in the 5470 MHz to 5725 MHz band. Xirrus recommends checking www.eett.gr for more details.

Η δη ιουργβάικτ ωνεξωτερικο ρουστη ζ νησυ νοτ των 5470–5725 MHz ε ιτρ ετάιωνο ετάά όάδειά της EETT, ου ορηγεβτάι στερά ά ό σ φωνη γν η του ΓΕΕΘΑ. Ερισσότερες λε τομ ρειεωστο www.eett.gr

Italy: This product meets the National Radio Interface and the requirements specified in the National Frequency Allocation Table for Italy. Unless this wireless LAN product is operating within the boundaries of the owner’s property, its use requires a “general authorization.” Please check with www.comunicazioni.it/it/ for more details.

Questo prodotto é conforme alla specifiche di Interfaccia Radio Nazionali e rispetta il Piano Nazionale di ripartizione delle frequenze in Italia. Se non viene installato all’interno del proprio fondo, l’utilizzo di prodotti wireless LAN richiede una “autorizzazione Generale.” Consultare www.comunicazioni.it/it/ per maggiori dettagli.

Norway, Switzerland and Liechtenstein: Although Norway, Switzerland and Liechtenstein are not EU member states, the EU Directive 1999/5/EC has also been implemented in those countries.

RF Exposure

Generic Information

The Xirrus Array products are designed to comply with the following national and international standards on Human Exposure to Radio Frequencies:

- US 47 Code of Federal Regulations Part 2 Subpart J
- American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers / IEEE C 95.1 (99)
- International Commission on Non Ionizing Radiation Protection (ICNIRP) 98
- Ministry of Health (Canada) Safety Code 6. Limits on Human Exposure to Radio Frequency Fields in the range from 3kHz to 300 GHz
- Australia Radiation Protection Standard

To ensure compliance with various national and international Electromagnetic Field (EMF) standards, the system should only be operated with Xirrus approved antennas and accessories.

Declaration on Conformity

This access point product has been found to be compliant to the requirements set forth in CFR 47 Section 1.1307 addressing RF Exposure from radio frequency devices as defined in Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.

Use is permitted with antenna gain not exceeding 4 dBi for 802.11 and 14 dBi for the sensor (802.15.4) radio in the 2.4-GHz band, and 7 dBi in the 5-GHz band, as described in filing, with a minimum separation distance of 20 cm between the antenna and all persons during normal operation.

Only antennas provided by Xirrus for use with the product should be installed. The use of any other antennas may cause damage to the access points or violate regulatory emission limits and will not be supported by Xirrus.

International Guidelines for Exposure to Radio Waves

The Xirrus Arrays include radio transmitters and receivers. It is designed not to exceed the limits for exposure to radio waves (radio frequency electromagnetic fields) recommended by international guidelines. The guidelines were developed by an independent scientific organization (ICNIRP) and include a substantial safety margin designed to ensure the safety of all persons, regardless of age and health.

As such the systems are designed to be operated as to avoid contact with the antennas by the end user. It is recommended to set the system in a location where the antennas can remain at least a minimum distance as specified from the user in accordance to the regulatory guidelines which are designed to reduce the overall exposure of the user or operator.

Separation Distance		
MPE	Distance	Limit
0.79 mW/cm ²	17.79 cm (7 inches)	1.00 mW/cm ²

The World Health Organization has stated that present scientific information does not indicate the need for any special precautions for the use of wireless devices. They recommend that if you are interested in further reducing your exposure then you can easily do so by reorienting antennas away from the user or placing the antennas at a greater separation distance than recommended.

FCC Guidelines for Exposure to Radio Waves

The 1550 series device includes a radio transmitter and receiver. It is designed not to exceed the limits for exposure to radio waves (radio frequency electromagnetic fields) as referenced in FCC Part 1.1310. The guidelines are based on IEEE ANSI C 95.1 (92) and include a substantial safety margin designed to ensure the safety of all persons, regardless of age and health.

As such the systems are designed to be operated as to avoid contact with the antennas by the end user. It is recommended to set the system in a location where the antennas can remain at least a minimum distance as specified from the user in accordance to the regulatory guidelines which are designed to reduce the overall exposure of the user or operator.

The device has been tested and found compliant with the applicable regulations as part of the radio certification process.

Separation Distance		
MPE	Distance	Limit
0.79 mW/cm ²	17.79 cm (7 inches)	1.00 mW/cm ²

The US Food and Drug Administration has stated that present scientific information does not indicate the need for any special precautions for the use of wireless devices. The FCC

recommends that if you are interested in further reducing your exposure then you can easily do so by reorienting antennas away from the user or placing the antennas at a greater separation distance than recommended or lowering the transmitter power output.

Industry Canada Guidelines for Exposure to Radio Waves

The Xirrus Arrays include radio transmitters and receivers. It is designed not to exceed the limits for exposure to radio waves (radio frequency electromagnetic fields) as referenced in Health Canada Safety Code 6. The guidelines include a substantial safety margin designed into the limit to ensure the safety of all persons, regardless of age and health.

As such the systems are designed to be operated as to avoid contact with the antennas by the end user. It is recommended to set the system in a location where the antennas can remain at least a minimum distance as specified from the user in accordance to the regulatory guidelines which are designed to reduce the overall exposure of the user or operator.

Separation Distance		
MPE	Distance	Limit
0.79 mW/cm ²	17.79 cm (7 inches)	1.00 mW/cm ²

Health Canada states that present scientific information does not indicate the need for any special precautions for the use of wireless devices. They recommend that if you are interested in further reducing your exposure you can easily do so by reorienting antennas away from the user, placing the antennas at a greater separation distance than recommended, or lowering the transmitter power output.

Additional Information on RF Exposure

You can find additional information on the subject at the following links:

- FCC Bulletin 56: Questions and Answers about Biological Effects and Potential Hazards of Radio Frequency Electromagnetic Fields
- FCC Bulletin 65: Evaluating Compliance with the FCC guidelines for Human Exposure to Radio Frequency Electromagnetic Fields
- FCC Bulletin 65C (01-01): Evaluating Compliance with the FCC guidelines for Human Exposure to Radio Frequency Electromagnetic Fields: Additional Information for Evaluating Compliance for Mobile and Portable Devices with FCC limits for Human Exposure to Radio Frequency Emission

You can obtain additional information from the following organizations:

- World Health Organization Internal Commission on Non-Ionizing Radiation Protection at this URL: www.who.int/emf
- United Kingdom, National Radiological Protection Board at this URL: www.nrpb.org.uk
- Cellular Telecommunications Association at this URL: www.wow-com.com
- The Mobile Manufacturers Forum at this URL: www.mmfa.org

Software License and Product Warranty Agreement

THIS SOFTWARE LICENSE AGREEMENT (THE “AGREEMENT”) IS A LEGAL AGREEMENT BETWEEN YOU (“CUSTOMER”) AND LICENSOR (AS DEFINED BELOW) AND GOVERNS THE USE OF THE SOFTWARE INSTALLED ON THE PRODUCT (AS DEFINED BELOW). IF YOU ARE AN EMPLOYEE OR AGENT OF CUSTOMER, YOU HEREBY REPRESENT AND WARRANT TO LICENSOR THAT YOU HAVE THE POWER AND AUTHORITY TO ACCEPT AND TO BIND CUSTOMER TO THE TERMS AND CONDITIONS OF THIS AGREEMENT (INCLUDING ANY THIRD PARTY TERMS SET FORTH HEREIN). IF YOU DO NOT AGREE TO ALL OF THE TERMS OF THIS AGREEMENT RETURN THE PRODUCT AND ALL ACCOMPANYING MATERIALS (INCLUDING ALL DOCUMENTATION) TO THE RELEVANT VENDOR FOR A FULL REFUND OF THE PURCHASE PRICE THEREFORE.

CUSTOMER UNDERSTANDS AND AGREES THAT USE OF THE PRODUCT AND SOFTWARE SHALL BE DEEMED AN AGREEMENT TO THE TERMS AND CONDITIONS GOVERNING SUCH SOFTWARE AND THAT CUSTOMER IS BOUND BY AND BECOMES A PARTY TO THIS AGREEMENT.

1.0 DEFINITIONS

1.1 “Documentation” means the user manuals and all other all documentation, instructions or other similar materials accompanying the Software covering the installation, application, and use thereof.

1.2 “Licensor” means XIRRUS and its suppliers.

1.3 “Product” means a multi-radio access point containing four or more distinct radios capable of simultaneous operation on four or more non-overlapping channels.

1.4 “Software” means, collectively, each of the application and embedded software programs delivered to Customer in connection with this Agreement. For purposes of this Agreement, the term Software shall be deemed to include any and all Documentation and Updates provided with or for the Software.

1.5 “Updates” means any bug-fix, maintenance or version release to the Software that may be provided to Customer from Licensor pursuant to this Agreement or pursuant to any separate maintenance and support agreement entered into by and between Licensor and Customer.

2.0 GRANT OF RIGHTS

2.1 Software. Subject to the terms and conditions of this Agreement, Licensor hereby grants to Customer a perpetual, non-exclusive, non-sublicenseable, non-transferable right and license to use the Software solely as installed on the Product in accordance with the accompanying Documentation and for no other purpose.

2.2 Ownership. The license granted under Sections 2.1 above with respect to the Software does not constitute a transfer or sale of Licensor's or its suppliers' ownership interest in or to the Software, which is solely licensed to Customer. The Software is protected by both national and international intellectual property laws and treaties. Except for the express licenses granted to

the Software, Licensor and its suppliers retain all rights, title and interest in and to the Software, including (i) any and all trade secrets, copyrights, patents and other proprietary rights therein or thereto or (ii) any Marks (as defined in Section 2.3 below) used in connection therewith. In no event shall Customer remove, efface or otherwise obscure any Marks contained on or in the Software. All rights not expressly granted herein are reserved by Licensor.

2.3 Copies. Customer shall not make any copies of the Software but shall be permitted to make a reasonable number of copies of the related Documentation. Whenever Customer copies or reproduces all or any part of the Documentation, Customer shall reproduce all and not efface any titles, trademark symbols, copyright symbols and legends, and other proprietary markings or similar indicia of origin (“Marks”) on or in the Documentation.

2.4 Restrictions. Customer shall not itself, or through any parent, subsidiary, affiliate, agent or other third party (i) sell, rent, lease, license or sublicense, assign or otherwise transfer the Software, or any of Customer’s rights and obligations under this Agreement except as expressly permitted herein; (ii) decompile, disassemble, or reverse engineer the Software, in whole or in part, provided that in those jurisdictions in which a total prohibition on any reverse engineering is prohibited as a matter of law and such prohibition is not cured by the fact that this Agreement is subject to the laws of the State of California, Licensor agrees to grant Customer, upon Customer’s written request to Licensor, a limited reverse engineering license to permit interoperability of the Software with other software or code used by Customer; (iii) allow access to the Software by any user other than by Customer’s employees and contractors who are bound in writing to confidentiality and non-use restrictions at least as protective as those set forth herein; (iv) except as expressly set forth herein, write or develop any derivative software or any other software program based upon the Software; (v) use any computer software or hardware which is designated to defeat any copy protection or other use limiting device, including any device intended to limit the number of users or devices accessing the Product; (vi) disclose information about the performance or operation of the Product or Software to any third party without the prior written consent of Licensor; or (vii) engage a third party to perform benchmark or functionality testing of the Product or Software.

3.0 LIMITED WARRANTY AND LIMITATION OF LIABILITY

3.1 Limited Warranty & Exclusions. Licensor warrants that the Software will perform in substantial accordance with the specifications therefore set forth in the Documentation for a period of ninety [90] days after Customer’s acceptance of the terms of this Agreement with respect to the Software (“Warranty Period”). If during the Warranty Period the Software or Product does not perform as warranted, Licensor shall, at its option, correct the relevant Product and/or Software giving rise to such breach of performance or replace such Product and/or Software free of charge. **THE FOREGOING ARE CUSTOMER’S SOLE AND EXCLUSIVE REMEDIES FOR BREACH OF THE FOREGOING WARRANTY. THE WARRANTY SET FORTH ABOVE IS MADE TO AND FOR THE BENEFIT OF CUSTOMER ONLY.** The warranty will apply only if (i) the Software has been used at all times and in accordance with the instructions for use set forth in the Documentation and this Agreement; (ii) no modification, alteration or addition has been made to the Software by persons other than Licensor or

Licensor's authorized representative; and (iii) the Software or Product on which the Software is installed has not been subject to any unusual electrical charge.

3.2 **DISCLAIMER.** EXCEPT AS EXPRESSLY STATED IN THIS SECTION 3, ALL ADDITIONAL CONDITIONS, REPRESENTATIONS, AND WARRANTIES, WHETHER IMPLIED, STATUTORY OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, SATISFACTORY QUALITY, ACCURACY, AGAINST INFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE, ARE HEREBY DISCLAIMED BY LICENSOR AND ITS SUPPLIERS. THIS DISCLAIMER SHALL APPLY EVEN IF ANY EXPRESS WARRANTY AND LIMITED REMEDY OFFERED BY LICENSOR FAILS OF ITS ESSENTIAL PURPOSE. ALL WARRANTIES PROVIDED BY LICENSOR ARE SUBJECT TO THE LIMITATIONS OF LIABILITY SET FORTH IN THIS AGREEMENT.

3.3 **HAZARDOUS APPLICATIONS.** THE SOFTWARE IS NOT DESIGNED OR INTENDED FOR USE IN HAZARDOUS ENVIRONMENTS REQUIRING FAIL SAFE PERFORMANCE, SUCH AS IN THE OPERATION OF A NUCLEAR FACILITY, AIRCRAFT NAVIGATION OR COMMUNICATIONS SYSTEMS, AIR TRAFFIC CONTROLS OR OTHER DEVICES OR SYSTEMS IN WHICH A MALFUNCTION OF THE SOFTWARE WOULD RESULT IN FORSEEABLE RISK OF INJURY OR DEATH TO THE OPERATOR OF THE DEVICE OR SYSTEM OR TO OTHERS ("HAZARDOUS APPLICATIONS"). CUSTOMER ASSUMES ANY AND ALL RISKS, INJURIES, LOSSES, CLAIMS AND ANY OTHER LIABILITIES ARISING OUT OF THE USE OF THE SOFTWARE IN ANY HAZARDOUS APPLICATIONS.

3.4 **Limitation of Liability.**

(a) **TOTAL LIABILITY.** NOTWITHSTANDING ANYTHING ELSE HEREIN, ALL LIABILITY OF LICENSOR AND ITS SUPPLIERS UNDER THIS AGREEMENT SHALL BE LIMITED TO THE AMOUNT PAID BY CUSTOMER FOR THE RELEVANT SOFTWARE, OR PORTION THEREOF, THAT GAVE RISE TO SUCH LIABILITY OR ONE HUNDRED UNITED STATES DOLLARS (US\$100), WHICHEVER IS GREATER. THE LIABILITY OF LICENSOR AND ITS SUPPLIERS UNDER THIS SECTION SHALL BE CUMULATIVE AND NOT PER INCIDENT.

(b) **DAMAGES.** IN NO EVENT SHALL LICENSOR, ITS SUPPLIERS OR THEIR RELEVANT SUBCONTRACTORS BE LIABLE FOR (A) ANY INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, LOST PROFITS OR LOST OR DAMAGED DATA, OR ANY INDIRECT DAMAGES, WHETHER ARISING IN CONTRACT, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHERWISE OR (B) ANY COSTS OR EXPENSES FOR THE PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES IN EACH CASE, EVEN IF LICENSOR OR ITS SUPPLIERS HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES.

3.5 **Exclusions.** SOME JURISDICTIONS DO NOT PERMIT THE LIMITATIONS OF LIABILITY AND LIMITED WARRANTIES SET FORTH UNDER THIS AGREEMENT. IN THE EVENT YOU ARE LOCATED IN ANY SUCH JURISDICTION, THE FOREGOING LIMITATIONS SHALL APPLY ONLY TO THE MAXIMUM EXTENT PERMITTED IN SUCH JURISDICTIONS. IN NO EVENT SHALL THE FOREGOING EXCLUSIONS AND LIMITATIONS ON DAMAGES

BE DEEMED TO APPLY TO ANY LIABILITY BASED ON FRAUD, WILLFUL MISCONDUCT, GROSS NEGLIGENCE OR PERSONAL INJURY OR DEATH.

4.0 CONFIDENTIAL INFORMATION

4.1 Generally. The Software (and its accompanying Documentation) constitutes Licensor's and its suppliers' proprietary and confidential information and contains valuable trade secrets of Licensor and its suppliers ("Confidential Information"). Customer shall protect the secrecy of the Confidential Information to the same extent it protects its other valuable, proprietary and confidential information of a similar nature but in no event shall Customer use less than reasonable care to maintain the secrecy of the Confidential Information. Customer shall not use the Confidential Information except to exercise its rights or perform its obligations as set forth under this Agreement. Customer shall not disclose such Confidential Information to any third party other than subject to non-use and non-disclosure obligations at least as protective of a party's right in such Confidential Information as those set forth herein.

4.2 Return of Materials. Customer agrees to (i) destroy all Confidential Information (including deleting any and all copies contained on any of Customer's Designated Hardware or the Product) within fifteen (15) days of the date of termination of this Agreement or (ii) if requested by Licensor, return, any Confidential Information to Licensor within thirty (30) days of Licensor's written request.

5.0 TERM AND TERMINATION

5.1 Term. Subject to Section 5.2 below, this Agreement will take effect on the Effective Date and will remain in force until terminated in accordance with this Agreement.

5.2 Termination Events. This Agreement may be terminated immediately upon written notice by either party under any of the following conditions: (a) If the other party has failed to cure a breach of any material term or condition under the Agreement within thirty (30) days after receipt of notice from the other party; or

(b) Either party ceases to carry on business as a going concern, either party becomes the object of the institution of voluntary or involuntary proceedings in bankruptcy or liquidation, which proceeding is not dismissed within ninety (90) days, or a receiver is appointed with respect to a substantial part of its assets.

5.3 Effect of Termination.

(a) Upon termination of this Agreement, in whole or in part, Customer shall pay Licensor for all amounts owed up to the effective date of termination. Termination of this Agreement shall not constitute a waiver for any amounts due.

(b) The following Sections shall survive the termination of this Agreement for any reason: Sections 1, 2.2, 2.4, 3, 4, 5.3, and 6.

(c) No later than thirty (30) days after the date of termination of this Agreement by Licensor, Customer shall upon Licensor's instructions either return the Software and all copies thereof; all Documentation relating thereto in its possession that is in tangible form or destroy the same (including any copies thereof contained on Customer's Designated Hardware). Customer shall

furnish Licensor with a certificate signed by an executive officer of Customer verifying that the same has been done.

6. MISCELLANEOUS

If Customer is a corporation, partnership or similar entity, then the license to the Software and Documentation that is granted under this Agreement is expressly conditioned upon and Customer represents and warrants to Licensor that the person accepting the terms of this Agreement is authorized to bind such entity to the terms and conditions herein. If any provision of this Agreement is held to be invalid or unenforceable, it will be enforced to the extent permissible and the remainder of this Agreement will remain in full force and effect. During the course of use of the Software, Licensor may collect information on your use thereof; you hereby authorize Licensor to use such information to improve its products and services, and to disclose the same to third parties provided it does not contain any personally identifiable information. The express waiver by either party of any provision, condition or requirement of this Agreement does not constitute a waiver of any future obligation to comply with such provision, condition or requirement. Customer and Licensor are independent parties. Customer may not export or re-export the Software or Documentation (or other materials) without appropriate United States, European Union and foreign government licenses or in violation of the United State's Export Administration Act or foreign equivalents and Customer shall comply with all national and international laws governing the Software. This Agreement will be governed by and construed under the laws of the State of California and the United States as applied to agreements entered into and to be performed entirely within California, without regard to conflicts of laws provisions thereof and the parties expressly exclude the application of the United Nations Convention on Contracts for the International Sales of Goods and the Uniform Computer Information Transactions Act (as promulgated by any State) to this Agreement. Suits or enforcement actions must be brought within, and each party irrevocably commits to the exclusive jurisdiction of, the state and federal courts located in Ventura County, California. Customer may not assign this Agreement by operation of law or otherwise, without the prior written consent of Licensor and any attempted assignment in violation of the foregoing shall be null and void. This Agreement cancels and supersedes all prior agreements between the parties. This Agreement may not be varied except through a document agreed to and signed by both parties. Any printed terms and conditions contained in any Customer purchase order or in any Licensor acknowledgment, invoice or other documentation relating to the Software shall be deemed deleted and of no force or effect and any additional typed and/or written terms and conditions contained shall be for administrative purposes only, i.e. to identify the types and quantities of Software to be supplied, line item prices and total price, delivery schedule, and other similar ordering data, all in accordance with the provisions of this Agreement.

Hardware Warranty Agreement

PLEASE READ THIS AGREEMENT CAREFULLY BEFORE USING THIS PRODUCT BY USING THIS PRODUCT, YOU ACKNOWLEDGE THAT YOU HAVE READ AND UNDERSTOOD ALL THE TERMS AND CONDITIONS OF THIS AGREEMENT AND THAT YOU ARE CONSENTING TO BE BOUND BY THIS AGREEMENT. IF YOU DO NOT AGREE

TO ALL OF THE TERMS OF THIS AGREEMENT, RETURN THE UNUSED PRODUCT TO THE PLACE OF PURCHASE FOR A FULL REFUND.

LIMITED WARRANTY. Xirrus warrants that for a period of one year from the date of purchase by the original purchaser ("Customer"): (i) the Xirrus Equipment ("Equipment") will be free of defects in materials and workmanship under normal use; and (ii) the Equipment substantially conforms to its published specifications. Except for the foregoing, the Equipment is provided AS IS. This limited warranty extends only to Customer as the original purchaser. Customer's exclusive remedy and the entire liability of Xirrus and its suppliers under this limited warranty will be, at Xirrus' option, repair, replacement, or refund of the Equipment if reported (or, upon request, returned) to the party supplying the Equipment to Customer. In no event does Xirrus warrant that the Equipment is error free or that Customer will be able to operate the Equipment without problems or interruptions.

This warranty does not apply if the Equipment (a) has been altered, except by Xirrus, (b) has not been installed, operated, repaired, or maintained in accordance with instructions supplied by Xirrus, (c) has been subjected to abnormal physical or electrical stress, misuse, negligence, or accident, or (d) is used in ultrahazardous activities.

DISCLAIMER. EXCEPT AS SPECIFIED IN THIS WARRANTY, ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS, AND WARRANTIES INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE, ARE HEREBY EXCLUDED TO THE EXTENT ALLOWED BY APPLICABLE LAW.

IN NO EVENT WILL XIRRUS OR ITS SUPPLIERS BE LIABLE FOR ANY LOST REVENUE, PROFIT, OR DATA, OR FOR SPECIAL, INDIRECT, CONSEQUENTIAL, INCIDENTAL, OR PUNITIVE DAMAGES HOWEVER CAUSED AND REGARDLESS OF THE THEORY OF LIABILITY ARISING OUT OF THE USE OF OR INABILITY TO USE THE EQUIPMENT EVEN IF XIRRUS OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. In no event shall Xirrus' or its suppliers' liability to Customer, whether in contract, tort (including negligence), or otherwise, exceed the price paid by Customer.

The foregoing limitations shall apply even if the above-stated warranty fails of its essential purpose. SOME STATES DO NOT ALLOW LIMITATION OR EXCLUSION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES.

The above warranty DOES NOT apply to any evaluation Equipment made available for testing or demonstration purposes. All such Equipment is provided AS IS without any warranty whatsoever.

Customer agrees the Equipment and related documentation shall not be used in life support systems, human implantation, nuclear facilities or systems or any other application where failure could lead to a loss of life or catastrophic property damage, or cause or permit any third party to do any of the foregoing. All information or feedback provided by Customer to Xirrus with respect to the Product shall be Xirrus' property and deemed confidential information of

Xirrus. Equipment including technical data, is subject to U.S. export control laws, including the U.S. Export Administration Act and its associated regulations, and may be subject to export or import regulations in other countries. Customer agrees to comply strictly with all such regulations and acknowledges that it has the responsibility to obtain licenses to export, re-export, or import Equipment. This Agreement shall be governed by and construed in accordance with the laws of the State of California, United States of America, as if performed wholly within the state and without giving effect to the principles of conflict of law. If any portion hereof is found to be void or unenforceable, the remaining provisions of this Warranty shall remain in full force and effect. This Warranty constitutes the entire agreement between the parties with respect to the use of the Equipment. Manufacturer is Xirrus, Inc. 2101 Corporate Center Drive Thousand Oaks, CA 91320.



1.800.947.7871 Toll Free in the US
+1.805.262.1600 Sales
+1.805.262.1601 Fax
2101 Corporate Center Drive
Thousand Oaks, CA. 91320 USA

To learn more visit:
xirrus.com or
email: [info @ xirrus.com](mailto:info@xirrus.com)