

#### Procedure for Configuring Radius Servers

- 1. Radius Server Mode: Choose Internal if you want to use the XS-3900's internal RADIUS server, or choose External to use an external RADIUS server.
- 2. **Primary IP Address**: If you are using an external RADIUS server, enter the primary server's IP address.
- **3. Primary Port Number**: If you are using an external RADIUS server, enter the primary port number.
- 4. Secondary IP Address (optional): If desired, enter the secondary RADIUS server's IP address.

If the primary RADIUS server becomes off-line, the Array will "failover" to the secondary RADIUS server (defined here).

- 5. Secondary Port Number: If desired, enter the secondary port number.
- 6. **Timeout**: Define the maximum idle time (in seconds) before the RADIUS session times out. The default is 600 seconds.
- 7. **Primary Shared Secret / Verify Secret**: If you are using RADIUS, enter the primary shared secret, then re-enter the primary shared secret to verify that you typed it correctly.
- 8. Secondary Shared Secret / Verify Secret: If you are using RADIUS, enter the secondary shared secret, then re-enter the secondary shared secret to verify that you typed it correctly.
- 9. Click on the **Apply** button to apply the new settings to this session.
- **10.** Click on the **Save** button to save your changes (otherwise your new settings will not take effect).



#### **Radius User**

This page allows you to manage local RADIUS user accounts (create, modify and delete). When finished, click on the **Save** button to save your changes.

XS-3900 Wireless LA	N Array		XIRRUS
Array Status	RADIUS User Management		
Express Set-Up	New User Name:	New User	
INETWORK Interfaces	User Password:		
SSID	Verify Password:		
Security	SSID: (Network Name)	xirrus 🗸	Create
Radius Server	,		
Radius User MAC Access List Admin Management	User Management:	BillRadiusTest	
Rogue AP List Stations	Here Deserved		Delete
Services	User Password		
Array Info	Verify Password:		
Tools	SSID: (Network Name)	xirrus 💌	Modify
Event Log			Save
ABG3 ABG4 ABG3 ABG3 ABG3 ABG3 ABG3 ABG3 ABG3 ABG3			
Critical Msgs: 3			
Warning Msgs: 0 General Msgs: 30			
∟ocation:	Name: Xirrus_WLAN_Array	Gigabit 1 IP: 10.0.1.2	a (

Figure 79. WMI: Radius User Page



#### Procedure for Configuring Radius Users

- **1. New User Name**: Enter a new RADIUS user name.
- 2. User Password: Enter a password for this user.
- **3. Verify Password**: Re-enter the user password to verify that you typed it correctly.
- **4. SSID (Network Name)**: Choose an SSID from the pull-down list (this will be the only SSID a user can associate to).
- 5. Click on the **Create User** button to add this user to the list.

#### **Editing Radius Users**

- 6. User Management: If you want to edit an existing RADIUS user account, select the user from the list. You must now enter the user password and select an SSID.
  - a. User Password: Enter the password of the user account you want to edit.
  - **b.** Verify Password: Re-enter the password to verify that you typed it correctly.
  - c. SSID (Network Name): Choose an SSID from the pull-down list.

When you have finished making your edits, click on the **Modify** button to apply the changes.

- 7. Alternatively, you can delete users by selecting the user from the list and clicking on the **Delete** button.
- 8. Click on the **Save** button to save your changes (otherwise your new settings will not take effect).



## MAC Access List

This page allows you to create new MAC access lists, delete existing lists, and add/remove MAC addresses. When finished, click on the **Save** button to save your changes.

XS-3900 Wireless LAN	N Array		xirrus
Array Status	MAC Access List Create/Delete		
Express Set-Up	MAC Access List Type:	ODisabled 💿 Allow List	O Deny List Modify
Network Interfaces     IAP Interfaces     SSID	New MAC Address:		Add
Security Security Management Radius Server Radius User MAC Access List Admin Management	MAC Access List Management:	00:09:2b:65:47:ae 00:10:5b:96:47:fb	
<ul> <li>Rogue AP List</li> </ul>			Delete
Stations			Save
Array Info Tools Show Config Event Log As As As As A As As As As A As As A			
General Msgs: 38			
Location:	Name: Xirrus_WLAN_Array	Gigabit 1 IP: 10.0.1.2	a 🛛

Figure 80. WMI: MAC Access List Page



## Procedure for Configuring MAC Access Lists

- MAC Access List Type: Select the MAC Access List type—either Disabled, Allow List or Deny List, then click on the Modify button to apply your changes.
  - Allow List: Only allows these MAC addresses to associate to the Array.
  - **Deny List**: Allows all MAC addresses except the addresses defined in this list.



*In addition to these lists, other authentication methods (for example, RADIUS) are still enforced for users.* 

- 2. New MAC Address: If you want to add a MAC address to the ACL, enter the new MAC address here, then click on the Add button. The MAC address is added to the ACL.
- 3. MAC Access List Management: You can delete a MAC Access List by selecting the list you want to delete then clicking on the **Delete** button.
- 4. Click on the **Save** button to save your changes (otherwise your new settings will not take effect).



## Admin Management

This page allows you to manage network administrator accounts (create, modify and delete). It also allows you to limit account access to a read only status. When finished, click on the **Save** button to save your changes.

XS-3900 Wireless	LAN Array		XIRRUS
Array Status	Admin Management		
Express Set-Up	New Admin ID:	New Admin	
Network Interfaces	Privilege Level:	Read     Read/Write	
<ul> <li>SSID</li> </ul>	Admin Password:		
<ul> <li>Security</li> <li>Security Management</li> </ul>	Verify Password:		Create
Radius Server Radius User MAC Access List Admin Managemer	Dt Admin ID.	admin	
Rogue AP List Stations			Delete
Services	Privilege Level:	Read  Read/Write	
Array Into	Admin Password:	••••••••	
Show Config	Verify Password:	••••••	Modify
Event Log			Save
A11 A12 A1 ABG4 ABG1 A10 A2			
A8 A4 ABG3 ABG2 A7 A6 A5	•		
<ul> <li>Critical Msgs:</li> <li>Warning Msgs;</li> </ul>	3 0		
General Msgs:	38		
Location:	Name: Xirrus_WLAN_Array	Gigabit 1 IP: 10.0.1.2	e 10

Figure 81. WMI: Admin Management Page



#### Procedure for Creating Network Administrator Accounts

- **1.** New Admin ID: Enter a meaningful description for this new network administrator ID.
- 2. **Privilege Level**: Choose **Read** to restrict this administrator ID to read only status, or choose **Read/Write** if you want to give this administrator ID full read/write privileges. In the read only mode, administrators cannot save changes to configurations.
- 3. Admin Password: Enter a password for this ID.
- 4. Verify Password: Re-enter the password in this field to verify that you typed the password correctly. If you do not re-enter the correct password, an error message is displayed).
- 5. Click on the **Create** button to add this administrator ID to the list.

#### **Editing Network Administrator Accounts**

- 6. Admin ID: Choose the administrator ID you want to edit or delete from the list. If you are deleting the selecting administrator ID, click on the **Delete** button, otherwise go to Step 7.
- 7. **Privilege Level**: Choose **Read** to restrict the selected administrator ID to read only status, or choose **Read/Write** if you want to give this administrator ID full privileges.
- 8. Admin Password: Enter the password for the selected administrator ID.
- **9. Verify Password**: Re-enter the password in the right field (this field must match the Admin Password field).
- 10. Click on the **Modify** button to apply the new settings to this session.
- **11.** Click on the **Save** button to save your changes (otherwise your new settings will not take effect).



## **Rogue AP List**

This page displays rogue APs, according to the list you select (either Unknown, Known or Approved). In addition, you can sort the results based on the following parameters:

- SSID
- BSSID
- Channel
- RSSI
- Secure
- IP Address

You can refresh the list at any time by clicking on the **Refresh** button.

XS-3900 Wireless LA	N Array					XIRRUS
Array Status	Rogue AP L	.ist				
Express Set-Up	Select List:		Unknown 🔽			
Network Interfaces	Salast Sart					
<ul> <li>SSID</li> </ul>	Select Solt		3310			
Security	SSID	BSSID	Channel	RSSI	Security	IP Address
Security Management						Refresh
Admin Management						
Rogue AP List						
Rogue Control List						
Services	-					
Array Info	-					
Tools	-					
Show Config	-					
Event Log						
Asi Al2 ABG4 ABG4 ABG1 ABG3 ABG3 ABG3 ABG3 ABG3 ABG3 ABG3 ABG4 ABG4 ABG4 ABG4 ABG4 ABG4 ABG4 ABG4						
Critical Msgs: 3						
• Warning Msgs: 0						
General Msgs: 46						
Location:	N	ame: Xirrus_WLAN_Arra	ay Gi	gabit 1 IP: 10.0.1.2		é (i





## **Rogue Control List**

This page allows you to set up a control list for rogue APs, based on a type that you define. When finished, click on the **Save** button to save your changes.

XS-3900 Wireless LA	N Array		xirrus
Array Status	Create Rogue Control List		
Express Set-Up	New Roque SSID:	New Roque Control	
Network Interfaces	Pagua Cantral Type:	Approved	Create
IAP Interfaces	Rogue Control Type.	C Known C Approved	Credite
<ul> <li>SSIU</li> <li>Samitu</li> </ul>	-	Bill Roque Test	
<ul> <li>Security</li> </ul>			
Security Management			
Radius Jerver Radius Hear			
MAC Anness List	Rogue Control List:		
Admin Management			
Rogue AP List			
Rogue Control List			Delete
Stations	Press Cristal Trans		Maalifee
Services	Rogue Control Type:	Known O Approved	Moully
Array Info			Save
Tools			
Show Config			
Event Log			
All AlZ Al ABGA ABGI Al9 A3 A3 A8 A4 ABG3 ABG2 A7 A6 A5			
Critical Msgs: 3			
• Warning Msgs: 0			
General Msgs: 46			
Location:	Name: Xirrus_WLAN_Array	Gigabit 1 IP: 10.0.1.2	

Figure 83. WMI: Rogue Control List Page



## Procedure for Establishing Rogue AP Control

- 1. New Rogue SSID: Enter the SSID for the new rogue AP.
- 2. Rogue Control Type: Define the type, either Known or Approved.
- 3. Click on the **Create** button to add this rogue AP to the Rogue Control List.
- **4. Rogue Control List**: If you want to edit the control type for a rogue AP, select the rogue from the list.
  - a. After selecting the rogue, redefine whether this rogue is **Known**, **Approved** or **Unknown**, then click on the **Modify** button to apply your change.
- 5. Alternatively, if you want to delete the selected rogue AP from the list, click on the **Delete** button.
- 6. Click on the **Save** button to save your changes (otherwise your new settings will not take effect).



#### **Stations**

This page displays stations (clients) that are currently associated with the Array. You can sort the results based on the following parameters:

- MAC
- IP Address
- Interface
- SSID
- VLAN

XS-3900 Wireless LA	AN Array				xirrus
Array Status	Station Association				
Express Set-Up	Select Sert:		MAC		
Network Interfaces					
IAP Interfaces	MAC	Interface	SSID	VLAN	
SSID	00:0f66:1a:06:61	a6	MGTest	0	
Security	0010110011010101	40			
Stations	_				
Services					
Array Info					
Tools					
Show Config					
Event Log					
A11 A12 A1					
ABG4 ABG1					
A10 A2					
🔴 A9 😄 A3 🧲					
A8 A4					
● ABG3 ABG2 ● A7 A6 A5					
Critical Msgs: 3					
• Warning Msgs: 0					
General Msgs: 46					
Location:	Name: Xi	rrus_WLAN_Array	Gigabit 1 IP:	10.0.1.2	

Figure 84. WMI: Stations Page



## Services

This is a status only page that allows you to review the current status of syslog and SNMP services. There are no configuration options available on this page, but if you are experiencing issues with network services, you may want to print this page for your records.

Array Status	Services				
Express Set-Up	NTP Server Status	NTP Serv	er 1 Address	NTP Se	rver 2 Address
Network Interfaces	Disabled	time.nist.c	107	129.6.15	.29
IAP Interfaces		ře statistické se st			
SSID	Syslog Server Status	; Syslog Se	erver IP	Syslog S	Server Level
Security	Enabled	0.0.0.0		Debug	
Stations	SNMP Status	SNMP Sink IP	SNMP Tran F	Port	SNMP Community Strin
Services	Disabled		162		vimus
			102		XIIIGO
SNMP					
Array Info					
Tools					
Show Config					
Event Log					
A11 A12 A1 ABG4 ABG1 A10 A2					
A9 A3 A8 A4 ABG3 ABG2 A7 A6 A5 Critical Msgs: 3					

Figure 85. WMI: Services Page



## **Time Settings**

This page allows you to manage the Array's time settings, including synchronizing the Array's clock with a universal clock from an NTP (Network Time Protocol) server. Synchronizing the Array's clock with an NTP server ensures that syslog time-stamping is maintained across all units.

XS-3900 Wireless LA	N Array	Xirr	US
Array Status	Time Settings		
Express Set-Up	Adjust Time: (hrs:min:sec)	V 10 V : 29 V : 13 V AM V	
Network Interfaces	Adjust Date: (day/menth/year)		
IAP Interfaces	Adjust Date: (day/montil/year)		
SSID	Auto Adjust Daylight Savings:		
Security	TimeZone:	(GMT) Greenwich Mean Time: Dublin, Lisbon, London 👻	
Stations			
<ul> <li>Services</li> </ul>	Enable NTP Server:	📀 Yes 🔿 No	
Time Settings	NTP Server 1 Address:	time.nist.gov	
System Log	NTP Server 2 Address:	129.6.15.29	
Array Info	ATT Server 2 Address.	123.0.13.23	
Toole		Apply	Save
Show Config			
Evention			
Ati Az Ati ABGI Ati Az Ati ABGI Ati Az Ati ABGI Ati Az Ati ABGI Ati Az Ati ABGI Ati Az Ati Ati Ati Az Ati ABGI Ati Az Ati Ati Az Ati Ati Az Ati Ati Az Ati Ati Az Ati	)		
Warning Msgs: 0			
General Msgs: 46			
Location:	Name: Xirrus_WLAN_Array	Gigabit 1 IP: 10.0.1.2	s (r

Figure 86. WMI: Time Settings Page



## Procedure for Managing the Time Settings

## **Manual Time**

- **1. Adjust Time**: Check this box to allow manual adjustment of the time in hours, minutes and seconds (hrs:min:sec).
- 2. Adjust Date: Check this box to allow manual adjustment of the date (day/month/year).
- **3. Auto Adjust Daylight Savings**: Check this box if you want the system to automatically adjust the time for daylight savings.
- **4. Time Zone**: Select the time zone you want to use (normally your local time zone) from the pull-down list.

#### Using an NTP Server

- 5. Enable NTP Server: Check this box if you want to use an NTP (Network Time Protocol) server to synchronize the Array's clock. Without an NTP server assigned (no universal clock), each Array will use its own internal clock and stamp times accordingly, which may result in discrepancies. When this box is checked, the NTP Server 1 Address and NTP 2 Server 2 Address fields become active. If you don't want to use an NTP server, leave this box unchecked (default), otherwise enter the IP address or DNS name of the NTP server(s).
- 6. NTP Server 1 Address: Enter the IP address or DNS name of the primary NTP server.
- 7. **NTP Server 2 Address**: Enter the IP address or DNS name of the secondary NTP server.
- 8. Click on the **Apply** button to apply the new settings to this session.
- 9. Click on the **Save** button to save your changes (otherwise your new settings will not take effect).

#### Wireless LAN Array



## System Log

This page allows you to enable or disable the Syslog server, define the server's IP address, and set the level for Syslog reporting—the Syslog service will send Syslog messages to the defined Syslog server. When finished, click on the **Apply** button to apply the new settings to this session, then click on the **Save** button to save your changes.

XS-3900 Wireless LA	N Array		xirrus
Array Status	System Log		
Express Set-Up	Enable Syslog Server:	💿 Yes 🛛 No	
<ul> <li>Network Interfaces</li> <li>IAP Interfaces</li> </ul>	Server IP Address:	0.0.0	
<ul> <li>SSID</li> </ul>	Syslog Server Level:	Debug 👻	
<ul> <li>Security</li> <li>Stations</li> </ul>	Maximum Syslog Records (1-500):	500	
<ul> <li>Services</li> </ul>			Apply Save
System Log SNMP Array Info Tools Show Config Event Log ABG0 AII AZ AI ABG1 AG0 AG0 AG0 AG0 AG0 AG0 AG0 AG0 AG0 AG0			
Location:	Name: Xirrus_WLAN_Array	Gigabit 1 IP: 10.0.1.2	a (1

Figure 87. WMI: System Log Page

## Procedure for Configuring Syslog

- **1. Enable Syslog Server**: Choose **Yes** to enable Syslog functionality, or choose **No** to disable this feature.
- 2. Server IP Address: If you enabled Syslog, enter the IP address of the Syslog server.
- **3. Syslog Server Level**: Choose the level of Syslog reporting from the pull-down list. Levels include:
  - Emergency
  - Alerts
  - Critical
  - Error
  - Warning
  - Notification
  - Information
  - Debug

The default level is Debug.

- **4. Maximum Syslog Records**: Enter a value in this field to define how many syslog records are processed (up to a maximum of 500).
- 5. Click on the **Apply** button to apply the new settings to this session.
- 6. Click on the **Save** button to save your changes (otherwise your new settings will not take effect).







#### SNMP

This page allows you to enable or disable SNMP and define the SNMP parameters. SNMP allows remote management of the Array by the Xirrus Management System (XM-3300), or other SNMP-based management system. When finished, click on the **Apply** button to apply the new settings to this session, then click on the **Save** button to save your changes.

XS-3900 Wireless LAN	l Array		xirrus
Array Status	SNMP		
Express Set-Up	Enable SNMP:	🔿 Yes 💿 No	
<ul> <li>Network Interfaces</li> <li>IAP Interfaces</li> </ul>	SNMP Sink IP Address:		
SSID	Trap Port:	162	
Security Stations	Community String:	xirrus	
<ul> <li>Services</li> </ul>			Apply Save
Time Settings System Log			
SNMP			
Array Info			
Tools			
Show Config			
Event Log			
A11 A12 A1 ABG4 ABG1			
A10 A2			
AS AS			
A8 A4 ABG3 ABG2 A7 A6 A5			
Critical Msgs: 4			
Warning Msgs: 0     General Msgs: 46			
Location:	Name: Xirrus_WLAN_Array	Gigabit 1 IP: 10.0.1.2	e (r





## Procedure for Configuring SNMP

- 1. **Enable SNMP**: Choose **Yes** to enable SNMP functionality, or choose **No** to disable this feature.
- 2. **SNMP Link IP Address**: Enter the IP address of the SNMP link.
- **3. Trap Port**: Enter the trap port.
- **4. Community String**: Enter the community string.
- 5. Click on the **Apply** button to apply the new settings to this session.
- 6. Click on the **Save** button to save your changes (otherwise your new settings will not take effect).



## Array Info

This is a status only page that allows you to review the current status of the Array. There are no configuration options available on this page, but if you are experiencing issues with network services, you may want to print this page for your records.

XS-3900 Wireless LAN	N Array				xirrus
Array Status	Array Controller Software				
Express Set-Up	Component	Part Number	Serial	Number	Date
Network Interfaces	Array	Unknown	Unki	nown	Unknown
IAP Interfaces	Controller	0003-000.010	00000	16426	2000-Jan-01 0:02
> SSID	IAP Module 0	0013-003.010	00000	00500	2005-Mar-31 15:24
Security	IAP Module 1	0013-005.010	00000	00208	2005-Mar-31 15:24
Stations	IAP Module 2	0013-003.010	00000	00505	2005-Mar-31 15:25
Services	IAP Module 3	0013-003.010	00000	00501	2005-Mar-31 15:25
Array Info					
Tools	FPGA Status	Boot Version		S/W Version	
Show Config	Queue Control/FTE	0.002			0.002
Event Log	Encryption Engine	0.001			0.001
	Multi-Channel MAC	0.030			0.034
A11 A12 A1	Interface		MAC Ad	dress(es)	
ABG4 ABG1	Ethernet 10/100 MAC		00:0f:7d:	00:40:2a	
A2	Gigabit 1 MAC		00:0f:7d:	00:40:2b	
A9 😄 A3	Gigabit 2 MAC		00:0f:7d	:00:40:2c	
A8 A4	IAP MAC Range		00:0f:7d:2	9:00:e0-0f	
A7 A6 A5	Component		Ver	sion	
	Boot Loader	Xirrus Boot L	.oader 1.0.0	(May 12 2005)	, Build: 2255
Critical Msgs: 4	IAP Driver	#1508	Mon May 16	17:14:05 PDT	2005
Warning Msgs: 0	System Software		1.1		
General Msgs: 46		1			

Figure 89. WMI: Array Info Page



## Tools

This page allows you to reset the system's configuration parameters to their factory default values, reboot the system, and ping other IP addresses for diagnostic purposes.

XS-3900 Wireless LA	N Array			xirrus
Array Status	Tools			
Express Set-Up	System Configuration Reset:	Reset		
<ul> <li>IAP Interfaces</li> </ul>	System Reboot:	Reboot		
SSID	Software Upgrade:		Browse Upload	
Security Stations	Config Update:		Browse Upload	
Services	Config Download:	xs_current.conf		
Array Info	System Tools:	Trace Route	🔘 Ping	
Show Config	IP Address:	0.0.0.0		
Event Log	Timeout:	10		
ABG3 ABG3 AT A6 A5	Output:			
Critical Msgs: 4				Execute
Warning Msgs: 0     General Msgs: 46				
Location:	Name: Xirrus_WLAN	Array Gi	gabit 1 IP: 10.0.1.2	a (B

Figure 90. WMI: Tools Page



## Procedure for Configuring System Tools

- 1. System Configuration Reset: Click on the Reset button to reset the system's current configuration settings to the factory default values—*all previous configuration settings will be lost*.
- 2. **System Reboot**: Click on the **Reboot** button to reboot the system—*you must reboot the Array.*
- 3. **Software Upgrade**: Enter the filename and directory location (or click on the **Browse** button to locate the software upgrade file), then click on the **Upload** button to upload the new file to the Array.
- 4. Config Update: This field allows you to define the path to a configuration file (one that you previously saved—see next step). Click on the Browse button if you need to browse for the location of the file, then click on the Upload button to update your configuration settings.
- 5. **Config Download**: Click on this link to save the Array's current configuration settings to a file (that you can upload at a later date). The system will prompt you for a destination for the file.
- 6. System Tools: Choose Trace Route or Ping.
- 7. **IP Address**: Enter the IP address of the target device.
- 8. **Timeout**: Enter a value (in seconds) before the action times out.
- 9. Click on the **Execute** button to perform the test. Results are displayed in the Output frame.

## XIRRUS

## **Show Config**

This page allows you to display the configuration settings for the Array, based on the following sort options:

- **Running**—Displays the current configuration (the one running now).
- **Saved**—Displays the saved configuration from this session.
- **Startup**—Displays the configuration at start up.
- **Factory**—Displays the configuration established at the factory.

XS-3900 Wireless LAN	N Array					2	<b>ci</b> R	RUS
Array Status	Show Config							
Express Set-Up <ul> <li>Network Interfaces</li> <li>IAP Interfaces</li> </ul>	Select Config	Running 🚩 🗌 In	clude Defaults	Selec	t Diff	None	*	^
SSID SSID Stations Services Array Info Tools	hostname Xirru administrator add admin pa exit	s_WLAN_Array ssword enc "\$1\$	30c0e241\$LVn1s	syCzqYOL9Vjkx6pnJ	10″ rea	ad_write	e	
Annow     Annow	interface child ip dhcp up exit interface gig1 ip dhcp up exit radius-server							
Aligation Aligat	! internal add "BillR exit	adiusTest" pass	word enc e4 ss	id "Bill Test"				
● Warning Msgs: 0 ● General Msgs: 46	exit : acl on allow_1 acl add 00092b acl add 00105b : ssid del "xirrus" add "xirrus" add "Bill Te add "Bill Te	ist 6547ae 9647fb enc none st" enc wep st 2" enc wep	vlan 0 qos vlan 0 qos vlan 0 qos	0 broadcast 2 0				
	exit ! interface iap ! global_setti	ngs						~
Location:	Name: )	(irrus_WLAN_Array	Giga	bit 1 IP: 10.0.1.2				e (•

Figure 91. WMI: Show Config Page

Wireless LAN Array



If you want to see just the differences between the Running, Saved, Startup, and Factory configurations, you can do this by choosing a configuration from the **Select Config** pull-down menu then selecting an alternative configuration from the **Select Diff** pull-down menu.

You also have the option of including the default configuration settings. To do this, choose your configuration then click in the **Include Defaults** check box.



## **Event Log**

This is a status only page that allows you to review the event log, where system alerts and messages are displayed. Although there are no configuration options available on this page, you do have the choice of deciding how the event messages are sorted (Time Stamp, Priority, or Message).

- **Time Stamp**—sorts the list based on the time the event occurred.
- **Priority**—sorts the list based on the priority assigned to the message.

Array Status	Log		
Express Set-Up	Select Sort:		Pringity V
Network Interfaces			
IAP Interfaces	Time Stamp	Priority	Message
SSID Security	May 23 10:27:49	Alerts	Possible rogue AP detected. SSID: SST-PR-1, BSSID: 32:01:ef:00:06:02, Channel: 6 RSSI: 168, Security: WEP
Stations Services	May 23 08:20:16	Alerts	Possible rogue AP detected. SSID: SST-PR-1, BSSID: 4e:03:30:03:d6:01, Channel: I RSSI: 168, Security: WEP
Array Info Tools	May 23 07:32:27	Alerts	Possible rogue AP detected. SSID: reyern, BSSID: 00:0c:41:b1:9b:60, Channel: 6, RSSI: 169, Security: none
Show Config Event Log	May 23 06:19:06	Alerts	Possible rogue AP detected. SSID: michaelwareing, BSSID: 00:09:5b:9c:01:4a, Channel: 11, RSSI: 224, Security: none
A11 A12 A1	May 23 10:06:16	Notification	Configuration saved
ABG4 ABG1 A10 A2	May 23 09:56:19	Notification	Configuration saved
A9 A3	May 23 09:56:18	Notification	Admin user admin write access granted
ABG3 ABG2	May 23 09:56:06	Notification	ACL MAC address 00:10:5b:96:47:fb added
Critical Msgs: 4	May 23 09:56:06	Notification	Admin user admin write access granted
Warning Msgs: 0 General Msgs: 8	May 23 09:55:42	Notification	ACL MAC address 00:09:2b:65:47:ae added
	May 23 06:17:41	Notification	Interface eth0 ip address changed to 192.168.0.7
	May 23 06:17:29	Information	Array initialized successfully
		1	Refresh

• Message—sorts the list based on the message category.

Figure 92. WMI: Event Log Page

Click on the **Refresh** button to refresh the messages, or click on the **Clear** button to delete all messages. If you are experiencing problems with your network you may want to print this page for your records.



# The Command Line Interface

This chapter covers configuration and management tasks using the product's Command Line Interface (CLI), and includes a procedure for establishing a Telnet connection to the Xirrus Array. Section headings for this chapter include:

- "Establishing a Secure Shell (SSH) Connection" on page 143
- "Basic Commands" on page 144
- "Command Modes" on page 145
- "Selecting Interfaces" on page 148
- "Commands" on page 149

## Establishing a Secure Shell (SSH) Connection

Use this procedure to initialize the system and log in to the Command Line Interface (CLI) via a Secure Shell (SSH) utility, such as PuTTY.

**1.** Start your SSH session and communicate with the XS-3900 via its default IP address (10.0.1.1).

When connected to the Array, a login prompt appears on your screen. The default login user name and password is **admin** (for both). Login names and passwords are case-sensitive.

2. Enter **admin** when prompted for a user name and password. You are now logged in to the Array's Command Line Interface.

Username: admin Password: *****		
XirrusArray# configure enable exit help quit save show XirrusArray#	Enter configuration mode Change privilege level Quit the CLI Description of the interactive help system Quit the CLI Save running configuration to flash Display current information about the selected item	

Figure 93. Command Line Interface



## **Basic Commands**

## Help

To get help at any point type **help** or **?** to view the interactive help system.

## Tab Key

The **Tab** key allows auto-completion of commands such that only a few unique characters need to be entered followed by the Tab key, which will automatically fill in the rest of the command.

## ? Key

The **?** key displays the list of available commands at any point of typing in the command line.

## Save

You must type **save** to save the current configuration to flash memory so that changes are kept when the Array is rebooted.

## Show

Displays the current settings and is useful when verifying the current configuration settings.

## End

Returns you to the to top-level configure mode.

## Exit

Exits the current command mode level, and enters the next level up.

## Quit

Exits the command line interface.

## No

Disables an item that is currently enabled; or sets the selected item to the default value.



## **Command Modes**

## **Configure Mode**

Allows major functional changes to interfaces and Array configuration.

Requires read/write administrator privileges From the default prompt, type **configure** then press <ENTER>

Xirrus-Array# configure Xirrus-Array(config)#

The prompt changes to show the current mode in parentheses.



When inputting commands you need only type as many characters as the system requires before it recognizes your input.

## Admin Mode

Allows you to manage user accounts, including adding accounts, deleting accounts, and displaying current user account information.

Requires read/write administrator privileges From the configure mode, type **admin** then press <ENTER>

Xirrus-Array(config)# admin Xirrus-Array(config-admin)#

## **Contact Info Mode**

Allows you to display the current contact information for the Array, or modify the existing contact information.

Requires read/write administrator privileges From the configure mode, type **contact** then press <ENTER>

Xirrus-Array(config)# contact

Xirrus-Array(config-contact-info)#



#### Date & Time Mode

Allows you to configure the date and time settings used by the Array.

Requires read/write administrator privileges From the configure mode, type **date** then press <ENTER> Xirrus-Array(config)# date Xirrus-Array(config-date-time)#

## **DHCP Mode**

Allows you to enable, disable and configure the DHCP server.

Requires read/write administrator privileges From the configure mode, type **dhcp** then press <ENTER> Xirrus-Array(config)# dhcp Xirrus-Array(config-dhcp-server)#

## DNS Mode

Allows you to configure the DNS settings.

Requires read/write administrator privileges From the configure mode, type **dns** then press <ENTER>

Xirrus-Array(config)# dns Xirrus-Array(config-dns)#

## **Radius Mode**

Allows you to make configuration changes to the internal RADIUS server.

Requires read/write administrator privileges From the configure mode, type **radius** then press <ENTER>

Xirrus-Array(config)# radius Xirrus-Array(config-radius-server)#



#### Run Test Mode

Allows you to execute diagnostic run tests (for example, pings and trace routes).

Requires read/write administrator privileges From the configure mode, type **run-tests** then press <ENTER> Xirrus-Array(config)# run-tests

Xirrus-Array(run-test)#

## Security Mode

Allows you to set security parameters for the Array.

Requires read/write administrator privileges From the configure mode, type **security** then press <ENTER> Xirrus-Array(config)# security

Xirrus-Array(config-security)#

## **SNMP** Mode

Allows you to enable, disable or configure SNMP.

Requires read/write administrator privileges From the configure mode, type **snmp** then press <ENTER>

Xirrus-Array(config)# snmp Xirrus-Array(config-snmp)#

## SSID Mode

Allows you to add, delete and modify SSIDs, or display the current definitions for a selected SSID.

Requires read/write administrator privileges From the configure mode, type **ssid** then press <ENTER>

Xirrus-Array(config)# ssid Xirrus-Array(config-ssid)#



## Syslog Mode

Allows you to enable, disable and configure the Syslog server.

Requires read/write administrator privileges

From the configure mode, type **syslog** then press <ENTER>

Xirrus-Array(config)# syslog Xirrus-Array(config-syslog)#

## **Selecting Interfaces**

From the configure mode select the desired interface.

interface {console | iap | gig1 | gig2 | eth0};

asynchronous serial console port
integrated access point interface
gigabit Ethernet interface
gigabit Ethernet interface
10/100 Ethernet interface

#### Example:

Xirrus-Array(config)# interface iap Xirrus-Array(config-iap)#



## Commands

This section contains detailed information for each CLI command, organized alphabetically. The following table provides a listing of the commands. Click on any command in this list to "jump" to that command.

administrator	more
acl	radius-server
console	reboot
contact-info	reset
сору	run-script
date-time	run-tests
dhcp-server	save
dir	security
dns	show
erase	snmp
eth0	ssh
ftp	syslog
gig1	telnet
gig2	
hostname	
iap	
iap global_settings	
iap global_a_settings	
iap global_bg_settings	
location	



#### administrator

#### DESCRIPTION

Adds and edits administrator accounts and privileges—available from the **config** command mode.

#### SYNTAX

```
administrator [add <uid> password [enc] <passwd> {read_only |
read_write} | del <uid> ]
```

#### PARAMETERS

add <uid></uid>	Add user ID
read_only	Read only permissions
read_write	Read/write permissions
password	Define user password
enc	Enter password in encrypted form (must be in
	quotes)

#### DEFAULTS

None.

#### USAGE GUIDELINES

The **show** command within the **config-admin** mode will display all administrator accounts and privileges.



#### EXAMPLE

To add a new administrator account:

## config-administrator

(config-admin)# add johnk password xtyrk567 read\_write



Figure 94. CLI: Adding a New Administrator Account

SEE ALSO None.



#### acl

#### DESCRIPTION

Configures the MAC based Access Control Lists to allow or limit the association of stations to the Array.

#### Syntax

acl {off | on {allow\_list | deny\_list} | add <amac> | del <dmac>}

PARAMETERS

on	Enable access control list
off	Disable access control list
allow_list	Enable allow list, where this list is a list of users
	to allow association to the array
deny_list	Enable deny list, where this list is used to deny
-	association to the array
add	Add MAC address to the list
del	Delete MAC address from the list

#### DEFAULTS

None.

#### USAGE GUIDELINES

None.

#### EXAMPLE

To allow association to the array, type:

## Xirrus\_WLAN\_Array(config)# acl on allow\_list Xirrus\_WLAN\_Array(config)# acl add 00:00:a1:cd:45

SEE ALSO None.



#### console

DESCRIPTION

Configures the Console Interface (serial port)—available from the **configinterface** command mode.

#### SYNTAX

console { {baud <brate> | bytesize <bsz> | stopbits <sbit> | parity {none |
odd | even} | timeout <idleto>}@}

#### PARAMETERS

timeout	Console inactivity timeout in seconds
baud	Async port baud rate 2400 - 115,200 bps
bytesize	Async port word size 7 or 8 bits
stopbits	Async port number of stop bits 0, 1, or 2
parity	Async port number of parity bits
none	No parity
odd	Odd parity
even	Even parity

#### DEFAULTS

115,200, 8bit, No Parity, 1 Stop bit, No Flow Control.

COM1 Properties	? 🛽
Port Settings	
<u>B</u> its per second:	115200 💌
<u>D</u> ata bits:	8
Parity:	None
<u>S</u> top bits:	1 🗸
Elow control:	None
	Restore Defaults
0	K Cancel Apply

Figure 95. CLI: Default Serial Port Settings



USAGE GUIDELINES

None.

EXAMPLE

To set the baud rate of the console serial port to 9600 baud:

## config-interface console (config-console)# baud 9600



Figure 96. CLI: Setting the IP Address for the Serial Port

SEE ALSO None.



#### contact-info

DESCRIPTION

Sets the contact information for this Array—available from the **config** command mode.

SYNTAX

contact-info {name [<conname>] | email [<emailcontact>] | phone
[<contele>]}@

#### PARAMETERS

contact-info	Contact information for assistance on this Array
name	Contact name ( <i>must be within quotes</i> )
email	Contact email address (must be within quotes)
phone	Contact telephone number (must be within quotes)

#### DEFAULTS

None.

USAGE GUIDELINES

None.

EXAMPLE

To add new contact information (name and telephone number):

```
config-contact-info
(config-contact-info)# name Bill phone 8181239876
```



Figure 97. CLI: Adding a New Administrator Account



SEE ALSO None.

#### сору

DESCRIPTION

Creates a copy of the specified file on the Flash file system.

#### Syntax

copy <sourcefile> <destinationfile>

#### PARAMETERS

sourcefile	The existing source file name
destinationfile	The new destination file name

#### DEFAULTS

None.

#### USAGE GUIDELINES

None.

#### EXAMPLE

To create a backup of the current system image file, type:

## Xirrus\_WLAN\_Array(config)# copy XS-39-1.1.0 XS-39-1.1.BAK

SEE ALSO dir delete



#### date-time

DESCRIPTION

Set the date/time for the Array—available from the **config** command mode, using the format **hh:mm mm/dd/yyyy**.

#### SYNTAX

date-time <date/time>

#### PARAMETERS

dst_adjust	Adjust daylight savings
no	Disable daylight savings
ntp	Configure the NTP server
set	Set the date and time for the Array
timezone	Configure the time zone

## DEFAULTS

None.

#### USAGE GUIDELINES

You access the **date-time** command mode from the **config** mode.



EXAMPLE To disable daylight savings, type:

## (config-date-time)# no dst



Figure 98. CLI: Disabling Daylight Savings

SEE ALSO None.

#### dhcp-server

DESCRIPTION

Configures the local DHCP server settings—available from the **Config-> dhcp-server** command mode.

Syntax

**dhcp** {on | off | {start-ip-range <sipr> | end-ip-range <eipr> | defaultlease <defl> | max-lease <maxl>}@}



#### PARAMETERS

on	Enable the DHCP server
off	Disable the DHCP server
start-ip-range	Starting IP address for the lease pool
end-ip-range	Ending IP address for the lease pool
default-lease	Default lease period (in minutes), if one is not
	requested
max-lease	Maximum lease period allowed
show	Display the current DHCP server settings

#### DEFAULTS

Default lease time 300 Maximum lease time 300

#### USAGE GUIDELINES

None.

#### EXAMPLE

To set the IP address range for the local DHCP server and enable the server, type:

Xirrus\_WLAN\_Array(config)# dhcp-server Xirrus\_WLAN\_Array(config-dhcp-server)# start-ip-range 192.168.1.100 end-ip-range 192.168.1.200 Xirrus\_WLAN\_Array(config-dhcp-server)# show

#### **DHCP Server Settings Summary**

\_\_\_\_\_

StatedisabledAddress range start 192.168.1.100Address range end192.168.1.200Default lease time300Maximum lease time300

SEE ALSO None.



#### dir

DESCRIPTION

Lists the contents of the local Flash file system directory.

Syntax

dir

PARAMETERS

None.

DEFAULTS None.

## USAGE GUIDELINES

None.

EXAMPLE

•

To list the local Flash file system directory contents, type:

## Xirrus\_WLAN\_Array(config)# dir

The following will appear:

.. lastboot xs37-1.0.37.bin

SEE ALSO Delete Copy



#### dns

DESCRIPTION

Used to configure the DNS settings—available from the **Config-> dns** command mode.

#### SYNTAX

```
dns { domain [<dom>] | server1 [<srv1>] | server2 [<srv2>] | server3 [<srv3>]}
```

#### PARAMETERS

domain	Enter your domain name
	(Example: www.mydomain.com)
server1	Enter the first DNS server IP address
server2	Enter the second DNS server IP address
server3	Enter the third DNS server IP address

#### DEFAULTS

None.

#### USAGE GUIDELINES

Server1, Server2, and Server3 IP addresses must be entered using the standard A.B.C.D notation.

#### EXAMPLE

To configure the first DNS server, type:

## Xirrus\_WLAN\_Array(config)# dnsy Xirrus\_WLAN\_Array(config-dns)# server1 10.10.10.1

SEE ALSO None.



#### erase

DESCRIPTION

Erases the specified file from the Flash file system.

SYNTAX

Erase <filename>

PARAMETERS

filename existing file to delete.

DEFAULTS

None.

## USAGE GUIDELINES

None.

#### EXAMPLE

To erase the file **old-configuration**, type:

## Xirrus\_WLAN\_Array(config)# erase old-configuration

SEE ALSO dir copy



#### eth0

DESCRIPTION

Configures the 10/100 Ethernet Interface Settings—available from the **config-interface** command mode.

#### SYNTAX

```
eth0 {[no] autoneg [on | off] | defaults | duplex {half | full} | speed
<spdsel> | mtu <mtusz> | down | up | ip {dhcp | {addr <statip> | mask
<ipmask> | gateway <gway>}@}}
```

PARAMETERS

half	Half duplex
full	Full duplex
mtu	Set the maximum MTU size allowed (64-17940)
defaults	Reset the interface to default values
duplex	Half or full duplex mode
speed	10M or 100M operations
down	Shut this interface down
up	Bring this interface up
ip	Set IP address (A.B.C.D)
dhcp	IP address, mask and gateway are obtained
_	through DHCP
addr <ip address=""></ip>	Static IP address (A.B.C.D)
gateway <ip address=""></ip>	Gateway IP address (A.B.C.D)
mask <mask></mask>	IP mask (A.B.C.D)
autoneg	Autonegotiation on or off
on	Enable autonegotiation
off	Disable autonegotiation
DEFAULTS	

None.

USAGE GUIDELINES None.



EXAMPLE

To set the IP address of the 10/100 Ethernet interfaces:

config-interface eth0 (config-eth0)# ip addr 192.168.39.186 mask 255.255.255.0



Figure 99. CLI: Setting the IP Address for the Fast Ethernet Interface

SEE ALSO

config-interface gig1 config-interface gig2



## ftp

#### DESCRIPTION

Opens an ftp connection to a remote system.

#### SYNTAX

ftp <ip-address>

#### PARAMETERS

<ip-address> IP address of remote ftp host (in A.B.C.D format)

DEFAULTS

None.

#### USAGE GUIDELINES

Once an ftp connection is established, the following commands are available from the ftp prompt:

binary	delete	ls	recv
bye	dir	mkdir	rename
cd	disconnect	open	rmdir
cdup	get	put	send
chmod	hash	pwd	size
close	help	quit	?

EXAMPLE

None.

SEE ALSO None.



## gig1

DESCRIPTION

Configures the Gigabit 1 Ethernet Interface Settings—available from the **config-interface** command mode.

SYNTAX

**gig1** {[no] autoneg [on | off]; | [no] management [on | off] | down | up | defaults | duplex {half | full} | speed <spdsel> | mtu <mtusz> | ip {dhcp | {addr <statip> | mask <ipmask> | gateway <gway>]@}}

PARAMETERS

half	Half duplex
full	Full duplex
mtu	Set the maximum MTU size allowed
defaults	Reset the interface to default values
duplex	Half or full duplex mode
speed <speed></speed>	100M or 1000M operation
down	Shut this interface down
up	Bring this interface up
ip	Set the IP address
dhcp	IP address, mask and gateway are obtained
_	through DHCP
addr <ip address=""></ip>	Static IP address (A.B.C.D)
gateway <ip address=""></ip>	Gateway IP address (A.B.C.D)
mask <mask></mask>	IP mask (A.B.C.D)
management	Enable or disable management via interface
по	Managed elsewhere
011	Enable management
off	Disable management
autoneg	Autonegotiation on or off
по	Disable selected feature
011	Enable autonegotiation
off	Disable autonegotiation



DEFAULTS

None.

USAGE GUIDELINES

Setting the Gigabit1 interface parameters will automatically set the Gigabit2 parameters to the same values.

EXAMPLE

To set the IP address of the gigabit Ethernet interfaces:

## config-interface gig1

(config-gig1/2)# ip addr 192.168.39.186 mask 255.255.255.0



Figure 100. CLI: Setting the IP Address for the Gigabit 1 Interface

SEE ALSO config-interface gig2 config-interface eth0



## gig2

DESCRIPTION

Configures the Gigabit 2 Ethernet Interface Settings—available from the **config-interface** command mode.

SYNTAX

**gig2** {[no] autoneg [on | off]; | [no] management [on | off] | down | up | defaults | duplex {half | full} | speed <spdsel> | mtu <mtusz> | ip {dhcp | {addr <statip> | mask <ipmask> | gateway <gway>}@}}

PARAMETERS

half	Half duplex
full	Full duplex
mtu	Set the maximum MTU size allowed
defaults	Reset the interface to the default values
duplex	Half or full duplex mode
speed <speed></speed>	100M or 1000M operation
down	Shut this interface down
up	Bring this interface up
ip	Set the IP address
dhcp	IP address, mask and gateway are obtained
	through DHCP
addr <ip address=""></ip>	Static IP address (A.B.C.D)
gateway <ip address=""></ip>	Gateway IP address (A.B.C.D)
mask <mask></mask>	IP mask (A.B.C.D)
management	Enable or disable management via interface
по	Managed elsewhere
011	Enable management
off	Disable management
autoneg	Autonegotiation on or off
по	Disable selected feature
<i>on</i>	Enable autonegotiation
off	Disable autonegotiation

DEFAULTS

None.