



IP67 rugged Ethernet Managed Switch - CLI User Manual -

CLI User Manual

This manual applies to the following products:

- **RJSMLAC 8MG CAPS (options)**
- **RJSMLAC 8MG CAPS VAC (NAV) (options)**
- **RESMLAC 8MG CAPS (options)**
Rugged IP67/68 Managed Gigabit Ethernet Switch

Revision	Date	Modifications
1	April 04, 2012	Initial document
2	December 11, 2013	Updated screen shots
2.1	December 07, 2016	Added P/N RJSMLAC-8MG-CAPS-VAC (NAV) / No change in the content /
2.2	May 09, 2018	Removed RES-SCE-8MG
3	October 17, 2023	Updated IP addresses @ Factory Default Configurations & Web interface & System Configuration

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COMMAND LINE INTERFACE

The Ethernet switch Command Line Interface (CLI) is used for out-of-band control of the Ethernet switch. It provides the ability to customize configurations and status monitoring.

COMMAND LINE OVERVIEW

? Help Up Exit

System Configuration [all]

System Restore Default [keepIP] System Name

[<name>]

System Reboot

System SNMP [enable|disable] System Trap

[<IP Address>]

System Readcommunity [<community string>]

System Writecommunity [<community string>] System

Trapcommunity [<community string>] Console Configuration

Console Password [<password>] Console

Timeout [<timeout>]

Port Configuration [<portlist>]

Port Mode [<portlist>] [<speed>]

Port Flow Control [<portlist>] [enable|disable] Port State

[<portlist>] [enable/disable]

Port MaxFrame [<portlist>] [<framesize>|reset]Port Statistics [<portlist>]
[clear]

Port VeriPHY [<portlist>] [full|anomaly|termination] MAC Configuration

MAC Add <macaddress> <portlist>|none [<vid>] MAC Delete

<macaddress> [<vid>]

MAC Lookup <macaddress> [<vid>] MAC table

<vidlist>

MAC Flush

MAC Agetime [<agetime>]

VLAN Configuration [<portlist>] VLAN Add

<vidlist> [<portlist>] VLAN Delete <vidlist>

VLAN Lookup <vidlist>

VLAN Aware [<portlist>] [enable|disable]

VLAN PVID [<portlist>] [<vid>|none]

VLAN Frame Type [<portlist>] [all|tagged] Aggr

Configuration

Aggr Add <portlist> Aggr Delete

<portlist> Aggr Lookup <portlist>

Aggr Mode [smac|dmac|xor]
 LACP Configuration [<portlist>]
 LACP Mode [<portlist>] [enable|disable] LACP Key
 [<portlist>] [<key>|auto]
 LACP Status
 LACP Statistics
 RSTP Configuration [<portlist>] RSTP sysprio
 [<sysprio>]
 RSTP hellotime [<secs>]
 RSTP maxage [<hops>] RSTP
 fwdelay [<secs>]
 RSTP version [normal|compat]
 RSTP Mode [<portlist>] [enable|disable] RSTP Aggr
 [enable|disable]
 RSTP Edge [<portlist>] [enable|disable]
 RSTP Pathcost [<portlist>] [<pathcost>|auto] RSTP mcheck
 <portlist>
 RSTP Status
 RSTP Statistics
 User Group Configuration
 User Group Add <grouplist> [<portlist>] User Group
 Delete <grouplist>
 User Group Lookup <grouplist> QoS
 Configuration [<portlist>]
 QoS Mode [<portlist>] [tag|iptos|port|diffserv|L4] QoS Default
 [<portlist>] [low|high]
 QoS Tagprio [<portlist>] [<tagpriolist>] [<class>]
 QoS Tosprecedence [<portlist>] [<tosprecedencelist>] [<class>] QoS DiffServ
 [<portlist>] [<dscplist>] [low|high]
 QoS L4 Default [<portlist>] [<class>]
 QoS L4 Match [<portlist>] [<class>]
 QoS L4 Add [<portlist>] <UDP/TCP portlist>
 QoS L4 Delete [<portlist>] <UDP/TCP portlist>
 QoS L4 List [<portlist>]
 QoS Userprio [<portlist>] [<tagprio>]
 QoS Shaper [<portlist>] [enable|disable] [<rate>] QoS Policer
 [<portlist>] [enable|disable] [<rate>]
 QoS Storm Control [<portlist>] [enable|disable] [<rate>]
 Mirror Configuration
 Mirror Port [<port>]
 Mirror Source [<portlist>] [enable|disable] IP Configuration
 IP Setup [<ipaddress> [<ipmask> [<ipgateway>]] [<vid>] IP Mode

[enable|disable]

IP ARP

IP DHCP [enable|disable] Dot1x

Configuration

Dot1x Mode [enable|disable]

Dot1x State [<portlist>] [Auto|ForceAuthorized|ForceUnauthorized] Dot1x Server [<IP Address>]

Dot1x UDP Port [<value>]

Dot1x Secret [<Shared Secret>] Dot1x

Statistics [<portlist>]

Dot1x Reauthenticate [<portlist>] [now] Dot1x

Parameters [<parameter>] [<value>]

Debug Loopback [int|ext]

IGMP Configuration

IGMP Status

IGMP Groups <vidlist>

IGMP Mode [enable|disable]

IGMP State <vidlist> [enable|disable] IGMP Querier
<vidlist> [enable|disable]

IGMP Router ports [<portlist>] [enable|disable] IGMP Unregistered
Flood [enable|disable]

DETAILED COMMAND DESCRIPTION

Some of the commands have optional parameters. If the optional parameter is omitted, a default value may be used

or the command may display the current setting (i.e. function as a get command).

Example 1, omitted parameter interpreted as display command:

Syntax:

System Name [<name>]

>system name <enter>

System Name: RJSMLAC-8MG-CAPS

Example 2, omitted parameter interpreted as default value (VLAN ID 1):

Syntax:

MAC Add <macaddress> <portlist> [<vid>]

>mac add 010203ABCDEF 16 <enter>

The following sections list the individual commands by showing the syntax and a description of each command.

SYSTEM COMMANDS*System Configuration*

Syntax:

System Configuration [all] Description:

Show system name, software version, hardware version and management MAC address. Optionally show the full configuration

[all]: Show the total switch configuration (default: System configuration only).

System Restore Default

Syntax:

System Restore Default [keepIP]

Description:

Restore factory default configuration.

[keepIP]: Preserve IP configuration (default: Not preserved).

System Name

Syntax:

System Name [<name>]

Description:

Set or show the system name. The empty string ("") clears the system name.

[<name>]: String of up to 16 characters (default: Show system name).

System Reboot

Syntax:

System Reboot

Description:

Reboot the switch.

System SNMP

Syntax:

System SNMP [enable|disable]

Description:

Activate or deactivate SNMP.

[enable|disable]: Enable/disable SNMP (default: Show SNMP mode).

System Trap

Syntax:

System Trap [<IP Address>]

Description:

Set or show SNMP traps destination.

[<IP Address>]: IP address to send traps to. 0.0.0.0 disables traps (default: Show trap destination).

System Readcommunity

Syntax:

Readcommunity [<community string>]

Description:

Set or show SNMP read community string.

[<community string>]: New community string. (default: Show current value).

System Writecommunity

Syntax:

Writecommunity [<community string>]

Description:

Set or show SNMP write community string.

[<community string>]: New community string. (default: Show current value).

System Trapcommunity

Syntax:

Trapcommunity [<community string>]

Description:

Set or show SNMP trap community string.

[<community string>]: New community string. (default: Show current value).

CONSOLE COMMANDS

Console Configuration

Syntax:

Console Configuration

Description:

Show configured console password and timeout.

Console Password

Syntax:

Console Password [<password>]

Description:

Set or show the console password. The empty string ("") disables the password check.

[<password>]: Password string of up to 16 characters.

Console Timeout

Syntax:

Console Timeout [<timeout>]

Description:

Set or show the console inactivity timeout in seconds. The value zero disables timeout.

[<timeout>]: Timeout value in seconds, 0, 60-10000.

Console Prompt

Syntax:

Console Prompt [<prompt_string>]

Description:

Set or show the console prompt string. The empty string ("") clears the prompt string.

[<prompt_string>]: Command prompt string of up to 10 characters.

PORT COMMANDS

Port Configuration

Syntax:

Port Configuration [<portlist>]

Description:

Show the configured and current speed, duplex mode, flow control mode and state for the port.

<portlist>: Port list (Default: All ports).

Port Mode

Syntax:

Port Mode [<portlist>] [<mode>]

Description:

Set or show the speed and duplex mode for the port.

<portlist>: Port list (Default: All ports).

<mode> : Port speed and duplex mode (Default: Show configured and current mode).

10hdx : 10 Mbit/s, half duplex.

10fdx : 10 Mbit/s, full duplex.

100hdx : 100 Mbit/s, half duplex.

100fdx : 100 Mbit/s, full duplex.

1000fdx : 1 Gbit/s, full duplex.

auto : Auto negotiation of speed and duplex.

Port Flow Control

Syntax:

Port Flow Control [<portlist>] [enable|disable]

Description:

Set or show flow control mode for the port.

<portlist> : Port list (default: All ports).

[enable|disable]: Enable/disable flow control (default: Show flow control mode).

Port State

Syntax:

Port State [<portlist>] [enable/disable]

Description:

Set or show the state for the port.

<portlist> : Port list (default: All ports).

[enable|disable]: Enable or disable port state (default: Show state).

Port MaxFrame

Syntax:

Port MaxFrame [<portlist>] [<framesize>|reset]

Description:

Set or show the maximum frame size in bytes (including FCS) for frames received on the port. Tagged frames are allowed to be 4 bytes longer than the maximum frame size. Use the reset option to return to the default setting.

[<portlist>] : Port list (default: All ports).

[<framesize>|reset]: Maximum frame size or reset to 1518 bytes (default: Show maximum frame size).

Port Statistics

Syntax:

Port Statistics [<portlist>] [clear]

Description:

Show or clear statistics for the port.

<portlist>: Port list (default: All ports).

[clear] : Clear port statistics (default: Show statistics).

port VeriPHY

Syntax:

Port VeriPHY [<portlist>] [full|anomaly|termination]

Description:

Perform VeriPHY cable diagnostics on the specified port(s).

<portlist>: Port list (default: All ports).

[full|anomaly|termination]:

Type of diagnostics. Full comprises cable length and full anomaly check, anomaly comprises full anomaly check and termination comprises anomaly check without check for coupling between pairs (default: full).

MAC TABLE COMMANDS

MAC Configuration

Syntax:

MAC Configuration

Description:

Show the permanently stored MAC table and the MAC ageing timer.

MAC Add

Syntax:

MAC Add <macaddress> <portlist>|none [<vid>] Description:
Add a static MAC address table entry and VLAN ID on ports.

<macaddress>: MAC address, 12-digit hex string, optionally separated with dashes or colons
(e.g. 010203ABCDEF or 01-02-03-AB-CD-EF or
01:02:03:AB:CD:EF).

<portlist> : Port list. Use "none" to specify no ports.

[<vid>] : VLAN ID, 1-4095 (default: 1).

MAC Delete

Syntax:

MAC Delete <macaddress> [<vid>]

Description:

Delete MAC address and VLAN ID.

<macaddress>: MAC address, 12-digit hex string, optionally separated with dashes or colons
(e.g. 010203ABCDEF or 01-02-03-AB-CD-EF or
01:02:03:AB:CD:EF).

[<vid>] : VLAN ID (default: 1).

MAC Lookup

Syntax:

MAC Lookup <macaddress> [<vid>]

Description:

Lookup MAC address and VLAN ID.

<macaddress>: MAC address, 12-digit hex string, optionally separated with dashes or colons
(e.g. 010203ABCDEF or 01-02-03-AB-CD-EF or
01:02:03:AB:CD:EF).

[<vid>] : VLAN ID, 1-4095 (default: 1).

MAC Table

Syntax:

MAC Table <vidlist>

Description:

Show MAC table for the VLAN Ids specified. Since the list can be very long, only the first 20 entries are shown.

<vidlist> : VLAN ID list.

MAC Flush

Syntax: MAC Flush

Description:

Removes non-static MAC address table entries.

MAC Age Time

Syntax:

MAC Agetime [<agetime>]

Description:

Set or show the MAC age timer in seconds. The value zero disables ageing.

[<agetime>]: Age timer in seconds, 0 or 10-65535 (default: Show timer)

VLAN COMMANDS

VLAN Configuration

Syntax:

VLAN Configuration [<portlist>]

Description:

Show the VLAN aware mode, port VLAN ID and accepted frame type for the port and the permanently stored VLAN table.

[<portlist>]: Port list (default: All ports).

VLAN Add

Syntax:

VLAN Add <vidlist> [<portlist>]

Description:

Add VLAN entry and include ports in member set.

<vidlist> : VLAN ID list.

[<portlist>]: Port list (default: All ports).

VLAN Delete

Syntax:

VLAN Delete <vidlist>

Description:

Delete VLAN entry (all ports excluded from member set).

<vidlist> : VLAN ID list.

VLAN Lookup

Syntax:

VLAN Lookup <vidlist>

Description:

Lookup VLAN entry and show port list.

<vidlist> : VLAN ID list.

VLAN Aware

Syntax:

VLAN Aware [<portlist>] [enable|disable]

Description:

Set or show the VLAN awareness mode for the port. VLAN aware ports will strip the VLAN tag from received frames and insert the tag in transmitted frames (except PVID). VLAN unaware ports will not strip the tag from received frames or insert the tag in transmitted frames.

[<portlist>]: Port list (default: All ports).

[enable|disable]: Enable/disable VLAN awareness (default: Show awareness).

VLAN PVID

Syntax:

VLAN PVID [<portlist>] [<vid>|none]

Description:

Set or show the port VLAN ID. Untagged frames received on the port will be classified to this VLAN ID. Frames classified to this VLAN ID will be sent untagged on the port.

[<portlist>]: Port list (default: All ports).

[<vid>|none]: Port VLAN ID, 1-4095 (default: Show PVID).

The 'none' option can be used for trunk links.

VLAN Frame Type

Syntax:

VLAN Frame Type [<portlist>] [all|tagged]

Description:

Set or show the accepted frame type for the port.

[<portlist>]: Port list (default: All ports).

[all|tagged]: Accept all or only tagged (default: Show frame type).

AGGREGATION/TRUNKING COMMANDS

aggregation Configuration

Syntax:

Aggr Configuration

Description:

Shows the aggregation groups and the aggregation mode.

Aggregation Add

Syntax:

Aggr Add <portlist>

Description:

Add link aggregation group including ports.

<portlist>: Aggregation port list.

Aggregation Delete

Syntax:

Aggr Delete <portlist>

Description:

Delete link aggregation group.

<portlist>: Port list. Aggregations including any of the ports will be deleted.

Aggregation Lookup

Syntax:

Aggr Lookup <portlist>

Description:

Lookup and display link aggregation group.

<portlist>: Port list. Aggregations including any of the ports will be shown.

Aggregation Mode

Syntax:

Aggr Mode [smac|dmac|xor]

Description:

Set or show link aggregation traffic distribution mode.

[smac|dmac|xor]: Aggregation mode, SMAC, DMAC or XOR (default: Show mode).

LACP COMMANDS

Lacp (IEEE 802.3ad Link Aggregation Protocol) provides a way to set up aggregation automatically between switches.

LACP Configuration

Syntax:

LACP Configuration [<portlist>]

Description:

Show the configuration of LACP on all or some ports.

<portlist>: Port list. Default is all ports.

LACP Mode

Syntax:

LACP mode [portlist] [enable|disable]

Description:

Enable or disable LACP on all or some ports.

<portlist>: List of ports to enable or disable LACP. Default is all ports. Enable|disable: Enable or disable LACP on the ports.

LACP Key

Syntax:

LACP key [<portlist>] [<key>|auto]

Description:

The key determines which ports potentially can aggregate together.

RSTP COMMANDS

RSTP is a protocol that prevents loops in the network and dynamically reconfigures which physical links in a switch should forward frames.

RSTP Configuration

Syntax:

RSTP Configuration [<portlist>]

Description:

Show the RSTP Configuration.

RSTP Sysprio

Syntax:

RSTP Sysprio [<sysprio>]

Description:

Set or show the RSTP system priority.

<sysprio>: Number between 0 and 61440 in increments of 4096. This provides for 16 distinct values: 0, 4096, 8192, 12288, 16384, 20480, 24576, 28672, 32768, 36864, 40960, 45056, 49152, 53248, 57344 and 61440.

The lower the system priority the more likely the switch is to become root in Spanning tree.

RSTP Hellotime

Syntax:

RSTP Hellotime [<secs>]

Description:

Set or show the RSTP Hellotime value.

<secs>: Number between 1 - 10 (default is 2)

RSTP Maxage

Syntax:

RSTP Maxage [<secs>]

Description:

Set or show the RSTP MaxAge value.

<secs>: Number between 6 - 40 (default is 20)

RSTP Fwddelay

Syntax:

RSTP Fwddelay [<secs>]

Description:

Set or show the RSTP Forward Delay value.

<secs>: Number between 4 - 30 (default is 15)

RSTP Version

Syntax:

RSTP Version [<version>]

Description:

Set or show the RSTP default protocol version to use.

<version>: normal - use RSTP, compat - compatible with old STP

RSTP Mode

Syntax:

RSTP Mode [<portlist>] [enable|disable]

Description:

Set or show the RSTP mode for the designated ports.

[<portlist>]: Port list (Default: All ports).

[enable|disable]: Enable or disable.

RSTP Aggr

Syntax:

RSTP Aggr [enable|disable]

Description:

Set or show the RSTP mode for aggregated links.

[enable|disable]: Enable or disable.

RSTP Edge

Syntax:

Rstp edge [enable|disable]

Description:

Expect the port to be an edge port (an end station) or a link to another STP device.

[enable|disable]: End-station or bridge.

RSTP Pathcost

Syntax:

RSTP pathcost [<portlist>] [<pathcost>|auto]

Description:

Set or show the RSTP path cost for the designated ports.

[<portlist>]: Port list (Default: All ports).

[<pathcost>]: Number between 1 - 200000000. Auto means auto generated path cost

Path cost is normally reverse proportional to the physical (or aggregated) link speed.

RSTP Mcheck

Syntax:

RSTP Mcheck <portlist>

Description:

Force protocol renegotiations on the specified ports.

<portlist>: Port list.

RSTP Status

Syntax:

RSTP Status

Description:

Show the current state of all RSTP incarnations and the physical (and aggregation) ports that they control.

RSTP Statistics

Syntax:

RSTP Statistics

Description:

Show the current statistics of all RSTP BPDU frames received and transmitted on the physical (and aggregation) ports.

USER GROUP COMMANDS

User groups provide another way than VLAN for making port grouping. With user groups it is possible to share a port between more user groups. An example on how to use user groups is given in chapter 3.5.

User Group Configuration

Syntax:

User Group Configuration

Description:

Show the user groups.

User Group Add

Syntax:

User Group Add <grouplist> [<portlist>]

Description:

Add user group entry including the ports.

<grouplist> : User group ID list.

[<portlist>]: Port list (default: All ports).

User Group Delete

Syntax:

User Group Delete <grouplist>

Description:

Delete user group entry.

<grouplist>: User group ID list.

User Group Lookup

Syntax:

User Group Lookup <grouplist>

Description:

Lookup user group entry and show port members.

<grouplist>: User group ID list.

QoS COMMANDS

QoS Configuration

Syntax:

QoS Configuration [<portlist>]

Description:

Show the configured QoS mode, IP ToS Precedence priority mapping, VLAN user priority mapping, default priority, default VLAN user priority, L4 default priority, L4 match priority and UDP/TCP entries for the port.

[<portlist>] : Port list (default: All ports).

QoS Mode

Syntax:

QoS Mode [<portlist>] [tag|iptos|port|diffserv|L4]

Description:

Set or show the priority mode for the port.

[<portlist>] : Port list (default: All ports).

[tag|diffserv]: Enable tag, IP ToS, IP differentiated services or L4 priority for the port (default: Show mode).

QoS Default

Syntax:

QoS Default [<portlist>] [<class>]

Description:

Set or show the default class. In tag mode, the default class is used for untagged frames. In port mode, the default class is used as the port priority.

In the other modes, the default class is used for non-IP frames and IP frames with options.

[<portlist>]: Port list (default: All ports).

[<class>] : Internal class of service (default: Show class).

QoS Tagprio

Syntax:

QoS Tagprio [<portlist>] [<tagpriolist>] [<class>]

Description:

Set or show the VLAN user priority mapping.

[<portlist>] : Port list (default: All ports).

[<tagprio>]: VLAN user priority list, 0-7 (default: All user priorities).
[<class>] : Internal class of service (default: Show class).

QoS DiffServ

Syntax:

QoS DiffServ [<dscplist>] [<class>]

Description:

Set or show the IP Differentiated Services mapping.

[<dscplist>]: IP DSCP list, 0-63 (default: All DSCP values).

[<class>] : Internal class of service (default: Show class).

Constraint:

only takes a single DSCP number as parameter instead of a DSCP list.

QoS Userprio

Syntax:

QoS Userprio [<portlist>] [<tagprio>]Description:

Set or show the default VLAN user priority for received untagged frames.

[<portlist>] : Port list (default: All ports).

[<tagprio>] : VLAN tag user priority, 0-7 (default: Show user priority).

[<portlist>] : Port list (default: All ports).

[enable|disable] : Enable/disable the multicast policer (default: Show multicast policer mode).

[<rate>] : Leaky bucket rate in Kbit/s [0-1000000k] or Mbit/s [0-1000m].

MIRROR COMMANDS

MIRROR CONFIGURATION

Syntax:

Mirror Configuration

Description:

Show the mirror destination port and mirror mode for source ports.

MIRROR PORT

Syntax:

Mirror Port [<port>]

Description:

Set or show the mirror destination port.

[<port>]: Mirror destination port (default: Show mirror port).

MIRROR SOURCE

Syntax:

Mirror Source [<portlist>] [enable|disable]

Description:

Set or show the source port mirror mode.

[<portlist>] : Source port list (default: All ports).

[enable|disable]: Enable/disable mirroring of frames received on port
(default: Show mirror mode).

IGMP SNOOPING COMMANDS

IGMP SNOOPING DESCRIPTION

Per default – and when enabled - IGMP snooping will function in each statically defined VLAN (i.e. those VLANs that are stored in non-volatile configuration memory). The IGMP snooping module will listen to IP multicast router

IGMP queries and the IGMP reports from hosts, and will update the switch device MAC table with IP multicast group MAC addresses and port masks according to the received reports. If no IP multicast router is present in an IGMP enabled VLAN, the switch will perform the querying itself in that particular VLAN.

The switch querying functionality can be enabled and disabled per VLAN. The switch must be setup for IP management (see web management section) in order for the querying to work.

IGMP CONFIGURATION

Syntax:

IGMP Configuration

Description:

Show the IGMP configuration .

IGMP STATUS

Syntax:

IGMP Status

Description:

Show the IGMP operational status and statistics .

IGMP GROUPS

Syntax:

IGMP Groups <vidlist>

Description:

Show IGMP groups for given VLANs.

IGMP MODE

Syntax:

IGMP Mode [enable|disable]

Description:

Set or show global IGMP mode. (default:

Show current mode)

IGMP STATE

Syntax:

IGMP State <vidlist> [enable|disable]

Description:

Set or Show IGMP state per VLAN. (default: Show IGMP state)

IGMP QUERIER

Syntax:

IGMP Querier <vidlist> [enable|disable]

Description:

Set or Show IGMP querier state per VLAN. (default: Show IGMP querier state)

ROUTER PORTS

Syntax:

IGMP Router ports [<portlist>] [enable|disable]

Description:

Set or show IGMP administrative router ports. (default: Show current router ports)

UNREGISTERED FLOOD

Syntax:

IGMP Unregistered Flood [enable|disable]

Description:

Set or show forwarding mode for unregistered (not-joined) IP multicast traffic. Will flood when enabled, and forward to router-ports only when disabled (default: Show current mode)

DEBUG COMMANDS

DEBUG LOOPBACK

Syntax:

Debug Loopback [int|ext]

Description:

Perform internal or external loopback test.

[int|ext]: Internal or external loopback (default: Internal).

IP COMMANDS

The TFTP related commands in below are not supported by all versions. From 2.33, they are not supported anymore.

IP CONFIGURATION

Syntax:

IP Configuration

Description:

Show configured IP address, mask, gateway, VLAN ID and mode.

IP SETUP

Syntax:

IP Setup [ipaddress> [<ipmask> [ipgateway>]]] [<vid>]

Description:

Set or show IP configuration.

[<ipaddress>]: IP address (default: Show IP configuration).

[<ipmask>] : IP subnet mask (default: Subnet mask for address class).

[<ipgateway>]: Default IP gateway (default: 0.0.0.0).

[<vid>] : VLAN ID, 1-4095 (default: 1).

IP MODE

Syntax:

IP Mode [enable|disable]

Description:

Activate or deactivate the IP configuration.

[enable|disable]: Enable/disable IP (default: Show IP mode).

IP PING

Syntax:

IP Ping [-n <count>][-w <timeout>] <ipaddress>

Description:

Ping the specified IP address.

[-n <count>]: Number of echo requests to send (default: 1).

[-w <timeout>]: Timeout in seconds to wait for each reply (default: 2).

IP ARP

Syntax: IP Arp

Description:

Show the current content of the ARP table.

IP DHCP

Syntax:

IP Dhcp [enable|disable]

Description:

Activate or deactivate the DHCP Protocol.

[enable|disable]: Enable/disable DHCP (default: Show DHCP mode).

IP TFTP

Syntax:

IP TFTP [enable|disable]

Description:

Activate or deactivate the TFTP protocol.

[enable|disable]: Enable/disable TFTP (default: Show TFTP mode).

IP TFTPGET

Syntax:

IP TFTPGET server-ip filename

Description:

Fetch file from server-ip via the TFTP protocol and store in flash. The content of the file will determine if it is a runtime image or a configuration file.

server-ip: IP address of TFTP-server

filename: Name of source file on TFTP-server

IP TFTPPUT

Syntax:

IP TFTPPUT config|image|backup server-ip filename

Description:

Send configuration, image or backup file to server-ip via the TFTP protocol.

config|image|backup: File contains configuration, runtime image or backup image

server-ip: IP address of TFTP-server

filename: Name of destination file on TFTP-server

DOT1X COMMANDS***DOT1X CONFIGURATION***

Syntax:

Dot1x Configuration

Description:

Show current 802.1X configuration .

DOT1X MODE

Syntax:

Dot1x Mode [enable|disable]

Description:

Enable or disable 802.1X process for the switch.

[enable|disable]: new mode (default: Show current configuration).

DOT1X STATE

Dot1x State [<portlist>] [Auto|ForceAuthorized|ForceUnauthorized]

Description:

Set or show the 802.1X state for the port.

[<portlist>] : Port list (default: All ports).

[Auto|ForceAuthorized|ForceUnauthorized]: Set 802.1X state for the ports (default: Show mode).

DOT1X SERVER

Syntax:

Dot1x Server [<IP Address>]

Description:

Set or show RADIUS server IP address.

[<IP Address>]: IP address of external RADIUS server. (default: Show current configuration)

DOT1X UDP PORT

Syntax:

Dot1x UDP Port [<value>]

Description:

Set up UDP Port for the external RADIUS server.

[<value>]: The UDP port the RADIUS server listens to (default: Show current configuration).

DOT1X SECRET

Dot1x Secret [<Shared Secret>]

Description:

Set or show the secret shared with the RADIUS server.

[<Shared Secret>]: Shared secret shared with external RADIUS server. (default: Show current configuration)

DOT1X STATISTICS

Syntax:

Dot1x Statistics [<portlist>]

Description:

Show 802.1X statistics for the port.

[<portlist>]: Port list (default: All ports).

DOT1X REAUTHENTICATE

Syntax:

Dot1x Reauthenticate [<portlist>] [now]

Description:

Refresh (restart) 802.1X authentication process for the port by setting reAuthenticate TRUE.

[<portlist>]: Port list (default: All ports).

[now]: if specified, force re-authentication immediately.

DOT1X PARAMETERS

Syntax:

Dot1X Parameters [<parameter>] [<value>]

Description:

Set up advanced 802.1X parameters.

[<parameter>]: Parameter to change.

[<value>]: New value for the given parameter.

FILTER COMMANDS

FILTER CONFIGURATION

Syntax:

Filter Configuration [<portlist>]

Description:

Show the configured valid IP address and DHCP server filter for the port.

[<portlist>]: Port list (Default: All ports).

FILTER SOURCE IP

Syntax:

Filter Source IP [<portlist>] [all|dhcp|<ipaddress> [<ipmask>]]

Description:

Set or show the valid source IP address for the port.

[<portlist>] : Port list (default: All ports).

[all|dhcp|<ipaddress> [<ipmask>]]: Allow all IP addresses, the IP address from DHCP or static IP address configuration (default: Show Filter source IP).

FILTER DHCP SERVER

Syntax:

Filter DHCP Server [<portlist>] [allow|deny]

Description:

Set or show the DHCP server port.

[<portlist>]: Port list (default: All ports).

[allow|deny]: Enable or disable accepting DHCP reply frame on port (default: Show Filter DHCP Server).

EXAMPLES

VLAN CONFIGURATION

This example shows how to configure two VLANs with the following setup on the RJSMLAC-8MG-CAPS switch:

- VID 1 spans ports 2-8 and VID 2 spans ports 1-3, so port 2 and 3 are members of both VLANs and all 8 ports must be VLAN aware.
- Port 1 is the access port for VID 2, so PVID of port 1 must be set to 2.
- Port 2 is the trunk port for VID 1 and VID 2, so the PVID of port 2 must be set to 'none' and port 2 must be set to accept tagged frames only.
- Port 3 is the hybrid port for VID 1 and VID 2, where VID 1 is the untagged VLAN, so PVID must be set to 1
- Ports 4-8 are access ports for VID 1.

The following CLI session does the above setup provided that the initial configuration is the default configuration:

```
>vlan
VLAN>delete 1VLAN>add 1 2-8
VLAN>add 2 1-3
VLAN>aware enable
VLAN>pvid 1 2
VLAN>pvid 2 none
VLAN>frame type 2 tagged
VLAN>conf
VLAN Configuration:
  Port   Aware  PVID  Frame Type
  All    2      enabled  1:
  Tagged none  enabled  2:
  All    1      enabled  3:
  All    1      enabled  4:
  All    1      enabled  5:
  All    1      enabled  6:
  All    1      enabled  7:
  All    1      enabled  8:
```

Entries in permanent table:
 1: 2,3,4,5,6,7,8
 2: 1,2,3

VLAN>

USER GROUP CONFIGURATION

This example shows how to configure two user groups, port 1+ port 2 and port 4+ port 5, with a common server, port 3.

The following CLI session does the above setup on RJSMLAC-8MG-CAPS switch provided the initial configuration is the default configuration:

```
>user group          # Go to user group level
User Group>delete 1  # Delete default user group 1
User Group>add 2 1-3 # Create user group with ports 1-3
User Group>add 3 3-5 # Create user group with ports 3-5
User Group>add 1 6-8 # Restore default group excluding ports 1-5
```

FACTORY DEFAULT CONFIGURATION

The factory default configuration is a VLAN unaware L2 switch with automatic learning/ageing and auto negotiation enabled on all ports:

- System: The system name string is 8MG.
- Console: The password string is empty and inactivity timeout is disabled. The prompt is ">".
- Port: All ports are enabled for auto negotiation and flow control is disabled. Max frame size is 1518.
- MAC table: The table is empty, auto learning and ageing is enabled. The ageing timer is 300 seconds.
- VLAN: Only VLAN 1 is present in the table and includes all ports. All ports are VLAN unaware with Port VLAN ID 1. All ports accept all frame types.
- Aggregation: No ports are aggregated, but aggregation mode is set to XOR.
- LACP: No ports have LACP enabled.
- RSTP: No ports and no aggregations have RSTP enabled
- User Groups: User group 1 exists and includes all ports.
- QoS: IP ToS Precedence priority is enabled and all Precedence values are given high priority. VLAN tag priorities will be set according to 802.1p. The UDP/TCP port list is empty. Default priority is high. Default user priority is 0. L4 default priority and match priority are low. All shaper and policers are disabled.
- Mirror: Mirroring is disabled.
- IP: IP address is 192.168.1.111, Mask: 255.255.255.0, Gateway: 192.168.1.111. WEB interface is enabled.
- IP: DHCP mode is disabled.
- SNMP: SNMP is enabled. Traps are disabled.
- Dot1X: 802.1X is disabled. All ports set to "Force Authorized"
- IGMP snooping: Disabled in each defined VLAN

WEB INTERFACE

From the WEB interface it is possible to, among other things:

- Set port mode.
- Enable/disable flow control.
- Configure simple port-based VLAN.
- Configure aggregation groups
- Configure LACP parameters
- Configure RSTP parameters.
- Configure QoS.

- Read and clear statistics counters.
- Monitor LACP status
- Monitor RSTP status.
- Configure and monitor 802.1X
- Configure and monitor IGMP snooping (if defined for switch device)
- Configure and monitor Power over Ethernet functions (if defined for switch device)
- Configure source-IP address and DHCP server filter
- Upgrade software

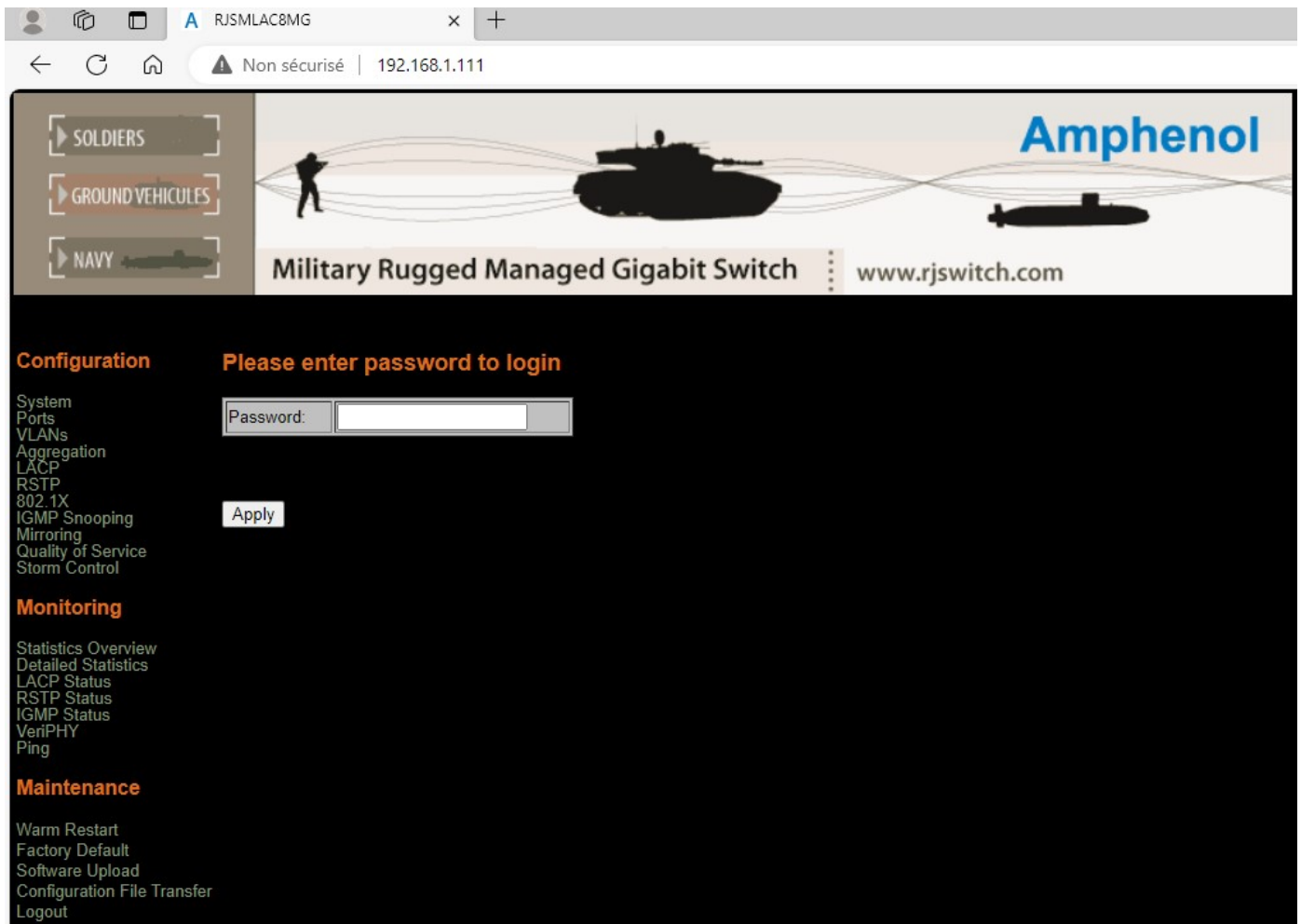
All operations are password protected. The password must be entered at login. The password is the same as is being used in the command line interface.

As stated in the WEB interface is enabled, the IP address is 192.168.1.111 with 255.255.255.0 mask. You can enable DHCP if your environment include a DHCP server. Example for setting IP parameters via the command line interface:

```
>ip setup 10.10.129.189 255.255.252.0 10.10.128.14 1  
>ip mode enable
```

WEB INTERFACE CONFIGURATION

LOGIN SCREEN



Configuration

Please enter password to login

System
Ports
VLANs
Aggregation
LACP
RSTP
802.1X
IGMP Snooping
Mirroring
Quality of Service
Storm Control

Monitoring

Statistics Overview
Detailed Statistics
LACP Status
RSTP Status
IGMP Status
VeriPHY
Ping

Maintenance

Warm Restart
Factory Default
Software Upload
Configuration File Transfer
Logout

Enter the password and Press apply to login.

* The password string is empty or « admin » by default.

SYSTEM CONFIGURATION

← ↻ 🏠 ⚠ Non sécurisé | 192.168.1.111

▶ SOLDIERS

▶ GROUND VEHICLES

▶ NAVY

Amphenol

Military Rugged Managed Gigabit Switch | www.rjswitch.com

Configuration

System
Ports
VLANs
Aggregation
LACP
RSTP
802.1X
IGMP Snooping
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Factory Default
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Logout

System Configuration

MAC Address	1c-51-b5-00-01-56
S/W Version	RJSMAC&MG 3.02
H/W Version	1.0
Active IP Address	192.168.1.111
Active Subnet Mask	255.255.255.0
Active Gateway	0.0.0.0
DHCP Server	0.0.0.0
Lease Time Left	0 secs

DHCP Enabled	<input type="checkbox"/>
Fallback IP Address	192.168.1.111
Fallback Subnet Mask	255.255.255.0
Fallback Gateway	0.0.0.0
Management VLAN	1
Name	
Password
Inactivity Timeout (secs)	0
SNMP enabled	<input checked="" type="checkbox"/>
SNMP Trap destination	0.0.0.0
SNMP Read Community	public
SNMP Write Community	private
SNMP Trap Community	public

Description:Showing information:

1. MAC Address
2. Software Version
3. Hardware Version
4. Active IP Address
5. Active Subnet Mask
6. Active Gateway
7. DHCP Server
8. Lease Time Left

Available settings:

1. Set either DHCP or Static IP address.
2. Set Management VLAN ID
3. Set System name
4. Set Password
5. Set inactivity timeout – the web interface will logout
6. Set Enable / Disable of SNMP
7. Set SNMP parameters: SNMP Read/Write/Trap community name

Press Apply to save all changes.

Press Refresh to view updated information.

PORT CONFIGURATION

Configuration

- System
- Ports
- VLANs
- Aggregation
- LACP
- RSTP
- 802.1X
- IGMP Snooping
- Mirroring
- Quality of Service
- Storm Control

Monitoring

- Statistics Overview
- Detailed Statistics
- LACP Status
- RSTP Status
- IGMP Status
- VeriPHY
- Ping

Maintenance

- Warm Restart
- Factory Default
- Software Upload
- Configuration File
- Transfer
- Logout

Port Configuration

Enable Jumbo Frames

PERFECT_REACH/Power Saving Mode:

Port	Link	Mode	Flow Control
1	1000FDX	Auto Speed	<input type="checkbox"/>
2	Down	Auto Speed	<input type="checkbox"/>
3	Down	Auto Speed	<input type="checkbox"/>
4	Down	Auto Speed	<input type="checkbox"/>
5	Down	Auto Speed	<input type="checkbox"/>
6	Down	Auto Speed	<input type="checkbox"/>
7	Down	Auto Speed	<input type="checkbox"/>
8	Down	Auto Speed	<input type="checkbox"/>

Drop frames after excessive collisions

Description:**ENABLE / DISABLE JUMBO FRAME SUPPORT OF UP TO 9K**

1. Enable / Disable "Perfect Reach" - An intelligent algorithm, adjusts power to the required levels after approximately determining the cable length by measuring link pulse degradation. Since the IEEE802.3 specification requires PHYs (physical layer) to communicate at maximum cable reach of 100 m even if plugged into a cable that is much shorter, there would be an unnecessary waste of power. The "Perfect-Reach" feature addresses this problem and helps achieve power savings of up to 10 percent when plugged into shorter cables.

2. Set or show the speed and duplex mode for the port.

Port speed and duplex mode:

- 10hdx : 10 Mbit/s, half duplex.
- 10fdx : 10 Mbit/s, full duplex.
- 100hdx : 100 Mbit/s, half duplex.
- 100fdx : 100 Mbit/s, full duplex.
- 1000fdx: 1 Gbit/s, full duplex.

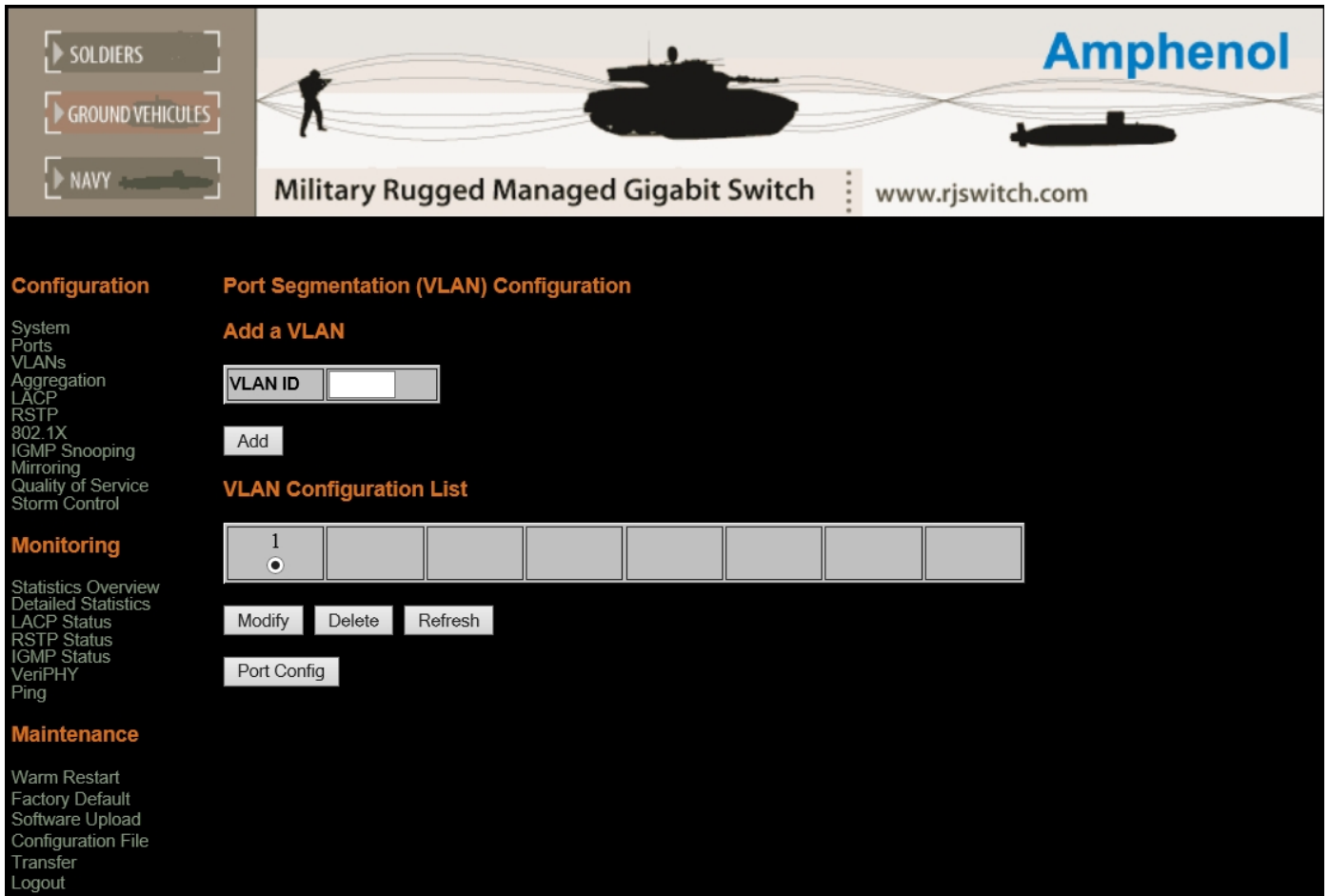
Default is auto : Auto negotiation of speed and duplex.

3. Enable / Disable - Drop frames after excessive collisions

Press Apply to save all changes.

Press Refresh to view updated information.

VLAN CONFIGURATION



ADD VLAN

Description:

Enter VLAN ID and press the “Add” button to add a VLAN entry and include ports in member set.

DELETE VLAN

Description:

Press the “Delete” button to delete a VLAN entry (all ports excluded from member set).

Press Modify to lookup VLAN entry and show port list (set which ports are VLAN members)

Press Refresh to view updated information.

Press Port Config to set the configuration of VLAN per Port.

VLAN MODIFY

Description:

Lookup VLAN entry and show port list.

Press Apply to save all changes.

Press Refresh to view updated information.

VLAN PER PORT CONFIGURATION

Description:

Show the VLAN aware mode, Ingress Filtering mode, Packet Type, port VLAN ID and accepted frame type for the port and the permanently stored VLAN table.

VLAN AWARE**Description:**

Set or show the VLAN awareness mode for the port. VLAN aware ports will strip the VLAN tag from received frames and insert the tag in transmitted frames (except PVID). VLAN unaware ports will not strip the tag from received frames or insert the tag in transmitted frames.

INGRESS FILTERING**Description:**

Enable / Disable Ingress filtering. When ingress filtering is enable you can set which frame types are accepted.

VLAN FRAME TYPE**Description:**

Set or show the accepted frame type for the port.

VLAN PVID**Description:**

Set or show the port VLAN ID. Untagged frames received on the port will be classified to this VLAN ID. Frames classified to this VLAN ID will be sent untagged on the port.

The 'none' option can be used for trunk links.

Press Apply to save all changes.

Press Cancel to discard changes.

AGGREGATION / TRUNKING COMMANDS

Configuration

- System
- Ports
- VLANs
- Aggregation
- LACP
- RSTP
- 802.1X
- IGMP Snooping
- Mirroring
- Quality of Service
- Storm Control

Monitoring

- Statistics Overview
- Detailed Statistics
- LACP Status
- RSTP Status
- IGMP Status
- VeriPHY
- Ping

Maintenance

- Warm Restart
- Factory Default
- Software Upload
- Configuration File
- Transfer
- Logout

Aggregation/Trunking Configuration

Group/Port	1	2	3	4	5	6	7	8
Normal	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Group 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Group 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Group 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Group 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Apply Refresh

AGGREGATION CONFIGURATION

Description:

Shows and Set the aggregation groups and the aggregation mode.

Press Apply to save all changes.

Press Refresh to view updated information.

LACP COMMANDS

The screenshot shows the web interface for a Military Rugged Managed Gigabit Switch. At the top, there is a banner with the Amphenol logo and the text "Military Rugged Managed Gigabit Switch" and "www.rjswitch.com". Below the banner, there is a navigation menu on the left with options: SOLDIERS, GROUND VEHICLES, and NAVY. The main content area is titled "LACP Port Configuration" and contains a table with 8 rows and 3 columns: Port, Protocol Enabled, and Key Value. All "Protocol Enabled" checkboxes are unchecked, and all "Key Value" fields are set to "auto". Below the table are "Apply" and "Refresh" buttons. On the left side of the interface, there are sections for "Configuration", "Monitoring", and "Maintenance" with various sub-options.

Port	Protocol Enabled	Key Value
1	<input type="checkbox"/>	auto
2	<input type="checkbox"/>	auto
3	<input type="checkbox"/>	auto
4	<input type="checkbox"/>	auto
5	<input type="checkbox"/>	auto
6	<input type="checkbox"/>	auto
7	<input type="checkbox"/>	auto
8	<input type="checkbox"/>	auto

Description:

LACP (IEEE 802.3ad Link Aggregation Protocol) provides a way to set up aggregation automatically between switches.

LACP CONFIGURATION

Description:

Show the configuration of LACP on all or some ports (default is all ports).

LACP MODE

Description:

Enable or disable LACP on all or some ports.

LACP KEY

Description:

The key determines which ports potentially can aggregate together. Default is auto.

Press Apply to save all changes.

Press Refresh to view updated information.

RSTP COMMANDS

The screenshot shows the web interface for a Military Rugged Managed Gigabit Switch. At the top, there is a banner with the Amphenol logo and the text 'Military Rugged Managed Gigabit Switch' and 'www.rjswitch.com'. Below the banner, there are navigation tabs for 'SOLDIERS', 'GROUND VEHICLES', and 'NAVY'. The main content area is divided into two sections: 'RSTP System Configuration' and 'RSTP Port Configuration'. The 'RSTP System Configuration' section includes a sidebar menu with options like System, Ports, VLANs, Aggregation, LACP, RSTP, 802.1X, IGMP Snooping, Mirroring, Quality of Service, and Storm Control. The 'RSTP System Configuration' table has the following data:

System Priority	32768
Hello Time	2
Max Age	20
Forward Delay	15
Force version	Normal

The 'RSTP Port Configuration' section includes a sidebar menu with options like Statistics Overview, Detailed Statistics, LACP Status, RSTP Status, IGMP Status, VeriPHY, and Ping. The 'RSTP Port Configuration' table has the following data:

Port	Protocol Enabled	Edge	Path Cost
Aggregations	<input type="checkbox"/>		
1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto

At the bottom of the interface, there are 'Apply' and 'Refresh' buttons.

RSTP SYSTEM CONFIGURATION

RSTP SYSTEM PRIORITY

Description:

Set or show the RSTP system priority.

System Priority Number is between 0 and 61440 in increments of 4096. This provides for 16 distinct values: 0, 4096, 8192, 12288, 16384, 20480, 24576, 28672, 32768, 36864, 40960, 45056, 49152, 53248, 57344 and 61440.

The lower the system priority the more likely the switch is to become root in Spanning tree.

RSTP HELLO TIME

Description:

Set or show the RSTP Hellotime value.

RSTP Hellotime is a Number between 1 - 10 (default is 2)

RSTP MAX AGE

Description:

Set or show the RSTP MaxAge value.
MaxAge is a Number between 6 - 40 (default is 20)

RSTP FORWARD DELAY**Description:**

Set or show the RSTP Forward Delay value.
RSTP forward Delay is a Number between 4 - 30 (default is 15)

RSTP FORCE VERSION**Description:**

Set or show the RSTP default protocol version to use.
When set to normal - use RSTP (IEEE802.1w), compatible - compatible with old STP (IEEE802.1d)

RSTP PORT CONFIGURATION***RSTP AGGREGATION*****Description:**

Set or show the RSTP mode for aggregated links.
Enable or disable RSTP on aggregated links.

RSTP MODE**Description:**

Set or show the RSTP mode for the designated ports.
Enable or disable RSTP protocol per port.

RSTP EDGE**Description:**

Expect the port to be an edge port (an end station) or a link to another STP device.

Enable for End-station or Disable for bridge.

RSTP PATH COST**Description:**

Set or show the RSTP path cost for the designated ports.
RSTP Path Cost is a Number between 1 - 200000000. Auto means auto-generated path-cost

Path-cost is normally reverse proportional to the physical (or aggregated) link speed.

Press Apply to save all changes.

Press Refresh to view updated information.

802.1X CONFIGURATION

Configuration **802.1X Configuration**

System: Disabled ▾
 Ports: 0.0.0.0
 VLANs: 1812
 Aggregation:
 LACP:
 RSTP:
802.1X
 IGMP Snooping
 Mirroring
 Quality of Service
 Storm Control

Port	Admin State	Port State			
1	Force Authorized ▾	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
2	Force Authorized ▾	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
3	Force Authorized ▾	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
4	Force Authorized ▾	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
5	Force Authorized ▾	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
6	Force Authorized ▾	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
7	Force Authorized ▾	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
8	Force Authorized ▾	802.1X Disabled	Re-authenticate	Force Reinitialize	Statistics
			Re-authenticate All	Force Reinitialize All	

Parameters
 Apply Refresh

802.1X CONFIGURATION

Description:

Show current 802.1X configuration.

802.1X MODE

Description:

Enable or disable 802.1X process for the switch.

802.1X SERVER

Description:

Set or show RADIUS server IP address.

Set the IP address of external RADIUS server. (by default the system shows current configuration)

802.1X UDP PORT

Description:

Set up UDP Port for the external RADIUS server.

The UDP port the RADIUS server listens to (by default the system shows current configuration).

802.1X SECRET**Description:**

Set or show the secret shared with the RADIUS server.

Set a shared secret with external RADIUS server. (by default the system shows current configuration)

802.1X ADMIN STATE**Description:**

Set or show the 802.1X state for the port. The available modes are :

- Auto
- Force Authorized
- Force Unauthorized

802.1X STATISTICS**Description:**

Show 802.1X statistics for the port.

802.1X RE-AUTHENTICATE**Description:**

Refresh (restart) 802.1X authentication process for the port.

Press the "re-authenticate all" button to perform the re-authentication process for all ports.

FORCE REINITIALIZE**Description:**

Refresh (restart) 802.1X initialization process for the port.

Press the "re-initialize all" button to perform the re-initialization process for all ports.

Press Parameters to set up advanced 802.1X parameters.

Press Apply to save all changes.

Press Refresh to view updated information.

ADVANCED 802.1X PARAMETERS**802.1X PARAMETERS****Description:**

Press the Parameters button Set up advanced 802.1X parameters.

Available parameters:

1. Reauthentication [Enabled or Disabled]
2. Reauthentication Period [1-3600 seconds]
3. EAP timeout [1-255 seconds].

Press Apply to save all changes.

Press Refresh to view updated information.

IGMP SNOOPING CONFIGURATION

The screenshot shows the web interface for a Military Rugged Managed Gigabit Switch. At the top, there is a banner with the Amphenol logo and the text 'Military Rugged Managed Gigabit Switch' and 'www.rjswitch.com'. Below the banner, there are navigation tabs for 'SOLDIERS', 'GROUND VEHICLES', and 'NAVY'. The main content area is divided into three sections: 'Configuration', 'Monitoring', and 'Maintenance'. Under 'Configuration', there is a sub-section for 'IGMP Configuration' with the following settings: 'IGMP Enabled' (disabled), 'Router Ports' (ports 1-8 all selected), and 'Unregistered IPMC Flooding enabled' (checked). Below these settings is a table for VLAN configuration:

VLAN ID	IGMP Snooping Enabled	IGMP Querying Enabled
1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Buttons for 'Apply' and 'Refresh' are located below the table. The 'Monitoring' section includes links for 'Statistics Overview', 'Detailed Statistics', 'LACP Status', 'RSTP Status', 'IGMP Status', 'VeriPHY', and 'Ping'. The 'Maintenance' section includes links for 'Warm Restart', 'Factory Default', 'Software Upload', 'Configuration File Transfer', and 'Logout'.

IGMP SNOOPING DESCRIPTION

Per default – and when enabled - IGMP snooping will function in each statically defined VLAN (i.e. those VLANs that are stored in non-volatile configuration memory). The IGMP snooping module will listen to IP multicast router, IGMP queries and the IGMP reports from hosts, and will update the switch device MAC table with IP multicast group MAC addresses and port masks according to the received reports. If no IP multicast router is present in an IGMP enabled VLAN, the switch will perform the querying itself in that particular VLAN.

The switch querying functionality can be enabled and disabled per VLAN.

IGMP CONFIGURATION

Description:

Show the IGMP configuration.

IGMP MODE

Description:

Set or show global IGMP mode.

Enable or disable IGMP functionality for the switch.

ROUTER PORTS

Description:

Set or show IGMP administrative router ports. Tag those ports that you would like to act as router ports.

UNREGISTERED IPMC FLOODING**Description:**

Set or show forwarding mode for unregistered (not-joined) IP multicast traffic. The switch will flood ip multicast traffic when enabled, and forward to router-ports only when disabled.

IGMP SNOOPING PER VLAN**Description:**

Set or Show IGMP state per VLAN.

[enabled|disabled]

IGMP QUERYING PER VLAN**Description:**

Set or Show IGMP querier state per VLAN.

Press Apply to save all changes.

Press Refresh to view updated information.

MIRROR CONFIGURATION

Configuration

- System
- Ports
- VLANs
- Aggregation
- LACP
- RSTP
- 802.1X
- IGMP Snooping
- Mirroring**
- Quality of Service
- Storm Control

Monitoring

- Statistics Overview
- Detailed Statistics
- LACP Status
- RSTP Status
- IGMP Status
- VeriPHY
- Ping

Maintenance

- Warm Restart
- Factory Default
- Software Upload
- Configuration File Transfer
- Logout

Mirroring Configuration

Port	Mirror Source
1	<input type="checkbox"/>
2	<input type="checkbox"/>
3	<input type="checkbox"/>
4	<input type="checkbox"/>
5	<input type="checkbox"/>
6	<input type="checkbox"/>
7	<input type="checkbox"/>
8	<input type="checkbox"/>

Mirror Port: 1

Apply Refresh

MIRROR CONFIGURATION

Description:

Show the mirror destination port and mirror mode for source ports.

MIRROR SOURCE

Description:

Set or show the source port mirror mode.

Enable / Disable mirroring of frames received on port

MIRROR PORT

Description:

Set or show the mirror destination port.

Press Apply to save all changes.

Press Refresh to view updated information.

QoS CONFIGURATION

Configuration

- System
- Ports
- VLANs
- Aggregation
- LACP
- RSTP
- 802.1X
- IGMP Snooping
- Mirroring
- Quality of Service**
- Storm Control

Monitoring

- Statistics Overview
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- Factory Default
- Software Upload
- Configuration File
- Transfer
- Logout

QoS Configuration

Queue Mode	<input checked="" type="radio"/> Strict <input type="radio"/> WRR Note : WRR is not supported in Jumbo Frame mode.
QoS Mode	QoS Disabled

APPLY CANCEL

QoS CONFIGURATION

Description:

Show the configured QoS mode, IP ToS Precedence priority mapping, VLAN user priority mapping, default priority and default VLAN user priority.

QUEUES MODE**Description:**

Set or show the priority mode for the switch.

WRR – Weighted Round Robin – is a scheduling desicipline were each queue is allocated a preset weight that would influence it's QoS.

Strict - is a scheduling discipline were all queues are allocated a fixed priority.

QoS MODE**Description:**

Set or show the priority mode for the port

The option are: Enable / Disable QoS for the switch, 802.1p Priority and DSCP Priority.

Press Apply to save all changes.

Press Cancel to discard changes.

STRICT QoS MODES

QoS 802.1P

Description:

Set or show the 802.1p priority mapping.

Press Apply to save all changes.

Press Cancel to discard changes.

QoS DSCP (DIFFSERV)

Description:

Set or show the IP Differentiated Services mapping.

Press Apply to save all changes.

Press Cancel to discard changes.

WRR QoS MODES

QoS 802.1P

Description:

Set or show the 802.1p priority mapping.

QoS DSCP (DIFFSERV)

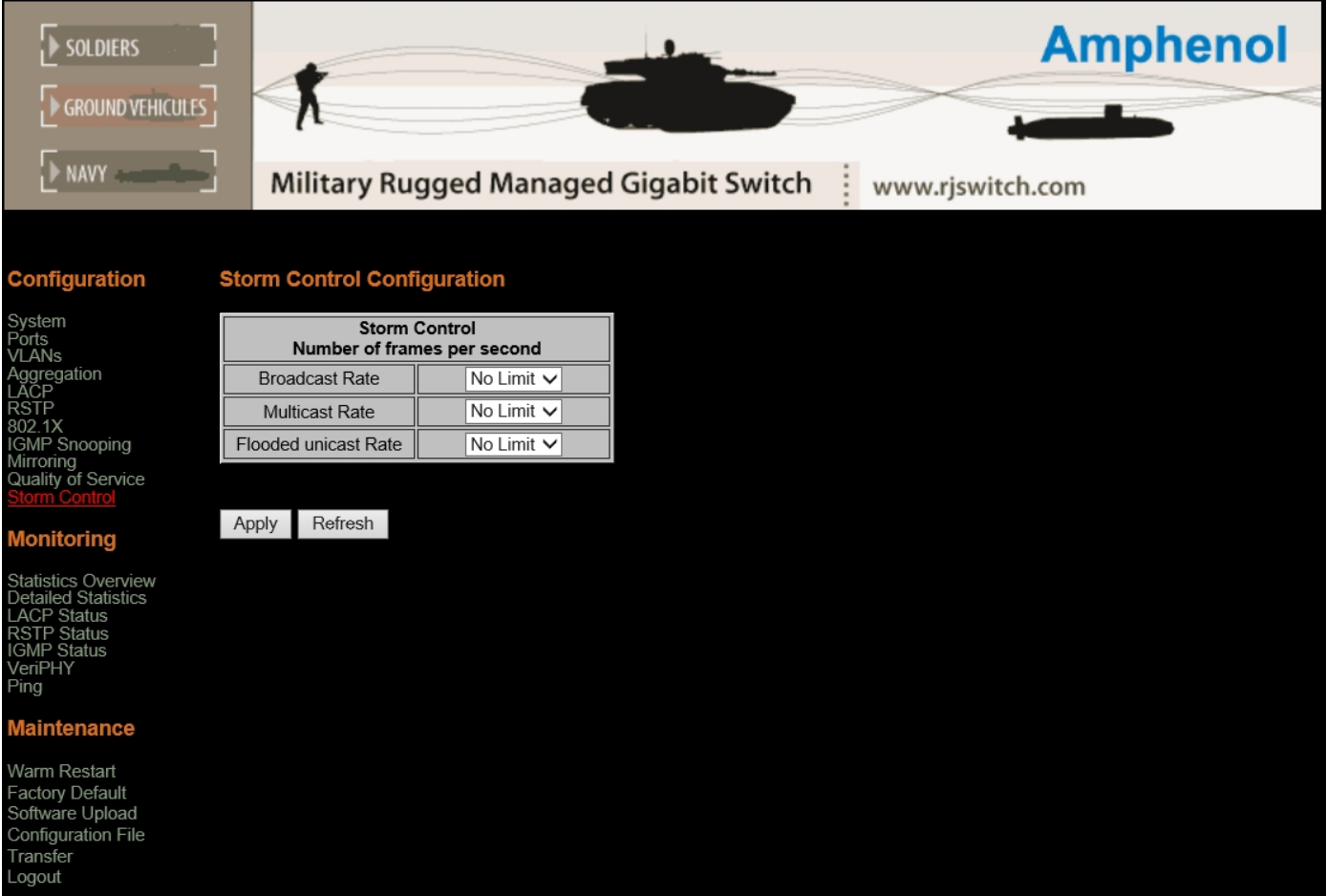
Description:

Set or show the IP Differentiated Services mapping.

Press Apply to save all changes.

Press Cancel to discard changes.

QoS STORM CONTROL



Configuration

- System
- Ports
- VLANs
- Aggregation
- LACP
- RSTP
- 802.1X
- IGMP Snooping
- Mirroring
- Quality of Service
- Storm Control

Monitoring

- Statistics Overview
- Detailed Statistics
- LACP Status
- RSTP Status
- IGMP Status
- VeriPHY
- Ping

Maintenance

- Warm Restart
- Factory Default
- Software Upload
- Configuration File
- Transfer
- Logout

Storm Control Configuration

Storm Control	
Number of frames per second	
Broadcast Rate	No Limit ▼
Multicast Rate	No Limit ▼
Flooded unicast Rate	No Limit ▼

Apply Refresh

Description:

Set or show the storm control configuration. The allowed frame rates for ICMP frames, learn frames, multicasts, broadcasts and flooded unicasts are controlled using a central storm controller.

Storm controller can be one of:

- Broadcast
- Multicast
- Flooded Unicast

Frame rate options in kilo bytes

Allowed values are 1k, 2k, 4k, 8k, 16k, 32k, 64k, 128k,

256k, 512k, 1024k, 2048k, 4096k, 8192k, 16384k, 32768k, No Limitation

Press Apply to save all changes.

Press Refresh to view updated information.

STATISTICS OVERVIEW

Amphenol
Military Rugged Managed Gigabit Switch | www.rjswitch.com

Statistics Overview for all ports

Configuration

- System
- Ports
- VLANs
- Aggregation
- LACP
- RSTP
- 802.1X
- IGMP Snooping
- Mirroring
- Quality of Service
- Storm Control

Port	Tx Bytes	Tx Frames	Rx Bytes	Rx Frames	Tx Errors
1	328234	575	199553	1571	0
2	0	0	0	0	0
3	0	0	0	0	0
4	0	0	0	0	0
5	0	0	0	0	0
6	0	0	0	0	0
7	0	0	0	0	0
8	0	0	0	0	0

- Monitoring**
- Statistics Overview
- Detailed Statistics
- LACP Status
- RSTP Status
- IGMP Status
- VeriPHY
- Ping

- Maintenance**
- Warm Restart
- Factory Default
- Software Upload
- Configuration File
- Transfer
- Logout

Description:

Show statistics overview for all ports.

Available Information:

1. Port number
2. TX Bytes
3. TX Frames
4. RX Bytes
5. RX Frames
6. TX Errors
7. RX Errors

Press Clear to reset all the values of the table.

Press Refresh to view updated information.

DETAILED STATISTICS

Configuration

- System
- Ports
- VLANs
- Aggregation
- LACP
- RSTP
- 802.1X
- IGMP Snooping
- Mirroring
- Quality of Service
- Storm Control

Monitoring

- Statistics Overview
- Detailed Statistics
- LACP Status
- RSTP Status
- IGMP Status
- VeriPHY
- Ping

Maintenance

- Warm Restart
- Factory Default
- Software Upload
- Configuration File
- Transfer
- Logout

Statistics for Port 1

Clear Refresh Port 1 Port 2 Port 3 Port 4 Port 5 Port 6 Port 7 Port 8

Receive Total		Transmit Total	
Rx Packets	1595	Tx Packets	
Rx Octets	202720	Tx Octets	
Rx High Priority Packets	-	Tx High Priority Packets	
Rx Low Priority Packets	-	Tx Low Priority Packets	
Rx Broadcast	-	Tx Broadcast	
Rx Multicast	-	Tx Multicast	
Rx Broad- and Multicast	821	Tx Broad- and Multicast	
Rx Error Packets	0	Tx Error Packets	

Receive Size Counters		Transmit Size Counters	
Rx 64 Bytes	-	Tx 64 Bytes	
Rx 65-127 Bytes	-	Tx 65-127 Bytes	
Rx 128-255 Bytes	-	Tx 128-255 Bytes	
Rx 256-511 Bytes	-	Tx 256-511 Bytes	
Rx 512-1023 Bytes	-	Tx 512-1023 Bytes	
Rx 1024- Bytes	-	Tx 1024- Bytes	

Receive Error Counters		Transmit Error Counters	
Rx CRC/Alignment	-	Tx Collisions	
Rx Undersize	-	Tx Drops	
Rx Oversize	-	Tx Overflow	
Rx Fragments	-		
Rx Jabber	-		
Rx Drops	-		

Description:

Show detailed statistics for a specific port.

Available Information:

1. Receive Total
2. Transmit Total
3. Receive Size Counters
4. Transmit Size Counters
5. Receive Error Counters
6. Transmit Error Counters.

Press Clear to reset all the values of the table.

Press Refresh to view updated information.

LACP STATUS

The screenshot shows the web interface for a Military Rugged Managed Gigabit Switch. At the top, there is a banner with the Amphenol logo and the website URL www.rjswitch.com. Below the banner, there are navigation tabs for SOLDIERS, GROUND VEHICLES, and NAVY. The main content area is divided into three sections: Configuration, Monitoring, and Maintenance. The Configuration section includes a menu with options like System, Ports, VLANs, Aggregation, LACP, RSTP, 802.1X, IGMP Snooping, Mirroring, Quality of Service, and Storm Control. The Monitoring section includes a menu with options like Statistics Overview, Detailed Statistics, LACP Status, RSTP Status, IGMP Status, VeriPHY, and Ping. The Maintenance section includes a menu with options like Warm Restart, Factory Default, Software Upload, Configuration File Transfer, and Logout. The LACP Aggregation Overview section displays a table with 8 columns for Group/Port (1-8) and a row for Normal aggregation mode. The LACP Port Status section displays a table with columns for Port, Partner Port, and Operational Port Key. A Refresh button is located below the LACP Port Status table.

LACP AGGREGATION OVERVIEW

Description:

Show group/port numbers and aggregation mode for each. Colors are explained in the legend.

LACP PORT STATUS

Description:

Show the LACP status for all ports. Available information is: Port Number, Protocol Active [yes|no], Partner Port Number, Operational Port Key.

Press Refresh to view updated information.

RSTP STATUS

The screenshot shows the web interface for a Military Rugged Managed Gigabit Switch. At the top, there is a navigation menu with 'SOLDIERS', 'GROUND VEHICLES', and 'NAVY'. The main header features the Amphenol logo and the text 'Military Rugged Managed Gigabit Switch' with the website 'www.rjswitch.com'. Below the header, there are three main sections: Configuration, Monitoring, and Maintenance. The 'Configuration' section is active, showing 'RSTP VLAN Bridge Overview' with a table of VLAN information. The 'Monitoring' section shows 'RSTP Port Status' with a table of port states. The 'Maintenance' section lists various system management options.

Configuration

System
Ports
VLANs
Aggregation
LACP
RSTP
802.1X
IGMP Snooping
Mirroring
Quality of Service
Storm Control

RSTP VLAN Bridge Overview

VLAN Id	Bridge Id	Hello Time	Max Age	Fwd Delay	Topology	Root Id
1	32769:1c-51-b5-00-01-59	2	20	15	Steady	This switch is Root!

Refresh

Monitoring

Statistics Overview
Detailed Statistics
LACP Status
RSTP Status
IGMP Status
VeriPHY
Ping

RSTP Port Status

Port/Group	Vlan Id	Path Cost	Edge Port	P2p Port	Protocol	Port State
Port 1						Non-STP
Port 2						Non-STP
Port 3						Non-STP
Port 4						Non-STP
Port 5						Non-STP
Port 6						Non-STP
Port 7						Non-STP
Port 8						Non-STP

Maintenance

Warm Restart
Factory Default
Software Upload
Configuration File
Transfer
Logout

RSTP STATUS

Description:

Show the current state of all RSTP incarnations and the physical (and aggregation) ports that they control.

RSTP VLAN BRIDGE OVERVIEW

Description:

Show the current RSTP state per VLAN.

Available Information:

1. VLAN ID
2. Bridge ID
3. Hello Time
4. Max Age
5. Forward Delay
6. Topology
7. Root ID

RSTP PORT STATUS

Description:

Show the RSTP status for all ports.

Available Information:

1. Port/Group Number
2. VLAN ID
3. Path Cost
4. Edge Port
5. P2P Port
6. Protocol
7. Port State

Press Refresh to view updated information.

IGMP STATUS

Description:

Show the IGMP operational status and statistics.

Available Information:

1. VLAN ID
2. Querier
3. Queries Transmitted
4. Queries Received
5. v1 Reports
6. v2 Reports
7. v3 Reports
8. v2 Leaves

Press Refresh to view updated information.

PORT VERIPHY

The screenshot shows the web interface for the Amphenol Military Rugged Managed Gigabit Switch. At the top, there is a banner with the Amphenol logo and the text 'Military Rugged Managed Gigabit Switch' and 'www.rjswitch.com'. Below the banner, there are three navigation tabs: 'SOLDIERS', 'GROUND VEHICLES', and 'NAVY'. The main content area is divided into three sections: 'Configuration', 'VeriPHY Cable Diagnostics', and 'Monitoring'. The 'VeriPHY Cable Diagnostics' section is currently active and shows a configuration form with 'Port' set to 'Port 1' and 'Mode' set to 'Full'. Below the form is an 'Apply' button. The 'Monitoring' section shows a 'Cable Status' table with four rows (A, B, C, D) and three columns (Pair, Length [m], Status). All status values are currently '-'. The 'Maintenance' section is also visible at the bottom left of the interface.

VERIPHY CABLE DIAGNOSTICS

Description:

Perform VeriPHY cable diagnostics on the specified port(s).

VeriPHY Mode

Description:

Perform cable diagnostics the available options are:

- Full - Full comprises cable length and full anomaly check (Default mode)
- Anomaly - anomaly comprises full anomaly check
- Anomaly w/o X-pair - comprises anomaly check without check for coupling between pairs

CABLE STATUS

Description:

Shows the current cable status.

Available Information:

1. Pair
2. Length
3. Status

Press Apply to save all changes.

Press Refresh to view updated information.

PING

Configuration

- System
- Ports
- VLANs
- Aggregation
- LACP
- RSTP
- 802.1X
- IGMP Snooping
- Mirroring
- Quality of Service
- Storm Control

Ping Parameters

Target IP address	<input type="text"/>
Count	1 ▾
Time Out (in secs)	1 ▾

Apply

Monitoring

- Statistics Overview
- Detailed Statistics
- LACP Status
- RSTP Status
- IGMP Status
- VeriPHY
- Ping

Maintenance

- Warm Restart
- Factory Default
- Software Upload
- Configuration File Transfer
- Logout

Ping Results

Target IP address	0.0.0.0
Status	Test complete
Received replies	0
Request timeouts	0
Average Response Time (in ms)	0

Refresh

PING PARAMETERS**TARGET IP ADDRESS****Description:**

The IP Address to send the ping request to.

Count**Description:**

Number of times for the ping request be sent.

TIME OUT**Description:**

Amount of time (in seconds) to pass until the ping request is timed out.

PING RESULTS**Description:**

Shows the results of the last ping test.

Available Information:

1. Target IP Address
2. Status
3. Received Replies
4. Request Timeout
5. Average Response Time (in milliseconds)

Press Apply to save all changes.

Press Refresh to view updated information.

WARM RESTART

The screenshot shows the configuration page for a Military Rugged Managed Gigabit Switch. At the top, there is a banner with the Amphenol logo and the text "Military Rugged Managed Gigabit Switch" and "www.rjswitch.com". Below the banner, there is a navigation menu on the left with categories: Configuration, Monitoring, and Maintenance. The "Warm Restart" option is selected under the Configuration menu. A red dialog box is displayed in the center of the screen with the text "Are you sure you want to perform a Warm Restart?" and two buttons: "Yes" and "No".

Press Yes to perform a Warm Restart.

Press No to cancel.

SYSTEM RESTORE DEFAULT

The screenshot shows the web interface for the Amphenol Military Rugged Managed Gigabit Switch. The header includes the Amphenol logo and the website URL www.rjswitch.com. The main content area is titled "Factory Default" and features a red confirmation dialog box asking "Are you sure you want to perform a Factory Default?" with "Yes" and "No" buttons. The left sidebar contains a navigation menu with the following items:

- Configuration**
 - System
 - Ports
 - VLANs
 - Aggregation
 - LACP
 - RSTP
 - 802.1X
 - IGMP Snooping
 - Mirroring
 - Quality of Service
 - Storm Control
- Monitoring**
 - Statistics Overview
 - Detailed Statistics
 - LACP Status
 - RSTP Status
 - IGMP Status
 - VeriPHY
 - Ping
- Maintenance**
 - Warm Restart
 - Factory Default**
 - Software Upload
 - Configuration File Transfer
 - Logout

FACTORY DEFAULT

Description:

Restore factory default configuration.

Press Yes to restore the factory default settings.

Press No to cancel.

SOFTWARE UPLOAD

SOLDIERS

GROUND VEHICLES

NAVY

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Configuration

- System
- Ports
- VLANs
- Aggregation
- LACP
- RSTP
- 802.1X
- IGMP Snooping
- Mirroring
- Quality of Service
- Storm Control

Monitoring

- Statistics Overview
- Detailed Statistics
- LACP Status
- RSTP Status
- IGMP Status
- VeriPHY
- Ping

Maintenance

- Warm Restart
- Factory Default
- Software Upload**
- Configuration File Transfer
- Logout

Software Upload

Parcourir...

Upload

Press Browse to find the required firmware from your computer.

Press Upload to upload the selected firmware.

CONFIGURATION UPLOAD

SOLDIERS

GROUND VEHICLES

NAVY

Amphenol

Military Rugged Managed Gigabit Switch : www.rjswitch.com

Configuration

- System
- Ports
- VLANs
- Aggregation
- LACP
- RSTP
- 802.1X
- IGMP Snooping
- Mirroring
- Quality of Service
- Storm Control

Configuration Upload

Parcourir...

Upload

Configuration Download

Download

Monitoring

- Statistics Overview
- Detailed Statistics
- LACP Status
- RSTP Status
- IGMP Status
- VeriPHY
- Ping

Maintenance

- Warm Restart
- Factory Default
- Software Upload
- [Configuration File Transfer](#)
- Logout

Press Browse to find configuration files from your computer.

Press Upload to upload the required configuration file.