# GIGABIT ETHERNET RACKMOUNT WEB-SMART SWITCH USER MANUAL

MODELS 524063 & 524087

*Model shown: 524063, 24-port*

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# INTRODUCTION

Thank you for purchasing the INTELLINET NETWORK SOLUTIONS™ Gigabit Ethernet Rackmount Web-Smart Switch, Model 524063 (24-port) or Model 524087 (16-port).

This handy device lets you increase the speed of your network with 10/100/1000 Mbps auto-sensing ports that automatically detect optimal network speeds, and it lets you increase the speed of your *own* work through user-friendly Web-based management for uncomplicated administration.

Easy-to-follow instructions in this user manual help make installation of the switch quick and simple, so you'll also soon be enjoying the benefits of these additional features:

• All RJ-45 ports with Auto-MDIX (auto uplink) support
• Supports NWay auto-negotiation
• Broadcast storm control with multicast packet rate settings
• Store and forward switching architecture
• Full/half duplex operation
• IEEE 802.3x flow control for full duplex
• Zero packet loss backpressure flow control for half duplex
• Packet filtering/forwarding rates: 1,488,000 pps (1000 Mbps), 148,800 pps (100 Mbps), 14,880 pps (10 Mbps)
• Supports port controls (speed, flow control and maximum frame size)
• Supports VLAN (tag-based and port-based)
• Supports link aggregation (trunking)
• Supports QoS (Quality of Service) with 2 priority levels
• Provides IEEE 802.1x port-based security
• Supports port mirroring
• Supports jumbo frames up to 9.6 kBytes
• 19" rackmount
• LEDs for power, link/activity, connection speed
• Lifetime Warranty

*NOTE:* Some screen images have been modified to fit the manual format.

# SETUP
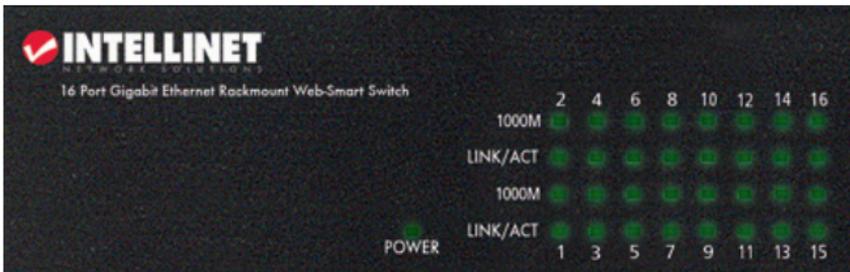


| LED | Status | Operation |
|---|---|---|
| POWER | On | There is power to the unit. |
| 1000M | On | The corresponding port is transmitting/receiving at 1000 Mbps. |
| | Off | The corresponding port is transmitting/receiving at 10/100 Mbps. |
| LINK/ACT | On | The corresponding port is connected to another device. |

- Using twisted-pair cable, connect the switch to your computer.
- Using the included power cord, connect the Gigabit Ethernet Rackmount Web-Smart Switch to an AC power source.

# CONFIGURATION

1. Set your PC's IP address to 192.168.2.xxx (where "xxx" is a value from 2 to 254).
2. Open the Web browser; go to 192.168.2.1 to display the configuration login screen.
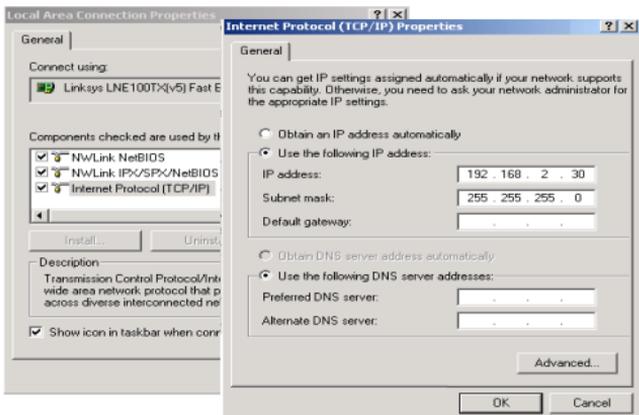
3. Enter "admin" in the Password field, then click "Apply." The authentication process will now allow you to navigate among/within the primary menu options: Configuration, Monitoring and Maintenance.

**Configuration**

| Configuration | Please enter password to login |
|---|---|
| System | |
| Ports | Password: ••••• |
| VLANs | |
| Aggregation | |
| LACP | |
| RSTP | |
| 802.1X | Apply |

# Configuration

## System

This screen presents the MAC address, system firmware version and several other settings/readings. You can change the user name, password and IP address, then click "Apply" to confirm any changes. After that, you can reset the switch to make the new username, password or IP address take effect.
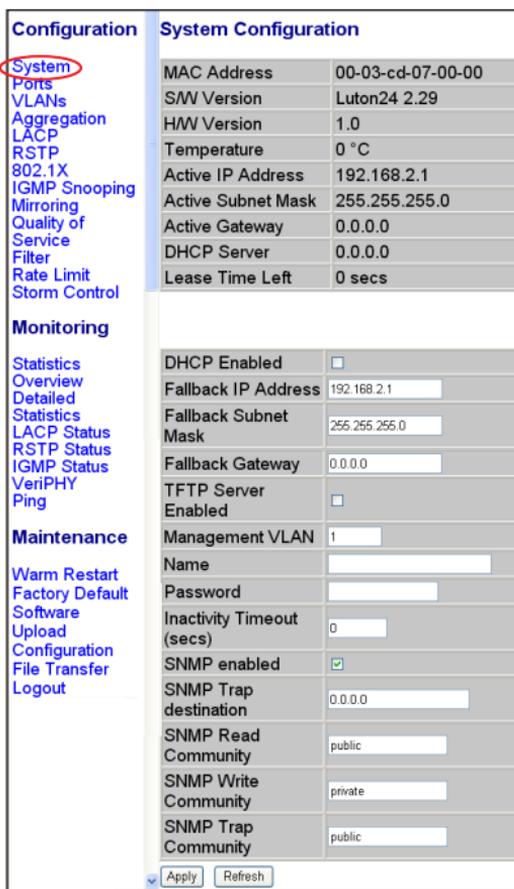
**Configuration**

- System
- Ports
- VLANs
- Aggregation
- LACP
- RSTP
- 802.1X
- IGMP Snooping
- Mirroring
- Quality of Service
- Filter
- Rate Limit
- 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

**System Configuration**

| | |
|---|---|
| MAC Address | 00-03-cd-07-00-00 |
| S/W Version | Luton24 2.29 |
| H/W Version | 1.0 |
| Temperature | 0 °C |
| Active IP Address | 192.168.2.1 |
| 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 | ☐ |
| Fallback IP Address | 192.168.2.1 |
| Fallback Subnet Mask | 255.255.255.0 |
| Fallback Gateway | 0.0.0.0 |
| TFTP Server Enabled | ☐ |
| Management VLAN | 1 |
| Name | |
| Password | |
| Inactivity Timeout (secs) | 0 |
| SNMP enabled | ☑ |
| SNMP Trap destination | 0.0.0.0 |
| SNMP Read Community | public |
| SNMP Write Community | private |
| SNMP Trap Community | public |

Apply    Refresh

## Ports

This screen gives you the option of enabling/disabling Jumbo Frames. Plus, by selecting each individual port you can:

- enable/disable the port
- choose between full and half duplex



- select a Mode option from the dropdown menu, such as "Auto Speed"
- enable/disable Flow Control

## VLAN

Depending on the model of the Gigabit Ethernet Rackmount Web-Smart Switch, there are either 24 VLAN groups (1 – 24 for Model 524063) or 16 VLAN groups (1 – 16 for Model 524087). Select and enter a group into the "VLAN ID" field, click



"Add," then click the port number(s) you want to put into the selected VLAN group.

### Aggregation/Trunking

Set up any port trunk groups you prefer, then click the port numbers you want to include in the same group. There are eight groups that can be created, and the maximum number of ports for any one group is 24 for Model 524063; 16 for Model 524087.

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**Aggregation/Trunking Configuration**

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

**Monitoring**

Statistics
Overview
Detailed

| Group\Port | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Normal | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Group 1 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Group 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| Group 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| Group 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| Group 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| Group 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| Group 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| Group 8 | | | | | | | | | | | | | | | | | | | | | | | | |

[Apply] [Refresh]

## LACP

Select the port number(s) for which you want to enable/disable the protocol.

**Configuration**

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

**Monitoring**

**LACP Port Configuration**

| Port | Protocol Enabled | Key Value |
|---|---|---|
| 1 | ☐ | auto |
| 2 | ☐ | auto |
| 3 | ☐ | auto |
| 4 | ☐ | auto |
| 5 | ☐ | auto |
| 6 | ☐ | auto |
| 7 | ☐ | auto |
| 8 | ☐ | auto |
| 9 | ☐ | auto |

## RSTP

Select the port number(s) for which you want to enable/disable the protocol.

**Configuration**

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

**Monitoring**

Statistics
Overview

**RSTP System Configuration**

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

**RSTP Port Configuration**

| Port | Protocol Enabled | Edge | Path Cost |
|---|---|---|---|
| Aggregations | ☐ | | |
| 1 | ☐ | ☑ | auto |
| 2 | ☐ | ☑ | auto |
| 3 | ☐ | ☑ | auto |

## 802.1x



This screen gives you drop-down menu options — "Auto," "Force Authorized" and "Force Unauthorized" — for the Admin State of the selected port(s).

## IGMP Snooping

This screen allows you to enable/disable IGMP for the selected port(s).



## Port Mirroring

Port Mirroring is used to mirror traffic from a source port to a destination port for analysis. Select the destination port (1 – 24 for Model 524063; 1 – 16 for Model 524087) in the left-hand column, then select the source port by checking the corresponding "Mirror Source" box in the right-hand column.

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## QoS (Quality of Service)

When QoS Mode is enabled, you can select the Quality of Service for each individual port.

**Configuration** — **QoS Configuration**

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

| QoS Mode | QoS Disabled |
| --- | --- |

APPLY   CANCEL

## Filter

Select the port number(s) for which you want to enable/disable IP address filtering.

**Configuration** — **Filter Configuration**

System
Ports
VLANs
Aggregation
LACP
RSTP
802.1X
IGMP Snooping
Mirroring
Quality of Service
Filter
Rate Limit

| Port | Source IP Filter | | | DHCP Server Allowed |
| --- | --- | --- | --- | --- |
| | Mode | IP Address | IP Mask | |
| 1 | Disabled | | | ☑ |
| 2 | Disabled | | | ☑ |
| 3 | Disabled | | | ☑ |
| 4 | Disabled | | | ☑ |
| 5 | Disabled | | | ☑ |
| 6 | Disabled | | | ☑ |

## Rate Limit

Select the port number(s) for which you want to establish/change speed settings.

**Configuration** — **Rate Limit Configuration**

System
Ports
VLANs
Aggregation
LACP
RSTP
802.1X
IGMP Snooping
Mirroring
Quality of Service
Filter
Rate Limit

| Port | Policer | Shaper |
| --- | --- | --- |
| 1 | No Limit | No Limit |
| 2 | No Limit | No Limit |
| 3 | No Limit | No Limit |
| 4 | No Limit | No Limit |
| 5 | No Limit | No Limit |
| 6 | No Limit | No Limit |
| 7 | No Limit | No Limit |
| 8 | No Limit | No Limit |

## Storm Control

This screen lets you configure the various settings of Storm Control in order to minimize interference with traffic to and from the switch.

**Configuration** — **Storm Control Configuration**

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

| Storm Control Number of frames per second | |
| --- | --- |
| ICMP Rate | No Limit |
| Learn Frames Rate | No Limit |
| Broadcast Rate | No Limit |
| Multicast Rate | No Limit |
| Flooded unicast Rate | No Limit |

Apply   Refresh

# Monitoring

## Statistics Overview



This screen lets you monitor the current status and statistics for each of the ports.

## Detailed Statistics



This screen lets you view detailed statistics by clicking on the port in the top panel.

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## LACP Status

**LACP Aggregation Overview**

| Group/Port | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Normal | | | | | | | | | | | | | | | | | | | | |

**Legend**

| | Down | Port link down |
|---|---|---|
| 0 | Blocked | Port Blocked by RSTP. Number is Partner port number if other switch has LACP enabled. |
| 0 | Learning | Port Learning by RSTP |
| | Forwarding | Port link up and forwarding frames |
| 0 | Forwarding | Port link up and forwarding by RSTP. Number is Partner port number if other switch has LACP enabled. |

This screen lets you view the LACP (Link Aggregation Control Protocol) status for LACP ports. *NOTE:* Only 16 ports will display for Model 524087.

## RSTP Status

**RSTP VLAN Bridge Overview**

| VLAN Id | Bridge ID | Hello Time | Max Age | Fwd Delay | Topology | Root Id |
|---|---|---|---|---|---|---|
| 1 | 32769:00-03-cd-07-00-01 | 2 | 20 | 15 | Steady | This switch is Root! |

Refresh

**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 |

This screen lets you view the RSTP (Rapid Spanning Tree Protocol) status for RSTP ports.

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## IGMP Status

**IGMP Status**

| VLAN ID | Querier | Queries transmitted | Queries received | v1 Reports | v2 Reports | v3 Reports | v2 Leaves |
|---------|---------|---------------------|------------------|------------|------------|------------|-----------|
| 1 | Idle | 0 | 0 | 0 | 0 | 0 | 0 |

Refresh

This screen lets you view the IGMP (Internet Group Management Protocol) status for IGMP ports.

## Monitoring: VeriPHY Cable Diagnostics

This screen lets you check the cable status for all ports: Select a port and mode from the drop-down menus.

**VeriPHY Cable Diagnostics**

| | |
|---|---|
| Port | Port 1 |
| Mode | Full |

Apply

**Cable Status**

| Pair | Length [m] | Status |
|------|-----------|--------|
| A | - | - |
| B | - | - |
| C | - | - |
| D | - | - |

## Ping Parameters

This screen lets you set the target IP address.

**Ping Parameters**

| | |
|---|---|
| Target IP address | |
| Count | 1 |
| Time Out (in secs) | 1 |

Apply

**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

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# Maintenance

**Warm Restart**

Click "Yes" to reboot the switch in order to affect any changes.
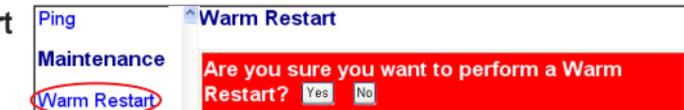


**Factory Default**

Click "Yes" to return to the factory defaults.



**Additional Menu Options**

For Software Upload, Configuration, File Transfer and Logout procedures, select the menu option and follow the on-screen instructions.

# SPECIFICATIONS

**Standards**
- IEEE 802.1d (Spanning Tree Protocol)
- IEEE 802.1w (Rapid Spanning Tree Protocol)
- IEEE 802.1p (Traffic Prioritization)
- IEEE 802.1q (VLAN Tagging)
- IEEE 802.3 (10Base-T Ethernet)
- IEEE 802.3u (100Base-TX Fast Ethernet)
- IEEE 802.3ab (Twisted Pair Gigabit Ethernet)
- IEEE 802.3ad (Link Aggregation)
- IEEE 802.3x (flow control, for full duplex mode)

**General**
- Media support:
  - 10Base-T Cat3, 4, 5 UTP/STP RJ-45
  - 100Base-TX Cat5 UTP/STP RJ-45
  - 1000Base-T Cat5e UTP/STP RJ-45
- Packet filter/forwarding rate:
  - 1,488,000 pps (1000 Mbps)
  - 148,800 pps (100 Mbps)
  - 14,880 pps (10 Mbps)
- Buffer memory:
  - Model 524063: 500 kBytes
  - Model 524087: 340 kBytes
- MAC address table: 8192 entries
- Switch architecture: store and forward
- Certifications: FCC Class A, CE Mark

**Configuration Options**
- Port link speed: 10 Mbps, 100 Mbps, 1000 Mbps or auto-negotiation
- Flow control on/off per port
- Full/half duplex per port
- VLAN:
  - Model 524063: 24 groups
  - Model 524087: 16 groups
- Port Mirroring for all ports with sniffer port configuration

- Port Aggregation/Trunking:
  - Model 524063: 8 groups with up to 24 member ports per trunk
  - Model 524087: 8 groups with up to 16 member ports per trunk
- QoS: 2 priority levels
- Broadcast Storm configuration with ICMP rate, broadcast rate, multicast rate, flooded unicast rate
- Port filter configuration: enable/disable, IP address, subnet mask, DHCP Server allowed/disallowed

**LEDs**
- Power
- Link/Act
- 1000 Mbps

**Power**
- Internal power supply, 100 – 240 V AC, 50/60 Hz
- Power consumption: 20 Watts (maximum)

**Environmental**
- Metal housing, 19" rackmount, 1 U
- Dimensions: 440 (L) x 220 (W) x 44 (H) mm (17.3 x 8.7 x 1.7 in.)
- Weight: 3.0 kg (6.4 lbs.)
- Operating temperature: 0 – 55°C (32 – 131°F)
- Operating humidity: 10 – 90% RH, non-condensing
- Storage temperature: -20 – 90°C (-4 – 194°F)

**Package Contents**
- Gigabit Ethernet Rackmount Web-Smart Switch
- User manual

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