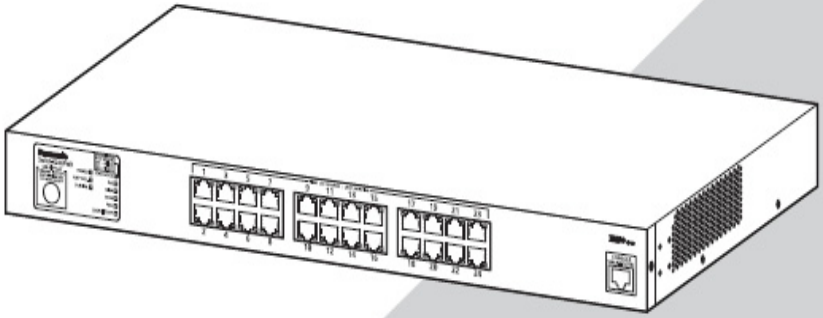
Panasonic®

Operation Manual
for CLI

Switch-S24GPWR

Model Number: PN25249

- Thank you for purchasing our product.
- This manual provides important information about safe and proper operations of this Switching Hub.
- **Please read "Important Safety Instructions" on pages 1 to 4 before use.**
- For target model names and numbers, refer to the next page.



- Under all circumstances, customer disassembling of this Switching Hub voids the warranty.

The target model for this Operation Manual is as follows.

Model name	Model number	Firmware version
Switch-S24GPWR	PN25249-ID PN25249-TH PN25249-MY PN25249-SG	2.0.0.00 or higher

Important Safety Instructions

Please Follow the Instructions

This chapter contains important safety instructions for preventing bodily injury and/or property damage. You are required to follow them.

■Severity of bodily injury and/or property damage, which could result from incorrect use of the Switching Hub, are explained below.

⚠WARNING	This symbol indicates a potential hazard that could result in serious injury or death.
⚠ CAUTION	This symbol indicates safety instructions.Deviation from these instructions could lead to bodily injury and/or property damage.

■The following symbols are used to classify and describe the type of instructions to be observed.

⃠ This symbol is used to alert users to what they must not do.	❗ This symbol is used to alert users to what they must do.

⚠ CAUTION	
⃠	●Do not use power other than AC 100-240 V. Deviation could lead to fire, electric shock, and/or equipment failure. ●Do not handle the power cord with wet hand. Deviation could lead to electric shock and/or equipment failure. ●Do not handle this Switching Hub and connection cables during a thunderstorm. Deviation could lead to electric shock. ●Do not disassemble and/or modify this Switching Hub. Deviation could lead to fire, electric shock, and/or equipment failure. ●Do not damage the power cord. Do not bend too tightly, stretch, twist, bundle with other cord, pinch, put under a heavy object, and/or heat it. Damaged the cord could lead to fire, short, and/or electric shock. ●Do not put foreign objects (such as metal or combustibles) into the opening (such as twisted pair port, console port), and do not drop them inside the Switching Hub. Deviation could lead to fire, electric shock, and/or equipment failure. ●Do not connect equipment other than 10BASE-T/100BASE-TX/ 1000BASE-T to a twisted pair port. Deviation could lead to fire, electric shock, and/or equipment failure.

⚠ WARNING	
	●Do not please this Switching Hub in harsh environment(such as near water, high humid, and/or high dust). Deviation could lead to fire, electric shock, and/or equipment failure. ●Do not place this Switching Hub under direct sunlight and/or high temperature. Deviation could lead to high internal temperature and fire. ●Do not install this Switching Hub at a location with continuous vibration or strong shock, or at an unstable location. The Switching Hub may fall off, leading to injury and/or equipment failure. ●Do not put this Switching Hub into fire. Deviation could lead to explosion and/or fire. ●Do not use the supplied power cord for anything other than this product. Deviation could lead to fire, electric shock, and/or equipment failure. ●Use the bundled power cord (AC 100 - 240V specifications). Deviation could lead to electric shock, malfunction, and/or equipment failure.The warranty does not cover any problems resulting from the use of any power cord other than the one supplied. ●Unplug the power cord in case of equipment failure. Deviation such as keeping connected for a long time could lead to fire. ●Connect this Switching Hub to ground. Deviation could lead to electric shock, malfunction, and/or equipment failure.

⚠ WARNING	
	●Connect the power cord firmly to the power port. Deviation could lead to electric fire, shock, and/or malfunction. ●Unplug the power cord if the Status/ECO LED (Status/ECO mode), blinks in orange (system fault). Deviation, such as keeping connected for a long time, could lead to fire. ●Handle the Switching Hub carefully so that fingers or hands may not be damaged by twisted pair port, console port, or power cord hook block. ●To connect a power receiving equipment supporting IEEE802.3af to this Switching Hub, use a cable rated Cat5e or higher. Using other cables may result in heat generation, ignition, and/or equipment failure.

Important Notice for Measures against Failures Caused by Lightning Strikes

- When connecting devices (especially outdoor devices) prone to lightning strikes, such as network cameras or wireless access points, to a twisted pair port of this Switching Hub, overcurrent and/or overvoltage caused by lightning may affect this Switching Hub through a twisted pair cable, causing equipment failure. When connecting such devices, we strongly recommend installing a lightning arrester (SPD; Surge Protective Device) at the twisted pair port side of the Switching Hub.
- Overcurrent and/or overvoltage caused by lightning may affect this Switching Hub through a power source connected to the power port and/or a grounding line, causing equipment failure. When there is a possibility of overcurrent/overvoltage from lightning affecting this Switching Hub from a power source and/or a grounding line, we strongly recommend installing a lightning arrester (SPD; Surge Protective Device) at the power port side of the Switching Hub.
- In case this Switching Hub fails due to lightning strikes, repair charges will apply even during the warranty period.

Basic Instructions for the Use of This Product

- For inspection and/or repair, consult the retailer.
- Use commercial power supply from a wall socket, which is close and easily accessible to this Switching Hub.
- Unplug the power cord when installing or moving this Switching Hub.
- Unplug the power cord when cleaning this Switching Hub.
- Use this Switching Hub within the specifications. Deviation could lead to malfunction.
- Be sure to confirm that this Switching Hub does not move or fall under the weight of the cables when mounting with magnets. Connect cables while holding the Switching Hub down.
- Securely attach this Switching Hub to the wall with screws when mounting it in a high location.When mounting this Switching Hub with magnets in a high location, a fall of the Switching Hub could lead to injury and/or equipment failure.
- Do not place a floppy disk or magnetic card near the magnet. Deviation could lead to corruption of the data.
- Do not move this Switching Hub when attached to the desk. Deviation could lead to scratches on the painted surface.
- Do not touch the metal terminal of the RJ45 connector, the modular plug of connected twisted pair cable. Do not place charged objects in the proximity of them. Static electricity could lead to equipment failure.
- Do not put the modular plug of the connected twisted pair cable on objects that can carry static charge, such as carpet. Do not place it in the proximity. Static electricity could lead to equipment failure.
- Do not put a strong shock, including dropping, to this Switching Hub. Deviation could lead to equipment failure.
- Before connecting a console cable to the console port, discharge static electricity, for example by touching metal appliance (do not discharge by touching this Switching Hub).

●Do not store and/or use this Switching Hub in the environment with the characteristics listed below.(Store and/or use this Switching Hub in the environment in accordance with the specification.)
- High humidity. Possible spilled liquid (water).
- Dusty. Possible static charge (such as carpet).
- Under direct sunlight.
- Possible condensation. High/low temperature exceeding the specifications environment.
- Strong vibration and/or strong shock.

●Please use this Switching Hub in place where ambient temperature is from 0 to 45 ℃ .Fail- ure to meet the above conditions may result in fire, electric shock, breakdown, and/or malfunction. In addition, do not cover the bent hole of this Switching Hub.Devia- tion could lead to high internal temperature, equipment failure and/or malfunc- tion. If used at a temperature out of the operating temperature range, the protection equipment becomes activated and PoE power supply stops.

●Failure to satisfy the conditions above may result in a fire, electric shock, equipment failure, and/or malfunction. Such events are not covered by the warranty. Do not block the ventilator of the Switching Hub. Blocked ventilator induces the heat accumulation inside, causing equipment failure and/or malfunction. If used at a temperature out of the operating temperature range, the protection equipment becomes activated and PoE power supply stops.

●Do not stack Switching Hubs. When placing Switching Hubs side by side, leave a minimum of 20 mm space them.

●When mounting Switching Hubs in a rack, leave a minimum of 20 mm space between them.

1. Panasonic will not be liable for any damage resulting from the operation not in accordance with this operation manual, or loss of communications, which may or may not be caused by failure and/or malfunction of this device.
2. The contents described in this document may be changed without prior notice.
3. For any questions, please contact your dealer.

* Brands and product names in this document are trademarks or registered trademarks of their respective holders.

Table of Contents

1. Command Hierarchy

There are four hierarchical levels in the command hierarchy.

(1) User mode:
The User mode is the mode right after login. Only limited operations are available.

(2) Privileged mode:
The Privileged mode allows to check the status of this Switching Hub and manipulate the configuration file.

(3) Global configuration mode:
The Global configuration mode allows general configuration of this Switching Hub.

(4) Interface configuration mode
The Interface configuration mode allows detailed configuration of this Switching Hub, such as for each port or VLAN.

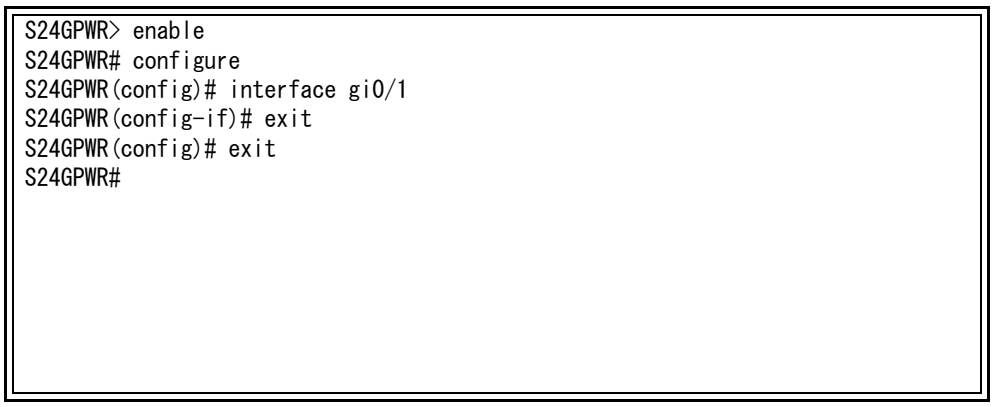


Fig. 1-1 Command hierarchy

enable command

• The enable command enables to move from User mode to Privileged mode.

S24GPWR> ····· User mode
S24GPWR> enable ····· User mode ⇒ Privileged mode
S24GPWR# ····· Privileged mode
S24GPWR# disable ····· Privileged mode ⇒ User mode
S24GPWR> ····· User mode

disable command

• The disable command enables to return from Privileged mode to User mode.

S24GPWR# ····· Privileged mode
S24GPWR# disable ····· Privileged mode ⇒ User mode
S24GPWR> ····· User mode

configure command

• The configure command enables to move from Privileged mode to Global configuration mode.

S24GPWR# ····· Privileged mode
S24GPWR# configure ····· Privileged mode
⇒ Global configuration mode
S24GPWR(config)# ····· Global configuration mode

interface command

- The interface command enables to move from Global configuration mode to Interface configuration mode.

```
S24GPWR(config)# ····· Global configuration mode
S24GPWR(config)# interface vlan1 ·· Global configuration mode
                                    ⇒ Interface
                                    configuration mode (vlan1)
S24GPWR(config-if)# exit ····· Interface configuration mode
                                    ⇒ Global configuration mode
S24GPWR(config)# interface Gigabitethernet0/1
····· Global configuration mode
                                    ⇒ Interface
                                    configuration mode (interface1)
S24GPWR(config-if)# exit ····· Interface configuration mode
                                    ⇒ Global configuration mode
S24GPWR(config)# ····· Global configuration mode
```

exit command

- The exit command enables to return to the previous mode.

```
S24GPWR(config-if)# exit ····· Interface configuration mode
                                    ⇒ Global configuration mode
S24GPWR(config)# exit ····· Global configuration mode
                                    ⇒ Privileged mode
S24GPWR# exit ····· Privileged mode ⇒ User mode
S24GPWR> ····· User mode
```

end command

- The end command enables to move from configuration modes to Privileged mode.

```
S24GPWR(config-if)# end ····· Interface configuration mode
                                    ⇒ Privileged mode
S24GPWR# configure
S24GPWR(config)# end ····· Global configuration mode
                                    ⇒ Privileged mode
```

logout command

- The logout command enables to move from any of the modes to Menu screen.

```
S24GPWR(config)# logout ····· Configuration modes ⇒ Menu
```

? command

- Entering a question mark (?) in each mode displays executable elements in the mode.

```
S24GPWR> ?
  enable - Turn on privileged mode command
  exit   - Exit current mode and down to previous mode
  logout - To logout from the CLI shell
  ping   - Send ICMP ECHO_REQUEST to network hosts
S24GPWR>
```

Fig. 1-2 ? Command

Re-entry assist

- Entering the up arrow key displays a command that was entered immediately before.

Candidate assist command

- Entering a command followed by a question mark (?) displays candidates of succeeding arguments.

```
S24GPWR# configure
S24GPWR(config)# ip address
 A.B.C.D - IP address (e.g. 10.0.0.1)
S24GPWR(config)# ip address
```

Fig. 1-3 Candidate assist command

Command autocomplete

For command and argument entries, when a word can be uniquely identified after typing the first few letters, you can omit the remaining letters.

[Autocomplete examples]

- enable → en
- show running-config → sh ru

[Example when autocomplete does not work]

- co → Typing "co" does not run autocomplete because there are two candidates "configure" and "copy."

Meanings of symbols in descriptions are as follows:

< >	:	Required - Make sure to enter this item.
{ | }	:	Choice - Select and enter either one.
[ ]	:	Optional - Enter as necessary.

2. Displaying Basic Information

Use the following commands in the "Privileged mode" to display basic information of the Switching Hub.

Basic information display command

Privileged mode	show sys-info

```
PN25249 Local Management System
Main Menu -> General Information

System up for:               xxxday(s), xxhr(s), xxmin(s), xxsec(s)
Boot / Runtime Code Version: xx.xx.xx.xx/ xx.xx.xx.xx
Hardware Information
  Version:                   Version1
  DRAM / Flash Size:         128MB / 32MB
  DRAM User Area Size:       Free: xxxxxxxx bytes / Total: xxxxxxxx bytes

Administration Information
  Switch Name:

System Address Information
  MAC Address:               xx:xx:xx:xx:xx:xx
  IP Address:                0.0.0.0
  Subnet Mask:               0.0.0.0
  Default Gateway:           0.0.0.0




Press any key to continue...
```

Fig. 2-1 Displaying basic information (show sys-info)

Fig. 2-2 Execution example of the system information display command

3. Basic Switch Configuration

3.1. System Administration Configuration

Configure the host name, installation location and contact information in "Global configuration mode." Confirm the configuration information by entering "show sys-info" in "Privileged mode."

System information display command

S24GPWR#	show sys-info

Host name configuration command

Global configuration mode	hostname <hostname>

Host name delete command

Global configuration mode	no hostname

Basic information display command

Privileged mode	show sys-info

Note: When configuring a host name containing a space, enter it embracing with double quotation marks (" ").
Example: hostname "Switch 1"

Example: Configuration example of the host name as PoESW-1, installation location as Office-2F, and contact information as Manager

```
S24GPWR>
S24GPWR> enable
S24GPWR# configure
S24GPWR(config)# hostname PoESW-1
PoESW-1(config)# end
PoESW-1# show sys-info

 System up for              : 000day(s), 00hr(s), 00min(s), 00sec(s)
 Boot / Runtime Code Version: x.x.x.xx / x.x.x.xx
 Hardware Information
   Version                  : Version1
   DRAM / Flash Size        : 64MB / 8MB
   DRAM User Area Size      : Free: xxxxxxxx bytes / Total: xxxxxxxx bytes

 Administration Information
   Switch Name              : PoESW-1
   Switch Location          : Office-2F
   Switch Contact           : Manager

 System Address Information
   MAC Address              : xx:xx:xx:xx:xx:xx
   IP Address               : 192.168.0.1
   Subnet Mask              : 255.255.255.0
   Default Gateway          : 192.168.1.254

PoESW-1#
```

Fig. 3-1 Display of the host name, installation location and contact information configuration (show sys-info)

3.2. IP Address Configuration

Configure the IP address settings of this Switching Hub in "Interface configuration mode." Confirm the configuration information by entering "show ip conf" in "Privileged mode."

IP address configuration command

Global configuration mode	ip address <ip-address> <mask> [<default-gateway>]

Default gateway configuration command

Global configuration mode	ip default-gateway <ip-address>

IP address display command

Privileged mode	show ip conf

Example 1: Configuration example of IP address as 192.168.0.1, subnet mask as 255.255.255.0, and default gateway as 192.168.0.254

```
S24GPWR> enable
S24GPWR# configure
S24GPWR(config)# ip address 192.168.0.1 255.255.255.0
S24GPWR(config)# ip default-gateway 192.168.0.254
S24GPWR(config)# end
S24GPWR# show ip conf

 MAC Address      : xx:xx:xx:xx:xx:xx
 IP Address       : 192.168.0.1
 Subnet Mask      : 255.255.255.0
 Default Gateway  : 192.168.0.254

S24GPWR#
```

Fig. 3-2 Display of the IP address configuration (show ip conf)

Note: Unless you configure these settings, you cannot use remotely connect to the Switching Hub via Telnet or the web management function. Be sure to configure. If you are unsure of the settings, consult the network administrator. Any IP addresses on the local network must be unique, and no duplication is allowed. In addition, you need to set the subnet mask and the default gateway, which are the same for other devices on the same subnet using this Switching Hub.

3.3. Port Configuration

Configure port settings in "Interface configuration mode." Confirm the configuration information by entering "show interface info" in "Privileged mode."

Port status enable command

Interface configuration mode	no shutdown

Port status disable command

Interface configuration mode	shutdown

Port mode configuration command

Interface configuration mode	speed-duplex { auto | {10|100}-half | {10|100}-full }

Flow control enable command

Interface configuration mode	flow-control

Flow control disable command

Interface configuration mode	no flow-control

Port name configuration command

Interface configuration mode	name < string>

Auto MDI enable command

Interface configuration mode	mdix auto

IEEE802.3az (EEE) enable command

Interface configuration mode	line eee

IEEE802.3az (EEE) disable commandd

Interface configuration mode	no line eee

Auto MDI disable command

Interface configuration mode	no mdix auto

MNO series power saving mode configuration command

Interface configuration mode	line power-saving {disable | full | half}

Port information display command

Privileged mode	show interface info

Extension port information display command

Privileged mode	show interface name

MNO series power saving mode display command

Privileged mode	show line configuration

Module information display command

Interface configuration mode	getport

Example 1: Configuration example of port speed and flow control

```
S24GPWR> enable
S24GPWR# configure
S24GPWR(config)# interface GigabitEthernet0/1
S24GPWR(config-if)# speed-duplex 100-full
S24GPWR(config-if)# flow-control
S24GPWR(config-if)# end
S24GPWR# show interface info

 Port  Trunk      Type      Admin     Link      Mode       Flow Ctrl   Auto-MDI
 ----  -----  ----------  --------  ----  ------------  ---------  --------
   1    ---      100TX     Enabled   Down   100-FDx       Enabled    Disabled
   2    ---      100TX     Enabled   Down   Auto          Disabled   Disabled
   3    ---      100TX     Enabled   Down   Auto          Disabled   Disabled
   4    ---      100TX     Enabled   Down   Auto          Disabled   Disabled
   5    ---      100TX     Enabled   Down   Auto          Disabled   Disabled
   6    ---      100TX     Enabled   Down   Auto          Disabled   Disabled
   7    ---      100TX     Enabled   Down   Auto          Disabled   Disabled
   8    ---      100TX     Enabled   Down   Auto          Disabled   Disabled
   9    ---      1000T     Enabled   Down   Auto          Disabled   Enabled
  10    ---      1000T     Enabled   Down   Auto          Disabled   Enabled
  11    ---      1000T     Enabled   Down   Auto          Disabled   Disabled
  12    ---      1000T     Enabled   Down   Auto          Disabled   Disabled
  13    ---      1000T     Enabled   Down   Auto          Disabled   Disabled
  14    ---      1000T     Enabled   Down   Auto          Disabled   Disabled
  15    ---      1000T     Enabled   Down   Auto          Disabled   Disabled
  16    ---      1000T     Enabled   Down   Auto          Disabled   Disabled
  17    ---      1000T     Enabled   Down   Auto          Disabled   Disabled
  18    ---      1000T     Enabled   Down   Auto          Disabled   Disabled
  19    ---      1000T     Enabled   Down   Auto          Disabled   Disabled
  20    ---      1000T     Enabled   Down   Auto          Disabled   Disabled
More .....To stop press (n)
```

Fig. 3-3 Display of the port information (show interface info)

Example 2: Configuration example of port name

```
S24GPWR> enable
S24GPWR# configure
S24GPWR(config)# interface GigabitEthernet0/1
S24GPWR(config-if)# name gi0/1
S24GPWR(config-if)# eap-forward
S24GPWR(config-if)# end
S24GPWR# show interface name

 Port  Trunk      Type     Link     Port Name
 ----  -----  -----------  ----  ---------------
   1    ---      1000T     Down  Port_1
   2    ---      1000T     Down  Port_2
   3    ---      1000T     Down  Port_3
   4    ---      1000T     Down  Port_4
   5    ---      1000T     Down  Port_5
   6    ---      1000T     Down  Port_6
   7    ---      1000T     Down  Port_7
   8    ---      1000T     Down  Port_8
   9    ---      1000T     Down  Port_9
  10    ---      1000T     Down  Port_10
  11    ---      1000T     Down  Port_11
  12    ---      1000T     Down  Port_12
  13    ---      1000T     Down  Port_13
  14    ---      1000T     Down  Port_14
  15    ---      1000T     Down  Port_15
  16    ---      1000T     Down  Port_16
  17    ---      1000T     Down  Port_17
  18    ---      1000T     Down  Port_18
  19    ---      1000T     Down  Port_19
  20    ---      1000T     Down  Port_20
More .....To stop press (n)

S24GPWR#
```

Fig. 3-4 Display of the extension port information (show interface name)

Example 3: Configuration example of MNO series power saving mode

```
S24GPWR> enable
S24GPWR# configure
S24GPWR(config)# interface GigabitEthernet0/1
S24GPWR(config-if)# line power-saving disable
S24GPWR(config-if)# end
S24GPWR# show line configuration

 Port   Link    Trunk   Type      Mode        Power-Saving   EEE(802.3az)
 ----  ------   -----  ------  -----------   ------------   ------------
   1    Down     ---   1000T   Auto          Half           Enabled
   2    Down     ---   1000T   Auto          Half           Enabled
   3    Down     ---   1000T   Auto          Half           Enabled
   4    Down     ---   1000T   Auto          Half           Enabled
   5    Down     ---   1000T   Auto          Half           Enabled
   6    Down     ---   1000T   Auto          Half           Enabled
   7    Down     ---   1000T   Auto          Half           Enabled
   8    Down     ---   1000T   Auto          Half           Enabled
   9    Down     ---   1000T   Auto          Half           Enabled
  10    Down     ---   1000T   Auto          Half           Enabled
  11    Down     ---   1000T   Auto          Half           Enabled
  12    Down     ---   1000T   Auto          Half           Enabled
  13    Down     ---   1000T   Auto          Half           Enabled
  14    Down     ---   1000T   Auto          Half           Enabled
  15    Down     ---   1000T   Auto          Half           Enabled
  16    Down     ---   1000T   Auto          Half           Enabled
  17    Down     ---   1000T   Auto          Half           Enabled
  18    Down     ---   1000T   Auto          Half           Enabled
  19    Down     ---   1000T   Auto          Half           Enabled
More .....To stop press (n)

S24GPWR#
```

Fig. 3-5 Display of the MNO series power saving mode (show line configuration)

3.4. Access Condition (Console and Telnet) Configuration

Configure access conditions to the Switching Hub in "Global configuration mode." Confirm the configuration information by entering "show terminal length" in "Privileged mode."

Console timeout configuration command

Global configuration mode	console inactivity-timer <minute>

Console configuration display command

Privileged mode	show console

Telnet server enable command

Global configuration mode	telnet-server enable

Telnet server disable command

Global configuration mode	no telnet-server enable

User name and password configuration command

Global configuration mode	username <new username>
* After entering the user name, enter the old password and the new password (twice.)	

On-screen line numbers display command

Privileged mode	show terminal length

On-screen line numbers configuration command

Global configuration mode	terminal length <LENGTH>

Web server enable command

Global configuration mode	ip http server

Web server disable command

Global configuration mode	no ip http server

LED base mode configuration command

Global configuration mode	led base-mode <status l eco>

LED base mode display command

Privileged mode	show led base-mode

```
S24GPWR> enable
S24GPWR# configure
S24GPWR(config)# console inactivity-timer 10
S24GPWR(config)# end
S24GPWR# show console

 Console UI Idle Timeout: 10 Min.

 Console
---------
 Active

S24GPWR# configure
S24GPWR(config)# telnet-server inactivity-timer 10
S24GPWR(config)# telnet-server 1 192.168.0.100 255.255.255.255
S24GPWR(config)# telnet-server access-limitation enable
S24GPWR(config)# end
S24GPWR# show telnet-server

 Telnet UI Idle Timeout: 10 Min.

 Telnet Server
---------------
 Enabled

 Telnet Access Limitation :   Enabled

 No.      IP Address          Subnet Mask
 ---   ---------------     ---------------
  1    192.168.0.100       255.255.255.255
  2     <empty>              <empty>
  3     <empty>              <empty>
  4     <empty>              <empty>
  5     <empty>              <empty>

S24GPWR#
```

Fig. 3-6 Display of the console and Telnet server configuration
(show console)
(show telnet-server)

Fig. 3-7

Example: Configuration of user name as mno and password as mno

```
S24GPWR> enable
S24GPWR# configure
S24GPWR(config)# username mno
Enter old password: *******
Enter new password: ***
Enter new password again: ***
S24GPWR(config)# end
S24GPWR#
```

Fig. 3-8 User name and password configuration

Example: Set Terminal Length to 0 (the number of lines to be displayed on a screen at once is set to unlimited)

```
S24GPWR> enable
S24GPWR# configure
S24GPWR(config)# terminal length 0
S24GPWR(config)# end
S24GPWR# show terminal length

 Terminal Length: none

S24GPWR#
```

Fig. 3-9 Display of the Terminal Length configuration information (show terminal length)

Example: Set LED base mode to ECO mode

```
S24GPWR> enable
S24GPWR# configure
S24GPWR(config)# led base-mode eco
S24GPWR(config)# end
S24GPWR# show led base-mode

 LED base mode: ECO

S24GPWR#
```

Fig. 3-10 Display of LED base mode configuration information (led base-mode)

```
M24GPWR+> enable
M24GPWR+# configure
M24GPWR+(config)# ip http server

 Web server is Enabled now

M24GPWR+(config)# end
M24GPWR+# show ip http server

 Web Server
------------
 Enabled

M24GPWR+#
```

Fig. 3-11 Display of the web server configuration (show ip http server)

3.4.1. Configuration of Easy IP Address Setup Function

Configure settings related to the Easy IP Address Setup function in "Global configuration mode." Confirm the configuration information by entering "show ip setup interface" in "Privileged mode."

IP address easy setup function display command

Privileged mode	show ip setup interface

IP address easy setup function enable command

Global configuration mode	ip setup interface

IP address easy setup function disable command

Global configuration mode	no ip setup interface

<Setting display example>

The following is an execution example of the IP address easy setup function display command.

```
S24GPWR> enable
S24GPWR# show ip setup interface

 IP Setup Interface
 ------------------------
 Enabled

S24GPWR#
```

Fig. 3-12 Execution example of the IP address easy setup function display command

3.5. MAC Address Table Display and Registration Configuration

Configuration of the forwarding database (FDB: a list where MAC addresses required for FDB packet translation are memorized/recorded is done in "Global Configuration Mode." The content of FDB is displayed in "Privileged Mode." In addition, static MAC addresses can be added or deleted.

Aging time configuration command

Global configuration mode	mac-address-table aging-time <seconds>

FDB entry (static) configuration command

Global configuration mode	mac-address-table static <MAC address> <interface> vlan <vlan-id>

FDB entry (static) delete command

Global configuration mode	no mac-address-table static <MAC address> vlan <vlan-id>

MAC Learning enable command

Interface configuration mode	mac-learning

MAC Learning disable command

Interface configuration mode	no mac-learning

FDB (static) display command

Privileged mode	show mac-address-table static

FDB (by MAC) display command

Privileged mode	show mac-address-table mac

FDB (by interface) display command

Privileged mode	show mac-address-table interface <interface>

FDB (by VLAN) display command

Privileged mode	show mac-address-table vlan <vlan-id>

MAC address automatic learning display command

Privileged mode	show mac-address-table mac-learning

Aging time display command

Privileged mode	show mac-address-table aging-time

```
S24GPWR> enable
S24GPWR# show mac-address-table static

    MAC Address       Port    VLAN ID
 -----------------   ------   -------
 00:00:00:00:00:01      1         1

S24GPWR# show mac-address-table mac

    MAC Address       Port
 -----------------    ----
 00:00:00:00:00:01     1
 xx:xx:xx:xx:xx:xx     CPU

S24GPWR#
S24GPWR# show mac-address-table interface gi0/1

    MAC Address       Port
 -----------------    ----
 00:00:00:00:00:01     1

S24GPWR# show mac-address-table vlan 1

    MAC Address       Port
 -----------------    ----
S24GPWR#
```

Fig. 3-13 Reference to MAC Address Table
(show mac-address-table static)
(show mac-address-table mac)
(show mac-address-table interface <interface>)
(show mac-address-table vlan <vlan-id>)

<Setting display example>
The following is an execution example of the MAC address automatic learning status display command.

```
S24GPWR> enable
S24GPWR# show mac-learning

Interface    MAC Learning    MAC Learning Limit
---------    ------------    ------------------
gi0/1        Auto            Disabled
gi0/2        Auto            Disabled
gi0/3        Auto            Disabled
gi0/4        Auto            Disabled
gi0/5        Auto            Disabled
gi0/6        Auto            Disabled
gi0/7        Auto            Disabled
gi0/8        Auto            Disabled
gi0/9        Auto            Disabled
gi0/10       Auto            Disabled
gi0/11       Auto            Disabled
gi0/12       Auto            Disabled
gi0/13       Auto            Disabled
gi0/14       Auto            Disabled
gi0/15       Auto            Disabled
gi0/16       Auto            Disabled
gi0/17       Auto            Disabled
gi0/18       Auto            Disabled
gi0/19       Auto            Disabled
gi0/20       Auto            Disabled
gi0/21       Auto            Disabled
gi0/22       Auto            Disabled
gi0/23       Auto            Disabled
gi0/24       Auto            Disabled

S24GPWR#
```

Fig. 3-14 Execution example of the MAC address automatic learning status display

3.6. Time Configuration

Configure time setting and time synchronization by SNTP in "Global configuration mode." Confirm the configuration information by entering "show sntp" in "Privileged mode."

SNTP configuration command

Global configuration mode	sntp clocktime <date><time>

SNTP server IP address configuration command

Global configuration mode	sntp server <ip-address>

SNTP time acquisition interval configuration command

Global configuration mode	sntp polling-interval <min>

SNTP daylight-saving enable command

Global configuration mode	sntp daylight-saving

SNTP daylight-saving disable command

Global configuration mode	no sntp daylight-saving

SNTP time zone configuration command

Global configuration mode	sntp timezone [<location>/NULL to see time zones]

SNTP configuration information display command

Privileged mode	show sntp

<Setting display example>

The following is an execution example of the SNTP configuration information display command.

```
S24GPWR> enable
S24GPWR# show sntp
Clock Time           : Wed, 21 Jul 2010 12:00:00
SNTP                 : Enabled
SNTP Server          : 192.168.1.1
SNTP Polling Interval: 60 (min)
Time Zone            : (GMT+09:00) Osaka,Sapporo,Tokyo
Daylight Saving      : Disabled
S24GPWR#
```

Fig. 3-15 Execution example of the SNTP configuration information display command

3.7. ARP Table Display and Registration Configuration

Configure the ARP table in "Global configuration mode." Confirm the configuration information by entering "show arp sort ip" in "Privileged mode."

ARP aging time configuration command

Global configuration mode	arp timeout <value>

ARP (static) configuration command

Global configuration mode	arp <ip-address> <MAC address>

ARP (by MAC) display command

Privileged mode	show arp sort MAC

ARP (by IP) display command

Privileged mode	show arp sort IP

ARP (static) display command

Privileged mode	show arp sort type-static

ARP (dynamic) display command

Privileged mode	show arp sort type-dynamic

```
S24GPWR> enable
S24GPWR# show arp sort ip

 Sorting Method  : By IP
 ARP Age Timeout : 7200  seconds

   IP Address      Hardware Address     Type
 ---------------   -----------------   -------
 192.168.1.1       00:00:00:00:00:01   Static

S24GPWR#
```

Fig. 3-16 Display of ARP table
(show arp sort ip)

4. Advanced Switch Configuration

4.1. VLAN Configuration

Configure VLAN in "Global configuration mode" or "Interface configuration mode." Confirm the configuration information by entering "show vlan all" in "Privileged mode."

VLAN creation configuration command

Global configuration mode	interface vlan<vlan-id>

VLAN delete command

Global configuration mode	no interface vlan<vlan-id>

VLAN name configuration command

Interface configuration mode	name <name>

VLAN member configuration command

Interface configuration mode	member <port-list>

PVID configuration command

Interface configuration mode	pvid <vlan-id>

Frame type configuration command

Interface configuration mode	frame-type { all|tag-only }

VLAN port configuration display command

Privileged mode	show vlan-by-port

PVID display command

Privileged mode	show vlan port

Note: When configuring a VLAN name containing a space, enter it embracing with double quotation marks (" ").
Example: name "VLAN 1"

```
S24GPWR> enable
S24GPWR# show vlan all

 Total VLANs : 3

VLAN      Name                           Type     Mgmt     Ports
----  ------------------------------ --------- ---- -------------------------
   1                                  Permanent  UP  Gi1, Gi2, Gi3, Gi4, Gi5
                                                     Gi6, Gi7, Gi8, Gi9, Gi10
                                                     Gi11, Gi12, Gi13, Gi14, Gi15
                                                     Gi16, Gi17, Gi18, Gi19, Gi20
                                                     Gi21, Gi22, Gi23, Gi24

   2                                  Static    DOWN Gi4, Gi5, Gi6, Gi7, Gi8

   3                                  Static    DOWN Gi9, Gi10, Gi11, Gi12
```

Fig. 4-1 Display of the VLAN configuration
(show vlan {all | <vlan-id>}

```
S24GPWR> enable
S24GPWR# show vlan-by-port

  Port     VLAN ID
 ------  ------------------------------------------------------------------------
    1    1
    2    1
    3    1
    4    1
    5    1
    6    1
    7    1
    8    1
    9    1
   10    1
   11    1
   12    1
   13    1
   14    1
   15    1
   16    1
   17    1
   18    1
   19    1
   20    1
More .....To stop press (n)
```

Fig. 4-2 Display of the VLAN configuration
(show vlan-by-port)

4.2. Link Aggregation Configuration

Configure the link aggregation in "Global configuration mode" or "Interface configuration mode."

Link aggregation configuration command

Global configuration mode	lacp <LACP-key> <1-2 or 1,2,3 or 1,2,3-5>

Link aggregation configuration delete command

Global configuration mode	no lacp <LACP-key>

LACP configuration information display command

Privileged mode	show lacp

```
S24GPWR> enable
S24GPWR# show lacp
 System Priority  : 1

  Key    Mode      Member Port List
 ----- -------- ------------------------------------------------------------
     1  Manual  1-2

S24GPWR
```

Fig. 4-3 Display of the link aggregation
(show lacp)

4.3. Port Monitoring Configuration

Configure port monitoring settings in "Interface configuration mode." Confirm the configuration information by entering "show monitor" in "Privileged mode."

Port monitoring configuration command

Interface configuration mode	port monitor <monitored port> direction {rx|tx|both}

Port monitoring configuration disable command

Interface configuration mode	no port monitor

Monitoring configuration information display command

Privileged mode	show monitor

```
S24GPWR> enable
S24GPWR# configure
S24GPWR(config)# int gi0/9
S24GPWR(config-if)# port monitor 1-8 direction both
S24GPWR(config-if)# end
S24GPWR# show monitor

 Port monitor status  : Enabled
 Monitoring direction : Both
 Monitoring port      : 9
 Monitored port       : 1-8

S24GPWR#
```

Fig. 4-4 Monitoring configuration display command (show monitor)

4.4. QoS (Quality of Service) Configuration

Configure QoS settings in "Global configuration mode." Display the basic information by entering "show mls qos" in "Privileged mode."

QoS enable command

Global configuration mode	mls qos

QoS disable command

Global configuration mode	no mls qos

DiffServ enable command

Global configuration mode	mls diffserv

DiffServ disable command

Global configuration mode	no mls diffserv

Cos trafic class mapping configuration command

Global configuration mode	priority-queue cos-map <traffic class> <priority>

QoS configuration display command

Privileged mode	show mls qos

DiffServ configuration display command

Privileged mode	show mls diffserv

CoS traffic class mapping configuration display command

Privileged mode	show priority-queue cos-map

DiffServ configuration display command

Privileged mode	show priority-queue diffserv-map

```
S24GPWR> enable
S24GPWR# configure
S24GPWR(config)# mls qos
S24GPWR(config)# end
S24GPWR# show mls qos

Quality of Service Status: Enabled

S24GPWR# show priority-queue cos-map

 Priority    Traffic Class
 --------    -------------
    0              0
    1              0
    2              1
    3              1
    4              2
    5              2
    6              3                        0: Lowest
    7              3                        3: Highest

S24GPWR#
```

Fig. 4-5 Display of the QoS configuration
(show mls qos)
(show priority-queue cos-map)

```
S24GPWR> enable
S24GPWR# configure
S24GPWR(config)# priority-queue diffserv-map 63 3
S24GPWR(config)# priority-queue diffserv-map 62 3
S24GPWR(config)# priority-queue diffserv-map 0 1
S24GPWR(config)# mls diffserv
S24GPWR(config)# end
S24GPWR# show mls diffServ

Diffserv Status: Enabled

S24GPWR# show priority-queue diffserv-map

 Diffserv Status : Enabled                                  0 : Lowest  3 : Highest
 DSCP  Priority  DSCP  Priority  DSCP  Priority  DSCP  Priority  DSCP  Priority
 ----- --------  ----- --------  ----- --------  ----- --------  ----- --------
   0       1       13       0       26       0       39       0       52       0
   1       0       14       0       27       0       40       0       53       0
   2       0       15       0       28       0       41       0       54       0
   3       0       16       0       29       0       42       0       55       0
   4       0       17       0       30       0       43       0       56       0
   5       0       18       0       31       0       44       0       57       0
   6       0       19       0       32       0       45       0       58       0
   7       0       20       0       33       0       46       0       59       0
   8       0       21       0       34       0       47       0       60       0
   9       0       22       0       35       0       48       0       61       0
  10       0       23       0       36       0       49       0       62       3
  11       0       24       0       37       0       50       0       63       3
  12       0       25       0       38       0       51       0


S24GPWR#
```

Fig. 4-6 Display of the DiffServ configuration
(show mls diffserv)
(show priority-queue diffserv-map)

4.4. PoE Power Supply Function Configuration

Configure PoE in "Global configuration mode" and "Interface configuration mode."

PoE port supply limit configuration command

Interface configuration mode	peth limit <3000-15400>

PoE port enable command

Interface configuration mode	no peth shutdown

PoE port disable command

Interface configuration mode	peth shutdown

PoE configuration display command

Privileged mode	show peth-conf

PoE port configuration display command

Privileged mode	show peth-port

```
S24GPWR> enable
S24GPWR# show peth-conf
 Power Budget :                          124W
 Power Consumption :                     0W

S24GPWR# show peth-port
 No.  Admin Sche.  Status   Class Limit(mW)   Pow.(mW)   Vol.(V)   Cur.(mA)
 ---  ----- -----  -------  ----- ---------   --------   -------   ---------
  1   Up    -      NotPwr       0     15400          0         0           0
  2   Up    -      NotPwr       0     15400          0         0           0
  3   Up    -      NotPwr       0     15400          0         0           0
  4   Up    -      NotPwr       0     15400          0         0           0
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
 21   Up    -      NotPwr       0     15400          0         0           0
 22   Up    -      NotPwr       0     15400          0         0           0
 23   Up    -      NotPwr       0     15400          0         0           0
 24   Up    -      NotPwr       0     15400          0         0           0

S24GPWR#
```

Fig. 4-7 Display of PoE configuration information
(show peth-conf)
(show peth-port)

4.4.1. PoE Scheduler Configuration

Configure PoE scheduler settings in "Global configuration mode."

PoE scheduler enable command

Global configuration mode	peth schedule enable

PoE scheduler disable command

Global configuration mode	no peth schedule enable

Port list configuration command

Global configuration mode	peth schedule portlist <Index> member <port-list>

Date list configuration command

Global configuration mode	peth schedule datelist <Index> year <year> name <name> datelist <date>

Date list date add command

Global configuration mode	peth schedule datelist <Index> add <date>

Date list date delete command

Global configuration mode	peth schedule datelist <Index> delete <date>

Date list delete command

Global configuration mode	no peth schedule datelist <Index>

Monthly schedule configuration command

Global configuration mode	peth schedule <index> name <name> monthly date <date> time <time> portlist <Index>

Weekly schedule configuration command

Global configuration mode	peth schedule <index> name <name> weekly <weekdays> time <time> portlist <Index>

Daily schedule configuration command

Global configuration mode	peth schedule <index> name <name> daily time <time> portlist <Index>

Date list schedule configuration command

Global configuration mode	peth schedule <index> name <name> datelist <Index> time <time> portlist <Index

Schedule enable command

Global configuration mode	peth schedule <index> enable

Schedule disable command

Global configuration mode	peth schedule <index> disable

Schedule display command

Privileged mode	show peth schedule

Detailed schedule configuration display command

Privileged mode	show peth schedule information <index>

Specified port schedule display command

Privileged mode	show peth schedule configuration-by-port <port-number>

Port list display command

Privileged mode	show peth schedule portlist

Date list display command

Privileged mode	show peth schedule datelist <datelist Index>

Date list schedule configuration display command

Privileged mode	show peth schedule datelist configuration

```
S24GPWR# show peth schedule
PoE Schedule Global Status    : Enabled
Sorting Method                : By Index
PoE Schedule:                                    Total Entries : 6
Index Name              Class.   Port List Action Status   Next Execution Time
----- ----------------- ------- --------- ------ -------- -------------------
    1 Daily-OFF         Daily           1 OFF    Enabled  2014/06/24 20:00
    2 Daily-ON          Daily           1 ON     Enabled  2014/06/25 07:00
    3 Sat,Sun-OFF/ON    Weekly          1 OFF/ON Enabled  2014/06/28 01:00
    4 10,20-OFF/ON      Monthly         1 OFF/ON Enabled  2014/07/10 01:00
    5 Holiday-OFF       DateList        1 OFF    Enabled  2014/07/21 00:00
    6 Holiday-ON        DateList        1 OFF/ON Enabled  2014/07/21 23:59
```

Fig. 4-8 Display of PoE schedule configuration (show peth schedule)

```
S24GPWR# show peth schedule information 1

Detailed Schedule Information :
------------------------------------------------
Schedule Index              : 1
Schedule Name               : Daily-OFF
Schedule Classifier         : Daily
Year                        : -
Date                        : -
Date List Index             : -
Time                        : 20:00
Port List Index             : 1
PoE Action                  : OFF
```

Fig. 4-9 Display of Detailed PoE schedule configuration (show peth schedule information 1)

```
S24GPWR# show peth schedule configuration-by-port 1
Selected Port Number : 1

PoE Schedule:                                          Total Entries : 6
Index  Class.    Date                                    Time    Action  Status
-----  -------   --------------------------------------  -----   ------  --------
    1  Daily     -                                       20:00   OFF     Enabled

    2  Daily     -                                       07:00   ON      Enabled

    3  Weekly    Sat, Sun                                01:00   OFF/ON  Enabled

    4  Monthly   10,20                                   01:00   OFF/ON  Enabled

    5  Datelist  Datelist 1                              00:00   OFF     Enabled

    6  Datelist  Datelist 1                              23:59   OFF/ON  Enabled
```

Fig. 4-10 Display of PoE schedule for the specified port (show peth schedule configuration-by-port 1)

```
S24GPWR# show peth schedule portlist
Port List :                          Total Entries : 1
Index      Port List
------     ------------------------------------------------------------------
     1     1-24
```

Fig. 4-11 Display of the port list configuration (show peth schedule portlist)

```
S24GPWR# show peth schedule datelist 1
Date List Index : 1      Year : 2014

Date:
Month    Day
------   ------------------------------------------------------------------
     1   1,13
     2   11
     3   21
     4   29
     5   3-6
     6
     7   21
     8
     9   15,23
    10   13
    11   3,24
    12   23
```

Fig. 4-12 Display of the date list configuration
(show peth schedule datelist 1)

```
S24GPWR# show peth schedule datelist configuration
Total Entries : 2
 Index   Date List    Year    Time    Act.    Status
 -----   ---------    ----    -----   -----   -------
     5           1    2014    00:00   OFF     Enabled
     6           1    2014    23:59   OFF/ON  Enabled
```

Fig. 4-13 Display of date list schedule configuration
(show peth schedule datelist configuration)

4.5. Line Configuration

Configure the Loop detection and blocking function and MNO series power saving mode settings in "Interface configuration mode."

4.5.1. Loop Detection and Blocking Configuration

Enable or disable the Loop detection and blocking function and configure the auto-recovery setting in "Interface configuration mode." Confirm the loop history by entering "show line loopback history" in "Privileged mode."

Loop detection and blocking function enable command

Configuration mode	line loopback enable

Loop detection and blocking function disable command

Interface configuration mode	no line loopback

Loop detection and blocking history delete command

Configuration mode	line loopback history clear

Loop detection and blocking function enable command

Interface configuration mode	line loopback

Loop detection and blocking mode configure command

Interface configuration mode	line loopback mode <block I shutdown>

Auto-recovery function enable command

Interface configuration mode	line loopback shutdown <sec>

Auto-recovery function disable command

Interface configuration mode	no line loopback shutdown

Loop detection and blocking configuration display command

Privileged mode	show line loopback configuration

Loop detection and blocking history display command

Privileged mode	show line loopback history

```
S24GPWR> enable
S24GPWR# configuration
S24GPWR(config)# line loopback enable
S24GPWR(config)# interface gi0/1
S24GPWR(config-if)# line loopback
S24GPWR(config-if)# end
S24GPWR# show line loopback configuration

 Global Loop Detection Status: Enabled
 Port  Trunk  Link     State       Loop Detect     Mode   Recovery  Recovery Time
 ----  -----  ----  -----------  -------------  ------ ---------- -------------
   1    ---   Up    Forwarding    Enabled       Block   Enabled         60
   2    ---   Down  Forwarding    Enabled       Block   Enabled         60
   3    ---   Down  Forwarding    Enabled       Block   Enabled         60
   4    ---   Down  Forwarding    Enabled       Block   Enabled         60
   5    ---   Down  Forwarding    Enabled       Block   Enabled         60
   6    ---   Down  Forwarding    Enabled       Block   Enabled         60
   7    ---   Down  Forwarding    Enabled       Block   Enabled         60
   8    ---   Down  Forwarding    Enabled       Block   Enabled         60
   9    ---   Down  Forwarding    Enabled       Block   Enabled         60
  10    ---   Down  Forwarding    Enabled       Block   Enabled         60
```

Fig. 4-14 Display of the loop detection and blocking configuration (line loopback)
(show line loopback configuration)

```
S24GPWR> enable
S24GPWR# show line loopback history

 Entry  Time(YYYY/MM/DD HH:MM:SS)                    Event
 -----  ------------------------ ----------------------------------------------
    1   2001/01/01 00:00:33      The loop detected between port 1 and 9
    2   2001/01/01 00:01:33      Port 1 auto recovery

S24GPWR#
```

Fig. 4-15 Execution example of the loop history display command (line loopback)

Note: The loop detection function uses a special frame. When a loop detection frame is detected on a port on which the Loop detection and blocking function is disabled, the sender port is blocked.
For details on loop history messages, refer to Chapter 11, "System Logs."

5. Displaying Statistic Information

Display the packet counter statistic information in "Privileged mode."

Statistic information (traffic) display command

Privileged mode	show interface counters <interface port> {since-reset | since-up}

Statistic information (error) display command

Privileged mode	show interface counters errors <interface port>

```
S24GPWR# show interface counters gi0/1

Elapsed Time Since System Reset: 000:01:51:06

Total RX Bytes    Total RX Pkts    Good Broadcast    Good Multicast
        438319              915               132                 7

  64-Byte Pkts      65-127 Pkts      128-255 Pkts
           817              650                22


  256-511 Pkts    512-1023 Pkts    Over 1024 Pkts
            10              745                 0

S24GPWR# show interface counters errors gi0/1

Elapsed Time Since System Reset: 000:01:51:11

 CRC/Align Errors    Undersize Pkts    Oversize Pkts
                0                 0                0

        Fragments           Jabbers       Collisions
                0                 0                0

S24GPWR#
```

Fig. 5-1 Displaying statistic information
(show interface counters gi0/1 sinde-up)
(show interface counters errors gi0/1)

6. Transferring Configuration Files

You can transfer the configuration information of the Switching Hub to the TFTP server or obtain the information from the TFTP server in "Privileged mode."

Configuration file upload command

Privileged mode	copy running-config tftp <ip-address> <filename>

Configuration file download command

Privileged mode	copy tftp <ip-address> <filename> running-config

```
S24GPWR# copy running-config tftp 192.168.1.1 S24GPWR.cfg
Please wait a minute.

 510 bytes data transferred!
```

Fig. 6-1 Uploading a configuration file
(copy tftp 192.168.1.2 S24GPWR.cfg)

7. Firmware Upgrade

You can upgrade the firmware version of the Switching Hub in "Privileged mode."

Firmware upgrade execution command

Privileged mode	copy tftp <ip-address> <filename> image

```
S24GPWR> enable
S24GPWR# copy tftp 192.168.1.1 PN25249_NEW.rom image

 Downloading Image From Remote Server. (Press CTRL-C to quit downloading)
 Receive    134233 bytes
```

Fig. 7-1 Firmware upgrade
(copy tftp 192.168.1.2 PN25249-NEW.rom)

8. Reboot

You can reboot the Switching Hub in "Privileged mode." As a runtime option, select the reboot type from normal, restore to factory default settings, and restore to factory default settings except IP address.

Reboot command

Privileged mode	reboot {normal | default | default-except-IP}

Reboot timer configuration command

Privileged mode	reboot timer <time>

```
S24GPWR> enable
S24GPWR# reboot normal
 Are you sure to reboot the system? (Y/N) y

Memory test....OK

Decompressing...OK
System database initialization ... OK

MAC unit 0: SOC registers test ... Passed
MAC unit 0: PHY registers test ... Passed
MAC unit 0: PHY loopback test .... Passed
Temperature sensor test .......... Passed
PoE test ......................... Passed

Checking Image Bank Integrity ........ OK

Booting system
Decompressing...OK

Initializing ..........

Completing initialization...
```

Fig. 8-1 Reboot screen

8.1. Reboot Timer Function Configuration

By setting the reboot timer in advance in "Global configuration mode", you can reboot the Switching Hub after a specified time from the execution of the reboot command.

Reboot timer configuration command

Privileged mode	reboot timer <time>

9. Exception Handler

Configure reboot types and execute reboot in "Global configuration mode."

Exception handler enable command

Global configuration mode	exception-handler enable

Exception handler disable command

Global configuration mode	no exception-handler enable

Exception handler configuration command

Global configuration mode	exception-handler mode { debug-message | system-reboot | both }

Exception handler configuration display command

Privileged mode	show exception-handler

```
S24GPWR> enable
S24GPWR# configure
S24GPWR(config)# exception-handler enable
S24GPWR(config)# exception-handler mode both
S24GPWR(config)# end
S24GPWR# show exception-handler

 Exception Handler:            Enabled
 Exception Handler Mode:       Debug Message & System Reboot

S24GPWR#
```

Fig. 9-1 Display of the exception handler configuration

10. Ping Execution

Ping can be used to verify communications.

Ping command

All modes	ping <IP address> [-n <count>] [-w <timeout>]

Ping (number of echo requests) command

All modes	ping <ip-address> [-n <count>]

Ping (timeout) command

All modes	ping <ip-address> [-w <timeout(sec)>]

```
S24GPWR> ping 192.168.1.1

Type Ctrl-C to abort.

Reply Received From :    192.168.1.1, TimeTaken : 8 ms
Reply Received From :    192.168.1.1, TimeTaken : 9 ms
Reply Received From :    192.168.1.1, TimeTaken : 7 ms

--- 192.168.1.1 Ping Statistics ---
3 Packets Transmitted, 3 Packets Received, 0% Packets Loss

S24GPWR> enable
S24GPWR# ping 192.168.1.1

Type Ctrl-C to abort.

Reply Received From :    192.168.1.1, TimeTaken : 10 ms
Reply Received From :    192.168.1.1, TimeTaken : 7 ms
Reply Received From :    192.168.1.1, TimeTaken : 7 ms

--- 192.168.1.1 Ping Statistics ---
3 Packets Transmitted, 3 Packets Received, 0% Packets Loss

S24GPWR# configure
S24GPWR(config)# ping 192.168.1.1

Type Ctrl-C to abort.

Reply Received From :    192.168.1.1, TimeTaken : 10 ms
Reply Received From :    192.168.1.1, TimeTaken : 9 ms
Reply Received From :    192.168.1.1, TimeTaken : 6 ms

--- 192.168.1.1 Ping Statistics ---
3 Packets Transmitted, 3 Packets Received, 0% Packets Loss
```

Fig. 10-1 Ping execution
(ping 192.168.1.1)

11. Displaying and Configuring the System Log

View the system log in "Privileged mode" and configure the system log setting in "Global configuration mode."

System log display command

Privileged mode	show syslog [conf]

System log clear command

Global configuration mode	syslog clear

```
S24GPWR# show syslog

 Entry  Time(YYYY/MM/DD HH:MM:SS)          Event
 -----  -------------------------  ----------------------------------------
    1   2001/01/01 00:00:29        Reboot: Factory Default
    2   2001/01/01 00:05:47        Login from console
    3   2001/01/01 00:06:16        Configuration changed
    4   2001/01/01 00:00:24        Switch start
    5   2001/01/01 00:00:56        Login from console
    6   2001/01/01 00:01:03        Set IP address <192.168.0.1>
    7   2001/01/01 00:02:25        Runtime code changes
    8   2001/01/01 00:03:33        Reboot: Normal
    9   2001/01/01 00:00:23        Switch start
   10   2001/01/01 00:01:48        Login from console
   11   2001/01/01 00:02:24        Configuration changed
   12   2001/01/01 00:00:23        Switch start
   13   2001/01/01 00:00:31        Login from console
   14   2001/01/01 00:00:37        Set IP address <192.168.0.1>
   15   2001/01/01 00:02:15        Runtime code changes
   16   2001/01/01 00:03:23        Reboot: Normal

S24GPWR#
```

Fig. 11-1 Display of the system log and the system log configuration (show syslog)

12. Saving Configuration Information

Save the configuration information in "Privileged mode."

Configuration save command

Privileged mode	copy running-config startup-config

```
S24GPWR> enable
S24GPWR# copy running-config startup-config
Please wait a minute.

 Save current state to startup config successfully!!

S24GPWR#
```

Fig. 12-1 Saving the configuration information
(copy running-config startup-config)

13. Displaying Configuration Information

View the configuration information in "Privileged mode."

Configuration information display command

Privileged mode	show running-config

Saved configuration information display command

Privileged mode	show startup-config

```
S24GPWR> enable
S24GPWR# show running-config
Building Configuration...
Current Configuration:
! -- start of configuration --
! -- Software Version : x.x.x.xx --
!
enable
config
!
ip address 192.168.0.1 255.255.255.0
ip default-gateway 192.168.0.254
!
spanning-tree rst version rstp
!
interface GigabitEthernet0/1
!
interface GigabitEthernet0/2
!
interface GigabitEthernet0/3
!
interface GigabitEthernet0/4
!
interface GigabitEthernet0/5
!
interface GigabitEthernet0/6
!
interface GigabitEthernet0/7
!
interface GigabitEthernet0/8
!
interface GigabitEthernet0/9
!
interface GigabitEthernet0/10
!
More .....To stop press (n)
```

Fig. 13-1 Displaying configuration information (show running-config)

14. Obtaining Technical Support Information

Technical support information can be obtained in the "Privileged mode." This information is useful if obtained in advance before inquiry.
Because the display content is very long, we recommend to set console length to "0" in advance.

Technical support information display command

Privileged mode	show tech

15. Appendix

15.1. Specifications

Refer to "Operation Manual for Menu Screens" for your switching Hub to read the specifications.

15.2.Easy IP Address Setup Function

The following are points to note when using the easy IP address setup function.

[Known compatible software]
Panasonic Life Solutions Networks Co., Ltd. " ZEQUOassistPlus" Ver1.1.1.0
Panasonic Corporation "Easy IP Setup" V3.01/V4.00/V4.24R00
Panasonic System Networks Co., Ltd. "Easy Config" Ver3.10R00

[User-settable items]
* IP address, subnet mask, and default gateway
* System name
  * This item can be configured only with the software "Easy Config." In the software, the item is displayed as "Camera name."

[Restrictions]
* The time for accepting setting changes is limited to 20 minutes after power-on to ensure security.
  However, you can change settings regardless of the time limit if the IP address, subnet mask, default gateway, user name, and password values are set to factory defaults.
  * Even after the time limit is reached, you can check the current settings displayed in a list.
* The following function of the software "Easy Config" cannot be used.
  - "Auto setup function"

*Please contact your manufacturer for information about network cameras.

15. Troubleshooting

If you find any problems, please take the following steps to check.

◆ LED indicators
- ■ The power LED (POWER) is not lit.
  - ● Is the power cord connected?
    → Check that the power plug is firmly connected, so the connection is not loose at the power port.
- ■ The port LED (Left) is not lit in the Status mode.
  - ● Is the switch set to the Status mode?
    When the switch is set to the ECO mode, all LEDs are turned off regardless of connection statuses of the terminals.
  - ● Is the cable correctly connected to the target port?
  - ● Is the device connected to the port compliant with the relevant standard?
  - ● Auto-negotiation may have failed.
    → Set the port of this switch or the terminal to half-duplex mode.
- ■ The port LED (Right) is lit solid orange.
  - ● A loop is occurring. When you recover from the loop, the solid orange LED is turned off.
- ■ LOOP HISTORY LED is flashing green.
  - ● There is a port currently having a loop, or a port that recovered from a loop less than 3 days ago.

◆ Communications are slow.
- ● Are the communication speed and mode settings correct?
  When an appropriate communication mode signal cannot be properly obtained, the switch operates in half-duplex mode.
  Recheck the auto negotiation settings.
  Do not fix the communication mode of the connected device to full-duplex mode.
- ● Is the bandwidth usage rate of the network to which this switch is connected excessively high?
  Try separating this switch from the network.

◆ Communications fail.
- ● Are the ports linking up?
  If the MNO series power saving mode is set to "Full", set it to "Half" or "Disabled."
- ● Is the port LED (Right) lit solid orange?
  If the port LED (Right) is lit solid orange, the port is being blocked by the Loop detection and blocking function. After the port is recovered from the loop, wait for more than the recovery time until a port starts to be automatically recovered, or release the blocked port on the configuration screen.

16. After-sales Service

1. Warranty card

A warranty card is included in the operating instructions (paper) provided with this Switching Hub. Be sure to confirm that the date of purchase, shop (company) name, etc., have been entered in the warranty card and then receive it from the shop. Keep it in a safe place. The warranty period is one year from the date of purchase.

2. Repair request

If a problem is not solved even after taking the steps shown in the "Troubleshooting" section in this manual, please use the Memo shown on the next page and make a repair request with the following information to the shop where you purchased this Switching Hub.

- ◆ Product name ◆ Model No.
- ◆ Product serial No.(11 alphanumeric characters labeled on the product)
- ◆ Firmware version(The number after "Ver." labeled on the unit package)
- ◆ Problem status (Please give as concrete information as possible.)
- ● Within the warranty period:
  Repair service will be provided in accordance with the conditions stipulated in the warranty card.
  Please bring your product and warranty card in the shop where you purchased it.
- ● After the warranty period expires:
  If our check determines that your product is repairable, a chargeable repair service is available upon your request.
  Please contact the shop where you purchased the product.

3. Inquiries about after-sales service and the product

Contact the shop where you purchased the product or call/fax the following number.

Memo (Fill in for future reference)

<table>
<tr><td rowspan="2">Date of purchase</td><td colspan="5" rowspan="2"></td><td>Model name</td><td colspan="4">Switch-S24GPWR</td></tr>
<tr><td>Model number</td><td colspan="4">PN25249</td></tr>
<tr><td rowspan="2">Firmware version (*)</td><td colspan="3">Boot Code</td><td colspan="7"></td></tr>
<tr><td colspan="3">Runtime Code</td><td colspan="7"></td></tr>
<tr><td rowspan="2">Serial number</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="10">(An 11-digit number labeled on the product)</td></tr>
<tr><td>Store/dealer</td><td colspan="10">Tel</td></tr>
<tr><td>Customer service contact</td><td colspan="10">Tel</td></tr>
</table>

(* Check screen is described in Chapter 3 of this document.)

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