PATLITE®

NH Series
User's Manual

PATLITE Corporation

Introduction

Thank you for purchasing the PATLITE "NH Series" (henceforth, written as "this product") Network Monitoring Signal Tower. Be sure to read this NH Series instruction manual (henceforth, written as "this book") carefully before installation. In addition, store this manual for future reference when performing maintenance, repairs or inspections. When performing maintenance and repairs, etc., be sure to reread this book.
After reading this book, if there are any questions regarding this product, contact your PATLITE Sales Representative from the contact list indicated at the end of this book.

Notice

► The copyrights of this book is owned by the PATLITE Company, Inc. (henceforth referred to as "our company"). Any reproduction, duplication, alteration, or extracting portions of this book, etc., without written permission from our company is forbidden.

► Specifications, the design, and other contents written in this book may be changed for improvements without prior notice and may result in differences from the actual product purchased.

► This product meets severe quality control and inspection requirements prior to shipment, but if some failure or defect is found, contact the place of purchase, or your PATLITE Sales Representative (indicated on the last page) to solve the issue.

► This product (software is included) is for the use of general office work, home and for personal use, it has been developed, designed and manufactured for general applications, such as for industry, and it is not designed for applications which demands high safety requirements, such as medical application equipment or systems used in connection directly, or indirectly, with human life.
Understand prior to use, that no responsibility is taken at our company for damages or other disadvantages, due to customers using this product beyond the scope of its general application, or from any claims from third parties.
  • When using this product for applications in which equipment of higher reliability than the general application demands, such as a computer system, etc., use suitable safety design countermeasures against system failure, etc.

► Understand that our company does not take any responsibility for damage and other disadvantages this product (software is included) has caused due to the customer using this product, or any claims from third parties.

► Due to the characteristics of the LED's, variations in brightness and color of the indicating lamps may occur.

► This product (Body only) conforms to EN standards and shows the CE Markings.

► The AC Adaptor included does not conform to the EN standards, therefore does not show CE Markings.
► To comply with UL certification for the main unit, An AC adaptor with a UL listing is required.

FCC Compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

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

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

This device complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. The antenna used for this transmitter is built-in, therefore, the transmitter must provide separation of at least 20cm from all persons.

For safe application, observe the following:

The following symbols classifes the following into different catagories and explains the level of harm inflicted if the cautions are disregarded.

⚠ WARNING	Indicates an imminently dangerous condition: Failure to follow the instructions may lead to death or serious injury.
⚠ CAUTION	Indicates a potentially dangerous condition: Failure to follow the instructions may lead to slight injury or property damage.
🚫 PROHIBITED	This symbol indicates "Prohibited", which should not be carried out by all means.
❗ ENFORCED	This symbol indicates "Enforced", which should be observed and carried out by all means.
Attention	Indicates something to observe before using this product.
MEMO	Notice regarding supplementary information or convenient explanation is indicated.

Cautionary Notes

Prior to installation, read all notes and use this product correctly.

⚠ WARNING	
🚫 Prohibited	• Do not disassemble or alter the product. Failure to comply may result in fire, electric shock, or failure. • The power supply rating is AC 100-240V. Do not allow the voltage to exceed the specified voltage tolerance. Failure to comply will result in internal circuitry damage. Moreover, there is a risk of fire. • After attaching this product onto the machinery, do not remove the cover, hook anything onto the product or use the product as a step when climbing onto the machinery. Failure to comply will result in falling off the machinery or product damage may occur.
❗ Enforced	• Do not disconnect and re-insert the DC plug while the AC Adaptor is plugged in. Possible electric shock and damage may occur. • When plugging the power cord into the power receptacle, be sure to check there is no dust accumulation on the plug, and insert into the power receptacle completely. By allowing dust to adhere to the power supply terminal, it can be the result of fire or failure from short-circuiting. • Since dust can accumulate after a long time, and with moisture, can cause the dust to become conductive, in order to prevent the phenomenon of ignition from dust accumulation, it is best to periodically wipe the transformer and socket terminal with a damp cloth. By allowing dust to adhere to the power supply terminal, it can be the result of fire or failure from short-circuiting. • When replacing LED units, etc., be sure to turn off the power first to prevent electric shock. • When an unusual odor, sound or smoke comes out of the product, immediately disconnect the power, then contact your nearest PATLITE Sales Representative.

⚠ CAUTION	
❗ Enforced	• When moving this product, do not grasp by the Signal Tower portion of this product. Be sure to carry it from the base of the unit, to prevent any cause of failure or trouble. • Place this product on a level surface, such as a desk etc. • When installing it in high places, such as on top of a shelf, use the rubber feet provided as an accessory, along with adhesive tape, and a support base for the bottom of the body to prevent it from falling.
🚫 Prohibited	• Do not expose it to high temperatures, such as near a fire and do not use it in humid places. Moreover, do not use this machine in locations where corrosive or combustible gas is present. • If foreign substances, such as water, medicine; or metals, such as copper, low carbon steel wire, fall into this product, do not use it. Possible cause of failure may occur. • Do not disassemble or attempt to repair this product by any means. Failure to comply will result in equipment damage or fire. • Do not bend the power supply cables or signal wires recklessly. Disconnection will result in this machine breaking down. • Do not install or run wiring near, or where equipment (such as solenoids, etc.) generate strong electric or magnetic fields, or near any power lines. Failure to comply may result in malfunction due to inductive noise. • Do not place any part of this product (Body, AC Adaptor, Rubber Feet) where infants can reach it. If it is swallowed accidentally, it could be detrimental. If it is suspected of being swallowed, consult an emergency medical center immediately.

Regarding the Trademarks or Registered Trademarks

Handling Cautions

This product is for indoor use only. Do not use it outdoors.
When installing this product, avoid installation in the following places:

- Where its exposed to direct sunlight
- Where high temperatures, such as near fire, or in a humid place
- Where drastic temperature and humidiy changes are present
- Where its exposed to an environment with poor ventilation
- Where its exposed to vibrations exceeding the specifications
- Where its exposed to corrosive gas
- Where its exposed to a salty air environment
- Where its exposed to dust, iron powder, etc.
- Where its exposed to high concentrations of chemicals or oil mist
- Where its exposed to rain, or other types of wet environments

Maintenance and Inspection

► Cleaning

- When cleaning, be sure to disconnect the power before doing so.
- The cleaning of this product should be with a soft cloth and a neutral detergent (such as dish soap), diluted with water and should be wiped lightly. Since it is easy to crack the surface of the product when wiping with too much strength, be careful.
- Do not wipe this product with volatile chemicals, or chemically treated dustcloth containing benzine, thinner etc.
- Do not wipe with a cloth containing too much moisture. If moisture gets inside the product, it can cause short circuiting, electric shock, or fire.
- Periodically remove dust from the electric socket to prevent a fire hazard. By allowing dust to adhere to the power supply terminal, it can be the result of fire or failure from short-circuiting.

► Inspection

- Check the following contents when inspecting this product.

Inspection Checklist		Inspection Contents
Supplied Power Source	Power Supply Voltage Tolerance	Tolerable Voltage Range should be from AC 100 to 240V
Surrounding Environment	Ambient Temperature	Operating Temperature Range should be from 0 to 40°C
	Ambient Humidity	Operating Humidity Range should be 20 to 80% RH
	Presence of Dust	No dust should be accumulated

Product Checklist

Although our company takes all possible quality control measures to ensure proper packing of this product, if there should be any missing items, refer to the last page to contact your nearest PATLITE Sales Representative.

- NH Series Main Unit (1 Body and 1 Stand)
- Quick Start Operation Manual (1 Sheet)
- Adhesive Seal (8 Sheets)
- Rubber Feet (4 Pieces)
- Support Base (1 Piece)
- AC Adaptor (1 Unit)
  *The AC Adaptor for NHL-3FB1N-RYG is not enclosed.

Table of Contents

3. Functionality Details 24

Intro

1

2

3

4

5

6

7

8

9

10

Intro

4. Function Setup 51

1
2
3
4
5
6
7
8
9
10

Intro

1

2

3

4

5

6

7

8

9

10

1. Product Outline

1.1. Outer Dimensional Drawing

126

69

CLEAR

φ60

338

105

CLEAR

RESET

TEST

VOL.

NHL-3FB1□-RYG
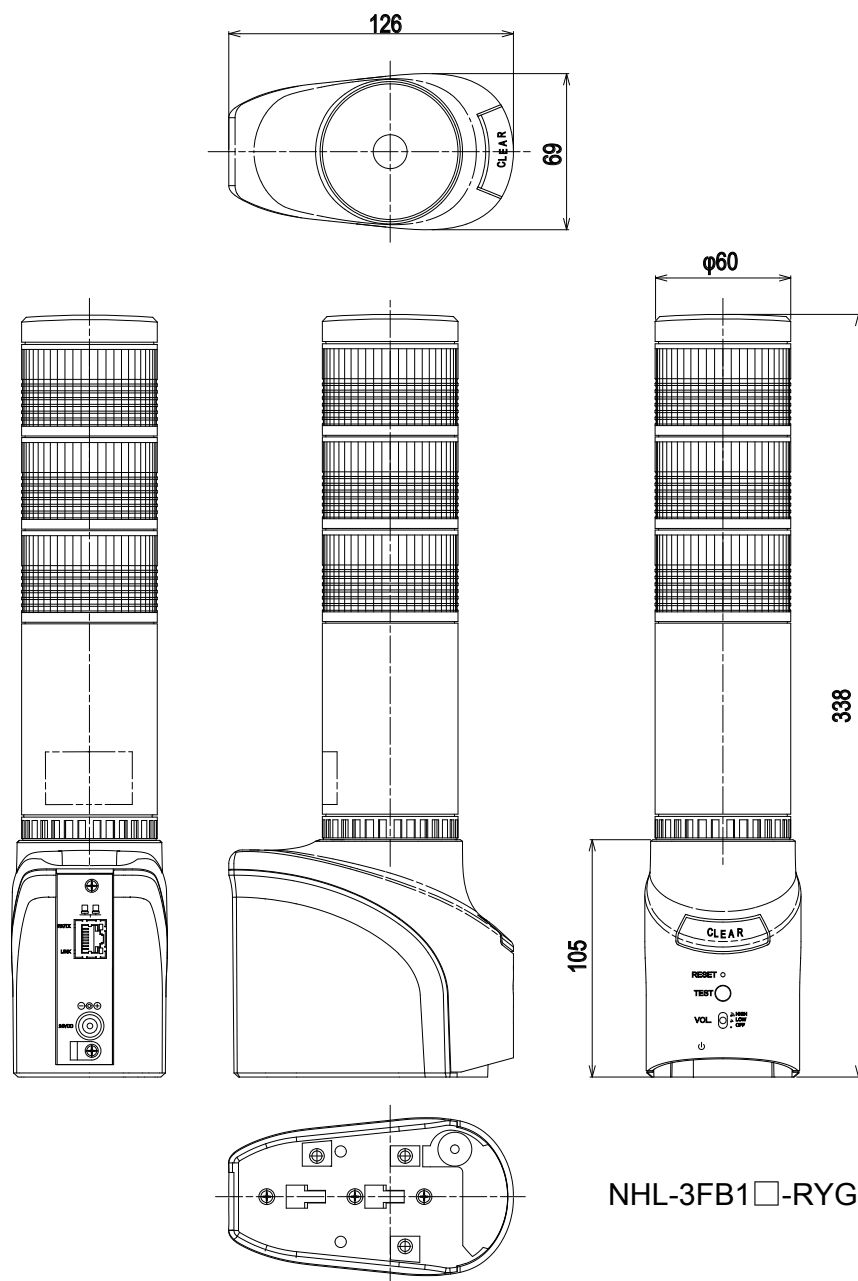
Outer Dimensional Drawing

1.2. Part Names and Functions
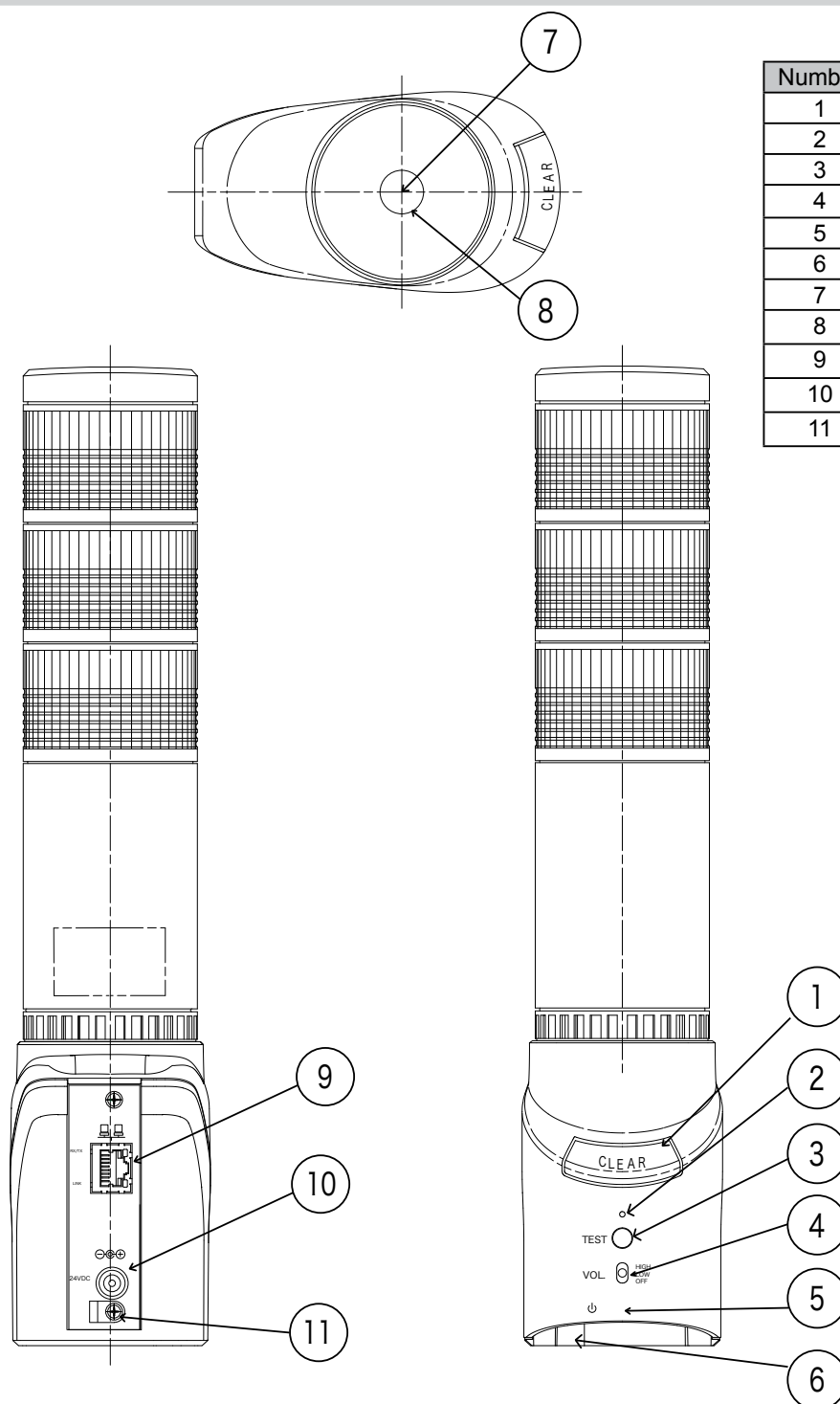
Number	Name
1	CLEAR Switch
2	RESET Switch
3	TEST Switch
4	Volume Level Switch
5	Status LED
6	Buzzer Diaphram
7	Center Shaft
8	Cover Seal
9	LAN Connector
10	Power Outlet
11	Power Cable Clamp

1.3. Model Number Configuration

NHL - 3FB1□- RYG

RYG: LED units are in order from top to bottom of red, yellow, and green

U: AC Adaptor Included   N: AC Adaptor not Included

1.4. General Specifications

Item	Specification						
Model	NHL-3FB1U-RYG				NHL-3FB1N-RYG		
Rated Voltage (Body)	DC24V						
AC Adaptor Rated Voltage	AC 100V to 240V				—		
AC Adaptor Operating Voltage Range	AC 90V to 264V				—		
Power Consumption	Body	Red	Amber	Green	Blue	White	Buzzer
	2.0W	1.0W	1.0W	0.8W	0.8W	0.8W	2.0W
Operating Temperature Range	0°C to 40°C (No Condensation)						
Storage Temperature Range	-10°C to 60°C (No Condensation)						
Relative Humidity	from 20 to 80% RH (No Condensation)						
Insulation Resistance	More than 1MΩ at DC500V between the terminals and the chassis						
Withstanding Voltage	AC1000V and less than 10mA applied for 1 minute between the terminals and chassis without breaking insulation						
EMI Noise Characteristics	AC1000Vp~p Pulse Width: 1μsec						
Vibration Resistance	19.6m/s^2						
Sound Level	HIGH: 80dB or more / LOW: 70dB or less (Distance from buzzer diaphram (Upright Position) of 1m and "A" balance)						
Buzzer Sound	Three-position adjustable switch for "HIGH", "LOW" and "OFF"						
Signal Tower	NHL: φ60 Type Clear Globe						
"CLEAR" Switch	Pushbutton Switch						
"RESET" Switch	Tact Switch						
"BUZZER" Switch	Slide Switch						
Communication Method	Ethernet	Physical Layer: 10BASE-T/100BASE-TX (Auto-negotiation/ Full Duplex/ Half Duplex)					
		Data Link Layer: CSMA/CD					
		Network Link Layer: IP/ ARP/ ICMP					
		Transport Layer: TCP/ UDP					
		Application Layer: HTTP/ RSH/ SMTP/ SNMP/ POP/ DNS/ Socket/ NTP/ DHCP/ SLMP					
Mounting	Location	Indoors Only					
	Direction	Desktop or wall-mount in the upright position					
Mass (AC Adaptor not included)	3 Tier						
	800g						
Protection Rating	IP2x						
Accessories	AC Adaptor, Rubber Feet, Adhesive Seal, Support Base				Rubber Feet, Adhesive Seal, Support Base		

Attention   When there is no "Auto-negotiation" on the HUB side, sometimes communication is inoperable.

1.5. AC Adaptor Specifications

When ordering an AC Adaptor separately, use the following specifications. Since the voltage output of AC Adaptors drop when there is insufficient current (example: unregulated transformers, etc.), be sure to use an output current rating above the recommended rating. Failure to comply may result in failure of this product. Be sure to use AC Adaptors with built-in regulation systems to ensure a regulated output voltage (switching power supplies, etc.)

[Recommended AC Adaptor Specifications]

DC Secondary Output
Voltage   : 24V DC ±5%
Current   : 0.75A or more
Plug Length   : 9.5mm
Plastic Housing   : 11mm dia.
Plug Connector Outer Diameter : 5.5mm dia.
Plug Connector Inner Diameter : 2.1mm dia.

9.5   φ5.5   φ2.1   φ11

⊕ ──────● ────── ⊖
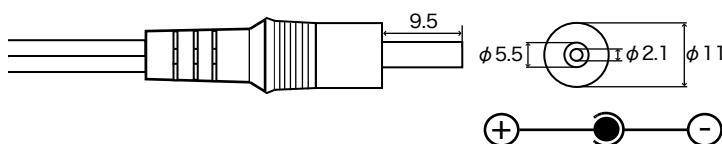
1.6. Description of Functionality

The following explains the functionality featured in this product.

1.6.1. Monitoring Function

This product can monitor the connectivity of a network device.

PING MONITOR

Monitors "keepalive" Network/Device signals

The Ping Monitor can monitor the connectivity for a maximum of 24 nodes with this product. If the monitor cannot obtain a response due to an abnormality in the circuit or equipment in the node, it judges an abnormal state and the Signal Tower warns a supervisor with light and sound.

Among the 24 nodes, 12 nodes (13th to 24th) can be set up for more detailed monitoring parameters.
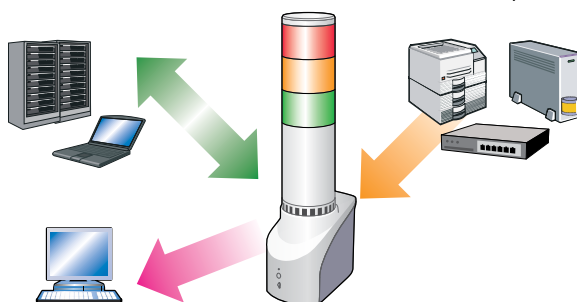
With a user's creation of adding an application utilizing the transmission command, monitoring of the operating circumstances is possible. (Maximum of 4 nodes)

SNMP v1v2c

Low-cost Monitor networking equipment.

A network monitor Signal Tower can tell an administrator about generated abnormalities and hindrances promptly as an SNMP command to respond with light and sound to an SNMP TRAP from the equipment (UPS, a printer, a router, a switch, etc.) via the network.

• It can distinguish the variable bindings.
• The registration of 16 groups (4 nodes per group) is possible.

SELF DIAGNOSIS

It is possible without control from the network, to instead use the test switch on the front of the product to check the functions of the Signal Tower and buzzer.

1.6.2. Transmission Commands

RSH

Controllable with General RSH protocol

It is controllable by the flexible RSH protocol.
With network integrated management software and various event monitoring tools, it is possible to trigger lighting, flashing, buzzer sound, and buzzer sound synchronized with the Signal Tower lights.

Event Occurance: Command Execution (Lighting Tier, Sounding Buzzer)
RSH Example: rsh 192.168.10.1 -l root alert 111001

HTTP command

Controllable with HTTP Command
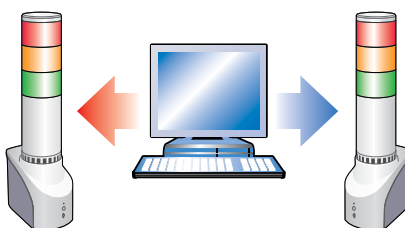
SOCKET TRANSMISSION

Compatible with PHN Commands.

The Signal Tower and buzzer are controllable by a 2 byte command.

* Compatible with the NHE-3 FB, NHC-3 FB, NHM-3 FB and PHN-3FBE1.
* Some functions are limited.

Event Occurance: Command Execution
(Flashing Tier Lights, Buzzer Sound)
PHN Example Code: 57H,17H

The commands are compatable with the new PNS.

The Signal Tower and buzzer are controllable through the PNS command. All the different patterns are controllable.

Event Occurance: Command Execution (Lighting Tier, Sounding Buzzer)
PNS Example Code: 58H,58H,53H,00H,00H,06H,01H,01H,01H,00H,00H,01H

1.6.3. Transmission Function Configuration

An E-mail and TRAP transmission can be sent at the time of an event occurance.
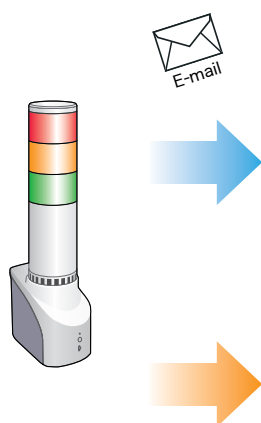
E-mail TRANSMISSION

Send to a maximum of 8 selectable addresses

A subject title and the text corresponding to the subject title can be created for the occurred event.
It uses the authentication protocol for POP and SMTP.

SNMP v2c

SNMP TRAP Transmission

The transmission can send an e-mail to a maximum of eight selectable addresses.

1.6.4. Setup and Updates

With a web setup tool, a detailed setup containing the IP Address of the product can be arranged. The firmware can also be upgraded remotely.

Fig. 1.6.1 Web Setup Tool Screen

PATLITE

■ Setup Menu
»System Configuration
»Clock Settings
»User Authorization Configuration
»SNMP Configuration
»Socket Transmission Configuration
»E-Mail Settings
»E-Mail Message Settings
»RSH Command Configuration

■ Operation Settings
»TRAP Reception Configuration
»Ping Monitoring Configuration
»Application Monitoring Configuration
»"Clear" Control Configuration
»Normal Mode Settings
»"Test" Switch Settings
»SLMP Read Command Configuration
»SLMP Write Command Configuration

■ NH Unit Controls
»Signal Tower Output Control
»Reinitialize
»Reboot

■ Maintenance Functions
»Event Log
»XMLSetup
»Configuration   Data Setup
»Firmware Update
»Setup Table Entries

■ Log Out

NH Series Network Monitoring Signal Tower

Web Setup Tool

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2. Installation Procedure and Flowchart

2.1. Network Signal Tower Flowchart

The Signal Tower offers two methods for configuring the network, "Manual Network Setup", and "Automatic Network Setup", which uses the DHCP server function.

2.1.1. Manual Network Setup

Signal Tower Installation

Install this product on a level surface. If necessary, use the accessories (rubber foot, adhesive seal, support base) if needed when installing.

Power Supply Input

Connect the AC Adaptor to this product Using the cable clamp will prevent the power cord from being unintentionally pulled out. (Refer to "2.4 Power Supply Input" on pg. 18)

LAN Connection

Connect the LAN cable to this product.

Network Setup

Set up the network environment configuration. Refer to "2.3 LAN Connection" on pg. 18 on how to setup the network.

Operation Settings

Set up the detailed settings after the network environment has been configured

Attention
After completing the desired setup configuration, reboot this product by pressing the "reset" button, or removing the power for a few seconds and reapplying it for the changes to take effect.

Start-up

This product is now ready to be used.

2.1.2. Automatic Network Setup

Signal Tower Installation

Install this product on a level surface. If necessary, use the accessories (rubber foot, adhesive seal, support base) if needed when installing.

Power Supply Input

Set the volume level switch to "LOW", then push the "TEST" switch while inserting the AC Adaptor plug into the power outlet. Use the cable clamp to prevent the power cord from being unintentionally pulled out. (Refer to "2.4 Power Supply Input" on pg. 18)

LAN Connection

Connect the LAN cable to this product.

DHCP Setup

If this product is unable to connect with a DHCP Server, the Signal Tower status will start using the flashing pattern2 on all LED units, then will use the factory default network information set at the time of shipment. If that condition occurs, then either try again to connect with a DHCP Server, or manually set up the network. Refer to "2.3 LAN Connection" on pg. 18 on how to setup the network manually. If this product is able to connect to a DHCP Server, in order to know the network information, it is recommended to use Patlite's "PNS Manager" software for the NH Series.

Operation Settings

Set up the detailed settings after the network environment has been configured

Attention After completing the desired setup configuration, reboot this product by pressing the "reset" button, or removing the power for a few seconds and reapplying it for the changes to take effect.

Start-up

This product is now ready to be used.

MEMO Once the DHCP function is working, it will automatically start up the next time the product is turned on, or rebooted.

16

2.2. Signal Tower Installation

This product is to be intalled on a level surface. Also, use the included accessories (rubber feet, adhesive seal, support base) when needed during installation.

Installation Example 1: Rubber Feet to prevent from sliding on a flat and slippery surface

Attachment Area
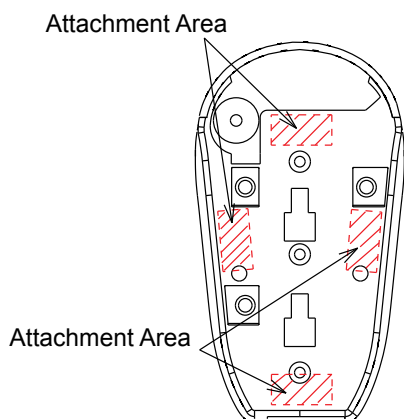
Attachment Area

[Installation]

Strip off the adhesive backing and stick the adhesive seal or rubber feet in the shaded area, indicated on the figure to the left.

////// Adhesive seal or rubber feet attachment area

Installation Example 2: Increasing surface area for a sturdy surface (before adding adhesive seals or rubber feet)
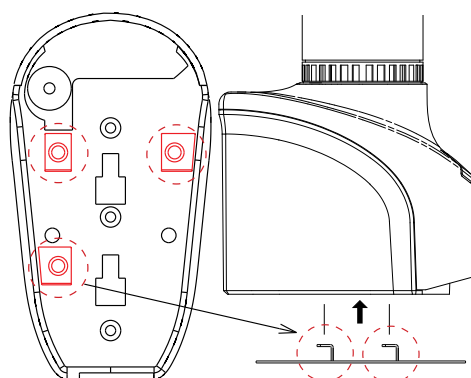
[Installation]

1. Support Base is attached to the part indicated by the circle " ⊙ ".

( ) Support Base attachment area
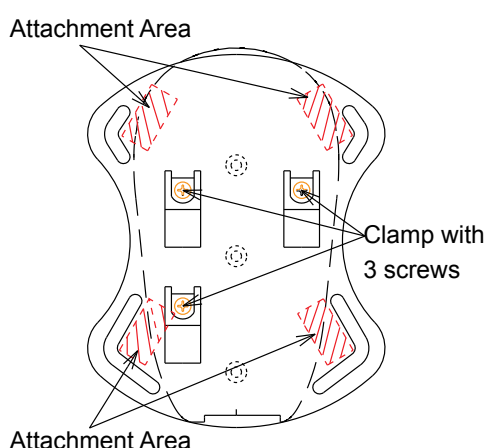
Attachment Area

2. Secure the Support Base with screws.

Clamp with
3 screws

3. Use an M4 screw (or M4 bolt, etc.) to attach the Support Base onto the installation surface and tighten it with M4 nuts.

////// Adhesive seal or rubber feet attachment area

Attachment Area

Attention

- When the adhesive seal is stuck on the product, it may Be difficult to remove and possibly peel off the remainder of the tape or paint. Be certain where the adhesive seals are to be placed before applying.
- Before placing the adhesive seal, remove dust, moisture, oil, etc. from the surface.
- Be sure to have the underside of the product in position, then peel the backing off the adhesive seal Before applying.
- Do not exert force to the Signal Tower area.

Installation Example 3: Permanent Surface Installation (screw-support base)

[Installation]

Front Direction of Product

125.5
74
84
100
4-φ4.5

Location for tapping 4.5mm holes
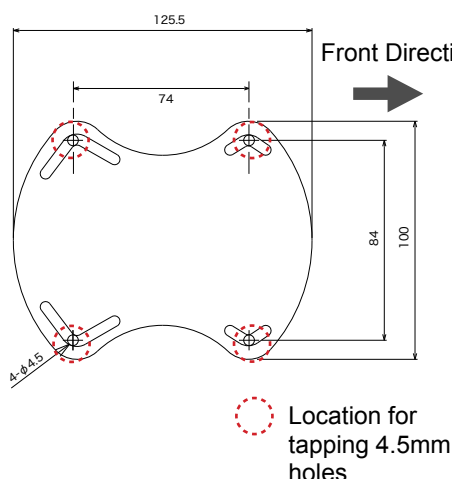
1. Drill holes with a diameter of 4.5mm onto a flat surface to install.
2. Affix the Support Base accessory to this product.

※ Do not attach the rubber feet or adhesive seals when clamping the Support Base with screws.

3. Use an M4 screw (or M4 bolt, etc.) to attach the Support Base onto the installation surface and tighten it with M4 nuts.

2.3. LAN Connection

Connect the LAN cable to this product. Use either a category 5 LAN cable, or twisted-pair cable (UTP or STP) for this application.

2.4. Power Supply Input

Attach the power plug for this product in accordance with the figure below. This product requires at least 30 seconds for the boot-up sequence to complete.

[Power Plug Mounting Instruction]

1. Remove the clamp for the power cable.
2. Pass the power cable through the clamp.
3. Insert the power plug into this product.
4. Screw the clamp down to tighten it, and ensure enough slack (about 15mm) has been given to the power cable.
5. When power is supplied to this product, the lights will all turn on for about 1 second.

Fig. 2.3.1 Power Cable Mounting Diagram

(15)mm
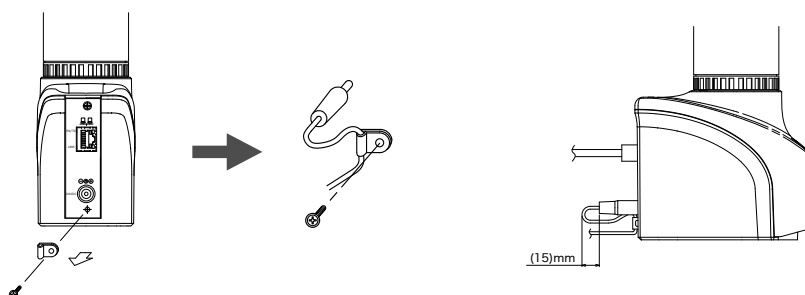
⚠ Warning
• Periodically check whether dust builds up on the electric socket and clean it if dust builds up. Ensure maintenance is performed to avoid dust build-up, because it may result in fire if too much dust is allowed to build up.
• Do not touch the electric socket with wet hands. Failure to comply will result in electric shock.

2.5. Network Setup

The IP address at the time of factory shipments for this product is <u>192.168.10.1</u>.

To change the IP address, first log in from a personal computer (henceforth, written as "PC") web browser to access the settings for it.

Log into the personal computer before changing the Network settings, so that the personal computer can communicate with this product. Refer to "2.5.1 Logging In" on pg. 19 for the login method.

> MEMO The recommended browser should be equivalent to or higher than Internet Explorer 6 or Firefox 3.5.

2.5.1. Logging In

By logging in from a web browser, access can be made to various setups for this product.

In order to log in, the current IP address for this product needs to be entered into the address part of the web browser. (Refer to Fig. 2.5.1)

Fig. 2.5.1 Login Screen

<Web Browser Address Input>   http://192.168.10.1/index.htm
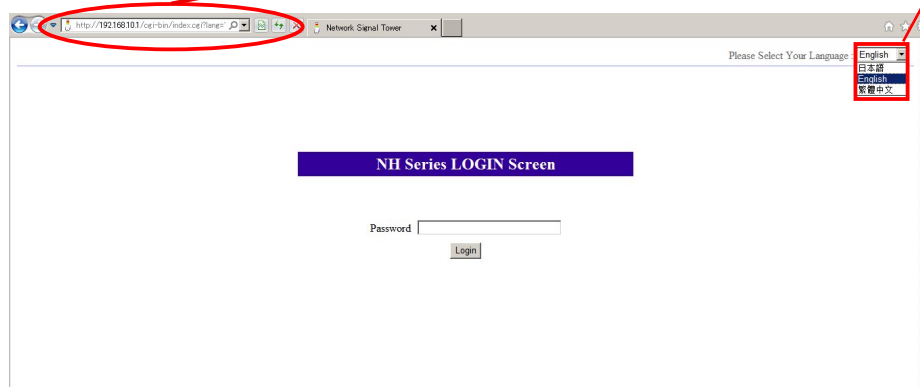
Select Language

When the login screen is displayed, go to the upper right of the screen where "Please Select Your Language" is located to select the preferred language.

> MEMO
> • If the login screen is not displayed, refer to "7. Troubleshooting". Be sure to allow automatic page reading of Javascript by setting the browser to allow Javascript.
> • Even if an address is entered, if the login screen is not displayed, changing the personal computer Network settings may Be necessary.
> • When establishing a Network setting to re-connect , or to initialize it with the Web setup tool for this product, the contents are as followed:
>
> The PC IP address is in the range of 192.168.10.2 to 254
> Subnet mask is 255.255.255.0
> For a default gateway direct connection, the setup is unnecessary.
> When connecting it to a network, be sure to check with the network administrator.

> Attention
> • When the login screen is displayed, enter "patlite" in the password field, then click the "Logging In" button. The default password is set to "patlite". Be sure to change the password to prevent any security breaching.
> • If 10 minutes or more of no activity has elapsed after logging in, a time-out causes an automatic log out. When that occurs, log in again.
> • If garbled characters occur and the screen is not displayed normally, change the character code for Unicode (UTF-8) to correct it.
> • To prevent from being setup in two or more places, this product does not support double-login capabilities. To log in from another location, be sure the last computer is logged out.

Select the preferred language from the pull down menu in the upper right of the login screen. (Refer to Fig. 2.5.2)
The selectable languages available are "Japanese", "English", and "Chinese". Once selected, the language will be displayed on each screen in the Web setup tool. (Refer to Fig. 2.5.3 and Fig. 2.5.4)

   When the login screen is displayed, go to the upper right of the screen where "Please Select Your Language" is located to select the preferred language. Enter "patlite" in the password field, then click the "Logging In" button. The default password is set to "patlite." Be sure to change the password to prevent any security breaching.

Fig. 2.5.2 Login Screen

Please Select Your Language : English

NH Series LOGIN Screen

Password

Login

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Fig. 2.5.2 Login Screen (With "Japanese" Selected)

Please Select Your Language : 日本語

ＮＨシリーズ　ログイン画面

パスワード

ログイン

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Fig. 2.5.2 Login Screen (With "Chinese" Selected)

Please Select Your Language : 繁體中文

NH Series 登錄畫面

密碼

登錄

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20

2.5.2. Setting the IP Address

After logging in, a web setup tool screen will be displayed (Refer to Fig. 2.5.2). The set up item list is displayed on the left-hand side of the screen.
Click "System Configuration" to display the System Configuration screen.

Fig. 2.5.2 Web Setup Tool Screen

Click "System Configuration"
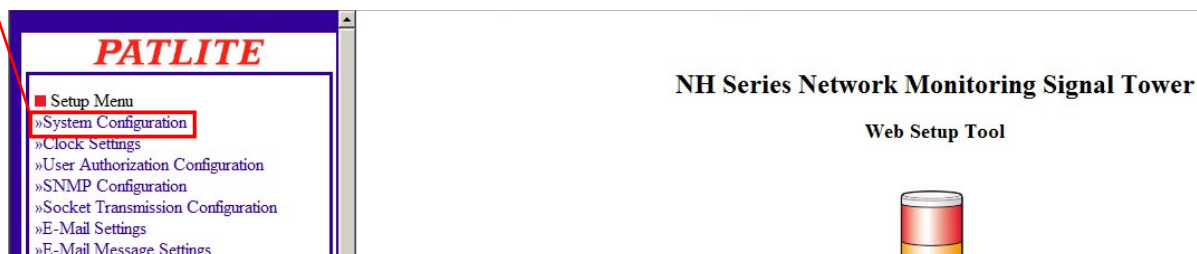
The network protocol can be changed on the System Configuration screen.
[Setting Method]
① . Select "Setup Manually" for the "IP Address Configuration Method" for this product.
② . Set up the new IP address, then the net mask, default gateway, etc. if needed.
③ . After the changes are completed, click the "Set" button for the changes to take effect.

Fig. 2.5.3 System Configuration Screen (for Manual Setup)

④ . After the "Set" button has been clicked, then when the Network Reboot Screen is displayed, click the "Network Reboot" button for the changes to take effect (Refer to Fig. 2.5.4).
⑤ . The execution of the network setup changes takes about 20 seconds. After the waiting time elapses, click "To the Login screen" to log back in (Refer to Fig. 2.5.1).

Fig. 2.5.4 Network Reboot Screen

2.5.3. Setup Verification

If the web browser address is reflecting the changed value of the IP address after clicking "To the Login screen", the setup of the new IP address has been successful. However, in cases where the preset value of other networks had been changed, be sure to enter the proper IP Address value where it was moved to in order to verify it in the System Configuration screen.

2.6. Network Setup with the DHCP Function

This product can access a DHCP Server to acquire network information.

2.6.1. Setup Method with the "TEST" Switch

① First, connect this product with the network environment to be used. (Refer to Fig. 2.5.3)
② Set the volume level switch to "LOW" before applying power to this product.
③ Push the "TEST" Switch while inserting the power connector into the power outlet.
④ The DHCP function takes effect when this product starts up.

> **Attention** If this product is unable to access a DHCP Server, it will return to the factory default network information. When the DHCP function is used, any future connections are started after the DHCP function setup is activated. When it is necessary to use the manual settings, use the Web Setup Tool and our PNS Manager software tool.

2.6.2. Setup Method with the Web Setup Tool

① Select the IP Address Setup Method in the "System Configuration" screen as "Setup Automatically." (Refer to Fig. 2.6.1)
② Setup the device and host name, etc. as needed.
③ Click the "Set" button to save all changes and to activate them.
④ After the "Set" button is clicked, the Web Setup Tool changes to another screen to reboot the product; click the "Network Reboot" icon to continue. (Refer back to Fig. 2.5.4)
⑤ Rebooting the network takes about 20 seconds.

Fig. 2.6.1 System Configuration Screen (for DHCP Automatic Setup)

System Configuration

Firmware Version	Ver 1.45	
System Name	Signal Tower	
System Location		②
Contact Address	nh@patlite.jp	

IP Address Configuration Method	○ Setup Manually ◉ Setup Automatically	①
IP Address		
Net Mask		
Default Gateway		
DNS Server Address		
Host Name	nh.patlite.jp	②

| HTTP Command Control Function | ◉ Active ○ Inactive |

Set ③

22

2.7. Operation Settings

2.7.1. Setting the Clock

The clock for this product can be set up. For setting the clock on this product, the following are two methods.
- ► Communicates with the PC clock to adjust the time when logging in.
- ► Communicates with an NTP server to adjust the time for this product.

Refer to "4.2 Clock Settings Screen" on pg. 53 for details on setting the time.

> **Attention** If the power supply is not applied for more than a day and a half, the generated time may be cleared or delayed, and the clock should be reset again.

2.7.2. Normal Mode Settings

The normal state of operation of this product can be displayed by using the "Normal Mode" setup. When this product is in its normal state of operation, the condition, such as the Green LED in the "ON" condtion, can be indicated on the Signal Tower, once the setup is complete.

Refer to "4.13 Normal Mode Settings Screen" on pg. 76 for setting up the "Normal Mode" operating status of this product."

> **MEMO** If the normal operating condition does not require any status lights to stay on, then there is no need to set this parameter up.

3. Functionality Details

This section explains the available functions of this product, and their differences by the timing charts indicated below.

3.1. Signal Tower Control Functions

Three kind of operating patterns for the LED Signal Tower is available, such as continuous lighting, flashing pattern1, and flashing pattern2.

Continuous "ON"

ON

Flashing Pattern 1 [Repetitive 500ms "ON"; 500ms "OFF"]

ON	OFF	ON	OFF

Flashing Pattern 2 [Repetitive 80ms "ON", 170ms "OFF", 80ms "ON", 170ms "OFF"; 500ms "OFF"]

ON	OFF	ON	OFF	ON	OFF	ON	OFF

3.2. Buzzer Control Functions

Four kind of buzzer sounds, such as; buzzer pattern1, buzzer pattern2, buzzer pattern3, and buzzer pattern4, are available to distinguish a variety of conditions with the use of audible and visual warnings.

Buzzer Pattern 1 [Repetitive 250ms "ON"; 250ms "OFF"]

ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
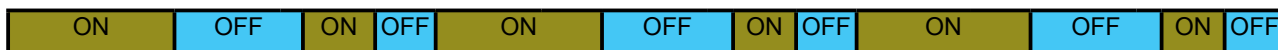
Buzzer Pattern 2 [Repetitive 500ms "ON"; 500ms "OFF"]

ON	OFF	ON	OFF	ON	OFF

Buzzer Pattern 3 [Repetitive 200ms "ON", 50ms "OFF", 200ms "ON"; 550ms "OFF"]

ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF

Buzzer Pattern 4 [Continuous "ON"]

ON

3.3. Test Functions

The test function does a sequential check of the Signal Tower and buzzer, as well as checking other operations. The test operation lights up the tower lights and buzzer every second in steps; in the order of red, yellow, green, blue, white, and buzzer. When only a three-tiered Signal Tower is in use, a time delay between the third tier and buzzer sound will occur. Stopping the test operation can be performed 7 seconds after execution, when the buzzer test is complete (it takes about 1 second).

[Test Function Starting Method]

- When the Test Button is Depressed
- When the "test" or "dotest" Commands are Received by the RSH

[Test Function Stopping Method]

- When the CLEAR Switch is Depressed
- When the RSH receives a "Clear" or "Doclear" Command
- From an SNMP "Clear" Command
- From the Web Setup Tool of the Signal Tower Operation Screen
- From a PNS Command sending a Clear Command Transmission
- From the HTTP "clear" Command.

Fig. 4.3.1 Detailed View of Test Operation
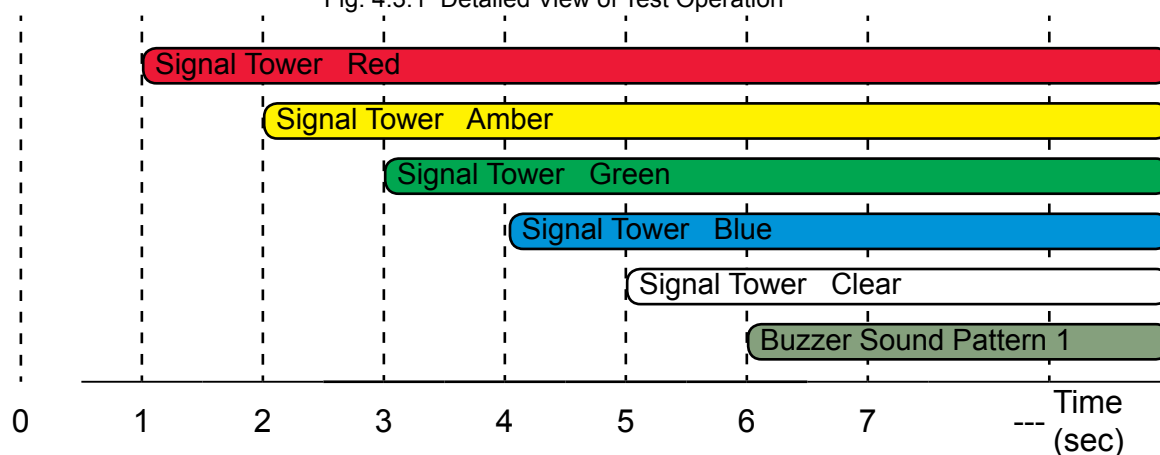
Attention During the test operation, this product stops receiving everything else except the Ping monitoring application.

3.4. SNMP Function

This product can control the Signal Tower, and acquisition the status and TRAP reception using the SNMP functions. For customers who purchased this product, download the MIB file for use with the SNMP functions. Furthermore, for details on the setting method of this product, refer to "4.4 SNMP Configuration Screen"

3.4.1. SNMP SET Control Function for Signal Tower

The Signal Tower and buzzer are controllable through the SNMP-SET command.
The following is an example to control the "on" and "off" for the Signal Tower lighting and buzzer.
[Application Example 1] Turning the red unit on. Set it up as followed:

Object	Object ID	Value
controlLightControlState	1.3.6.1.4.1.20440.4.1.5.1.2.1.2.1	2
controlLightControlTimer	1.3.6.1.4.1.20440.4.1.5.1.2.1.3.1	0

[Application Example 2] Operating the flashing pattern1 for the amber unit. Set it up as followed:

Object	Object ID	Value
controlLightControlState	1.3.6.1.4.1.20440.4.1.5.1.2.1.2.2	3
controlLightControlTimer	1.3.6.1.4.1.20440.4.1.5.1.2.1.3.2	0

[Application Example 3] With the red unit flashing pattern 2, and amber flashing pattern 1, after 5 seconds, the green turns on with the buzzer synchronized with light pattern 2. Set it up as followed:

Object	Object ID	Value
controlLightControlState	1.3.6.1.4.1.20440.4.1.5.1.2.1.2.1	5
controlLightControlTimer	1.3.6.1.4.1.20440.4.1.5.1.2.1.3.1	0
controlLightControlState	1.3.6.1.4.1.20440.4.1.5.1.2.1.2.2	3
controlLightControlTimer	1.3.6.1.4.1.20440.4.1.5.1.2.1.3.2	0
controlLightControlState	1.3.6.1.4.1.20440.4.1.5.1.2.1.2.3	2
controlLightControlTimer	1.3.6.1.4.1.20440.4.1.5.1.2.1.3.3	5
controlLightControlState	1.3.6.1.4.1.20440.4.1.5.1.2.1.2.6	3
controlLightControlTimer	1.3.6.1.4.1.20440.4.1.5.1.2.1.3.6	0

3.4.2. SNMP GET Status Acquisition Function for Signal Tower

The Signal Tower status is acquisitioned through the SNMP GET command. The following is an example of a Signal Tower status acquisition.

[Application Example 1] The red is lighting, the amber is flashing pattern 1, green is off, blue is flashing pattern 2 and white is on. The buzzer sound pattern 3 is an example of acquisitioning the Signal Tower status.

Object	Object ID	GET Value
controlLightCurrentState	1.3.6.1.4.1.20440.4.1.5.1.2.1.4.1	2
controlLightCurrentState	1.3.6.1.4.1.20440.4.1.5.1.2.1.4.2	3
controlLightCurrentState	1.3.6.1.4.1.20440.4.1.5.1.2.1.4.3	1
controlLightCurrentState	1.3.6.1.4.1.20440.4.1.5.1.2.1.4.4	4
controlLightCurrentState	1.3.6.1.4.1.20440.4.1.5.1.2.1.4.5	2
controlLightCurrentState	1.3.6.1.4.1.20440.4.1.5.1.2.1.4.6	4

3.4.3. TRAP Reception Function

With the set-up containing the designated sender or with the OID included, the TRAP is received. When the TRAP transmission is sent, the information, e-mail transmission and time of reception according to the Signal Tower can be included. For further details on the setting method, refer to "4.9 TRAP Reception Configuration Screen" on pg. 65.

3.4.4. TRAP Transmission Function

The TRAP is sent to the designated sender when the TRAP Reception Configuration for this product is done. For further details on the setting method, refer to "4.4 SNMP Configuration Screen" on pg. 57.

Attention   Set the community name for the TRAP transmission of this product to "public."

3.5. PHN Command Reception Function

The Socket Transmission control protocol used with the PHN Series (ex. PHN-3FBE1) is being used to control this product. The Socket Transmissions protocol can be selected from either "TCP" or "UDP", and a port number from"10000" to "65535" can be set. The following explains the PHN commands used by the Socket Transmission function. For further details of the setting method, refer to "4.5 Socket Transmission Setup Screen" on pg. 58.

<u>Writing Command</u>
Transmitting the following data controls the Signal Tower and buzzer.

"W" (57H)								Operation Data 8 Bits
0	1	0	1	0	1	1	1	Reference of Operation Data Contents

Details of Operation Data

Signal Tower Flashing			Buzzer		Signal Tower Lighting		
Green	Amber	Red	Pattern 2	Pattern 1	Green	Amber	Red

[Example of sending the writing command transmission]

To operate the Signal Tower with a "red lighting, amber flashing, green lighting, and buzzer pattern2", enter into the operation data a "1" bit to make it turn ON and a "0" bit to make it turn OFF.

[Command]

"W" (57H)								Operation Data (55H)							
0	1	0	1	0	1	1	1	0	1	0	1	0	1	0	1

Response from this product

Normal response (output response)

"A" (41H)	"C" (43H)	"K" (4BH)
1 Byte	1 Byte	1 Byte

Response Error (output failed)

"N" (4EH)	"A" (41H)	"K" (4BH)
1 Byte	1 Byte	1 Byte

Attention
- The following are Signal Tower Buzzer and lighting channels that are not controllable by The PHN Command for this product.
  When controlling, use other methods available, such as PNS Commands and RSH Commands.
  - Signal Tower red, yellow and green flashing pattern 2
  - Signal Tower blue and white lighting, flashing pattern 1 and flashing pattern 2
  - Buzzer Pattern 3, Buzzer Pattern 4
- In case lighting and flashing are turned on by a PHN Command, priority is given to the lighting command.
  Priority is given to the pattern 1 command when buzzer patterns are turned on simultaneously.

Reading Command

The current operating status of this product is requested.

"R" (52H) 8 Bit							
0	1	0	1	0	0	1	0

Response from this product

• Normal response (output response)

"R" (52H) 8 Bit								Signal Tower Flashing			Buzzer		Signal Tower Lighting		
0	0	0	0	0	0	0	0	Green	Yellow	Red	Pattern 1	Pattern 2	Green	Yellow	Red

Response from this product

Signal Tower Flashing			Buzzer		Signal Tower Lighting		
Green	Amber	Red	Pattern 2	Pattern 1	Green	Amber	Red

[Example for a data acquisition response]
Signal Tower with Red/Amber Lighting: Response Data: 0000 0011 = 03H

Responding Data (03H) 8 bit							
0	0	0	0	0	0	1	1

Signal Tower with Green Flashing and Buzzer Pattern1 Response Data: 1000 1000 = 88H

Responding Data (88H) 8 bit							
1	0	0	0	1	0	0	0

• Response Error (output failed)

"N"	"A"	"K"
4EH	41H	4BH
1 byte	1 byte	1 byte

Attention

• The following are Signal Tower buzzer and lighting channel operating states that are not controllable from a PHN Command for this product.
Use other methods, such as PNS Commands or RSH Commands to acquisition.
  • Signal Tower red, yellow and green flashing pattern 2
  • Signal Tower blue and white lighting, flashing pattern 1 and flashing pattern 2
  • Buzzer Pattern 3, Buzzer Pattern 4

3.6. PNS Command Reception Function

The PNS command is an exclusive PATLITE command protocol, which controls the Patlite NHL Series Signal Tower and buzzer. The Socket Transmissions protocol can be selected between "TCP" and "UDP", and the communication ports are available from "10000" to "65535".

The following explains the PNS commands being used with a Socket Transmission setup.

(*) This function is not available for the NHC/NHE/NHM-3FB Models.

Writing Command

The following is the protocol used to transmit data to control the Signal Tower and buzzer.
By entering the proper data, the buzzer and LED unit operation from the Signal Tower can be controlled.

Product Classification "XX"		Identifier "S"	(Empty)	Data Size		Data Control Bits 6 bit (Refer to table below)					
						Signal Tower					Buzzer
58H	58H	53H	00H	00H	06H	Red	Amber	Green	Blue	White	

Product Classification

The product is classified in <u>"XX"</u>.

Identifier

"<u>S</u>" is used.

Data Size

Capacity of data control bits (data to transmit)
Data Transmission Configuration

Data Control Bits 6 bit					
Signal Tower					Buzzer
Red	Amber	Green	Blue	White	

[Signal Tower]

Non-flashing	00H
Flashing	01H
Flashing Pattern1	02H
Flashing Pattern2	03H
No Change	09H

[Buzzer]

Stop	00H
Buzzer Pattern 1	01H
Buzzer Pattern 2	02H
Buzzer Pattern 3	03H
Buzzer Pattern 4	04H
No Change	09H

[Example of sending the writing command transmission]

When writing a command for the Signal Tower to operate with "Red Lighting + Amber Flashing Pattern1+ Green Flashing Pattern2+ Buzzer Pattern4"

[Command]

Product Classification "XX"		Identifier "S"	(Empty)	Data Size		Data Control Bits 6 bit					
58H	58H	53H	00H	00H	06H	01H	02H	03H	00H	00H	04H

Response from this product

Normal response (output response)

ACK
06H

Response Error (output failed)

NAK
15H

Reading Command

Transmitting the following data will execute the status of the Signal Tower and buzzer.

Product Classification "XX"		Identifier "G"	(Empty)	Data Size	
58H	58H	47H	00H	00H	00H

Response from the Read Command

Data Control Bits 6 bit
Refer to "Capacity of Data Control Bits"

[Example for a data acquisition response]

Signal Tower "Red: Flashing Pattern 1, Amber: Flashing Pattern 2, Green: Lighting with no buzzer" is read, and the response from this product is indicated in the following table after the command transmission.

Data Control Bits 6 bit					
Red	Amber	Green	Blue	White	Buzzer
02H	03H	01H	00H	00H	00H

Status Condition "Clear" Command

The change in the operating state for this product is made when setting up the "Normal Mode Settings".

Product Classification "XX"		Identifier "C"	(Empty)	Data Size	
58H	58H	43H	00H	00H	00H

3.7. E-mail Sending Function

It can transmit up to eight registered e-mail addresses. The subject and message of the transmitting mail can be registered for 16 different situations per subject title to be transmitted via e-mail to the 8 registered addresses. The user authentication method during transmission can be selected from either "SMTP Authentication", "POP Authentication", or "No Authentication". Refer to "4.6 E-Mail Settings Screen" on pg. 59 and "4.7 E-Mail Message Settings Screen" on pg. 60 for further details of the setting method.

3.7.1. E-mail Message Contents

The registration of 16 subjects and 16 messages for transmitting mail can be selected in combination when sending an alert message of up to 8 registered E-mail addresses. The e-mail text would include the equipment name, its location, the sender, the message, and supplementary information indicated in table 3.7.1 below. The contents of the registered subject is indicated.

If the 17th fixed e-mail subject title "NH-ORIGINAL" is selected, the equipment location, message transmission time stamp, and event contents is indicated. If the 17th e-mail subject text is selected as "None", nothing is indicated in the text.

[Registered subject title when selecting No. 17 is "NH-ORIGINAL"]

System Location: YY/MM/DD hh:mm Contents of the event: Name

Table 3.7.1 Fixed Written Subject Contents

Generated Event	Indicated Event Contents	Indicated Name
TRAP Reception	Blank	TRAP Monitor Setup Registered Group Name
Execute "Clear" by pushbutton	": CLEAR-Switch"	Blank
Execute "Clear SNMP"	": CLEAR-SNMP"	Blank
Execute "Clear RSH"	": CLEAR-RSH"	Blank
Ping Monitor Abnormality Detection	": PING-Error"	The equipment name registered in the Ping Monitoring Configuration
Ping Monitor Recovery Detection	": PING-Recover"	The equipment name registered in the Ping Monitoring Configuration
Application Monitor Abnormality Detection	": APP-Error"	The equipment name registered in the Application Monitoring Configuration
Application Monitor Recovery Detection	": APP-Recover"	The equipment name registered in the Application Monitoring Configuration
Execute "RSH Command"	": RSH-Executes"	Blank
"TEST" button pressed	": TEST-Switch"	Blank
SLMP Operation	"SLMP-Action"	Blank
SLMP Error Response	"SLMP-Error"	Blank

Intro

1

2

3

4

5

6

7

8

9

10

Table 3.7.2 Mail Subject Event Contents

Generated Event	Indicated Event Contents	Supplementary Information Displayed
TRAP Reception	TRAP was Received	Group Name and Designated Sender IP Address <Group Name:> "IP Address"
Execute "Clear" by pushbutton	"CLEAR " switch was pushed	None
Execute "Clear SNMP"	"CLEAR" was executed by SNMP	None
Execute "Clear RSH"	"CLEAR" was executed by RSH	Sender's IP Address "IP Address"
Ping Monitor Abnormality Detection	Ping Monitor Abnormality was detected	Detected device name and registration <Device Name:>"Registration Address"
Ping Monitor Recovery Detection	Ping Monitor Recovery was detected	Detected device name and registration <Device Name:>"Registration Address"
Application Monitor Abnormality Detection	Application Monitor Abnormality was detected	Detected device name IP Address and port number <Device Name:>"Registration Address: Port Number"
Application Monitor Recovery Detection	Application Monitor Recovery was detected	Detected device name IP Address and port number <Device Name:>"Registration Address: Port Number"
Execute "RSH Command"	An "RSH Command" was executed	Sender's IP Address "IP Address"
"TEST" button pressed	The "TEST" button was pressed	None
SLMP Operation	The SLMP Operation was executed	Concurring Device name and address registration <Device Name:>"Registration Address"
SLMP Error Response	An SLMP Error was detected	Device name and address registration of source <Device Name:>"Registration Address"

3.8. RSH Command Function

3.8.1. RSH Commands

RSH (remote shell) is a CUI program which executes a shell command from one computer to another computer via a computer network. The following explains how to control the Signal Tower via the RSH command.

The command syntax which this product can receive is indicated below. For the setting method of the "RSH Command Connection Authentication /Operation after Reception", refer to "4.8 RSH Command Configuration Screen" on pg. 62.

Table 3.8.1 Receivable Commands

Command	Contents
alert	Controls Signal Tower/Buzzer
clear / doclear	Returns to Normal Mode
status	Acquisitions the Signal Tower Status
test / dotest	Executes a Self-test

Using the RSH Commands

Command Input Method

  rsh IP address [-l Login Name] Command [Option]

Command Input Method (when the designated sender address is inactive)

  rsh IP address -l Common login name when designated sender address is inactive Command [Option]

> **MEMO** : indicates a space. [ ]: indicates an option.
> The use of login abbreviations for the login name is limited to when the account name and the PC are registered (in half-width alphanumeric characters) on the command reception screen which transmits the RSH command.

alert Command

Contents　　　:　To control the Signal Tower and buzzer.
Syntax　　　　:　alert rygbcz [sec]
Return Value　:　Status after command is executed
Option　　　　:　Refer to Table 3.8.2.

Table 3.8.2 RSH Command Option Explanation

Type	Explanation					
rygbc	Turning on and off of the Signal Tower LED Units and Buzzer Alarms					
r	r: Red	(0) Light Off	(1) Lighting	(2) Flashing Pattern 1	(3) Flashing Pattern 2	(9) No Change
y	y: Amber	(0) Light Off	(1) Lighting	(2) Flashing Pattern 1	(3) Flashing Pattern 2	(9) No Change
g	g: Green	(0) Light Off	(1) Lighting	(2) Flashing Pattern 1	(3) Flashing Pattern 2	(9) No Change
b	b: Blue	(0) Light Off	(1) Lighting	(2) Flashing Pattern 1	(3) Flashing Pattern 2	(9) No Change
c	c: White	(0) Light Off	(1) Lighting	(2) Flashing Pattern 1	(3) Flashing Pattern 2	(9) No Change
z	z: Buzzer Alarm	(0) Buzzer Off	(1) Pattern 1	(2) Pattern 2	(3) Pattern 3	(4) Pattern 4	(9) No Change
sec	Restores the Signal Tower to its previous command status. When the time exceeds the set value, it returns to the previous Signal Tower condition. The time can be set from zero to 99. The status will not return if no input or a zero has been entered.					

[Command Transmission Example]

Ex. 1) A product with an IP address of [192.168.10.10] and designated sender user name of "root", with Red Lighting, Green Lighting and Buzzer Pattern2 On:

    rsh 192.168.10.10 -l root alert 101002

Ex. 2) A product with an IP address of [192.168.10.10] and a common login name of "patlite", with Red Lighting and White Flashing Pattern2:

    rsh 192.168.10.10 -l patlite alert 100020

[Command Transmission Example - cont.]

Ex. 3) A product with an IP address of [192.168.10.10] and a designated sender user name of "root", with the Red Lighting, Amber Flashing Pattern2, Green Lighting and Buzzer Pattern3, all on for 20 seconds:

    rsh 192.168.10.10 -l root alert 131003 20

Ex. 4) A product with an IP address of [192.168.10.10] with Red Lighting, Amber Flashing Pattern2, Green Lighting, Buzzer Pattern3, all on for 20 seconds (no login name)

    rsh 192.168.10.10 alert 131003 20

clear/doclear Command

Contents   :   To clear the Signal Tower and Buzzer, returning to the Normal Mode.
Syntax   :   clear [-p] [-z] , doclear [-p] [-z]
Return Value :   Status after command is executed
Option   :   Refer to Table 3.8.3.

Table 3.8.3 clear/doclear Command Option Explanation

Type	Explanation
-p	Turn off all Signal Tower Lights
-z	Turn off Buzzer Alarm
None	Return to Normal Mode

[Command Transmission Example]

Ex. 1) A product with an IP address of [192.168.10.10] and a common login name of "patlite",
with all the Signal Tower Lights turned off:

    rsh 192.168.10.10 -l patlite clear -p

with all the Signal Tower Lights turned off (no login name):

    rsh 192.168.10.10 clear -p

Ex. 2) A product with an IP address of [192.168.10.10] and a designated sender user name of "root",
with the Buzzer alarm turned off:

    rsh 192.168.10.10 -l root doclear -z

with the Buzzer alarm turned off (no login name):

    rsh 192.168.10.10 clear -z

Ex. 3) A product with an IP address of [192.168.10.10] and a designated sender user name of "root",
with all the Signal Tower Lights and Buzzer returned to the Normal Mode:

    rsh 192.168.10.10 -l root clear

with all the Signal Tower Lights and Buzzer returned to the Normal Mode (no login name):

    rsh 192.168.10.10 clear

status Command

Contents   :   Return the present status of the Signal Tower and buzzer to Normal Mode.
Syntax   :   status
Return Value :   Current Condition rygbcz

[Command Transmission Example]

A product with an IP address of [192.168.10.10], with the condition of "Red tier flashing pattern 1, Green is lighting and buzzer pattern 3 is on":

Ex. 1) The designated sender user name for the Signal Tower status acquisition is "patlite".

    rsh 192.168.10.10 -l patlite status

Response: 201003

Ex. 2) The login name was omitted for status acquisition of the Signal Tower.

    rsh 192.168.10.10 status

Response: 201003

test/dotest Command

Contents   :   Executes confirmation of the Signal Tower and buzzer operation in sequence order of Red, Amber, Green, Blue, White and Buzzer Pattern1.

Syntax   :   test , dotest

Return Value :   None

[Command Transmission Example]

Ex. 1) A product with an IP address of [192.168.10.10] can verify operation of the Signal Tower.
The common login name for the Signal Tower status confirmation is "patlite".
    rsh 192.168.10.10 -l patlite test
    rsh 192.168.10.10 -l patlite dotest

Signal Tower status confirmation is executed (no Login Name):
    rsh 192.168.10.10 test
    rsh 192.168.10.10 dotest

Ex. 2) A product with an IP address of [192.168.10.100] can verify operation of the Signal Tower.
The designated sender user name for the Signal Tower status confirmation is "root"
    rsh 192.168.10.100 -l root test
    rsh 192.168.10.100-l root dotest

Signal Tower status confirmation is executed (no Login Name):
    rsh 192.168.10.100 test
    rsh 192.168.10.100 dotest

3.8.2. RSH Alert Timer Reset Function

The RSH alert timer reset function is capable of being selected for "Shared" or "Individual" when setting up the timer function for the Signal Tower lights and buzzer control.
(Refer to "4.8 RSH Command Configuration Screen" on pg. 62)

Shared   :   Each Signal Tower tier and buzzer are controlled by a common timer.

Individual: Each Signal Tower tier and buzzer are controlled by individual timers.

The following explains the difference in operation between the "Shared" and "Individual" selection for this product when setting up the alert timer reset function.

[Procedure]

Ex. 1) Transmit the command to the products IP address [192.168.10.10]. Use the login name [root], then execute the following commands of [Red Lighting; other colors no status change; no buzzer status change] for 10 seconds.

rsh 192.168.10.10 -l root alert 199999 10

Ex. 2) 3 seconds after "Ex.1)", transmit the command to the products IP address [192.168.10.10]. Use the login name [root], then execute the following commands of [Green Lighting; other colors no status change; no buzzer status change] for 10 seconds.

rsh 192.168.10.10 -l root alert 991999 10

Alert Timer Reset Function set for "Shared"
The execution affects the influence of the timer when the command is sent.

The red LED starts at 10 seconds, with a remainder of 10 seconds

Red stays "ON"

Red and Green turn "OFF"

Remaining time changes from 7 seconds to 10 seconds

Example 1 Operation

Red status "No Change", Green starts at 10 seconds, with a remainder of 10 seconds

Example 2 Operation

0 sec   3 sec   10 sec   13 sec

[Elapsed Time]
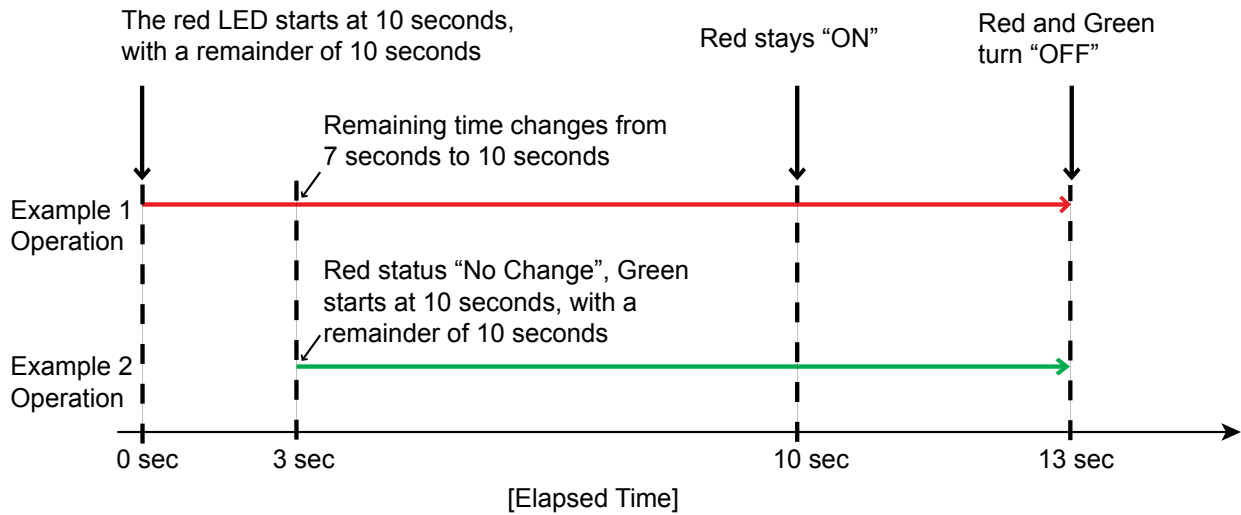
Alert Timer Reset Function set for "Individual"
The execution does not affect the influence of the timer when the command is sent.

The red LED starts at 10 seconds, with a remainder of 10 seconds

Red turns "OFF"

Green turns "OFF"

Remaining time is 7 seconds

Example 1 Operation

Red status "No Change", Green starts at 10 seconds, with a remainder of 10 seconds

Example 2 Operation

0 sec   3 sec   10 sec   13 sec

[Elapsed Time]

Intro
1
2
3
4
5
6
7
8
9
10

36
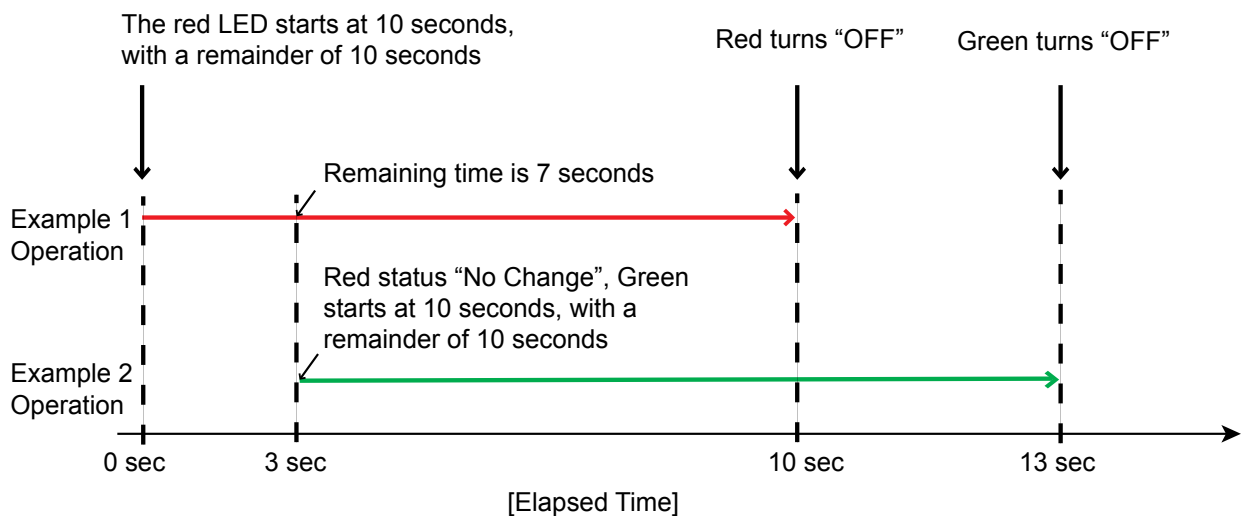
3.9. Ping Monitoring Function

The Ping Monitoring Function is used to monitor the response of a device in a network, by sending pings for up to 24 devices. Each device may be set to have a unique ping cycle and, if there is a failure in response, a unique light and buzzer status to indicate when there is a failure to respond. With a maximum of 24 devices that can be monitored, the first 12 devices include a number of 60 second ping cycles in the test. For the remaining 12 devices (13-24), the Ping Monitoring Function has a few more adjustable parameters, "Ping test cycle period" to send from 1 to 600 seconds worth of Pings for monitoring, and "Pings per test cycle" to have from 1 to 3 Pings to send for each monitoring cycle sent. Refer to "4.10 Ping Monitoring Configuration Screen" on pg. 68 for details on the setting method.

3.9.1. Ping Monitoring Function (Nodes 1 to 12)

For devices numbered 1-12, one Ping is fixed to be sent every 60 seconds. If there is no Ping response during the one minute that the response exceeds the number entered in the "Cycle count Error threshold (1-30)" parameter, an "abnormality" judgement occurs, and the result causes a status change based on the Ping Monitor Settings, which could include triggering lights, buzzer and other actions.
Figure 3.9.1 below shows the behaviour when the "Cycle count Error threshold (1-30)" is set to "1."

Fig. 3.9.1 Ping Monitoring Function (For Ping Monitor Setting Screen No. 1 to 12)

Attention
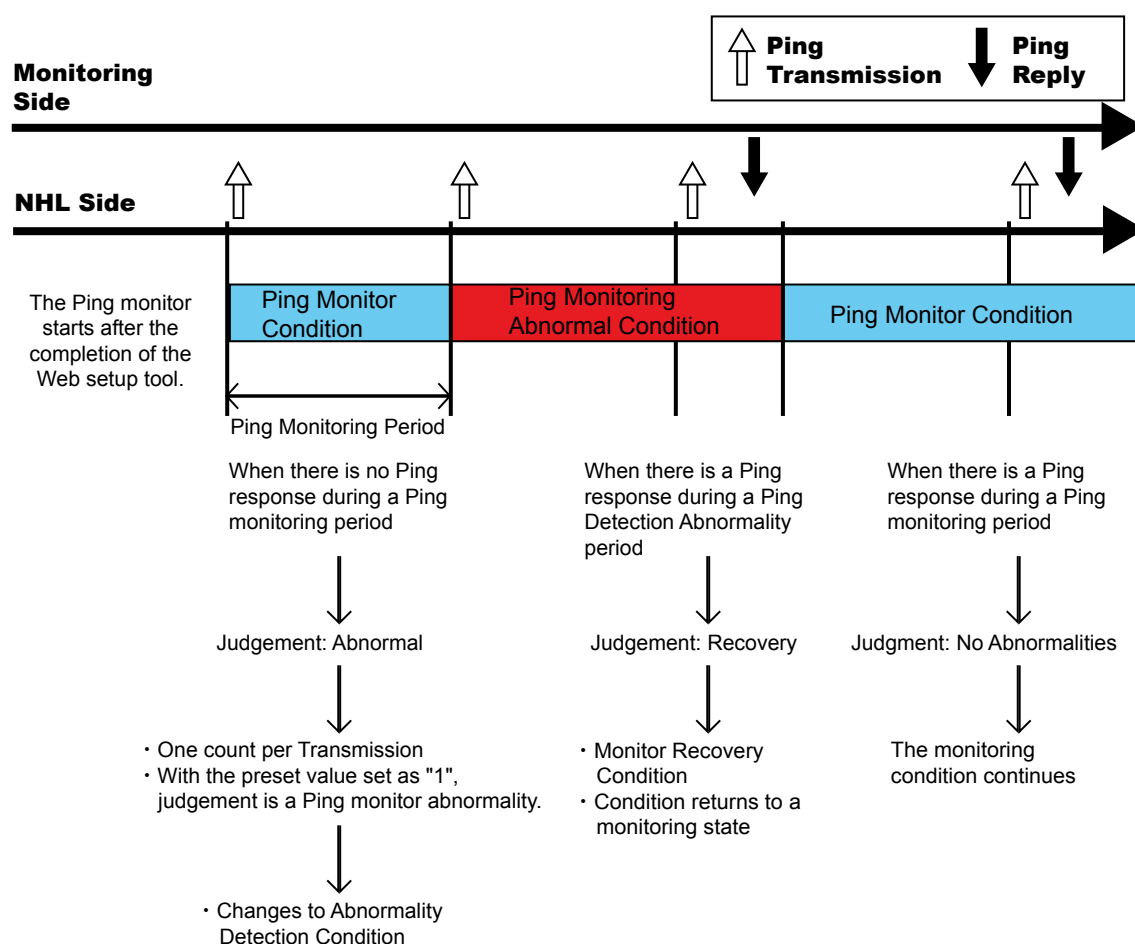
If a "Clear" operation (Pressing the "Clear" switch, sending an RSH-PRSH "Clear" command, sending a PNS "Clear" command in accordance to the condition, transmit an SNMP Clear, execute an HTTP "clear" command, or execute a "Clear" from the Signal Tower operation screen) is executed when a monitoring detection is active, it will return to the monitoring condition from the abnormality detection status.
Even with the double-push clear setting, once the clear button is pressed, the status will return to the monitoring condition.
For other functions outside the "Clear" operation, because they do not control the abnormality detection condition, the Ping monitor abnormality status will remain uncleared. Any operations outside a "Clear command may be due to the Ping Monitoring Function which continues to remain active when it is in operation.
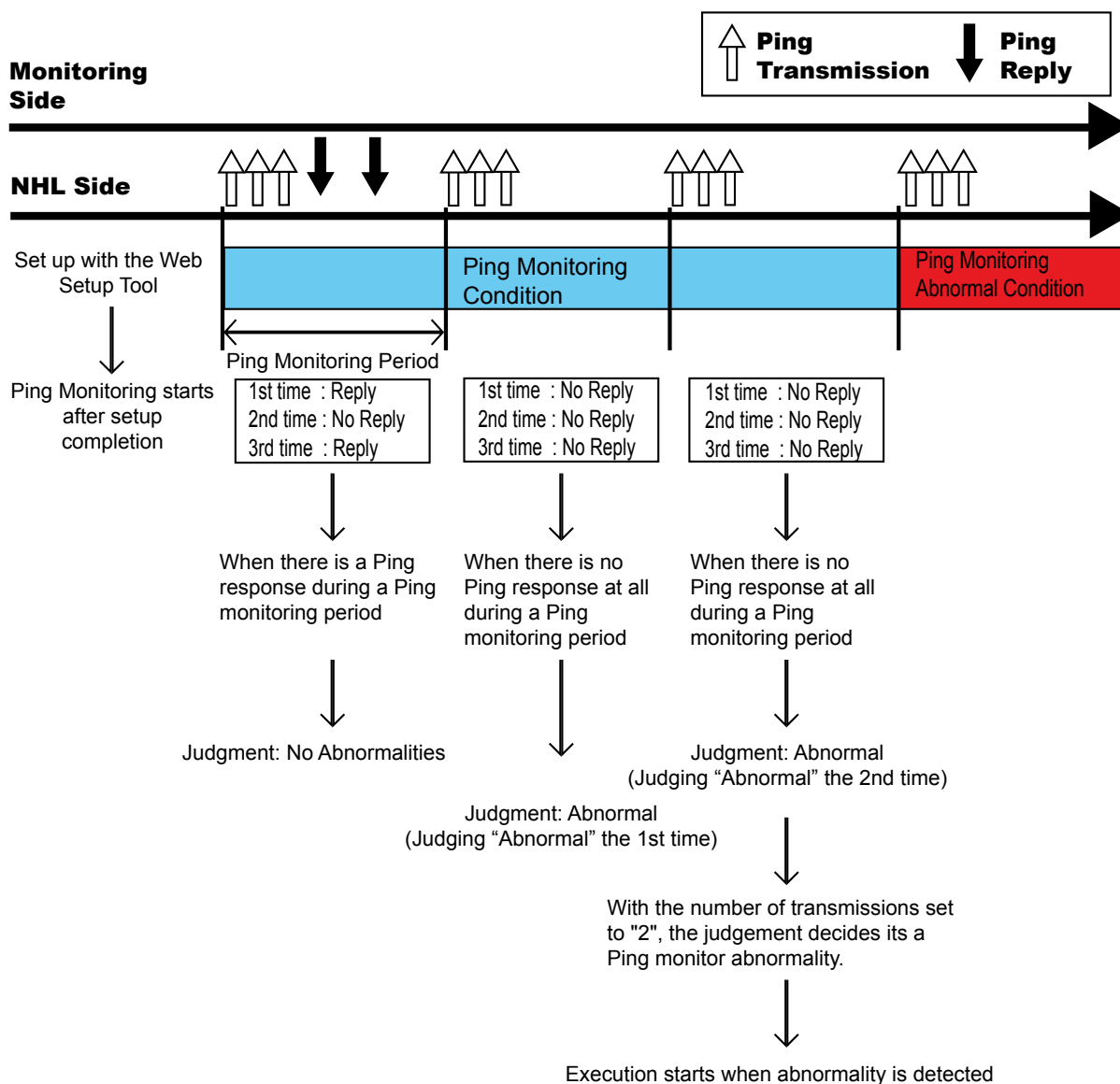
3.9.2. Ping Monitoring Function (Nodes 13 to 24)

For devices numbered 13-24, the "Cycle count Error threshold (1-30)", "Ping test cycle period (1-600 sec)" and "Pings per test cycle (1-3)" in a test are all configurable.   If there are no Ping responses during the time of the configured "Cycle count Error threshold (1-30)" value, an "abnormality" judgement occurs, and the result causes a status change based on the Ping Monitor Settings, which could include triggering lights, buzzer and other actions.

The diagram in Fig. 3.9.2 shows the behaviour when the "Cycle count Error threshold (1-30)" is set to "2", and the "Pings per test cycle (1-3)" is set to "3". In this case, the "abnormality" condition occurs after the second sequential "Cycle count Error threshold", when there was no Ping response.

MEMO   When the Abnormality Judgement Value is set as a "1", if the next Ping Monitoring Abnormality Condition is judged as "no abnormality", then the number of judging abnormality is cleared (back to "0").

3.9.2 Ping Monitoring Function (For Ping Monitor Setting Screen No. 13 to 24)

Ping Transmission ⬆   Ping Reply ⬇

Monitoring Side

NHL Side

Set up with the Web Setup Tool

Ping Monitoring Condition

Ping Monitoring Abnormal Condition

Ping Monitoring starts after setup completion

Ping Monitoring Period

1st time : Reply	1st time : No Reply	1st time : No Reply
2nd time : No Reply	2nd time : No Reply	2nd time : No Reply
3rd time : Reply	3rd time : No Reply	3rd time : No Reply

When there is a Ping response during a Ping monitoring period

When there is no Ping response at all during a Ping monitoring period

When there is no Ping response at all during a Ping monitoring period

Judgment: No Abnormalities

Judgment: Abnormal (Judging "Abnormal" the 2nd time)

Judgment: Abnormal (Judging "Abnormal" the 1st time)

With the number of transmissions set to "2", the judgement decides its a Ping monitor abnormality.

Execution starts when abnormality is detected

Attention   If a "Clear" operation (Refer to "3.11 "Clear" Control Function" on pg. 41) is executed when a monitoring detection is active, it will return to the monitoring condition. With the double-push clear setting, the status will return to the monitoring condition on the first press of the "CLEAR" button.

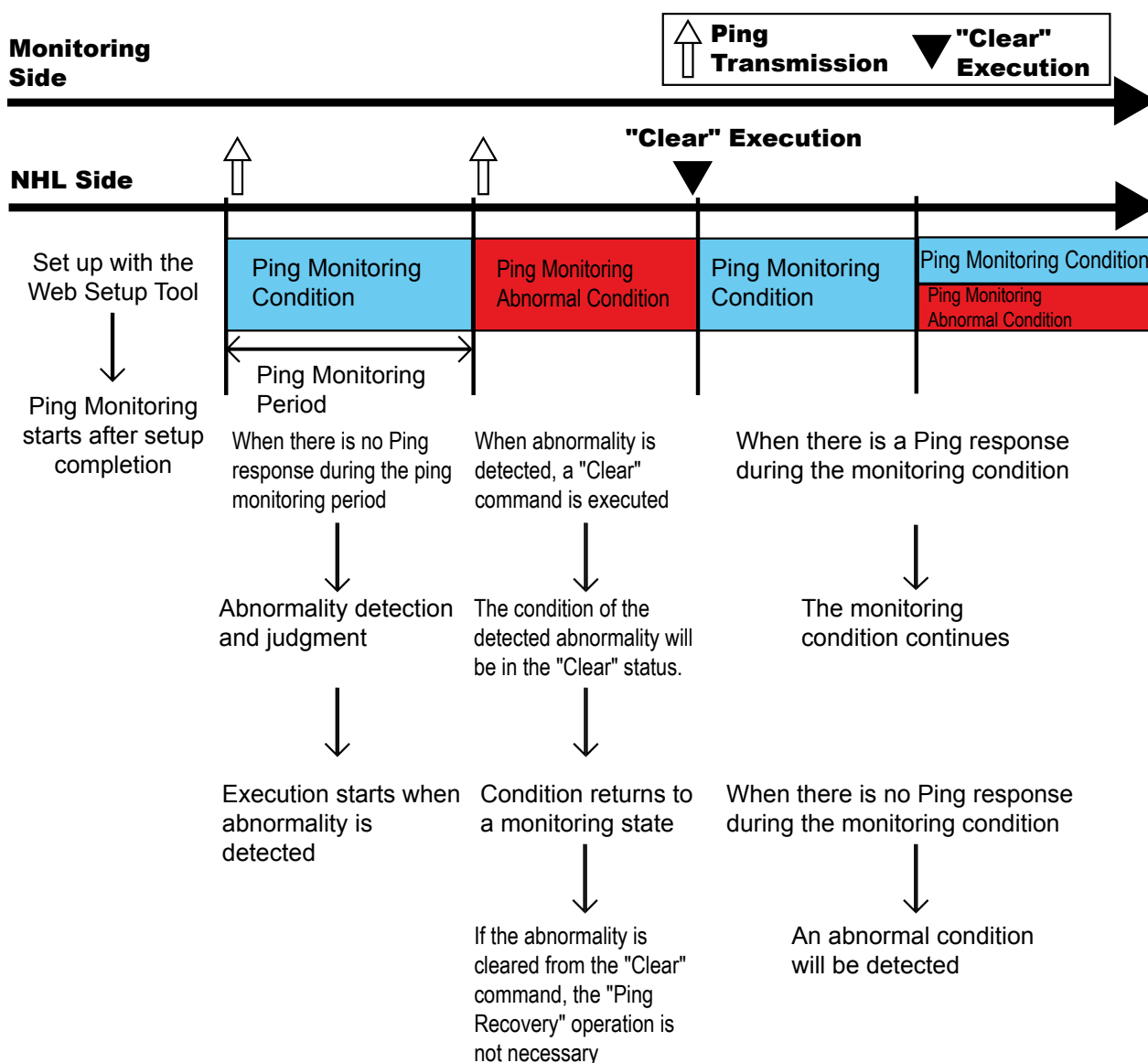### 3.9.3. Ping Monitoring Function ("Clear" Command Outside Sources)

(When a "Clear" execution from an outside source is requested at the time of abnormality detection)

The following is an example for the procedure when an executed "Clear" command is received from an outside source while the Ping Monitoring function detects an abnormality ("Clear" command executed via the "Clear" switch, RSH "Clear" Command, PNS "Clear" command, SNMP "Clear" Command, HTTP "clear" command, or a "Clear" Command from the Web Setup Tool).

Example) When a "Clear" command is transmitted from an outside source at the time an abnormality is detected by the Ping Monitor.

1. From the monitoring condition, when a monitoring abnormality occurs, the condition of the Signal Tower changes at the time of detecting the abnormality.

2. If a "Clear" command is received during the abnormality detection, the status of abnormality detection will be cleared and it will return to its normal mode.

3. If there is a Ping response from the next Ping monitor execution, the monitoring condition will continue as normal. If there is no response, the condition will immediately return to the abnormality detection mode.

Fig. 3.9.3 Setting screen 21 to 24 operation flow-chart example

Attention In cases where it returns to a monitoring condition from a "Clear" command, it will not branch to the "Ping Recovery" operation from an abnormal detection.

3.10. Application Monitoring Function

By creating an additional transmission command for a customer's application, this product can monitor the response of the application by receiving the data from it.

If data is not received within the monitoring cycle period, it makes a judgement that the communication has become abnormal, and at the time of the abnormality, sends a status change to the Signal Tower. After a generated event, if data is received from the monitored candidate, it will detect a recovery from the abnormal operation. Refer to "4.11 Application Monitoring Configuration Screen" on pg. 72 for details on the setting method.

As an example, with a monitoring cycle of 30 seconds, the received data from the application is monitored.

1. After the setup is complete and it receives data from the address monitoring point, the monitoring will commence.
2. If data is received within the monitoring cycle of 30 seconds, it will be judged as having no abnormalities.
3. However, if the data is not able to be received within the allotted cycle (30 seconds in this example), it makes a judgment of abnormality.
    Once judged as abnormal, the operation at the time of the detected abnormality is carried out.
4. If data is received from the application after detecting a generated event of abnormality, it will detect a recovery from the abnormality.
    The operation at the time of recovery from the abnormal condition will return to its monitoring condition again.

Fig. 3.10.1 Detailed Example of Application Monitoring
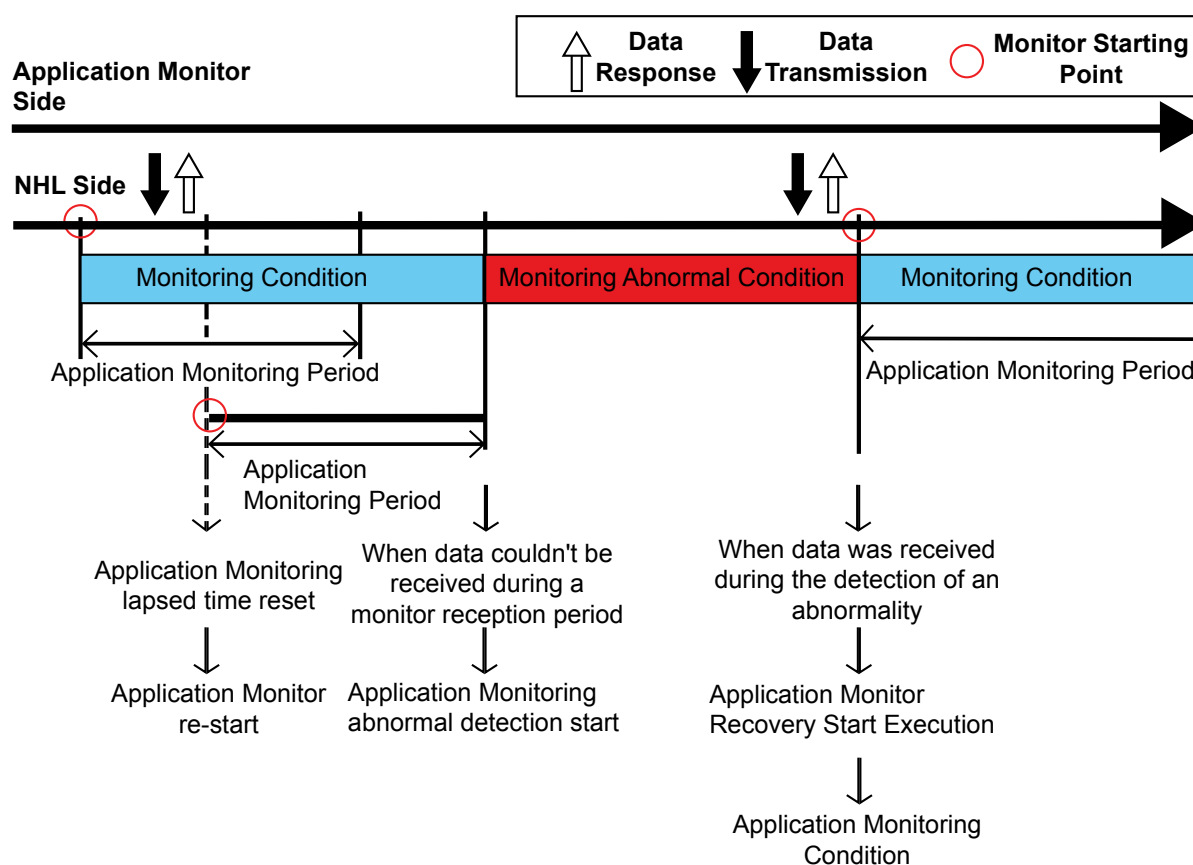
- If monitoring is started from the time of receiving data and the connection is cut-off, monitoring is stopped.
- Recovery from an abnormal operation can only occur if a monitored Condition was detected as abnormal.
- Transmit data to the receive port of the application Monitor function of this product by a TCP protocol.
- The same port number cannot Be set as a Socket Transmission function and an application Monitor function.

MEMO It monitors from the use of voluntary data received.

3.11."Clear" Control Function

The "Clear" operation is accessible from the following commands; "Clear" command executed via the "Clear" switch, RSH "Clear" Command, PNS "Clear" command, SNMP "Clear" Command, HTTP "Clear" command, or a "Clear" Command from the Web Setup Tool.
Refer to "4.12 "Clear" Control Configuration Screen" on pg. 75 for details on the setting method.

3.12.   Normal Mode Settings

The Signal Tower can be set up to display its "normal state of operation", based on the user's preference for lights and buzzers to be on when no warning conditions occur. Refer to "4.13 Normal Mode Settings Screen" on pg. 76 for details on setting it up via the Web Setup Tool.

3.13.   Reinitialization Function

From the Web Setup Tool, this unit can be reinitialized to revert all settings back to the default (factory) settings, while leaving the network settings as is when resetting the other settings. Refer to "4.18 Reinitialization Setup Screen" on pg. 86 for details on the setting method.
Also, it can initialize the network settings of this product to its default settings in addition to returning the other settings to their default settings.

【Method for full initialization, including the network setup】

1. Set the volume level switch to the "HIGH" position.
2. Turn on the power supply while simultaneously pushing the "TEST" switch.
3. After the Signal Tower does an all-point lighting test, the Signal Tower lights go out. Release the switch after all the Signal Tower lights are out.
4. The Signal Tower will light up again about 1 minute after. The Signal Tower will then flash Pattern1 afterward to indicate the initialization is complete.
5. Push the clear button to stop the flashing.
    ※ If the Ping monitor etc. are set up, an abnormal operation detection may occur.

【Method for initialization to revert the network settings back to the factory default value】

1. Set the volume level switch to the "OFF" position.
2. Turn on the power supply while simultaneously pushing the "CLEAR" and "TEST" switch.
3. After the Signal Tower does an all-point lighting test, the buzzer will make an audible sound. Release the switch after the buzzer sounds.
4. When the Signal Tower goes out, it indicates the completion of initilization.

Table 3.13.1 Setting after default function executed

Item	Execution Method			
	Web Setup Tool		NH Unit Controls	
	"Network Reinitialized and checked	"Network Reinitialized without being checked	Only Network Settings Reinitialized	Factory Default Conditions
Network Setting	Set to default value	Setting is Saved	Set to default value	Set to default value
Password	Set to "patlite"	Set to "patlite"	Set to "patlite"	Set to "patlite"
Setup Menu (excluding Password & Network menu)	Set to default value	Set to default value	Setting is Saved	Set to default value
Function	Set to default value	Set to default value	Setting is Saved	Set to default value
Status/Operation Log	Erased	Erased	Erased	Erased

Attention   Do not overexert pressure to the "CLEAR" switch, "TEST" switch and volume level switch. Failure to comply may damage the unit.

MEMO   "Network Setup" refers to the "IP address for this product, Net Mask, Default Gateway, DNS server address and Host Name" parameters in the System Configuration Screen.

3.14.　Event Log Output Function

The Web Setup Tool displays an event log. Moreover, it is possible to download it as a text file. The following is the description of the recording mode labels for the event log.

Event Name	coldStart	Event Contents	No Display
Event Details	Records at the moment of start up.		

Event Name	ACCESS	Event Contents	No Display
Event Details	Records at the moment of authentication failure. Records at the moment of Web login failure.		

Event Name	MAIL	Event Contents	E-mail Transmission
Event Details	Records at the moment of an e-mail transmission.		

Event Name	TRAP	Event Contents	Trap reception IP address and the designated sender
Event Details	When a registered Trap is received, it is recorded with the IP address of the designated sender.		

Event Name	PING	Event Contents	Ping monitor abnormalities and the IP address object Ping abnormality response and the IP address object
Event Details	It records when the Ping monitor status changes. "Ping Monitoring Error": When an abnormality event in the Ping monitor occurs, it records it with the target IP address. "Ping Recovery": When an abnormality in the Ping monitor is restored, it records it with the target IP address.		

Event Name	APL	Event Contents	Application Monitoring Error Applicaton Recovery
Event Details	It records when an abnormality in the application monitor is detected. "Application Monitoring Error": It records when the abnormalities in an application monitor occurs. "Applicaton Recovery": It records when the abnormality in the application monitor is restored.		

Event Name	CLEAR	Event Contents	"CLEAR Switch" "SNMP" "RSH" IP address and designated sender "Web Setup Tool " "PNS Command" "HTTP Command"
Event Details	The Signal Tower is returned to its normal operating status during operation. "CLEAR" Switch": It records when the clear switch to this product is pushed. "SNMP": It records when a "CLEAR" has been executed by the SNMP Command (controlLightSnmpClear). "RSH": It records when a "CLEAR" has been executed by the RSH Command, and displays the designated sender IP address. "PNS Command": It records when a "CLEAR" has been executed by the PNS Command. "HTTP Command" : It records when a "CLEAR" has been executed by the HTTP Command.		

Event Name	RSH	Event Contents	IP address, command argument, and the "alert" designated sender.※ "Status" "Test"
Event Details	It records when the RSH Command is executed. (The "clear" execution is not included) "ALERT": When the alert command is executed, it records the argument and designated sender IP address. ※ An IP address is not written in cases where the designated sender address is inactivated. "Status": The status command is recorded at the time of execution. "Test": The test command records at the time of execution.		

Event Name	SNMP	Event Contents	"CONTROL"
Event Details	When this product is operated by the SNMP Set Commands, the Signal Tower color and buzzer conditions are recorded. The applicable command is "controlLightControlState".		

Event Name	SLMP	Event Contents	"SLMP-Action" "SLMP-Error"
Event Details	An output occurs when an SLMP trap is detected. "SLMP Action Execute_": Records when an operation based on the setup conditions is detected. "SLMP Error_": Records event when an error is detected.		

Event Name	SRC_PORT	Event Contents	"Designated sending port ERROR:SLMP-READ "SLMP-Error"
Event Details	When the designated sender port is established when the SLMP command transmission can not be read, it is recorded with a preset number.		

Event Name	HTTP	Event Contents	"CONTROL"
Event Details	When this product is operated by the HTTP Command, it is recorded with the parameter. (The "clear" execution is not included)		

* "" is not recognized in the log.

3.15.   Configuration Data Save/Load Setup

The setting menu for this product is read and can be saved as configuration data on the PC.

Also, configuration data which was read can be selected to be written in.

The configuration setup is done from the Web Setup Tool.

Attention

Confirm that the firmware version of the Main Unit with the firmware version to overwrite with. If the firmware version in the Main Unit is too old, it cannot be overwritten.

Be sure to acquire a prior firmware version to overwrite with before overwriting with the latest firmware.

3.16.   Firmware Update Function

The firmware for this product can be updated.
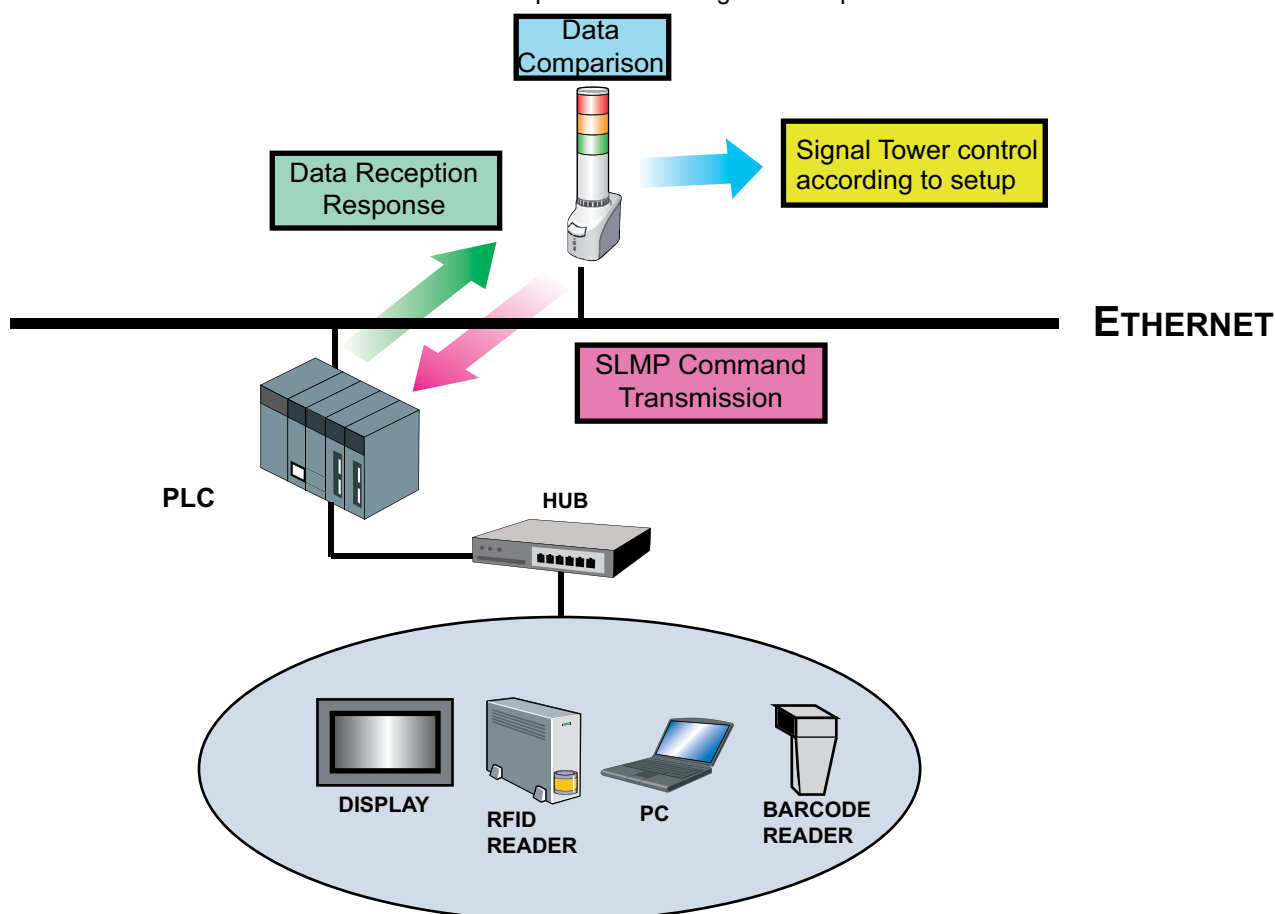
The firmware is updated via the Web Setup Tool.

3.17. SLMP Command Transceiver Function

The device on the equipment designated for SLMP uses the command to acquire information from the device with periodic transmissions. When comparing the conditions based on the agreement conditions, if the acquired information agrees, the operation set for the condition is executed. In addition, if error data is received, the operation specified at the time of an error is executed. The operation based on a condition agreement can be set up for every device acquiring data.
When an error occurs, the operation to handle an error can have a common setup for each device.
Only one point for a device can be acquisitioned. For a bit device, it would be 1 bit; a word device, would be 1 word to acquire device information. For further details on the setting method, Refer to "4.16 SLMP Write Command Configuration Screen" on pg. 83.

The PLC device data is periodically checked.
The NH Series operates according to the acquisitioned value.

Data Comparison

Data Reception Response

Signal Tower control according to setup

ETHERNET

SLMP Command Transmission

PLC

HUB

DISPLAY

RFID READER

PC

BARCODE READER

It is possible to use SLMP to acquire the device information on the equipment connected to CC-LinkIE or CC-Link.

Attention
- Prior to using this product, refer to the manual on instructions to setup connections for a master station, local broadcasting station, and intelligent device station.
- When a reset or reboot are done on equipment corresponding to SLMP and this product , it should also be rebooted.

44

3.17.1. SLMP Read Command Transceiver Process Flowchart

The process for the Command Transceiver is in the order from number 1 to 16. When the protocol is set as TCP, connection processing is started from the first command transmission, and only the command transceiver process is performed afterward.

If changed into the following status, the established transmission interval is opened and the following number for the command transceiver process is executed.

- The response data of the command which was transmitted was received.
- The response data was not able to be received within the established timeout limit.
- The command addressee was not established.

The next number of the command transceiver process after No. 16 is No. 1. If a timeout occurs, the cut-off process will occur and re-connection will proceed within the set transmission interval. The transmission interval can be selected from 10 ms, 50 ms, and 100 ms.
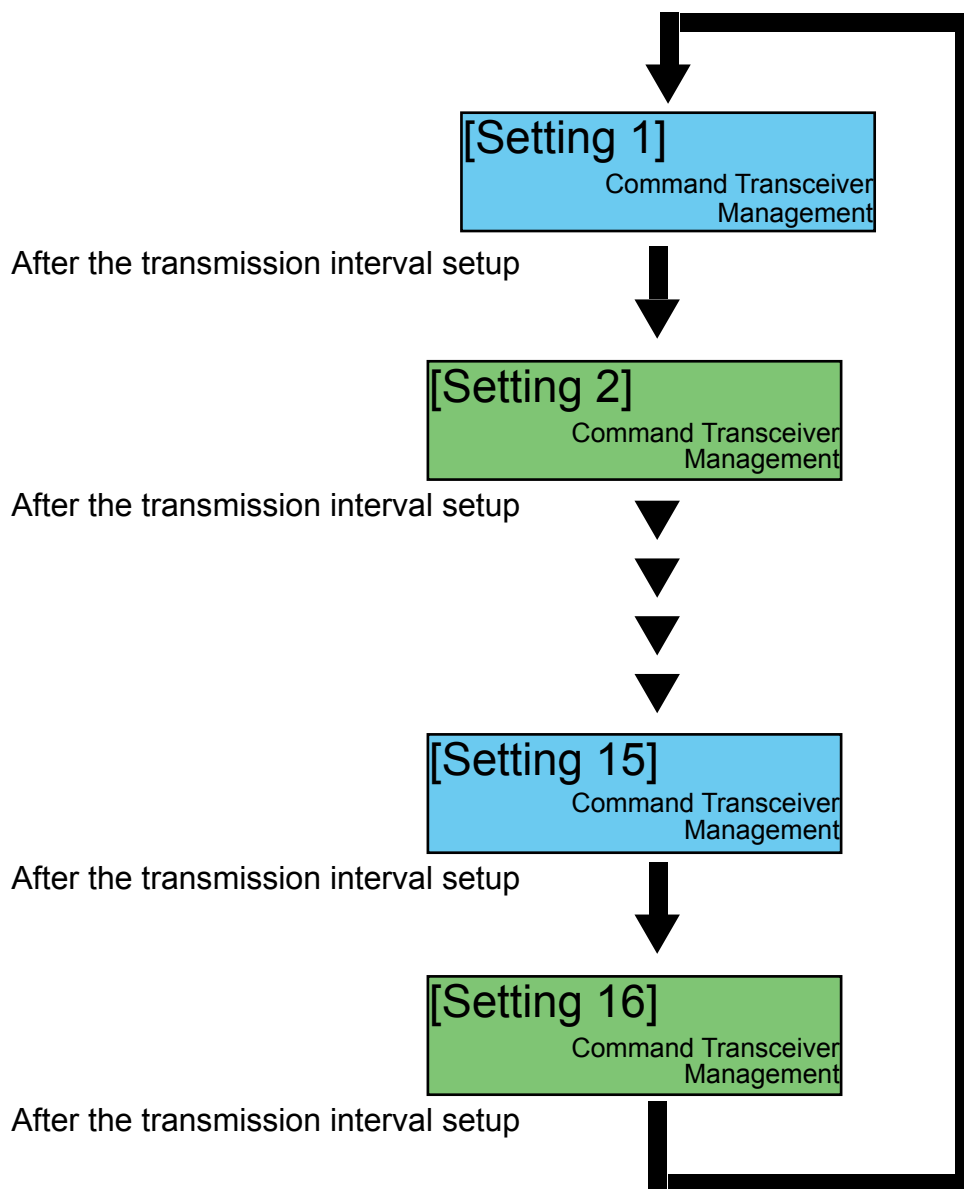
[Setting 1]
Command Transceiver Management

After the transmission interval setup

[Setting 2]
Command Transceiver Management

After the transmission interval setup

[Setting 15]
Command Transceiver Management

After the transmission interval setup

[Setting 16]
Command Transceiver Management

After the transmission interval setup

Fig. 3.17.1 SLMP Command Transceiver Function Operational Details 1

Attention
- Do not send a command transmission when the addressee and the address port number is not established.
- The shortest number of seconds for the transmission interval is set.

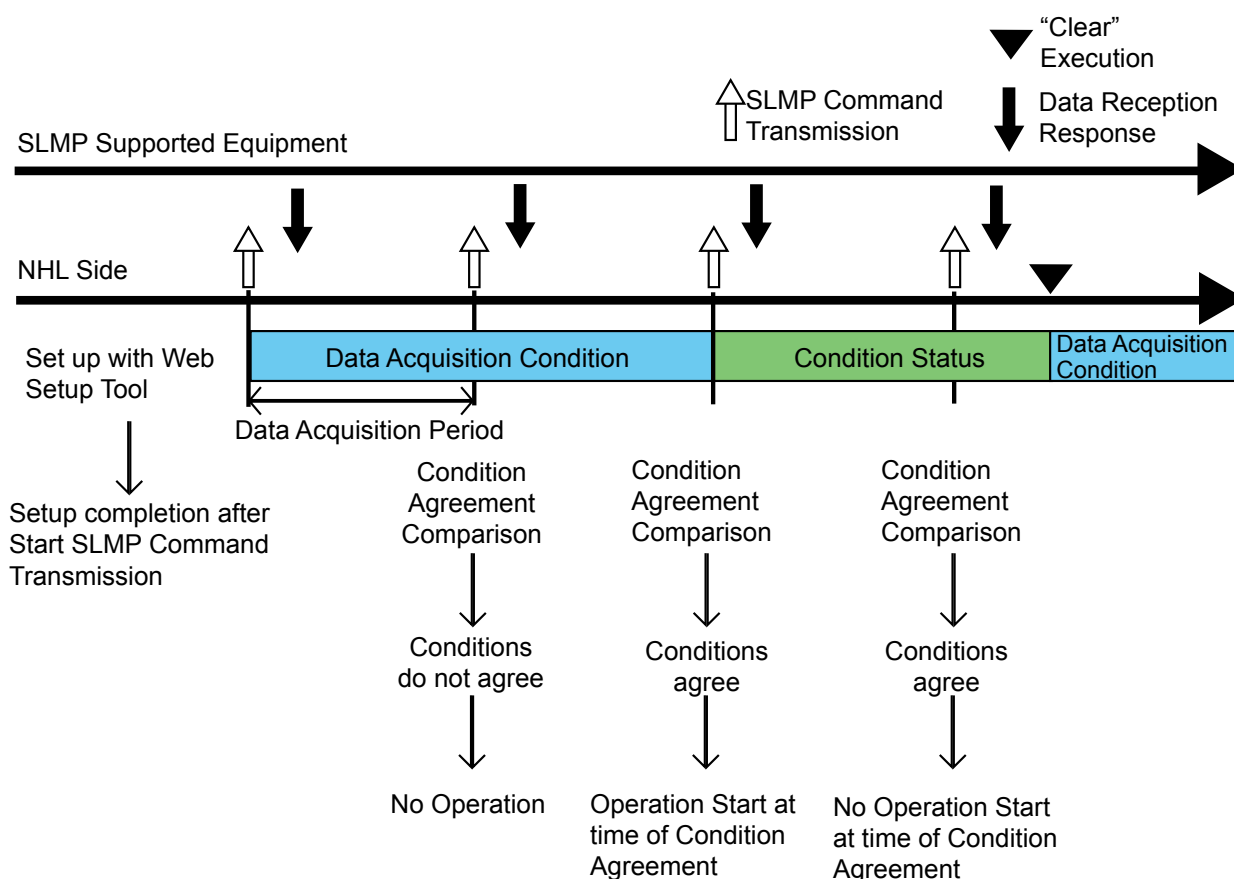## 3.17.2.　　　SLMP Read Command Transceiver Operation (During Acquision Agreement)

Device information from SLMP corresponding equipment can be acquisitioned. The comparison of the set agreement conditions for the acquired information is made and the operation of the Signal Tower occurs when the condition agreement is explained.

If the conditions set up are in agreement, a condition agreement status is recognized. If the conditions in the acquired data agree in the condition agreement status, the Signal Tower does not operate. The condition agreement status is cleared when entering a "Clear" operation.

Example: When it acquires device information from the equipment corresponding to SLMP and the condition is in agreement

1. If the contents is set for when the data acquired from the equipment corresponding to SLMP and product are in agreement, the Signal Tower performs its operation at the time of agreement.
2. If it agrees with the data acquired in the condition agreement status, the Signal Tower does not operate.
3. If a "Clear" operation is received in the condition agreement status, the condition agreement status will be cleared and it will return to its monitoring condition.
   If the data acquired does not agree on its conditions, it is cleared.

Fig. 3.17.2 SLMP Read Acquisition Command Transceiver Function Operation Flow

3.17.3. SLMP Read Command Transceiver Operation (When Error Occurs)

The following explains the operation at the time of receiving error data from the equipment corresponding to SLMP.

When acquired data information is errored, the operation of a Signal Tower can be set when the data error is received.

If error data is received once, it is recognized as an error condition. If error data is acquired again in a data error status, the Signal Tower does not operate. An error condition is cleared by entering a "Clear" operation.

Example: When acquiring error data from the equipment corresponding to SLMP

1. If the data acquired from the equipment corresponding to SLMP has error data, the Signal Tower operates at the time of error-data reception.
2. If the error data is acquired again in a data error status, the Signal Tower does not operate.
3. If a "Clear" command is received during a data error status, the data error status will be cleared and it will return to the data acquisition status. In addition, if normal data is received during an error condition, the error condition is cleared and it returns to the data acquisition status.

Fig. 3.17.3 SLMP Read Error Command Transceiver Operation Flow
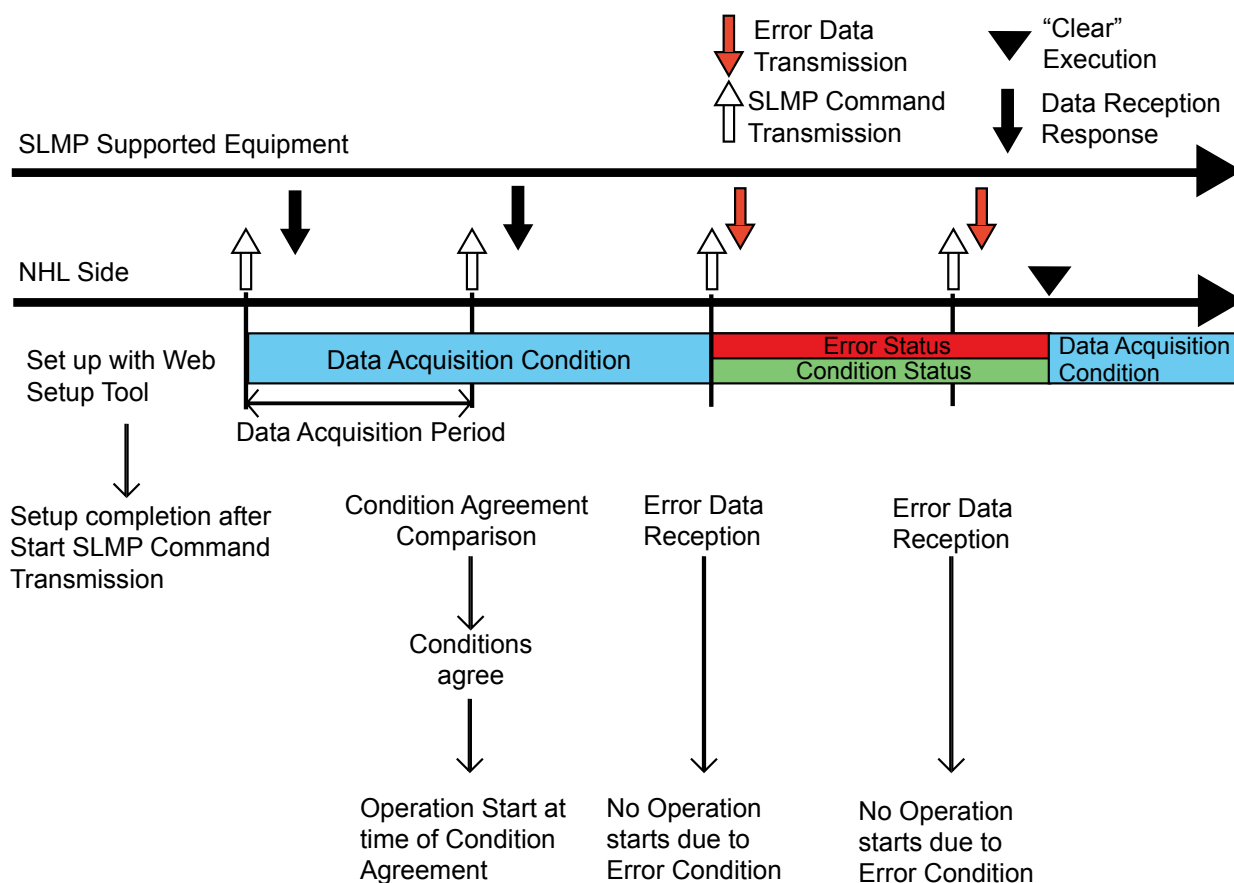
3.18. SLMP Write Command Transmission Function

A SLMP write command can be transmitted when generating a "Clear" event. The addressee can register a maximum of four places, and can transmit individual command ontents to each.
The device can be selected to transmit from one or two points, and if the device is writing in bits, it would be a 1 or 2 bit value, and if set as a word device, one or 2 words of data can be transmitted.

Refer to "4.16 SLMP Write Command Configuration Screen" on pg. 83 for the setup method.

SLMP Write Command

Clear Event Condition
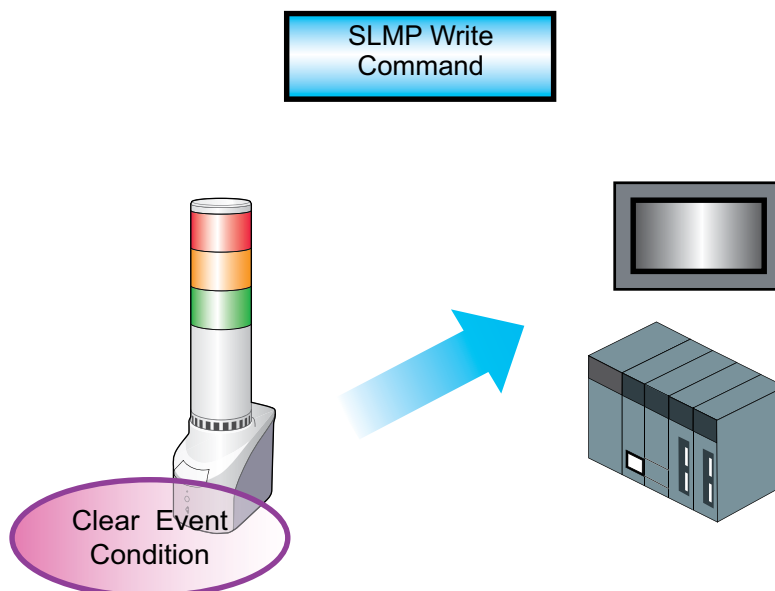
Table 3.18.1 XML Data Item Explanation

The "Clear" event used as a transmission opportunity
- When the "Clear" switch is pushed
- When a "Clear" from SNMP is done
- When a "Clear" command from RSH is executed

Attention | If two or more addressees are established, the command transmission management selects one at a time from the low-priority in number order.

48

3.19. XML Data Output Function

The Signal Tower and buzzer status for this product is acquirable from an XML data format.
Refer to "4.22 XML Setup Screen" on pg. 90 for the setting method.

XML data can be obtained in the format shown below:

Fig. 3.19.1 XML Data Format for Signal Tower and Buzzer Status

```
<?xml version="1.0" encoding="utf-8"?>
<signaltower>
      <color/>
      <color name="LED1" value="0"/>
      <color name="LED2" value="1"/>
      <color name="LED3" value="2"/>
      <color name="LED4" value="3"/>
      <color name="LED5" value="0"/>
      <color/>
      <buzzer>
      <buzzer name="BUZZER" value="4"/>
      </buzzer>
</signaltower>
```

Table 3.19.1 XML Data Item Explanation

Classification	Description
color name	The Signal Tower color is shown.The corresponding color is as follows. LED1: Red, LED2: Yellow, LED3: Green, LED4: Blue, LED5: White
buzzer name	The buzzer is shown.
color value	The Signal Tower status is shown. The corresponding status is as follows. 0: Off 1: On, 2: Flashing Pattern 1, 3: Flashing Pattern 2
buzzer value	The buzzer status is shown. The corresponding status is as follows. 0: Stop, 1: Buzzer Pattern1, 2: Buzzer Pattern2, 3: Buzzer Pattern3, 4: Buzzer Pattern4

3.20. HTTP Command Control Function

This product can be controlled by transmitting a HTTP command from the HTTP client.
In the System Configuration Screen, "Active" or "Inactive" of this function can be set.

[Specification of HTTP command control]

Protocol	HTTP	
Method	GET	
Syntax	http://<IP address>/api/control?<parameter name>=<value>	
Response	Success.	This message is returned when the control was successful.
	Error. [Error code]	This message is returned when the control was unsuccessful.

Error code	Description
001	Unsupported Method.
002	No such parameter name.
003	Parameter is not specified.
004	Parameter value is not specified..
005	Illegal parameter values.

Parameter	Values	Description
alert=< integer value >	6 digits	Control the Signal Tower LED units and buzzer.
		Specify the pattern in order of [rybgcz].
		r : Red, y : Amber, g : Green, b : Blue, c : White, z : Buzzer.
		[rygbc] 0 : Off, 1 : On, 2 : Flashing Pattern 1, 3 : Flashing Pattern 2, 9 : No Change
		[z] 0 : Stop, 1 : Pattern 1, 2 : Pattern 2, 3 : Pattern 3, 4 : Pattern 4, 9 : No Change
clear=< integer value >	1	Turn off the LED unit and stop the buzzer.

Attention	When using the HTTP Command Control function, set "HTTP Command Control Function" to "Active" on System Configuration Screen. Refer to "4.1. System Configuration Screen"

3.20.1. Example

<alert>
Red : on, Amber : off, Green : on, Blue : off, White : off, Buzzer : Pattern 2 on
http://192.168.10.1/api/control?alert=101002

Red : on, Amber : flashing pattern 1, Green, Blue and White : No Change, Buzzer : Pattern 3 on
http://192.168.10.1/api/control?alert=129993

<clear>
Turn off all the Signal Tower Lights and stop the Buzzer.
http://192.168.10.1/api/control?clear=1

4. Function Setup

The function setup is available in order to take advantage of the various functions. To access the settings, click the setup items on the left-hand side of the Web Setup Tool to open the set up screen for the various functions.

Setup Category	Setup Screen	Setup Contents
Setup Menu	System Configuration	Sets up the network parameters.
	Clock Settings	Sets up the time for this product.
	User Authorization Configuration	Sets up the login password for this product.
	SNMP Configuration	Sets up the functions for the SNMP SET/GET and TRAP transmission.
	Socket Transmission Configuration	Sets up the ports to control the PHN Command and PNS Command outputs.
	E-mail Settings	Setup for sending E-mail notifications.
	E-Mail Message Settings	Setup for writing the message contents to be transmitted by E-mail.
	RSH Command Configuration	Setup for receiving the rsh command and to send the E-mail when an rsh reception and TRAP transmission are executed.
Operation Settings	TRAP Reception Configuration	The setup which controls the status condition when a TRAP or TRAP reception is received.
	Ping Monitoring Configuration	The setup of the address for the monitored equipment and the management when an abnormality is detected.
	Application Monitoring Configuration	The setup is to verify whether data can be received from the monitored object.
	"Clear" Control Configuration	The setup for sending an E-mail when the "Clear" switch is pressed, and for the TRAP transmission setup.
	Normal Mode Settings	A setting, such as turning on a Green LED Unit, to indicate a normal condition.
	"Test" Switch Settings	The setup for sending an E-mail when the "Test" switch is pressed, and for the TRAP transmission setup.
	SLMP Read Configuration	Device information for the equipment supporting SLMP is set to for a condition agreement to operate when an error occurs.
	SLMP Write Configuration	Set up contents of the write command for when transmitting to the SLMP equipment.
NH Unit Controls	Signal Tower Output Control	The Signal Tower status is controlled from the browser.
	Reinitialize	The settings return to factory default values.
	Reboot	Reboots this product after settings have been changed to put them into effect.
Maintenance Functions	Event Log	The event log is displayed and can be downloaded.
	XML Settings	Set up the XML Data Output.
	Configuration Data Setup	The setup items can be saved as configuration data and reloaded at any time.
	Firmware Update	The Firmware update function can be done from this screen.
	Setup Table Entries	The list of items, their setup and operation contents, and the current firmware version is displayed.

Attention After the desired setup is completed, reboot this product by pressing the "reset" switch or by disconnecting the power and reconnecting it.

Intro
1
2
3
4
5
6
7
8
9
10

4.1. System Configuration Screen

The network parameters for this product can be setup through a browser. The default IP address is "192.168.10.1".

The parameters can be setup from the System Configuration Screen (Fig. 4.1.1 System Configuration Screen) from the default values as shown in Table 4.1.1.

Fig. 4.1.1 System Configuration Screen

Table 4.1.1 System Configuration Parameters

Item	Contents	Default Value	Input Parameter	Setting Option
Firmware Version	The current Firmware version is indicated	—	—	—
System Name	The name for this product can be set.	Signal Tower	Full/Half-width Characters Maximum 31 Characters	O
System Location	The setup location of this product can be entered.	Blank	Half-width alphanumeric characters and underscore "_" Maximum 31 Characters	O
Contact Address	Setup the contact address.	nh@patlite.jp	Mail address format Maximum 63 Characters	O
IP Address Configuration Method	Select between Manual or Automatic IP address configuration.	Setup Manually	Select Radio Button	X
IP Address	Setup the IP address of this product.	192.168.10.1	IP address format	X
Netmask	Setup the subnet mask of this product.	255.255.255.0	IP address format	X
Default Gateway	Setup the default gateway of this product.	0.0.0.0	IP address format	O
DNS Server Address	Setup the DNS server of this product.	0.0.0.0	IP address format	O
Host Name	Setup a host name	nh.patlite.jp	Enter a legitimate host name Maximum 63 Characters	—
HTTP command control function	Select "Active" or "Inactive" for the HTTP command control function.	Active	—	—

The values for "Setting Option" in this manual has to have a valid entry, or can be left blank.

Attention

O   Indicates the entry can be omissible, or any entry within the set parameters.

X   Indicates the entry cannot be omissible. Enter a valid parameter.

–   Indicates an entry which cannot be omitted, or abbreviated. The value has to be entered in accordance to the customer's environment.

4.2. Clock Settings Screen

The Clock Settings for this product can be done through a browser. The Clock Settings can be accessed through the Clock Settings Screen (Fig. 4.2.1 Clock Settings Screen) from the default values as shown in Table 4.2.1.

Fig. 4.2.1 "Clock Settings" Screen

Table 4.2.1 Clock Settings Parameters

Item	Contents	Default Value	Input Parameter	Setting Option
NTP Server Address	Setup the NTP server address.	Blank	Server's Host Name or IP address Maximum of 63 characters	O
Time Calibration Interval	Setup the time interval to synchronize with an NTP server.	0	Half-width numbers from 0 to 1440 (minutes)	O
Time Zone	Setup the time zone.	UTC+9	—	—

Two kind of Clock Settings methods are indicated below:

- Synchronizing time with the PC clock when logging in.
- Adjusting the clock in this product when synchronizing with an NTP server.

4.2.1. Synchronizing with the PC clock

Clicking the "Manually Setup Clock" button will synchronize with the time on the PC which has been logged into this product.

[Setup Method]

①．Compare the columns between the "NH Monitoring Clock" and the "Host Computer Clock."

②．Click the "Manually Setup Clock" button to synchronize the time with the logged in PC.

> **Attention**
> - In some cases, this product may not reflect the exact time as the PC, and the clock may be off by several seconds.
> - When not using an NTP server, check the time of this product periodically.
> - This product uses a capacitor as a battery backup for the time stamp.
> - Depending on the charge status of the capacitor, it may last up to a half-day, and if the power supply is not applied during the day, a gap in time or the need to reset the clock may be necessary. If an application environment requires a time entry, be sure to set up the time before the application.
> - If the backup is depleted and the time entry resets, the set time will be labeled as "Jan 1, 2010."

Fig. 4.2.2 "Manually Setup Clock" Setup Screen (Before)

Fig. 4.2.3 "Manually Setup Clock" Setup Screen (After)

54

4.2.2. Synchronizing with an NTP server

An NTP server can be linked by entering the NTP server address to synchronize with the clock in this product, and the time updated by sending a request for time adjustment to that NTP server.

[Setup Method]

①．Enter the NTP server address in the "NTP Server Address" column.
②．Enter a value for the calibration intervals to communicate with the NTP server in the "Time Calibration Interval (min)" column.
③．Click the "Set" button to activate the setup.

Fig. 4.2.4 NTP Server Settings Screen

4.2.3. Setting the Time Zone

Determine the area to be used when setting the time zone.

[Setup Method]

①．Select from the "Time Zone" column and click to set.
②．Click the "Set" button to activate the setup.

Fig. 4.2.5 Time Zone Setup Screen

4.3. User Authorization Configuration Screen

Setup a password to log into the Setup Screen for this product.
Enter a password, then re-enter the password to verify its entry, then click the "Set" button to activate it. The next time for logging in will ask for the new password. The password entry will allow up to 16 half-width alphanumeric characters and a period.

[Setup Method]

① . Enter the password to be changed into the "Password" column.
② . Enter the same password to be changed into the "Re-enter Password" column to verify the entry.
③ . Click the "Set" button to activate the setup.

Log in with the new password the next time the login screen appears.

Fig. 4.3.1 User Authorization Configuration Screen

User Authorization Configuration

Password		①
Re-enter Password		②

Set   ③

Table 4.3.1 User Authentication Configuration Parameters

Item	Contents	Default Value	Input Parameter	Setting Option
Password	Setup a new password.	Blank	Half-width alphanumeric character and period "." Maximum 16 Characters	X
Re-enter Password	Verify the new password	Blank	Half-width alphanumeric character and period "." Maximum 16 Characters	X

4.4. SNMP Configuration Screen

With an SNMP, this product can communicate outside the community name for the notification of a TRAP, using the SNMP SET/GET in reference to each item for this product, and generate the event with this product.

4.4.1. SNMP SET/GET

An SNMP SET/GET can be setup.

[Setup Method]
① . Select the "Active" radio button to enable the SNMP function.
② . Enter the SET/GET community parameter.

4.4.2. SNMP TRAP Transmission

An SNMP TRAP Transmission can be setup.

[Setup Method]
③ . Select the "Active" radio button to enable the TRAP transmission function.
④ . Enter the TRAP Transmission community parameter and the TRAP transmission frequency.
⑤ . Enter in the TRAP Address column, the IP address for sending the TRAP notification to.
⑥ . Click the "Set" button to activate the setup.

TRAP command which is transmitted when the TRAP is active

OID: 1.3.6.1.4.1.20440.4.1.6.3
Name: trapPatliteTrapReceived

Fig. 4.4.1 SNMP Configuration Screen

SNMP Configuration

Community Name

SNMP Function	● Active ○ Inactive	①
SET Community	private	②
GET Community	public	

TRAP Transmission

TRAP Transmission Function	○ Active ● Inactive	③
TRAP Transmission Community	public	④
Number of Trap Transmissions	1	

TRAP Address of Receiver

1		
2		
3		
4		⑤
5		
6		
7		
8		

Set   ⑥

Table 4.4.1 SNMP Configuration Parameters

Item	Contents	Default Value	Input Parameter	Setting Option
SNMP Function	Setup to Activate/Inactivate the SNMP function.	Active	—	—
SET Community Name	Setup the name to use when reading an SNMP Configuration value.	private	Half-width alphanumeric character and underscore "_" Maximum 32 Characters	—
GET Community Name	Setup the name to use when writing an SNMP Configuration value.	public	Half-width alphanumeric character and underscore "_" Maximum 32 Characters	—
TRAP Transmission Function	Setup to Activate/Inactivate the trap transmission function.	Inactive	—	—
TRAP Transmission Community Name	Setup the community name for the trap which is transmitting.	public	Half-width alphanumeric character and underscore "_" Maximum 32 Characters	—
TRAP Transmission Frequency	Setup for the number of times a trap can be transmitted	1	Half-width numbers from 1 to 10	—
TRAP IP Address to Receiver	IP address format for the destination of sending a TRAP transmission to.	Blank	Characters which can be used for a server address Maximum 63 Characters	O

4.5. Socket Transmission Configuration Screen

Set up for the use of the PHN Command and PNS Command with Socket Transmission.

[Setup Method]

①. Select either "TCP" or "UDP" radio button in the "Protocol" field for the communication method.

②. Enter the port to be used in the "Port Number" field.

③. Click the "Set" button to save all entries.

Fig. 4.5.1 Socket Transmission Configuration Screen

Table 4.5.1 Socket Transmission Configuration Parameters

Item	Contents	Default Value	Input Parameter	Setting Option
Protocol	Select between TCP or UDP	TCP	—	—
Port Number	Set the reception port number	10000	Half-width numbers from 10000 to 65535	—

MEMO Refer to "3.5 PHN Command Reception Function" on pg. 27 for PHN Commands.
Refer to "3.6 PNS Command Reception Function" on pg. 29 for PNS Commands.

4.6. E-Mail Settings Screen

This product can be set up to send E-mail messages. The following are events which will transmit E-mail messages. When transmitting an E-mail, it is transmitted in sequence from the smaller address number to the larger address number of the recipient.

E-mail Transmitting Event

- • At the time of an RSH command reception
- • At the time of a TRAP reception
- • At the time when the "CLEAR" button is pressed.
- • At the time when a "Clear SNMP" command is executed.
- • At the time when an SLMP Write Command Condition occurs.
- • At the time when an SLMP Write Command Error Condition occurs.
- • At the time of a Ping monitoring abnormality and Ping recovery event.
- • At the time of an application monitoring abnormality and recovery event.

[Setup Method]

① . Set up the SMTP mail server address and port number.
② . When using the SMTP authentication, set up the account name and SMTP authentication password.
③ . When using the POP authentication, set up the POP account name and POP authentication password.
④ . Select "None" for when authentication is not necessary.
⑤ . Set up in the designated sender address column the designated sender's E-mail address.
⑥ . Set up the recipient's address.
⑦ . Click the "Set" button to save all settings.

Fig. 4.6.1 E-Mail Settings Screen

59

Table 4.6.1 E-E-Mail Settings Parameters

Item	Contents	Default Value	Input Parameter	Setting Option
SMTP Server Address	Set the IP Address of the SMTP Server	0.0.0.0	Characters which can be used for a server address Maximum 63 Characters	—
SMTP Port Number	Set the port number of the SMTP Server	25	Half-width numbers from 1 to 65535	—
Authentication Protocol	Select among "SMTP Authentication/POP Authentication/No Authentication".	No Authentication	—	—
Encrypted Connection	Select between "SSL", "TLS" or "None".	None	—	—
SMTP Account Name	Set the user name for SMTP Authentication.	Blank	Half-width alphanumeric characters, characters which can be used for E-mail addresses Maximum 32 characters	O
SMTP Authentication Password	Set up the password for SMTP Authentication.	Blank	Half-width alphanumeric characters Maximum 32 characters	O
POP3 Server Address	Set up the POP3 server IP Address.	Blank	Characters which can be used for a server address Maximum 63 Characters	O
POP3 Port Number	Set up the port number for the POP3 server.	110	Half-width numbers from 1 to 65535	—
Account Name	Set up the user name of the POP Authentication.	Blank	Half-width alphanumeric characters, characters which can be used for E-mail addresses Maximum 32 characters	O
Password	Set up the password for POP Authentication	Blank	Half-width alphanumeric characters Maximum 32 characters	O
Source Address	Set up the E-mail address for the designated sender.	Blank	Characters which can be used for an E-mail address Maximum 63 Characters	O
Address of Receiver 1 through 8	Set up the destination addresses for the E-mail to be sent to.	Blank	Characters which can be used for an E-mail address Maximum 63 Characters	O

4.7. E-Mail Message Settings Screen

The following is the setup of E-mail subject titles and message contents for E-mail Sending. When sending E-mails, the contents can be personalized to match the coinciding mail notifications by entering a subject title and message content to transmit.

[Setup Method]

① . Enter in the "Subject" field a subject title to transmit by e-mail.
(Use full or half-width alphanumeric characters of up to 31 characters)
② . Enter in the "Message" field a text message to transmit by e-mail.
(Use full or half-width alphanumeric characters of up to 63 characters)
③ . Click the "Set" icon button to save all entries.

Fig. 4.7.1 E-Mail Message Settings Screen

E-Mail Message Settings

	Subject		
1	Message from Signal Tower	9	Message from Signal Tower
2	Message from Signal Tower	10	Message from Signal Tower
3	Message from Signal Tower	11	Message from Signal Tower
4	Message from Signal Tower	12	Message from Signal Tower
5	Message from Signal Tower	13	Message from Signal Tower
6	Message from Signal Tower	14	Message from Signal Tower
7	Message from Signal Tower	15	Message from Signal Tower
8	Message from Signal Tower	16	Message from Signal Tower

①

Message	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

②

Set   ③

Table 4.7.1 E-Mail Message Settings Parameters

Item	Contents	Default Value	Input Parameter	Setting Option
Subject 1 to 16	Subject titles from 1 to 16 can be entered	Message from Signal Tower	Full or half-width alphanumeric characters Maximum 31 Characters	O
Message 1 to 16	Messages from 1 to 16 can be entered	Blank	Full or half-width alphanumeric characters Maximum 63 Characters	O

4.8. RSH Command Configuration Screen

RSH (remote shell) Commands can control the Signal Tower and buzzer on this product.
The following explains the setup to be able to receive the RSH Commands.

[Setup Method]

RSH Server Function

    ①. When receiving the RSH Commands, first turn on the RSH Server function by selecting "Active."

RSH Alert Timer Reset Function

    ②. A timer can be implemented to control the operating timing of each tier and the buzzer with an RSH command sent to the Signal Tower.
If the "Shared" function is selected, the timing control for each color can be in common.
If the "Separate" function is selected, the timing control for each color is controlled individually.

E-mail Transmission

    ③. To have E-mail Sending when an RSH Command has been received, and for it to make a report, select "Active".
Select "Inactive" to prevent any E-mail Sending.

When E-mail Sending is selected for "Active"

    ④. Select the desired E-mail contents to transmit from the registered subject titles and the text messages after the E-mail Sending is activated.
After the E-mail contents are selected, choose the E-mail recipients.

TRAP Transmission

    ⑤. To have a trap transmission sent after an RSH Command, select "Active" for TRAP transmission to transmit the TRAP.
If the TRAP Transmission is not utilized, select "Inactive".

The "TRAP Command" for this product to receive when the TRAP condition occurs

        OID: 1.3.6.1.4.1.20440.4.1.6.5
        Name: trapPatliteRshExecuted

Designated E-mail Sender Address Setup

    ⑥. If address restrictions are made for sending an RSH Command to a designated recipient, select "Active" for the designated sender address.
If no restrictions have been made, select "Inactive".

When "Inactive" is selected for designated sender addressing

    ⑦. Enter a common login name while the designated sender IP address is invalid.
Click the "Set" button on the lower right side of the screen for the settings to be saved.

When "Active" is selected for designated sender addressing

    ⑧. Enter the IP address into the designated sender IP address column to allow command execution.
A maximum of 16 accounts can be registered.
To allow activation for command execution, enter a login name.

    ⑨. Click the "Set" icon button to initiate the setup.

> **Attention**   When using this product with the internal timer function, if the RSH Alert Timer Reset Function is changed, the timers for all the LEDs and buzzer is canceled.

62

Fig. 4.8.1 RSH Command Configuration Screen

RSH Command Configuration

RSH Server

RSH Server Function	◉ Active ○ Inactive	①
RSH alert timer reset function	○ Shared ◉ Separate	②
E-mail Sending	○ Active ◉ Inactive Subject 1.Message ▼ Message 1: ▼	③ ④
E-mail Receiver	☐ 1 Unassigned ☐ 2 Unassigned ☐ 3 Unassigned ☐ 4 Unassigned ☐ 5 Unassigned ☐ 6 Unassigned ☐ 7 Unassigned ☐ 8 Unassigned	⑤
Trap Transmission	○ Active ◉ Inactive	⑥

Connection Permission Configuration

| Designate Sender Address | ◉ Active ○ Inactive | ⑦ |
| Common login name when designated sender address is inactive. | | |

	Sender IP Address	Login Name
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		

⑧

[Set]   ⑦ ⑨

Intro

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2

3

4

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6

7

8

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10

63

Table 4.8.1 RSH Command Configuration Parameters

Item	Contents	Default Value	Input Parameter	Setting Option
RSH Server Function	Select Active/Inactive for the RSH server function.	Active	—	—
RSH Alert Timer Reset Function	Select "Shared" or "Separate" to control the Signal Tower lights and buzzer		—	—
E-mail Transmission	Select Active/Inactive for sending an E-mail when a command is received.	Inactive	—	—
Subject	Select the subject title for the mail to be transmitted.	1. Message	—	—
Message	Select the message text for the mail to be transmitted.	1:	—	—
E-mail Receiver	Select the recipient to send E-mail to.	Undefined	—	—
TRAP Transmission	Select Active/Inactive for the TRAP transmission when an RSH Command is received.	Inactive	—	—
Designated Sender Address	Setup a designated address for a sender when an RSH Command is received.	Active	—	—
Invalid Designated Sender Address/ Common Login Name	When the designated sender address setup is not active, up to 16 accounts can be used to notify senders when an RSH Command is received.	Blank	Half-width alphanumeric character, period ".", hyphen "-" Maximum 16 Characters	O
Sender IP Address	The designated IP address used when a command is executed.	Blank	IP Address Format	O
Login Name	The login name used is entered to allow command execution.	Blank	Half-width alphanumeric character, period ".", hyphen "-" Maximum 16 Characters	O

4.9. TRAP Reception Configuration Screen

Setup for permitting a TRAP reception and its operation after the TRAP communication is received.

[Setup Method]

①．Enter a group name.
②．Enter an address name for the TRAP designated sender*[1].
③．Enter the OID of the TRAP received in the TRAP number column*[1].
④．Enter the OID into the variable-bindings column*[1].
⑤．Set up the operation for the Signal Tower when a TRAP is received.
⑥．Select the E-mail Sending configuration when receiving a TRAP.

When the E-mail Sending is "Active"

Select the subject title and message after the E-mail Sending is activated.

⑦．Select "Active" when using the TRAP transmission.

"TRAP Command" received when a TRAP condition occurs

OID:　　1.3.6.1.4.1.20440.4.1.6.3
Name:.　trapPatliteTrapReceived

⑧．Click the "Set" button to save the settings.

*1 Refer to the following **Attention** and **MEMO** below.

Attention

- When the trap transmission source address is entered, the "trap number" column and the "variable bindings" column can be omitted. When the TRAP "number column" and "variable bindings" columns are omitted, then all operations will be received by the TRAP transmission address, which was setup for the TRAP transmission source address.
- When a TRAP transmission source address name is omitted, the operation is determined by the TRAP number.
- For two "variable bindings", the 1st registration can be used among the existing registered items.
- If both the "trap transmission source address" and "trap number" are omitted, even with "variable bindings" registered, it won't operate.
- When the "GenericTrap type" TRAP Reception is 6 (enterprisespecific), add the value "0. (specific-trap value)" to the last part of the specific-trap for the TRAP Reception.

MEMO

- When the TRAP transmission source address name is omitted, the TRAP number cannot be omitted. If both the "trap transmission source address" and "trap number" are omitted, no operation after a reception will work.
- When a TRAP number has been duplicated and is registered into the group, the least significant setup number in the group is used. The following group number after that number is not used.
- Judgement can be made with the reception function where the number of "variable bindings" are 64 with one per TRAP. To receive more than 65 variable bindings, TRAP 1-64 must first be set to operate in the OID at the time of reception. Be aware that the OID after 65 does not operate, even if it is set up.

Fig. 4.9.1 TRAP Reception Configuration Screen

TRAP Reception Configuration

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |

TRAP Reception Configuration Group1

	Group Name1			①
1	TRAP Source Address			②
	TRAP OID			③
	variable-bindings1	OID:	Type: integer ▼ Value: 0	④
	variable-bindings2	OID:	Type: integer ▼ Value: 0	
2	TRAP Source Address			
	TRAP OID			
	variable-bindings1	OID:	Type: integer ▼ Value: 0	
	variable-bindings2	OID:	Type: integer ▼ Value: 0	
3	TRAP Source Address			
	TRAP OID			
	variable-bindings1	OID:	Type: integer ▼ Value: 0	
	variable-bindings2	OID:	Type: integer ▼ Value: 0	
4	TRAP Source Address			
	TRAP OID			
	variable-bindings1	OID:	Type: integer ▼ Value: 0	
	variable-bindings2	OID:	Type: integer ▼ Value: 0	

Output Control Setting for TRAP Reception1

RED	No Change ▼	
AMBER	No Change ▼	
GREEN	No Change ▼	⑤
BLUE	No Change ▼	
WHITE	No Change ▼	
BUZZER	No Change ▼	
E-mail Sending	○ Active ● Inactive Subject 1.Message ▼ Message 1: ▼	⑥
E-mail Receiver	☐ 1 Unassigned ☐ 2 Unassigned ☐ 3 Unassigned ☐ 4 Unassigned ☐ 5 Unassigned ☐ 6 Unassigned ☐ 7 Unassigned ☐ 8 Unassigned	⑦
Trap Transmission	○ Active ● Inactive	⑧

Set ⑨

Table 4.9.1 TRAP Reception Configuration Parameters

Item	Contents	Default Value	Input Parameter	Setup Option
Group Name	Setup a group name	Blank	Full/Half-size Characters Maximum 32 Characters	O
Trap Designated Sender Addresses 1 to 4	Setup the designated TRAP sender addresses from 1 to 4 for a group	Blank	IP Address Format	O
Trap Number Items 1 to 4	Setup the Object ID TRAP numbers to receive trap commands from 1 to 4 for the group	Blank	Integers and Period "." Maximum 127 Characters	O
OID Items 1 to 4 (variable bindings)	Setup the TRAP command object ID with variable bindings for items 1 to 4	Blank	Integers and Period "." Maximum 127 Characters	O
Model Items 1 to 4 (variable bindings)	Setup the variable bindings object ID model to receive TRAP commands. Only integer types can be selected	Integer	—	—
Value Items 1 to 4 (variable bindings)	Setup the variable binding's object ID to receive traps.	0	Integer (0 to 65535)	—
Red	Select from: OFF- ON- Lighting- Flashing 1- Flashing 2- No Flashing- No Change	No Change	—	—
Amber	Select from: OFF- ON- Lighting- Flashing 1- Flashing 2- No Flashing- No Change	No Change	—	—
Green	Select from: OFF- ON- Lighting- Flashing 1- Flashing 2- No Flashing- No Change	No Change	—	—
Blue	Select from: OFF- ON- Lighting- Flashing 1- Flashing 2- No Flashing- No Change	No Change	—	—
White	Select from: OFF- ON- Lighting- Flashing 1- Flashing 2- No Flashing- No Change	No Change	—	—
Buzzer	Select from: Pattern 1- Pattern 2- Pattern 3- Pattern 4- Stop- No Change	No Change	—	—
E-mail Transmission	Set Active or Inactive for sending E-mail.	Inactive	—	—
Subject	Select the E-mail subject title contents	1. Message	—	—
Message	Select the E-mail text message contents	1:	—	—
TRAP Transmission	Set Active or Inactive for the trap transmission.	Inactive	—	—

4.10. Ping Monitoring Configuration Screen

The Ping Monitoring Configuration Screen in the Configuration Setup Screen can be used to set up parameters for sending Pings for up to 24 devices to monitor. With a maximum of 24 devices to monitor, devices numbered from 1-12 have a set "Ping test cycle period" of 60 seconds, and devices numbered 13-24 have adjustable parameters for Ping monitoring.

4.10.1. Ping Monitoring Configuration (Screen Numbers 1 to 12)

[Setup Method]

① . Select the device number (No. 1-12) to setup the Ping monitoring parameters.

② . Enter the IP address or host name for the device to monitor in the "Monitoring Target Address" field.

③ . Enter the device name in the "Equipment Name" field. This name is used in log events and in E-mails configured in the "Output Control Setting".

④ . Set up the number of sequential 60 second Ping monitoring periods with no ping response to determine an "Abnormality" in the "Cycle count Error threshold (0-30)" field.

⑤ . Setup the desired actions for the lights and buzzer when the abnormality occurs.

⑥ . To send an E-mail when an abnormality occurs, set the E-mail Sending to "Active", and select the "Subject" and "Message" from the pull-down lists. The lists are configured on the "E-mail Message Settings" page in the "Setup Menu".

When the E-mail Sending is activated

⑦ . Select the recipients for the E-mail in the "E-mail Receiver" section. The choices here are determined in the "E-mail Settings" of the "Setup Menu".

⑧ . To send an SNMP TRAP, when an abnormality occurs, set the "Trap Transmission" radio button to "Active".

TRAP command transmitted when the TRAP is active

OID: 1.3.6.1.4.1.20440.4.1.6.1
Name: trapPatliteAlarmAdded

Fig. 4.10.1 Ping Monitoring Configuration Screen 1

68

Setting up the "Recovery from Ping" parameters

⑨．Setup the Signal Tower actions when a recovery from a ping abnormality occurs.

⑩．To send an E-mail when an abnormality occurs, set the E-mail Sending to "Active", and select the "Subject" and "Message" from the pull-down lists. The lists are configured on the "E-mail Message Settings" page in the "Setup Menu".

When the E-mail Sending is activated

Register the subject and the message text to transmit. Then, select the recipient for the E-mail Sending.

⑪．To send an SNMP TRAP, when an abnormality occurs, set the "Trap Transmission" radio button to "Active".

⑫．When all settings on the page are correct, click on "Set" to activate the ping test for the device.

TRAP Command received when TRAP condition occurs

OID: 1.3.6.1.4.1.20440.4.1.6.2

Name: trapPatliteAlarmRemoved

Fig. 4.10.2 Ping Monitoring Configuration Screen 2

Table 4.10.1 Ping Monitoring Configuration Parameters

Item	Contents	Default Value	Input Parameter	Setup Option
Monitoring Target Address	The IP address or host name for the monitoring ping.	Blank	IP Address or Host Name Maximum 63 Characters	O
Equipment Name	The name of the equipment to send a transmission monitoring ping to.	Blank	Maximum 32 Characters	O
Cycle count Error threshold	The number of sequential Ping monitoring cycles to send Ping requests to determine when no response is judged as an "abnormality" occurrence.	0	Integers 0 to 30	—
Red	Select from: OFF- ON- Lighting- Flashing 1- Flashing 2- No Flashing- No Change	No Change	—	—
Amber	Select from: OFF- ON- Lighting- Flashing 1- Flashing 2- No Flashing- No Change	No Change	—	—
Green	Select from: OFF- ON- Lighting- Flashing 1- Flashing 2- No Flashing- No Change	No Change	—	—
Blue	Select from: OFF- ON- Lighting- Flashing 1- Flashing 2- No Flashing- No Change	No Change	—	—
White	Select from: OFF- ON- Lighting- Flashing 1- Flashing 2- No Flashing- No Change	No Change	—	—
Buzzer	Select from: Pattern 1- Pattern 2- Pattern 3- Pattern 4- Stop- No Change	No Change	—	—
Email Transmission	Select the Active/Inactive condition for the E-mail Sending.	Inactive	—	—
Subject	Select the E-mail subject title	1. Message	—	—
Message	Select the E-mail message to text	1:	—	—
TRAP Transmission	Select the Active/Inactive condition for the trap transmission.	Inactive	—	—

4.10.2.　　　Ping Monitoring Configuration (Screen Numbers 13 to 24)

[Setup Method]

①. Select the device number (No. 13-24) to setup the Ping monitoring parameters.

②. Enter the IP address or host name for the device to ping in the "Monitoring Target Address" field.

③. Enter the device name in the "Equipment Name" field. This name is used in log events and in E-mails configured in the "Output Control Setting".

④. Set up the number of sequential Ping monitoring periods with no ping response to determine an "Abnormality" in the "Cycle count Error threshold (0-30)" field.

⑤. Setup the Ping monitoring duration in seconds in the "Ping test cycle period (1-600 sec)" field.

⑥. Set up the number of Pings to be transmitted during each Ping monitoring duration in the "Pings per test cycle (1-3)" field.

⑦. Setup the desired actions for the lights and buzzer when the abnormality occurs.

⑧. To send an E-mail when an abnormality occurs, set the E-mail Sending to "Active", and select the "Subject" and "Message" from the pull-down lists. The lists are configured on the "E-mail Message Settings" page in the "Setup Menu".

When the E-mail Sending is activated

⑨. Select the recipients for the E-mail in the "E-mail Receiver" section. The choices here are determined in the "E-mail Settings" of the "Setup Menu".

⑩. To send an SNMP TRAP, when an abnormality occurs, set the "Trap Transmission" radio button to "Active".

TRAP command transmitted when the TRAP is active

OID:　　1.3.6.1.4.1.20440.4.1.6.1

Name:　trapPatliteAlarmAdded

Fig. 4.10.3 Ping Monitoring Configuration Screen 1 (Screen Numbers 13 - 24)

Setting up the "Recovery from Ping" parameters

⑪．Setup the Signal Tower actions when a recovery from a ping abnormality occurs.

⑫．To send an E-mail when an abnormality occurs, set the E-mail Sending to "Active", and select the "Subject" and "Message" from the pull-down lists. The lists are configured on the "E-mail Message Settings" page in the "Setup Menu".

When the E-mail Sending is activated

⑬．To send an SNMP TRAP, when an abnormality occurs, set the "Trap Transmission" radio button to "Active".

TRAP Command received when TRAP condition occurs

OID: 1.3.6.1.4.1.20440.4.1.6.2

Name: trapPatliteAlarmRemoved

⑭．When all settings on the page are correct, click on "Set" to activate the ping test for the device.

Fig. 4.10.4 Ping Monitoring Configuration Screen 2 (Screen Numbers 13 - 24)

Output Control Setting for Recovery from Ping Monitoring Error21	
RED	No Change ▼
AMBER	No Change ▼
GREEN	No Change ▼
BLUE	No Change ▼
WHITE	No Change ▼
BUZZER	No Change ▼
E-mail Sending	○ Active ● Inactive Subject 1.Message ▼ Message 1: ▼
E-mail Receiver	☐ 1 Unassigned ☐ 2 Unassigned ☐ 3 Unassigned ☐ 4 Unassigned ☐ 5 Unassigned ☐ 6 Unassigned ☐ 7 Unassigned ☐ 8 Unassigned
Trap Transmission	○ Active ● Inactive

⑪ ⑫ ⑬

Set   ⑭

Table 4.10.2 Ping Monitoring Configuration Parameters (Screen Numbers 13 - 24)

Item	Contents	Default Value	Input Parameter	Setup Option
Cycle count Error threshold	The duration of a monitoring cycle to test and determine network response.	0	0 to 30 (Times)	—
Ping test cycle period	The duration between sending a Ping response test.	60	1 to 600 (sec)	—
Pings per test cycle	The number of Pings to send in the test cycle.	1	1 to 3 (Pings)	—

4.11.Application Monitoring Configuration Screen

Setup for monitoring an application. The data reception of the target is monitored.

If data is not received within the monitoring interval cycle, it detects the communication as being abnormal, and generates an abnormality event. After a generated event, if data is received from the monitored candidate, it will detect a recovery from the abnormal operation.

[Setup Method]

①. Select from screen number 1 to 4 to setup an application monitor.

②. Enter the address for the targeted monitor.

③. Enter the receiving port number.

④. Enter a name for the equipment.

⑤. Set up the monitoring interval cycle.

Operation Setting for Monitoring Abnormality

⑥. Setup the condition for the Signal Tower when a monitor abnormality is detected.

⑦. To send an E-mail when a monitor abnormality occurs, select the "E-mail Sending" radio button to "Active".

When the E-mail Sending is activated

Select the subject and text message to transmit. Then, select the recipient under "E-mail Reciever" for when sending the E-mail.

⑧. To send an SNMP TRAP, when an abnormality occurs, set the "Trap Transmission" radio button to "Active".

Fig. 4.11.1 Application Monitoring Configuration Screen

72

TRAP Command received when TRAP condition occurs

> OID: 1.3.6.1.4.1.20440.4.1.6.6
> Name: trapPatliteMonitorAppAlarmAdded

Output Control Setting for Monitoring Error Recovery

⑨．Setup the condition for the Signal Tower when a monitor abnormality recovery is detected.

⑩．To send an E-mail when a monitor abnormality recovery occurs, set the E-mail Sending to "Active".

When the E-mail Sending is activated

Select the subject and the message text to transmit. Then, select the recipient under "E-mail Reciever" for when sending the E-mail.

⑪．To send an SNMP TRAP, when an abnormality occurs, set the "Trap Transmission" radio button to "Active".

TRAP Command received when TRAP Transmission condition occurs

> OID: 1.3.6.1.4.1.20440.4.1.6.7
> Name: trapPatliteMonitorAppAlarmRemoved

⑫．Click the "Set" icon button to initiate the setup.

Fig. 4.11.2 Application Monitoring Configuration Screen

Output Control Setting for Recovery from Application Monitoring Error1		
RED	No Change ▼	
AMBER	No Change ▼	
GREEN	No Change ▼	
BLUE	No Change ▼	⑨
WHITE	No Change ▼	
BUZZER	No Change ▼	
E-mail Sending	○ Active ◉ Inactive Subject 1.Message ▼ Message 1: ▼	
E-mail Receiver	☐1 Unassigned ☐2 Unassigned ☐3 Unassigned ☐4 Unassigned ☐5 Unassigned ☐6 Unassigned ☐7 Unassigned ☐8 Unassigned	⑩
Trap Transmission	○ Active ◉ Inactive	⑪

Set   ⑫

Table 4.11.1 Application Monitoring Configuration Parameters

Item	Contents	Default Value	Input Parameter	Setup Option
Monitoring Target Address	The IP address or host name for the monitoring ping.	Blank	IP Address Format	O
Reception Port Number	The reception port used to monitor the application.	0	Half-width numbers 9000-9999 (When the address column for the monitor is blank, it is 0)	—
Equipment Name	The name of the equipment to send a transmission monitoring ping to.	Blank	Full/Half-width Characters Maximum 31 Characters	O
Monitoring Duration	The duration to cue when to monitor the application software.	0	Half-width alphanumeric 1 through 60000(sec)	O
Red	Select from: OFF- ON- Lighting- Flashing 1- Flashing 2- No Flashing- No Change	No Change	—	—
Amber	Select from: OFF- ON- Lighting- Flashing 1- Flashing 2- No Flashing- No Change	No Change	—	—
Green	Select from: OFF- ON- Lighting- Flashing 1- Flashing 2- No Flashing- No Change	No Change	—	—
Blue	Select from: OFF- ON- Lighting- Flashing 1- Flashing 2- No Flashing- No Change	No Change	—	—
White	Select from: OFF- ON- Lighting- Flashing 1- Flashing 2- No Flashing- No Change	No Change	—	—
Buzzer	Select from: Pattern 1- Pattern 2- Pattern 3- Pattern 4- Stop- No Change	No Change	—	—
Email Transmission	Select the Active/Inactive condition for the E-mail Sending.	Inactive	—	—
Subject	Select the E-mail subject title	1. Message	—	—
Message	Select the E-mail message to text	1:	—	—
TRAP Transmission	Select the Active/Inactive condition for the trap transmission.	Inactive	—	—

4.12. "Clear" Control Configuration Screen

Setup the operation to clear the status with the "CLEAR" button, or to combine with other commands to clear the Signal Tower status.

Clear All : A function to clear both the Signal Tower and buzzer status and return to its normal mode of operation.

Depress twice to clear all : One press of the "CLEAR" button to stop the buzzer sound.
Pressing the "CLEAR" button a second time returns it to its normal mode of operation.

[Setup Method]

①. When using the "CLEAR" button to return to its normal mode after an E-mail Sending and TRAP transmission are received, select the "Active" radio button.

②. When using the "CLEAR" command from an SNMP clear execution to return to its normal mode after an E-mail Sending and TRAP transmission are received, select the "Active" radio button.

③. When using the "CLEAR" from an RSH command execution to return to its normal mode after an E-mail Sending and TRAP transmission are received, select the "Active" radio button.

When selecting "Active" for E-mail Sending

Select the preferred E-mail subject title and text.
Select the Receiver for the E-mail to be sent to.

④. Select the clear switch setup for either "Clear All" or "Depress twice to clear all".

⑤. Select the clear switch setup for either "Clear All" or "Depress twice to clear all".

⑥. Click the "Set" button to save the settings.

"TRAP Command" received when a TRAP condition occurs

OID: 1.3.6.1.4.1.20440.4.1.6.4

Name: trapPatliteClearExecuted

Fig. 4.12.1 "Clear" Control Configuration Screen

75

Table 4.12.1 "Clear" Control Configuration Parameters

Item	Contents	Default Value	Input Parameter	Setup Option
E-mail Sending	Select the Active/Inactive condition for the E-mail Sending.	Inactive	—	—
Subject	Select the E-mail subject title	1. Message	—	—
Message	Select the E-mail message to text	1:	—	—
Unassigned 1 to 8	Select from 1 to 8 Addresses to send E-mail to.	Unassigned	—	—
TRAP Transmission	Select the Active/Inactive condition for the TRAP Transmission.	Inactive	—	—

"CLEAR" Button Setting	Select the setup conditions for when the "CLEAR" button is pressed.	Clear All	—	—

> **Attention** When the "Clear" switch is deactivated, even when pressing the "Clear" switch on the main unit, the product will not clear the function. There will be no event recorded on the event log, either.

4.13. Normal Mode Settings Screen

Set up the status of the Signal Tower for its normal operating condition.

[Setup Method]

①. Select the desired status for the Signal Tower to be at its normal operating condition.
②. Click the "Set" icon button to initiate the setup.
③. After the setup is complete, press the "Clear" switch on the body for the normal operating condition to be displayed.

Normal Mode Settings

Select the color indication for a normal condition.   Do not light-up ▾   ①

Set   ②
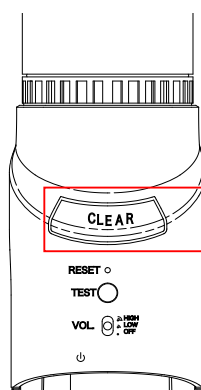
③

Table 4.13.1 Normal Mode Settings Parameters

Item	Contents						Default Value	Input Parameter	Setup Option
Signal Tower	Select from:	Red Lighting	Amber Lighting	Green Lighting	Blue Lighting	White Lighting	Do not light-up	—	—

> **MEMO** Colors other than the established Signal Tower color are switched off at the time of normal operation.

4.14.   "Test" Switch Settings Screen

The following settings can be used to output an operation when the "TEST" button is pressed.

[Setup Method]

To output an E-mail Sending and TRAP transmission when the "TEST" button is pressed, select the "Active" radio button.

<u>When sending an E-mail, select the "Active" radio button</u>

①．Select the preferred E-mail subject title and text.

Select the Receiver for the E-mail to be sent to.

<u>The "TRAP Command" for this product to receive when the TRAP condition occurs</u>

OID: 1.3.6.1.4.1.20440.4.1.6.8

Name: trapPatliteTestSwExecuted

②．Click the "Set" button to activate the setup.

Fig. 4.14.1 Test Switch Settings Screen

Table 4.14.1 Test Switch Settings Parameters

Item	Contents	Default Value	Input Parameter	Setup Option
E-mail Sending	Select the Active/Inactive condition for the E-mail Sending.	Inactive	—	—
Subject	Select the E-mail subject title	1: Message	—	—
Message	Select the E-mail message to text	1:	—	—
Unassigned 1 to 8	Select from 1 to 8 Addresses to send E-mail to.	Unassigned	—	—
Receiver	Select the Address to send E-mail to	Unused	—	—
TRAP Transmission	Select the Active/Inactive condition for the TRAP Transmission	Inactive	—	—

MEMO   Refer to "3.3 Test Functions" for more information on the test operation.

4.15.　　SLMP Read Command Configuration Screen

The SLMP command transmission parameters can be set up to compare the data recieved from the corresponding equipment. Operation of the NH Signal Tower occurs when set-up conditions of the compared data agrees.

Set up the operation for the NH Signal Tower to respond when error data is received.

4.15.1.　　SLMP Read Command Configuration

[Setup Method]

① . Select from screen number 1 to 16 to setup an SLMP command transmission.
② . Enter a device name for an object to be monitored.
③ . Enter the destination address of the connection.
④ . Enter the destination port of the connection.
⑤ . Enter the designated sender port.
⑥ . Select the protocol to be used.
⑦ . Enter a time out interval.
⑧ . Enter a the command configuration in points for acquisition.

⑨ . Set up the conditions for comparison.
⑩ . Establish the transmission cycle for a command to execute.

Fig. 4.15.1 SLMP Read Command Configuration Screen

Operation Setting for Condition Agreement

⑪．Set up the Signal Tower operation for the condition agreement.

⑫．If using the E-mail Sending option at the time of the condition agreement, set it to "Active."

<< When the "E-mail Sending" is activated>>

⑬．Register the subject and the message text to transmit. Then, select the recipient for the E-mail Sending.

⑭．When using the TRAP transmission, set to "Active".

TRAP Command received when TRAP Transmission condition occurs

OID: "1.3.6.1.4.1.20440.4.1.6.9"

Name: "trapPatliteSlmpAction"

⑮．Click the "Set" icon button to initiate the setup.

Fig. 4.15.2 SLMP Read Command Configuration Screen

Output Control Setting for matching Conditions1		
RED	No Change ▾	
AMBER	No Change ▾	
GREEN	No Change ▾	⑪
BLUE	No Change ▾	
WHITE	No Change ▾	
BUZZER	No Change ▾	
E-mail Sending	○ Active ⦿ Inactive Subject 1.Message ▾ Message 1: ▾	⑫
E-mail Receiver	☐ 1 Unassigned ☐ 2 Unassigned ☐ 3 Unassigned ☐ 4 Unassigned ☐ 5 Unassigned ☐ 6 Unassigned ☐ 7 Unassigned ☐ 8 Unassigned	⑬
Trap Transmission	○ Active ⦿ Inactive	⑭

Set ⑮

Table 4.15.1 SLMP Read Command Configuration Items

Item	Contents	Default Value	Input Parameter	Setup Option
Device Name	Set up the object name for sending a SLMP Command Transmission.	Blank	Half width and full width of 31 Characters	O
Connection Destination Address	Set up an address for the destination of the SLMP Command Transmission.	Blank	Enter in the format of an IP Address and host name with a maximum of 63 characters.	—
Connection Destination Port	Set up a port to be used to connect with.	0	Use half-width numbers from 0-65535	—
Designated Transmission Port	Set up the designated transmission port to send the Command Transmission. If the setting is 0, the designated transmission port selects an arbitrary value.	0	Use half-width numbers from 01025-65535	—
Protocol	Select which protocol is to be used.	TCP	TCP-UDP	—
Timeout	A Timeout is the time limit which is allowed until it can receive a response.	1	1-10 Seconds	—
Serial Number	Set up the serial number if necessary.	Not Add	Add/ Not Add	—
Network Number	Set up the network number for the access location.	0	00: Own-Station 01 - EFH : Other Stations	—
Station Number	Set up the access location station number.	1	FFH: Own-Station 01-78H : Code No. 7DH: Appointed Management Station 7EH: Current Management Station	—
Unit I/O Number Request	The CPU unit for the access location is selected.	Own-Station	—	—
Device	Select the type of device to read.	Blank	* Refer to Table 4.15.2	—
Reading Device	Select the first number of the device to read. Enter in accordance to the form currently displayed.	Blank	* Refer to Table 4.15.2	—
Reading Quantity	The number of devices to read is selected.	1	1 / 2	—
Conditions (Value)	The acquisitioned device value (response data) compares its set-up value and operates the device for that value. Enter with 16 bit numbers.	Blank	0000h - FFFFh	—
Conditions (conditional expression)	The acquisitioned device value (response data) compares its set-up conditions and operates the device for that condition.	Equal	"equal" - "not equal " - "equal or greater than" - "equal or less than" - "greater than" - "less than"	—
Conditions (Value)	The acquisitioned device value (response data) compares its set-up value and operates the device for that value. Enter with 16 bit numbers.	Blank	0000h - FFFFh	—
Red	Select from: lighting, flashing 1, flashing 2, off, change.	No Change	—	—
Amber	Select from: lighting, flashing 1, flashing 2, off, change.	No Change	—	—
Green	Select from: lighting, flashing 1, flashing 2, off, change.	No Change	—	—
Blue	Select from: lighting, flashing 1, flashing 2, off, change.	No Change	—	—
White	Select from: lighting, flashing 1, flashing 2, off, change.	No Change	—	—
Buzzer	Select from: pattern 1, pattern 2, pattern 3, pattern 4, stop, and no change	No Change	—	—
E-mail Transmission	Select Active or Inactive for E-mail Sending.	Inactive	—	—
Subject	Select the E-mail title	1.Message	—	—
Message	Select the E-mail text	1:	—	—
TRAP Transmission	Select Active or Inactive for TRAP transmission.	Inactive	—	—

Table 4.15.2 List of Devices which can be set-up

Device	Binary Code Device (ASCII)	Classification	Range Specification		
Input	9CH(X*)		base 16	0000 - FFFFH	For base 10, enter values from 0-65535.

For base 16, enter values from 0000 - FFFFh.

Designate the range number of the device which the unit will access. |
Output	9DH(Y*)		base 16	0000 - FFFFH	
Internal Relay	90H(M*)		base 10	0-65535	
Latch Relays	92H(L*)	Bit	base 10	0-65535	
Annunciator	93H(F*)		base 10	0-65535	
Edge Relay	94H(V*)		base 10	0-65535	
Link Relay	A0H(B*)		base 16	0000 - FFFFH	
Data Register	ABH(D*)		base 10	0-65535	
Link Register	B4H(W*)		base 16	0000 - FFFFH	
Timer	C2H(TN)	Word	base 10	0-65535	
Addition Timer	C8H(SN)		base 10	0-65535	
Counter	C5H(CN)		base 10	0-65535	
Link Special Relay	A1H(SB)	Bit	base 16	0000 - FFFFH	
Link Special Register	B5H(SW)	Word	base 16	0000 - FFFFH	
Direct Input	A2H(DX)	Bit	base 16	0000 - FFFFH	
Direct Output	A3H(DY)		base 16	0000 - FFFFH	
Index Register	CCH (Z*)	Word	base 10	0-65535	

4.15.2. Common Operation Setting at Time of SLMP Error

[Setup Method]

① . Select from the screen setup the common operation setting from the SLMP command transmission at the time of an error.

Fig. 4.15.3 SLMP Read Command Transmission Setup Screen

②．Set up the Signal Tower operation at the time of an error.

③．When using the E-mail Sending option at the time of an error, set it to "Active".

When "E-mail Sending" is activated

④．Register the subject and the message text to transmit. Then, select the recipient for the E-mail Sending.

⑤．When using the TRAP transmission, set to "Active".

TRAP Command received when TRAP Transmission condition occurs

OID: 1.3.6.1.4.1.20440.4.1.6.10
Name: trapPatliteSlmpError

⑥．Click the "Set" icon button to initiate the setup.

Fig. 4.15.4 Common Operation Setting screen at Time of SLMP Error.

Table 4.15.3 "Clear" Control Setup Parameters

Item	Contents	Default Value	Input Parameter	Setup Option
E-mail Transmission	Select "Active" or "Inactive" for sending E-mail.	Inactive	—	—
Subject	Select the subject title for the mail to be transmitted.	1.Message	—	—
Message	Select the message text for the mail to be transmitted.	1:	—	—
E-mail Sending Locations 1-8	Set up the addressee parameters to send an E-mail.	Unassigned	—	—
TRAP Transmission	Select "Active" or "Inactive" for TRAP Transmission.	Inactive	—	—

4.16.　SLMP Write Command Configuration Screen

The following shows how an SLMP Write Command can be set up.

[Setup Method]
　①．Select a screen number from 1 to 4 for the SLMP write command setting.
　②．Enter a device name of the target.
　③．Enter the destination address of the target's connection.
　④．Enter the destination port to connect with.
　⑤．Select the protocol to be used.
　⑥．Designate the device to write to.
　⑦．Set up the Write data.
　⑧．Push the "Set" button.

Fig. 4.16.1 SLMP Write Command Configuration Screen

83

Table 4.16.1 SLMP Write Command Configuration Items

Item	Contents	Default Value	Input Parameter	Setup Option
Device Name	Set up the name of the Command Transmission object.	Blank	Column half/full width Character 31	O
Destination Address	Set up the target address for the command transmission to connect with.	Blank	Enter in the format of an IP Address and host name with a maximum of 63 characters.	—
Destination Port	Set up a port to connect with.	0	Use half-width numbers from 0-65535	—
Protocol	Set up the protocol to be used.	TCP	—	—
Serial Number	Set up the serial number if necessary.	Don't add	Add/Don't add	—
Network Number	Set up the network number for the access location.	0	00: Auto-access, 01 - EFH: Set access	—
Station Number	Set up the access location station number.	1	FFH: Auto-access, 01-78H : Code No. 7DH: Appointed Management Station 7EH: Current Management Station	—
Unit I/O Request Number	Select the CPU unit for the access location.	Own Station	—	—
Device	Select the device from the pull-down menu.	Blank	* Refer to Table 4.16.2	—
Write Device	Set up the first number for the device's writing location.	Blank	* Refer to Table 4.16.2	—
Writing Quantity	Select the number of devices to write.	1	1/2	—
Write Data	Set up the data to write.	Blank	* Refer to Table 4.16.3	—

The following shows how an SLMP Write Command can be set up.

Table 4.16.2 SLMP Device Write Command Setup

Device	Binary Code Device (ASCII)	Classification	Range Specification		
Internal Relay	90H(M*)	Bit	base 10	0-65535	For base 10, enter values from 0-65535.
Latch Relays	92H(L*)		base 10	0-65535	
Annunciator	93H(F*)		base 10	0-65535	
Edge Relay	94H(V*)		base 10	0-65535	
Link Relay	A0H(B*)		base 16	0000 - FFFFH	For base 16, enter values from 0000 - FFFFh.
Data Register	ABH(D*)	Word	base 10	0-65535	
Link Register	B4H(W*)		base 16	0000 - FFFFH	
Timer	C2H(TN)		base 10	0-65535	Designate the range number of the device which the unit will access.
Addition Timer	C8H(SN)		base 10	0-65535	
Counter	C5H(CN)		base 10	0-65535	
Link Special Relay	A1H(SB)	Bit	base 16	0000 - FFFFH	
Link Special Register	B5H(SW)	Word	base 16	0000 - FFFFH	
Index Register	CCH (Z*)	Word	base 10	0-65535	

Table 4.16.3 Data Write Setup Range

Device Classification	Writing Quantity	Data Writing Range
Bit	1 Time (1 bit)	0, 1
	2 Times (2 Bit)	0, 1, 2, 3
Word	1 Time (1 Word)	0- FFFFh
	2 Times (2 Word)	0 - FFFFFFFFh

MEMO Set the limit for the device and data to write to with the device number for access to the unit location.

4.17. Signal Tower Output Control Screen

Verify the current operating status, and output a condition status for the Signal Tower.

[Setup Method]

①．Check the current operating condition of the Signal Tower.
②．Select the desired outputs for the Signal Tower status in the "Output Control" column to operate it.
③．Click the "Execute Output" button. The Signal Tower output will reflect the setup performed in ②．
④．If the "Execute Clear" button is clicked, it will return to the "Normal Mode" status.

Fig. 4.17.1 Signal Tower Output Control Screen

Table 4.17.1 Signal Tower Output Control Parameters

Item	Contents	Default Value	Input Parameter	Setup Option
Red	Select from: OFF- ON- Lighting- Flashing1- Flashing2- No Flashing- No Change	—	—	—
Amber	Select from: OFF- ON- Lighting- Flashing1- Flashing2- No Flashing- No Change	—	—	—
Green	Select from: OFF- ON- Lighting- Flashing1- Flashing2- No Flashing- No Change	—	—	—
Blue	Select from: OFF- ON- Lighting- Flashing1- Flashing2- No Flashing- No Change	—	—	—
White	Select from: OFF- ON- Lighting- Flashing1- Flashing2- No Flashing- No Change	—	—	—
Buzzer	Select from:Pattern1- Pattern2- Pattern3- Pattern4- Stop	—	—	—

4.18.　　Reinitialize Screen

The setup parameters can be reset to their default values by initializing this product.　The network setup can be selected to be excluded from initialization.

If the network setup is also required to be reset to its factory defaults, it can be selected to be initialized with the rest of the setup parameters.

If the "Reinitialize Network Settings" is not checked, all but the network setup is initialized.

> MEMO　"Network Setup" refers to the "IP address for this product, Net Mask, Default Gateway, DNS server address and Host Name" parameters in the System Configuration Screen.

[Setup Method]

When the initialization does not require the network setup to be included

　　　① . Put a "Check" in the box　for "Reinitialize Network Settings."
　　　② . Click the "Reinitialize Execute" button.

When the network setup also needs to be reinitialized

　　　③ . Just click the "Reinitialize Execute" button.

Fig. 4.18.1 Reinitialize Screen

Reinitialize

The settings return to factory default values.
To set the Network Configuration (IP address, net mask, default gateway, DNS server address, host name) to the default settings, enter a checkmark in the box next to the "Reinitialize Network Settings".

When the "Reinitialize" button is depressed, the system will automatically reboot.

☐ Reinitialize Network Settings.　　　　　　　　　　　　　　　　　　　①

ReinitializeExecute　　　　　　　　　　　　　　　　　　　　　②

> Attention　If the network setup is also initialized, since the IP address will return to its factory default value of "192.168.10.1", the network has to be setup again.

4.19. Reboot Screen

This product can be rebooted just by clicking the "Reboot" button.

①. Once the "Reinitialize Execute" button is clicked, a new screen will display a message indicating it is rebooting.

②. Click "To the Login screen" on the new screen to log back in.

> **Attention** If this product is rebooted, because all of the event log data will be erased, it is recommended to download the event log prior to rebooting, for reloading afterwards.

Fig. 4.19.1 Reboot Screen
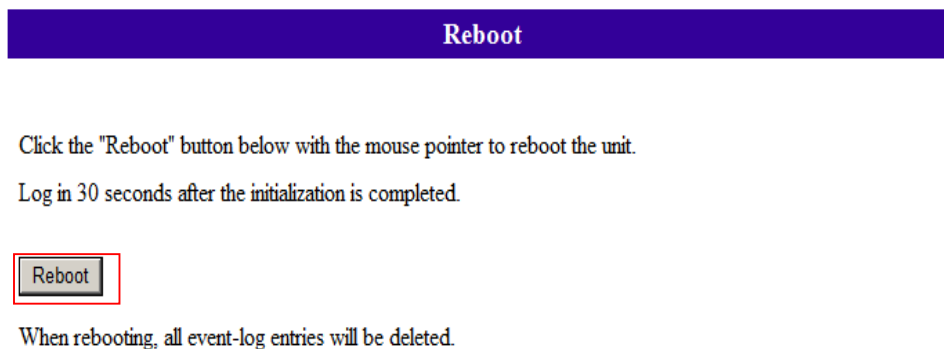
Fig. 4.19.2 Login after Reboot Screen
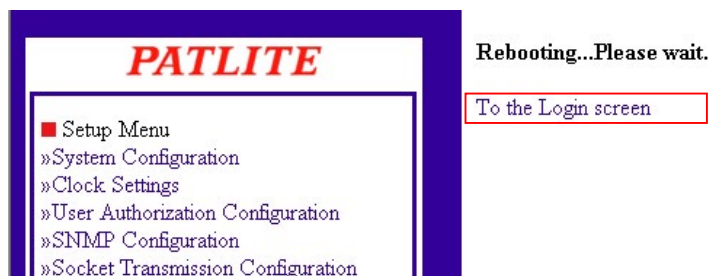
4.20.　Event Log Screen

Events from this product are logged and is shown in the event log.

By clicking the "Event Log Download", an event log file can be downloaded.

A maximum of 255 logged events are acquirable.

> **Attention**
> The event log data will be erased if either of the following operations are executed.
> • Turning the power supply "OFF"
> • Reinitializing this product from the initialization screen.
> • Rebooting this product from the "Reboot Screen".
> • Updating the firmware.

Fig. 4.20.1 Event Log Screen

Event Log

When clicking "Download", the event-log data will be downloaded.

Download

```
Time                    Event      Contents
2010/01/01 00:02:17     PING       Ping Monitoring Error 192.168.12.111
2010/01/01 00:01:21     PING       Ping Monitoring Error 192.168.12.24
2010/01/01 00:01:16     CLEAR      "CLEAR" Switch
2010/01/01 00:01:16     CLEAR      "CLEAR" Switch
2010/01/01 00:01:16     CLEAR      "CLEAR" Switch
2010/01/01 00:01:15     CLEAR      "CLEAR" Switch
2010/01/01 00:01:15     CLEAR      "CLEAR" Switch
2010/01/01 00:01:15     CLEAR      "CLEAR" Switch
2010/01/01 00:01:14     CLEAR      "CLEAR" Switch
2010/01/01 00:01:14     CLEAR      "CLEAR" Switch
2010/01/01 00:01:13     CLEAR      "CLEAR" Switch
2010/01/01 00:01:09     PING       Ping Monitoring Error 192.168.12.24
2010/01/01 00:01:04     CLEAR      "CLEAR" Switch
2010/01/01 00:00:53     PING       Ping Monitoring Error 192.168.12.24
2010/01/01 00:00:53     coldStart
```

4.21. Configuration Data Setup Screen

The configuration for this product can be read, and saved as config data on the PC.
Moreover, the configuration file read off of this product can be selected and uploaded.

[Setup Method]

Reading Configuration Data

    ① . Click the "Read" button to save the config data onto the logged in PC.

Writing Configuration Data

    ② . Click the "Browse..." button to select the config data to write into this product.
    ③ . Click the "Write" button to start the uploading of the config data.
    ④ . After the config data is uploaded, this product will automatically reboot.

Fig. 4.21.1 Configuration Setup Screen

Configuration Data Setup

Reading Configuration Data

Pressing the "Read" button will start acquisitionining the Configdata.

Read   ①

Writing ConfigurationData

| File Name | | Browse... | ② |

Pressing the "Write" button will execute an automatic reboot.   Write   ③

4.22. XML Setup Screen

This product can be setup for XML parsing.

[Setup Method]

① . When using the XML data output, set it to "Active." If not using the XML data output, then set it to "Inactive."
② . Select the authentication method for when designating the URL directly for acquiring data.
③ . The XML data is downloadable when clicking "download". This option is only available when the XML data output is set for "Active".
④ . Click the "Set" button to activate the setup.

Table 4.22.1 XML Setup Screen

XML Setup		
XML Data Output	◉ Active ○ Inactive	①
Authentication Method	◉ Login Authentication ○ No Authentication	②
XML Download	Download	③

Set   ④

Attention If the authentication method is set for "No Authentication", the XML data can be acquired without logging in for authentication of a Web setup tool.

When setting up the "login certification" for XML data acquisition, login certification of a Web setup tool is needed.

MEMO Only if the XML data output is set as "Active", the downloading of an XML file is possible.

4.23. Firmware Update Screen

The firmware for this product can be updated.
After the firmware has been updated, this product automatically reboots.

[Setup Method]

① . Click the "Browse" button to designate the firmware to rewrite for this product.

② . Clicking the "Update" button will start the firmware update.

> **Attention** Do not disconnect the power cable or LAN cable during the update.
> Possible cause of failure may occur.

Fig. 4.23.1 Firmware Update Screen
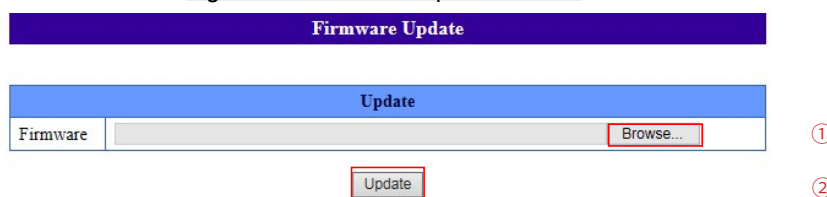
Press the "Update" button to automatically upload and install the firmware.

After pressing the "Update" button, do not change the screen until the process has been completed.

Furthermore, absolutely do not disconnect the unit's power during the process.

Fig. 4.23.2 Firmware Update Failure Screen

NH Series Network Monitoring Signal Tower

Web Setup Tool
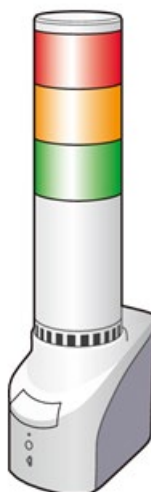
Firmware update error has occurred. Please repeat update procedure.

(c) 2011 PATLITE Corporation. All rights reserved.

> **Attention** Fig. 4.23.2 shows the type of screen in case an error occurs during the firmware update.
> If an error occurs during the firmware update, try again. If an error repeatedly occurs during the firmware update process, contact your nearest Patlite Sales Representative.

4.24. Setup Table Entry Screen

The "Setup Table Entry" screen lists and displays the contents of settings, operation functions, such as application monitor abnormality and abnormality restoration; Ping monitor abnormality and abnormality restoration; TRAP Reception Configuration operations, as well as the firmware version of this product.

The solid circle indicates when the E-mail Sending and TRAP transmission are activated. The dash lines display where items selected are not changed.

[Display]

①．Current firmware version.

②．"TRAP Output Control Setting for Reception" table entries (1-16) to indicate setup conditions.

③．"PING Operation Setting for Monitoring Abnormality" table entries (1-16) to indicate setup conditions.

Fig. 4.24.1 Setup Table Entry Screen

Setup Table Entries

Firmware Version	Ver 1.31	

①

TRAP Output Control Setting for Reception

Name	RED	AMBER	GREEN	BLUE	WHITE	BUZZER	E-mail Sending	TRAP Transmission
1:	-	-	-	-	-	-		
2:	-	-	-	-	-	-		
3								

②

Name	RED	AMBER	GREEN	BLUE	WHITE	BUZZER	Sending	Transmission
1:	-	-	-	-	-	-		
2:	-	-	-	-	-	-		
3:	-	-	-	-	-	-		
4:	-	-	-	-	-	-		
5:	-	-	-	-	-	-		

③

92

Fig. 4.24.2 Full Setup Table Entry Screen

Setup Table Entries

Firmware Version	Ver 1.45

TRAP Output Control Setting for Reception

Name	RED	AMBER	GREEN	BLUE	WHITE	BUZZER	E-mail Sending	TRAP Transmission
1:	-	-	-	-	-	-		
2:	-	-	-	-	-	-		
3:	-	-	-	-	-	-		
4:	-	-	-	-	-	-		
5:	-	-	-	-	-	-		
6:	-	-	-	-	-	-		
7:	-	-	-	-	-	-		
8:	-	-	-	-	-	-		
9:	-	-	-	-	-	-		
10:	-	-	-	-	-	-		
11:	-	-	-	-	-	-		
12:	-	-	-	-	-	-		
13:	-	-	-	-	-	-		
14:	-	-	-	-	-	-		
15:	-	-	-	-	-	-		
16:	-	-	-	-	-	-		

PING Operation Setting for Monitoring Abnormality

Name	RED	AMBER	GREEN	BLUE	WHITE	BUZZER	E-mail Sending	TRAP Transmission
1:	-	-	-	-	-	-		
2:	-	-	-	-	-	-		
3:	-	-	-	-	-	-		
4:	-	-	-	-	-	-		
5:	-	-	-	-	-	-		
6:	-	-	-	-	-	-		
7:	-	-	-	-	-	-		
8:	-	-	-	-	-	-		
9:	-	-	-	-	-	-		
10:	-	-	-	-	-	-		
11:	-	-	-	-	-	-		
12:	-	-	-	-	-	-		
13:	-	-	-	-	-	-		
14:	-	-	-	-	-	-		
15:	-	-	-	-	-	-		
16:	-	-	-	-	-	-		
17:	-	-	-	-	-	-		
18:	-	-	-	-	-	-		
19:	-	-	-	-	-	-		
20:	-	-	-	-	-	-		
21:	-	-	-	-	-	-		
22:	-	-	-	-	-	-		
23:	-	-	-	-	-	-		
24:	-	-	-	-	-	-		

PING Output Control Setting for Recovery from Monitoring Error

Name	RED	AMBER	GREEN	BLUE	WHITE	BUZZER	E-mail Sending	TRAP Transmission
1:	-	-	-	-	-	-		
2:	-	-	-	-	-	-		
3:	-	-	-	-	-	-		
4:	-	-	-	-	-	-		
5:	-	-	-	-	-	-		
6:	-	-	-	-	-	-		
7:	-	-	-	-	-	-		
8:	-	-	-	-	-	-		
9:	-	-	-	-	-	-		
10:	-	-	-	-	-	-		
11:	-	-	-	-	-	-		
12:	-	-	-	-	-	-		
13:	-	-	-	-	-	-		
14:	-	-	-	-	-	-		
15:	-	-	-	-	-	-		
16:	-	-	-	-	-	-		
17:	-	-	-	-	-	-		
18:	-	-	-	-	-	-		
19:	-	-	-	-	-	-		
20:	-	-	-	-	-	-		
21:	-	-	-	-	-	-		
22:	-	-	-	-	-	-		
23:	-	-	-	-	-	-		
24:	-	-	-	-	-	-		

Application Operation Setting for Monitoring Abnormality

Name	RED	AMBER	GREEN	BLUE	WHITE	BUZZER	E-mail Sending	TRAP Transmission
1:	-	-	-	-	-	-		
2:	-	-	-	-	-	-		
3:	-	-	-	-	-	-		
4:	-	-	-	-	-	-		

Application Output Control Setting for Recovery from Monitoring Error

Name	RED	AMBER	GREEN	BLUE	WHITE	BUZZER	E-mail Sending	TRAP Transmission
1:	-	-	-	-	-	-		
2:	-	-	-	-	-	-		
3:	-	-	-	-	-	-		
4:	-	-	-	-	-	-		

When the "No Change" is set, a hyphen ("-") will be displayed.

5. MIB

With this product, there is an exclusive MIB (Management Information Base) for the NH Series, and the monitor controls can be operated by the SNMP manager, etc.

5.1. MIB Definition List

```
iso(1)
  └── org(3)
        └── dod(6)
              └── internet(1)
                    └── private(4)
                          └── enterprises(1)
                                └── patlite(20440)
                                      └── patliteModule(4) ──

└── networkSignalTower(1)
      ├── ident(1)
      │     ├──■identSwInitVersion(1)[OCTET STRING]
      │     ├──■identSwAgentVersion(2)[OCTET STRING]
      │     └──■identHwVersion(3)[OCTET STRING]
      │
      ├── config(2)
      │
      ├── alarm(3)
      │
      │
      ├── monitor(4)
      │     ├── pingServer(1)
      │     │     ├──■pingServerNumEntries(1)[INTEGER]
      │     │     └── pingServerTable(2)
      │     │           └── pingServerTableEntry(1)
      │     │                 ├── pingServerTableIndex(1)[INTEGER]
      │     │                 ├── pingServerName(2)[OCTET STRING]
      │     │                 ├── pingServerAlertValue(3)[INTEGER]
      │     │                 └── pingServerIpAddress(4)[OCTET STRING]
      │     ├── trapCatcher(2)
      │     └── logDump(3)
      │           ├── logDumpEventLog1(1)[OBJECT IDENTIFIER]
      │           ├── logDumpEventLog2(2)[OBJECT IDENTIFIER]
      │           └── logDumpEventLog3(3)[OBJECT IDENTIFIER]
```

MEMO   Use the PRSH when acquisitioning a SNMP data log dump.

control(5)
controlLight(1)
■controlLightNumEntries(1)[INTEGER]
controlLightTable(2)
controlLightTableEntEntry(1)

controlLightDeviceColor(1)[INTEGER]
controlLightControlState(2)[INTEGER]
controlLightControlTimer(3)[INTEGER]
controlLightCurrentState(4)[INTEGER]
controlLightSnmpClear(3)[INTEGER]
trap(6)

■trapPatliteAlarmAdded(1)[OBJECT IDENTIFIER]
■trapPatliteAlarmRemoved(2)[OBJECT IDENTIFIER]
■trapPatliteTrapReceived(3)[OBJECT IDENTIFIER]
■trapPatliteClearExecuted(4)[OBJECT IDENTIFIER]
■trapPatliteRshExecuted(5)[OBJECT IDENTIFIER]
■trapPatliteAppMonitorAlarmAdded(6)[OBJECT IDENTIFIER]
■trapPatliteAppMonitorAlarmRemoved(7)[OBJECT IDENTIFIER]
■trapPatliteTestSwExecuted(8)[OBJECT IDENTIFIER]
■trapPatliteSLMPAction(9)[OBJECT IDENTIFIER]
■trapPatliteSLMPError(10)[OBJECT IDENTIFIER]
nhAdditional(7)
slmpPatternNum(1)

5.2. PATLITE MIB SPECIFICATIONS

The following explains the MIB Specification for the NH Series Monitoring Tower.

iso(1)
org(3)
dod(6)
internet(1)
private(4)
enterprises(1)
patlite(20440)
patliteModule(4)

networkSignalTower(1)
ident(1)
config(2)
alarm(3)
monitor(4)
control(5)
trap(6)
nhAdditional(7)

Table 5.2.1 MIB Specifications

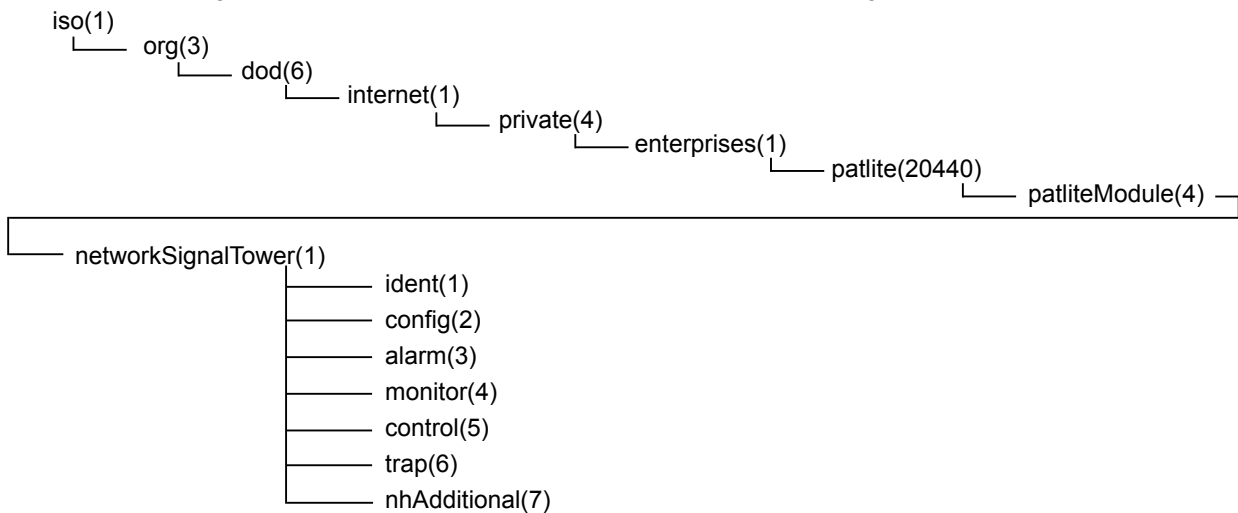| OID	Name	Model	MAX-ACCESS	Comment
1	ident	—	—	ID Group
1.1.0	identSWinitVersion	String(2)	read-only	OS Version
1.2.0	identSWAgentVersion	String(3)	read-only	Application Version
1.3.0	idensHWVersion	String(3)	read-only	Hardware Version
4	monitor	—	—	Monitor Group
4.1	pingServer	—	—	ping monitoring setting
4.1.1.0	pingServerNumEntries	INTEGER	read-only	Ping monitoring count
4.1.2.0	pingServerTable	—	not-accessible	ping monitoring table
4.1.2.1.0	pingServerTableEntry	—	not-accessible	
4.1.2.1.1. (index)	pingServerTableIndex	INTEGER	read-only	ping monitoring index
4.1.2.1.2. (index)	pingServerName	STRING(31)	read-only	ping monitor name
4.1.2.1.3. (index)	pingServerAlertValue	INTEGER{ normal(1), occurred(2) }	read-only	ping monitor condition normal(1), event occurred(2)
4.1.2.1.4. (index)	pingServerIpAddress	STRING(63)	read-only	ping monitoring address
4.3	logDump	—	—	log setting
4.3.1.0	logDumpEventlog1	OBJECT IDENTFIER	read-only	event log from 1 to 85
4.3.2.0	logDumpEventlog2	OBJECT IDENTFIER	read-only	event log from 86 to 170
4.3.3.0	logDumpEventlog3	OBJECT IDENTFIER	read-only	event log from 171 to 255
5.1	controlLight	—	—	signal tower control
5.1.1.0	controlLightNumEntries	INTEGER	read-only	count of control entries
5.1.2.0	controlLightTable	—	not-accessible	signal tower table
5.1.2.1.0	controlLightTableEntry	—	not-accessible	—
5.1.2.1.1. (index)	controlLightDeviceColor	INTEGER {red(1), amber(2), green(3), blue(4), clear(5), buzzer(6) }	read-only	signal tower color R(1)/Y(2)/G(3)/B(4)/C(5)/Buz(6)
5.1.2.1.2. (index)	controlLightControlState	INTEGER {turn-off(1), turn-ON(2), blinking-pattern(3), nop(4), blinking-patern2(5), sound-pattern4(6) }	read-write	Signal Tower Status: lights and buzzer off(1)/lighting and buzzer synchronized with light pattern1(2)/flashing pattern1 and buzzer synchronized with light pattern2(3)/ no change(4)/flashing pattern2 and buzzer synchronized with light pattern3(5)/buzzer synchronized with light pattern 4(6). controlLightControlTimer is set by entering values above zero.
5.1.2.1.3. (index)	controlLightControlTimer	INTEGER(-1,99)	read-write	A preset value is decremented for every second until it is 0, then it changes to the status designated by the controlLightControlState.
5.1.2.1.4. (index)	controlLightCurrentState	INTEGER { off(1), on(2), blinking-pattern1(3), blinking-pattern2(4), sound-pattern4(5) }	read-only	The present status is displayed. lights and buzzer off(1)/lighting and buzzer synchronized with light pattern1(2)/flashing pattern1 and buzzer synchronized with light pattern2(3)/flashing pattern2 and buzzer synchronized with light pattern3(4)/buzzer synchronized with light pattern4(5)
5.1.3.0	controlLightSnmpClear	INTEGER{ execute(1), nop(0) }	read-write	execute(1) setup will clear the Signal Tower operation.
6	Trap	—	—	—
6.1	trapPatliteAlarmAdded	OBJECT-IDENTIFIER	not-accessible	When an abnormality in the PING occurs
6.2	trapPatliteAlarmRemoved	OBJECT-IDENTIFIER	not-accessible	When an abnormality in the PING is restored
6.3	trapPatliteTrapReceived	OBJECT-IDENTIFIER	not-accessible	When a trap is received
6.4	trapPatliteClearExecuted	OBJECT-IDENTIFIER	not-accessible	When the clear button is pushed
6.5	trapPatliteRshExecuted	OBJECT-IDENTIFIER	not-accessible	When an RSH command is executed
6.6	trapPatliteAppMonitorAlarmAdded	OBJECT-IDENTIFIER	not-accessible	When an abnormality in the application occurs
6.7	trapPatliteAppMonitorAlarmRemoved	OBJECT-IDENTIFIER	not-accessible	When an abnormality in the application is restored
6.8	trapPatliteTestSwExecuted	OBJECT-IDENTIFIER	not-accessible	When the test switch is pushed
6.9	trapPatliteSLMPError	OBJECT-IDENTIFIER	not-accessible	When data corresponding to the SLMP condition is received
6.10	trapPatliteSLMPError	OBJECT-IDENTIFIER	not-accessible	When the SLMP error data is received
7	nhAdditional			
7.1	slmpPatternNum	INTEGER(1,16)	not-accessible	Stores an integer based on SLMP conditions.

96

6. Replacement and Option Parts

The following explains the repair and maintenance parts of this product. Signal Tower tiers can be increased or decreased by the customer by purchasing the necessary parts.

6.1. Replacement Parts

The following is the replacement part list for the NHL, NHP and NHS Series. When inquiring, ask the store where you purchased this product. Rubber feet, AC Adaptor, and adhesive seal are common accessories.

Table 6.1.1 NH Series Replacement Parts

Model Name	Part Name	Part Number
NHL (φ60 Type)	Head Cover	B32310027-1F1
	Center Shaft 5 Tier	S33552120-04225F1
	Center Shaft 4 Tier	S33552120-04180F1
	Center Shaft 3 Tier	S33552120-04140F1
	Center Shaft 2 Tier	S33552120-04100F1
	Center Shaft 1 Tier	S33552120-0455F1
	LED Unit Red	B72100207-1F1
	LED Unit Amber	B72100207-2F1
	LED Unit Green	B72100207-3F1
	LED Unit Blue	B72100207-4F1
	LED Unit White	B72100206-7F1

Table 6.1.2 Compatable Replacement Parts

Part Name	Part Number
Cover Seal	T93190007-1F1
Rubber Feet	T81800007-F1
Bottom Seal	T93130009-F1
Support Base (Screws Included)	T81800019-F1

6.2. Signal Tower Unit Color Arrangement

The following explains the method when rearranging or repairing the LED units from customer purchased parts.

6.2.1. NHL Signal Tower Unit (Color) Rearrangement Method

1. Turn the power off before changing the color sequence.
2. Carefully peel off the cover sticker, then loosen the center shaft and remove the head cover and shaft. Because the upper and lower LED units are secured to each other by two snaps, carefully remove the LED unit by gently pushing the snaps inward.
3. When increasing or decreasing tiers, be sure to replace the center shaft with the proper length to match the number of tiers when changing.
4. After the center shaft is properly fixed, place the static-free cover sticker back on.
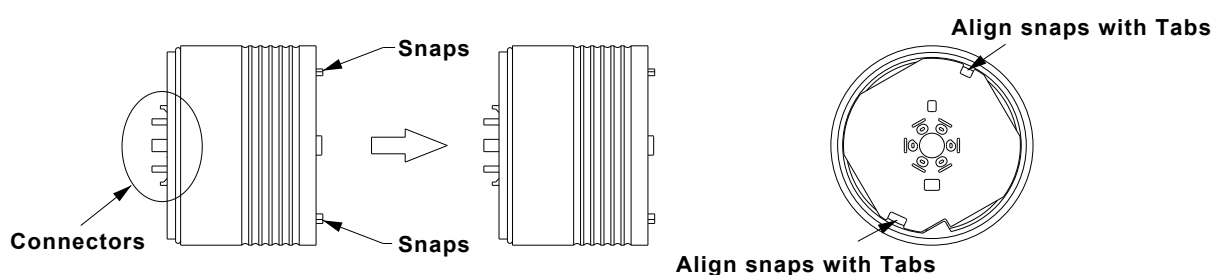
Fig. 6.2.1 NHL Signal Tower Unit (Color) Rearrangement Figure

Attention
- Do not attempt to forcibly detach an LED unit. Failure to comply may damage the unit.
- The LED unit falling and breaking may result if the center shaft is not properly tightened.
- Overtightening the center shaft may cause damage to the threads or tapping hole, causing possible malfunction or damage to the LED units.
- Be sure to torque the center screw no more than 0.68 N-m. Failure to do so may cause damage to the unit
- Be careful of the contact pins when handling the LED unit, they may be sharp.

6.3. Option Parts

The following explains the mounting instructions of this product for the option parts available that customers had purchased.

6.3.1. Wall Mount Bracket

This product can be attached to a wall with the wall mount bracket. One wall mount bracket can be used to attach this product on either the left-side or right-side of the wall.
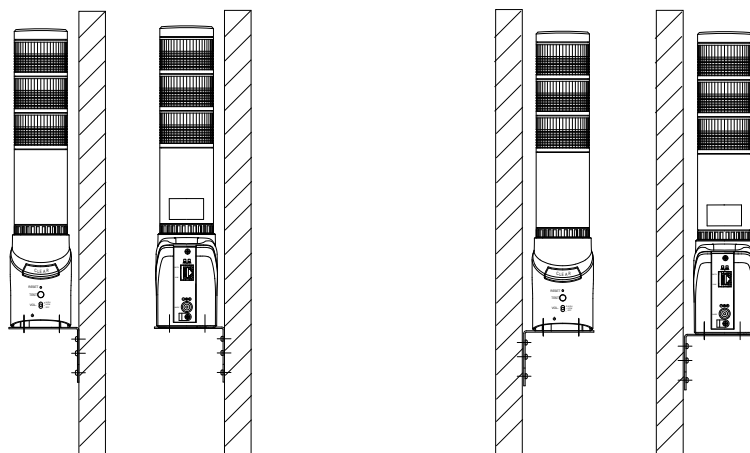
Fig. 6.3.1 Wall Mount Surface Bracket Figure
(Figure to the left indicates the left-sided attachment; figure to the right indicates the right-sided attachment)

Attention   The installation direction for this product is only for the front attachment direction.

[Installation Method]

1. After deciding on the attachment direction of the wall mount bracket, assemble this product to the bracket. (Use the same installation screw enclosed for assembling the Support Base).

NHL Underside View   NH-WST Outside Appearance   Installation Procedure
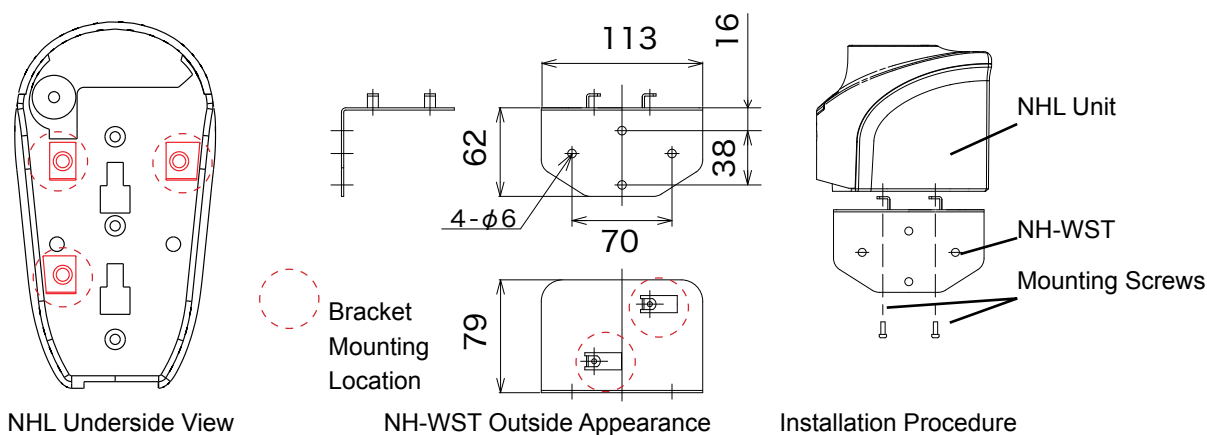
Fig. 6.3.2 Wall Mount Bracket Installation Diagram

2. Fix the wall mount bracket to the wall surface. Select the proper screw when installing the wall mount bracket to the customer's wall in accordance to the quality of the wall material to be mounted upon.

> **Attention**
> Tighten the screws between this product and the bracket with a torque of about 0.39 N-m. Failure to do so may cause damage to the unit.
> Verify the installation is securely clamped to ensure there is no fear of detachment and falling after installation. Apply the power after checking that it has been installed correctly.

Option Name	Part Number
Wall Mounting Bracket	NH-WST

6.3.2. Partition Mounting Bracket

The partition mounting bracket is an optional item for attaching to partition walls in environments which cannot be attached to walls or other positions. The partition mounting bracket is designed to be attached with the front of this product facing to the right or left when fastening it to the partition.
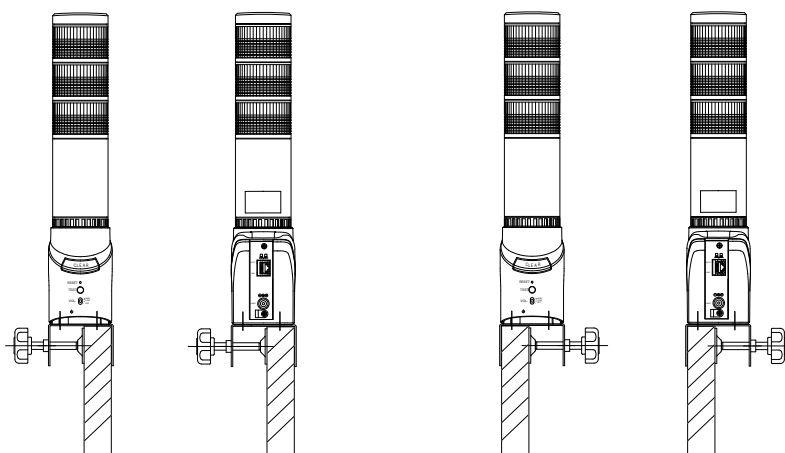
Fig. 6.3.3 Partition mounting bracket installation example
(Left image is for the left-side and the right image is for the right-side installations)

> **Attention**
> The installation direction for this product is only for the front attachment direction.

100

[Installation Method]

1. After deciding on the attachment direction of the partition mounting bracket, assemble this product to the bracket. (Use the screws include when assembling).

NHL Unit

NH-WST

Mounting Screws

100

45

70.2

Bracket Mounting Location

NHL Underside View   NH-WST Outside Appearance   Installation Procedure
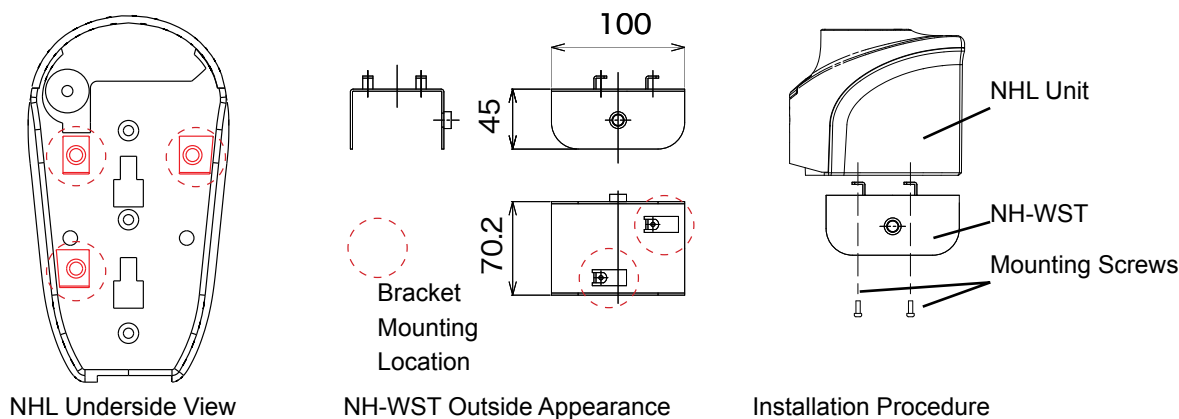
Fig. 6.3.4 Partition mounting bracket installation method

| Attention | Tighten the screws between this product and the partition mounting bracket with a torque of about 0.39 N-m. Failure to do so may cause damage to the unit. |

2. Check the width of the partition, then select the proper clamping screw to thread through the bracket. Attach the pressure plate and fittings.

Long clamping screw application   Short clamping screw application
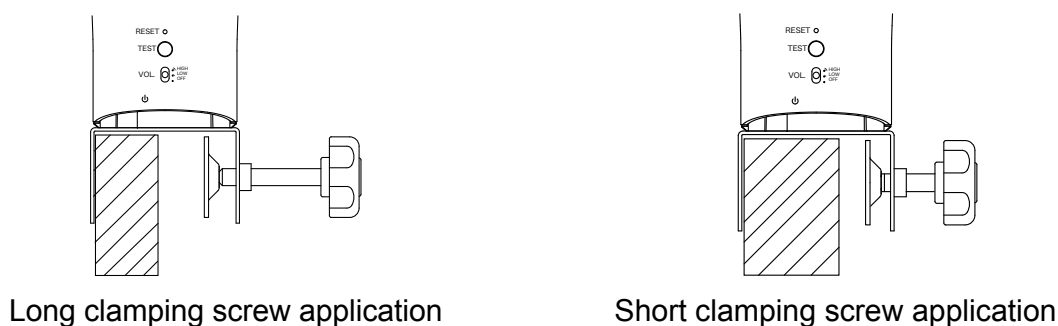
Fig. 6.3.5 Installation Method 1

3. Turn the clamping screw clockwise to tighten.

The long clamping screw is effective for thicknesses of 18 to 48mm.

The short clamping screw is effective for thicknesses of 48 to 58mm.
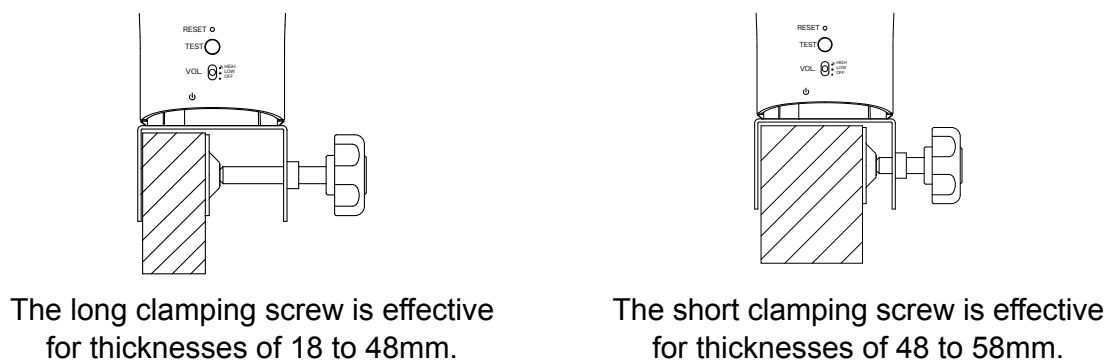
Fig. 6.3.6 Installation Method 2

Option Name	Part Number
Partition Mounting Bracket	NH-PST

| Attention | The partition mounting bracket may break if too much torque is applied. |

7. Troubleshooting

Problem	Check the following
The power does not turn on.	• Check whether the AC Adaptor is connected correctly.
The Web setup tool does not display.	• Check whether the LAN connector is connected correctly. • Check the setup for the IP address on this product. • Check the setup for the IP address on the PC side. • Refer to "2.5 Network Setup" on pg. 19 for the IP address set up procedure.
The Web setup tool does not display correctly.	• Make sure the browser information has been recently updated.

The Signal Tower does not turn on.	• Check whether the AC Adaptor is connected correctly.
	• Check the setup of the Signal Tower operation with the Web setup tool.
	  Refer to "4.13 Normal Mode Settings Screen" on pg. 76 for the procedure to set up for the normal operation mode.
	• After any recombination of tiers to the Signal Tower has been done, check whether the Signal Tower lights up by accessing the Signal Tower Output Control screen. If the light does not turn on, it may not be installed correctly.
	  Refer to "4.17 Signal Tower Output Control Screen" on pg. 85 for the procedure to control the Signal Tower output.

The buzzer does not sound.	• Check whether the volume switch has been set in the "OFF" position. • After each setup, check the buzzer operation. Refer to "4.17 Signal Tower Output Control Screen" on pg. 85 for the procedure to setup the buzzer output.

Socket Transmission does not work.	• Check whether the correct communication port has been set.
	  Refer to "4.5 Socket Transmission Setup Screen" on pg. 58 for the setup procedure of the Socket Transmission.
	• Check whether the data had been sent correctly.
	  For data transmitted by the Socket Transmission, refer to "3.5 PHN Command Reception Function" on pg. 27 and "3.6 PNS Command Reception Function" on pg. 29 .

The RSH command data is unreceivable.	• Check the command reception setup. Refer to "4.8 RSH Command Configuration Screen" on pg. 62 for the setup procedure of the command reception. • Check whether the security settings for the PC has granted permission.
The HTTP Command does not work.	• Check the HTTP command control function is set to the "Active". Refer to "4.1. System Configuration Screen"
I want to return it to the factory settings.,	• Refer to "3.13 Reinitialization Function" on pg. 41.
The E-mail transmission cannot be sent.	• Check whether the setup for the server is correct.
The SNMP SET/GET does not work.	• Check the SET Community name and GET Community name.
The status LED is flashing.	• It may be in the factory-shipment inspection mode. Be sure to reboot this product.

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