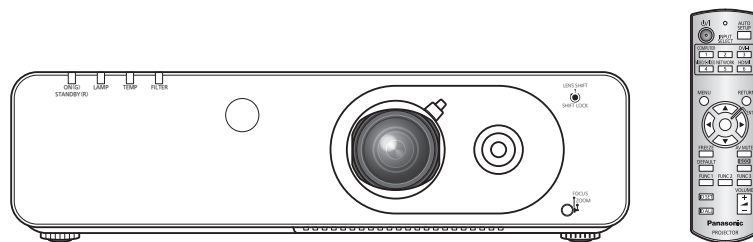


## Operating Instructions Network Operations

LCD Projector Commercial Use

Model No. **PT-FW430U/PT-FX400U**  
**PT-FW430E/PT-FX400E**  
**PT-FW430EA/PT-FX400EA**



- This manual explains the network operation of the projector.  
For information other than the network operation, such as the usage, inspection and replacement of parts, see "Operating Instructions - Projector Operations".

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## Notes

- The illustrations and screenshots in this manual may be different from those on your computer.
- Expressions used in this document  
Pages to reference within this document are indicated as (See page ○○), and pages to reference in the supplemental “Operating Instructions - Projector Operations” are indicated as (See page ○○ of the Projector Operations).

# Request Regarding Security

---

When using this product, security breaches of the type described below are conceivable.

- Leakage of your private information via this product
- Illegal operation of this product by a malicious third-party
- Harm to or cessation of operation of this product by a malicious third-party

Be sure to implement sufficient security measures.

- Set passwords, and limit the users that are permitted login access.
- Make sure the password is as hard to guess as possible.
- Change the password periodically.
- Panasonic Corporation and its affiliated companies never directly ask customers for their password. Do not give out your password even if directly asked by a third-party representing themselves as Panasonic Corporation.
- Always use on a network that has safety protection such as a firewall implemented.

## About Wireless LANs

The advantage of a wireless LAN is that information can be exchanged between a PC or other such equipment and an access point using radio waves as long as you are within range for radio transmissions.

On the other hand, because the radio waves can travel through obstacles (such as walls) and are available everywhere within a given range, problems of the type listed below may occur if security-related settings are not made.

- A malicious third-party may intentionally intercept and monitor transmitted data including the content of e-mail and personal information such as your ID, password, and/or credit card numbers.
- A malicious third-party may access your personal or corporate network without authorization and engage in the following types of behavior.
  - Retrieve personal and/or secret information (information leak)
  - Spread false information by impersonating a particular person (spoofing)
  - Overwrite intercepted communications and issue false data (tampering)
  - Spread harmful software such as a computer virus and crash your data and/or system (system crash)

Since most wireless LAN adapters or access points are equipped with security features to take care of these problems, you can reduce the possibility of these problems occurring when using this product by making the appropriate security settings for the wireless LAN device.

Some wireless LAN devices may not be set for security immediately after purchase. To decrease the possibility of occurrence of security problems, before using any wireless LAN devices, be absolutely sure to make all security-related settings according to the instructions given in the operation manuals supplied with them.

Depending on the specifications of the wireless LAN, a malicious third-party may be able to break security settings by special means.

Please contact Panasonic if you need help taking care of security settings or other such.

If you cannot perform security settings for your wireless LAN by yourself, please contact the Panasonic Support Center.

Panasonic asks customers to thoroughly understand the risk of using this product without making security settings, and recommends that the customer make security settings at their own discretion and responsibility.

# What you can do

---

## <WEB control> (See page 24)

The following operations are possible when using WebBrowser.

- Setting and adjusting the projector
- Displaying the projector status
- Setting for message transmission

## <PJLink> (See page 40)

Compatible with PJLink Class 1. The following operations can be performed from a computer when PJLink protocol is used.

- Setting the projector
- Querying the projector status

## <Command control> (See page 77 of the Projector Operations)

You can control the projector from a computer, using the control commands of the serial terminals.

### Note

When using [WEB CONTROL], [PJLink], and [COMMAND CONTROL], set [NETWORK CONTROL] in the [NETWORK] menu of the projector to [ON] (See page 17).

## ■ Application software supplied in the CD-ROM

### ● Multi Projector Monitoring & Control Software (Windows)

Software for monitoring and controlling multiple projectors connected via LAN.

### ● Logo Transfer Software (Windows)

Software for transferring a user's unique image such as a company logo to be projected at the beginning.

### ● Wireless Manager mobile edition 5.5 (Windows/Macintosh)

Software for sending the computer screen via wireless/wired LAN.

### Note

For the usage of the software listed above, see the operation manual for each software in the supplied CD-ROM, and for the restrictions, see "List of Compatible Projector Models".

# Notes on Using Wireless Connection

---

Wireless connection function of the projector uses radio waves in the 2.4 GHz band.

A radio station license is not required, but be sure to read and fully understand the following items before use.

The wireless module (part number: ET-WM200E/ET-WM200U) sold separately needs to be mounted when using the wireless LAN function with the projector.

## ■ Do not use near other wireless equipment.

The following equipment may use radio waves in the same band as the projector.

When the projector is used near these devices, radio wave interference may make communication impossible, or the communication speed may become slower.

- Microwave ovens, etc.
- Industrial, chemical and medical equipment, etc.
- In-plant radio stations for identifying moving objects such as those used in factory manufacturing lines, etc.
- Designated low-power radio stations

## ■ If at all possible, avoid the use of cellular phones, TV sets or radios near the projector.

Cellular phones, TV sets, radios and similar devices use different radio bands from the projector, so there is no effect on wireless communication or the transmission and reception of these devices. However, radio waves from the projector may produce audio or video noise.

## ■ Wireless communication radio waves cannot penetrate steel reinforcements, metal, concrete, etc.

Communication is possible through walls and floors made from materials such as wood and glass (except glass containing wire mesh), but not through walls and floors made from steel reinforcements, metal, concrete, etc.

## ■ Avoid using the projector in locations prone to static electricity.

If the projector is used in a location prone to static electricity, such as on a carpet, the wireless LAN or wired LAN connection may be lost.

If this happens, eliminate the source of static electricity or electromagnetic noise and reconnect to the wireless LAN or wired LAN.

In rare cases static electricity or electromagnetic noise may make it impossible to establish a connection to the LAN.

If this happens, press the power button on the remote control or on the projector to power off the projector temporarily.

After the cooling fan stops operating (after the power monitor on the projector changes from orange to red), power on the projector and reconnect to the LAN.

## ■ Using the projector outside the country

It is forbidden to take the projector outside the country or region where you purchased it, so use it only in the said country or region. Also, note that depending on countries or regions there are restrictions on the channels and frequencies at which you can use the wireless LAN.

## Notes on Using Wireless Connection (continued)

### ■ Wired LAN

Use straight or crossover LAN cable that is compatible with category 5 or above.

- \* Whether straight cable, crossover cable or both can be used varies depending on the system configuration. For details, consult your system administrator.

### ■ Available wireless LAN channels

The channels (frequency range) that can be used differ according to the country or region. Refer to the table below.

| Country or region                                                                                                                                                  | Standard     | Channels used | Frequency band<br>(Center frequency) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------|--------------------------------------|
| England, Germany, France, Spain,<br>Italy, Belgium, Austria, Sweden, Norway,<br>Denmark, Switzerland, Holland, Finland,<br>Portugal, Greece, Thailand, South Korea | ETSI 300.328 | 1 – 13        | 2,412 MHz -<br>2,472 MHz             |
| Singapore                                                                                                                                                          | IDA          |               |                                      |
| Australia, New Zealand                                                                                                                                             | C-Tick       |               |                                      |
| Malaysia                                                                                                                                                           | SIRIM        |               |                                      |
| United States                                                                                                                                                      | FCC part 15  | 1 – 11        | 2,412 MHz -<br>2,462 MHz             |
| Taiwan                                                                                                                                                             | DGT          |               |                                      |

#### Note

The separately sold wireless module (product number: ET-WM200E/ET-WM200U) needs to be attached to use wireless LAN with this device ( See page 74 of the Projector Operations).

# Check your computer

## Necessary environment for computers to be connected

- First, check your computer to see whether or not it has a wired LAN \* or a built-in wireless LAN function.  
\* “Glossary” (See page 44 – 45)
- Before connecting the projector to the computer, be sure to check the following settings.
- Operation is not guaranteed for all wireless LAN adapters and built-in wireless LAN adapters.

### ■ Wired LAN

#### Check 1 For LAN cable

- Is the cable properly connected?
- Use LAN cable that is compatible with category 5 or above.

#### Check 2 Wired LAN settings

##### <Computer with a built-in wired LAN function>

- Is your wired LAN switched on?

##### <Computer without a built-in wired LAN function>

- Is your wired LAN adapter properly recognized?
- Is your wired LAN adapter switched on?
- Install the wired LAN adapter driver beforehand.

For details on how to install the driver, refer to the instructions accompanying the wired LAN adapter.

### ■ Wireless LAN

#### Check 1 Wireless LAN settings

##### <Computer with a built-in wireless LAN function>

- Is your wireless LAN switched on?

##### <Computer without a built-in wireless LAN function>

- Is your wireless LAN adapter properly recognized?
- Is the wireless LAN adapter switched on?
- Install the wireless LAN adapter driver beforehand.

For details on how to install the driver, refer to the instructions accompanying the wireless card.

#### Check 2 Computer's settings

- When security (firewall) software and utilities for network cards are installed, these may prevent connection of the projector.

##### <Windows XP/Windows Vista/Windows 7>

- Is Network Bridge enabled?
- Has your firewall been disabled?

### ■ For WebBrowser

- WebBrowser is necessary to use WEB control.
- Compatible OS : Windows XP/Windows Vista/Windows 7, Mac OS X v10.4/v10.5/v10.6
- Compatible WebBrowser : Internet Explorer 6.0/7.0/8.0, Safari 2.0/3.0/4.0 (Mac OS)

# NETWORK menu

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## ■ WIRED LAN→ See page 10

You can make detailed wired LAN settings.

## ■ WIRELESS LAN \*→ See page 11

You can make detailed wireless LAN settings.

## ■ NAME CHANGE→ See page 15

You can change the name of the projector.

## ■ PASSWORD→ See page 16

Set this to [ON] if you want to restrict the connection by setting a password when connecting with the projector using the “Wireless Manager mobile edition 5.5”.

When using the deliver image to all function or the delivered image deletion function of the “Multi Projector Monitoring & Control Software”, image cannot be delivered to the projector with [PASSWORD] set to [ON]. To use these image delivery functions, set it to [OFF].

(Default: OFF)

## ■ PASSWORD CHANGE→ See page 16

You can change the password for the network connection.

## ■ NETWORK CONTROL→ See page 17

This sets the network control method.

## ■ LIVE MODE CUT IN→ See page 18

Set this to [ON] if you allow another user in the live mode to cut in while you are in the live mode (sending the screen images) using the “Wireless Manager mobile edition 5.5”.

(Default: OFF)

## ■ COMPUTER SEARCH \*→ See page 18

You can search computers that can connect using the “Wireless Manager mobile edition 5.5”.

## ■ MULTI-LIVE→ See page 19

Use this when connecting with a computer using the “Wireless Manager mobile edition 5.5”.

## ■ STATUS→ See page 20

This displays the network status of the main unit.

## ■ INITIALIZE→ See page 21

You can reset the network settings to the factory default settings of the projector.

### Note

When the [PASSWORD] is set to [ON] in the [SECURITY] menu, input of security password is requested when [INITIALIZE] is selected.

\* This can be selected when optional wireless module (ET-WM200E/ET-WM200U) is attached.

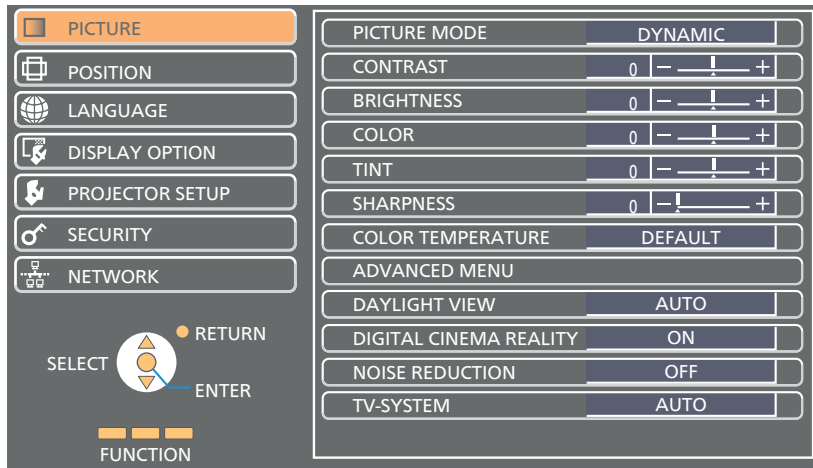
## NETWORK menu (continued)

To connect the projector and the computer by changing the setting at the time of purchase, change the setting by displaying the menu with the following procedure.

### Displaying the NETWORK menu

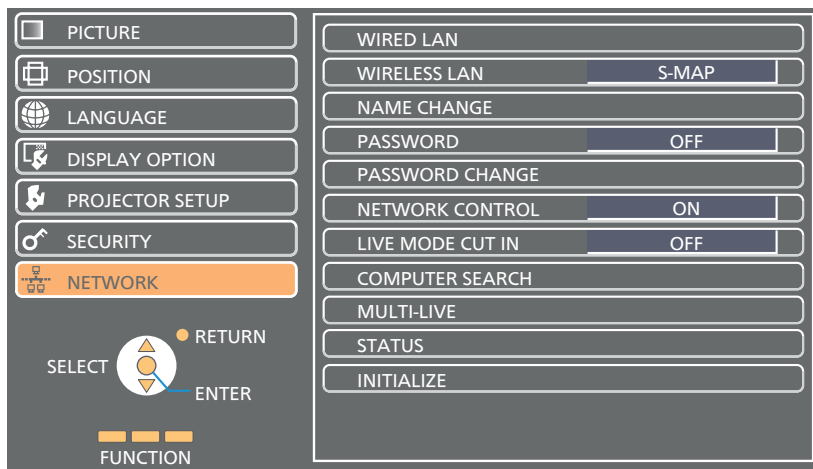
#### 1 Press the <MENU> button on the projector.

The main menu appears.



#### 2 Select [NETWORK] with the ▲▼ buttons.

The network menu appears.



#### 3 Press the <ENTER> button.

You can select the sub-menu item.

#### Note

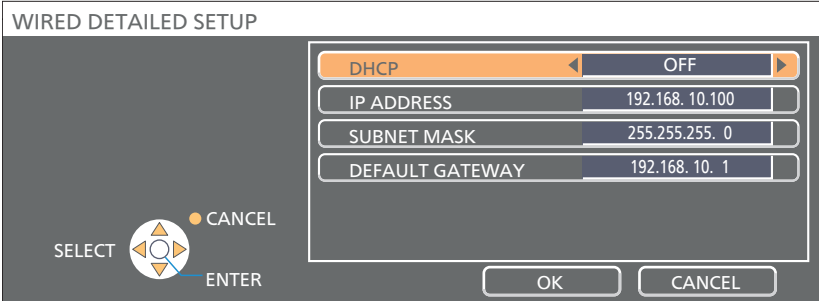
Unavailable items on the menu screen are grayed out and cannot be selected.

# NETWORK menu (continued)

## WIRED LAN

You can make detailed wired LAN settings.

- 1** Press ▲▼ to select [WIRED LAN], and press <ENTER> button.  
The [WIRED DETAILED SETUP] screen will be displayed.



- 2** Press ▲▼ to select an item, and change the setting according to the instructions.

|                                                                      |                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DHCP *</b><br>(DHCP client function)                              | ON: If a DHCP server exists in the network to which the projector is connected, the IP address will automatically be acquired.<br><br>OFF: If a DHCP server does not exist in the network to which the projector is connected, additionally set [IP ADDRESS *], [SUBNET MASK *] and [DEFAULT GATEWAY *]. |
| <b>IP ADDRESS *</b><br>(Display of IP address and setting)           | Enter the IP address if DHCP server is not used.                                                                                                                                                                                                                                                         |
| <b>SUBNET MASK *</b><br>(Displaying and setting the subnet mask)     | If not using a DHCP server, enter the subnet mask.                                                                                                                                                                                                                                                       |
| <b>DEFAULT GATEWAY *</b><br>(Display of gateway address and setting) | Enter the gateway address if DHCP server is not used.                                                                                                                                                                                                                                                    |

\* "Glossary" (See page 44 – 45)

- 3** Press ▲▼◀▶ to select [OK], and press <ENTER> button.  
Save the current network settings.

### Notes

- Before using the DHCP server, make sure the DHCP server is already functioning.
- For details of IP address, subnet mask, and gateway, ask the network administrator.
- A wired LAN and wireless LAN cannot be used in the same segment.

### ■ Default wired LAN settings

The following settings are set before the projector leaves the factory.

|                 |                |
|-----------------|----------------|
| DHCP            | OFF            |
| IP ADDRESS      | 192.168.10.100 |
| SUBNET MASK     | 255.255.255.0  |
| DEFAULT GATEWAY | 192.168.10.1   |

## NETWORK menu (continued)

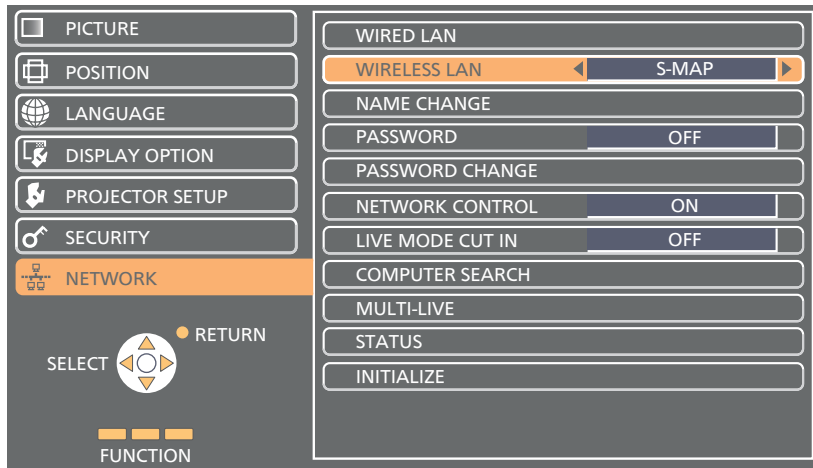
### WIRELESS LAN \*

You can make detailed wireless LAN settings.

\* You can configure settings when the wireless module (ET-WM200E/ET-WM200U) is mounted.

### Setting network number

#### 1 Select [WIRELESS LAN] with the ▲▼ buttons.



#### 2 Select the number to be connected with the ◀▶ buttons.

- Network number [DISABLE], [S-MAP], [1]-[4], [USER1]-[USER3]

##### Notes

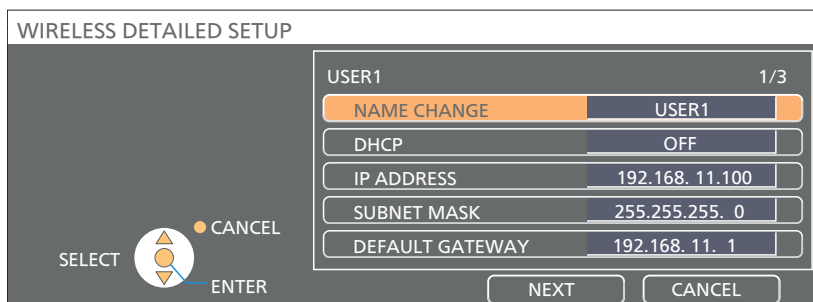
- Selecting [DISABLE] disables the wireless LAN.
- Network number: [S-MAP] and [1]-[4] are available only when connecting via wireless LAN with the application software the “Wireless Manager mobile edition 5.5”. For details, refer to the operation manual of the “Wireless Manager mobile edition 5.5”.
- When [DISPLAY OPTION] - [ON-SCREEN DISPLAY] - [DETAILED] is set to [INPUT GUIDE], pressing the <NETWORK> button of the input switch on the remote control of the projector displays the current wireless LAN network number, projector name and ID in the [NETWORK] column of the input guide.

### USER settings

You can configure more precise network settings, if you select from [USER1] to [USER3] (user) for [WIRELESS LAN] in the network menu. For network settings, contact your network administrator.

#### ■ Configuration of wireless LAN (USER)

#### 1 Press ◀▶ to select [USER1] – [USER3], and press <ENTER> button.



## NETWORK menu (continued)

### 2 Press ▲▼ to select an item, and change the setting according to the instructions.

|                                                                      |                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NAME CHANGE</b>                                                   | You can change the user name.                                                                                                                                                                                                                                                                                   |
| <b>DHCP *</b><br>(DHCP client function)                              | <p>ON: If a DHCP server exists in the network to which the projector is connected, the IP address will automatically be acquired.</p> <p>OFF: If a DHCP server does not exist in the network to which the projector is connected, additionally set [IP ADDRESS *], [SUBNET MASK *] and [DEFAULT GATEWAY *].</p> |
| <b>IP ADDRESS *</b><br>(Display of IP address and setting)           | Enter the IP address if DHCP server is not used.                                                                                                                                                                                                                                                                |
| <b>SUBNET MASK *</b><br>(Displaying and setting the subnet mask)     | If not using a DHCP server, enter the subnet mask.                                                                                                                                                                                                                                                              |
| <b>DEFAULT GATEWAY *</b><br>(Display of gateway address and setting) | Enter the gateway address if DHCP server is not used.                                                                                                                                                                                                                                                           |

\* "Glossary" (See page 44 – 45)

#### Notes

- Before using the DHCP server, make sure the DHCP server is already functioning.
- For details of IP address, subnet mask, and gateway, ask the network administrator.
- A wired LAN and wireless LAN cannot be used in the same segment.

### 3 Press ▲▼◀▶ to select [NEXT], and press <ENTER> button.

[WIRELESS DETAILED SETUP] screen (2/3) setting screen is displayed.

Make the settings related to the wireless connection between the projector and the network.

Select [CANCEL] instead of [NEXT] to cancel the configuration change.

- **SSID \*** : If the mode is [AD HOC], enter the same character string as that of SSID set on the computer to be connected. If the mode is [INFRASTRUCTURE \*], enter the SSID registered at the access point \*.

#### Notes

- SSID has to be entered in alphanumeric letters.
- You cannot set "any" or "ANY" for SSID.

- **MODE** : Select [AD HOC] or [INFRASTRUCTURE].
  - AD HOC \* : Connect projector and computer directly without access point.
  - INFRASTRUCTURE \* : Connect through access point.

\* "Glossary" (See page 44 – 45)

# NETWORK menu (continued)

- AUTHENTICATION

OPEN

SHARED

WPA-PSK \*2

WPA2-PSK \*2

WPA-EAP/  
WPA2-EAP \*2

WPA-EAP \*2

WPA2-EAP \*2

: Set the user authentication method used by the network to be connected.

: Select when making a connection using [AD HOC], or when the access point authentication method is OpenSystem \*1.

: Select when making a connection using [AD HOC], or when the access point authentication method is Shared Key \*1.

: Select when the access point authentication method is WPA-PSK \*1.

: Select when the access point authentication method is WPA2-PSK \*1.

: Select when the access point authentication method is WPA-EAP \*1/  
WPA2-EAP\*1.

: Select when the access point authentication method is WPA-EAP \*1.

: Select when the access point authentication method is WPA2-EAP \*1.
- ENCRYPTION

NONE

WEP \*1

TKIP \*1

AES \*1

: Select the encryption method to be used for communication between the projector and the network.

: Select when transmit without encryption. It is selectable only when [AUTHENTICATION] is [OPEN] or [SHARED].

: Select when ENCRYPTION is WEP.

: Select when ENCRYPTION is TKIP.  
Selectable when [AUTHENTICATION] is either [WPA-PSK], [WPA2-PSK], [WPA-EAP], [WPA2-EAP].

: Select when ENCRYPTION is AES.  
Selectable when [AUTHENTICATION] is either [WPA-PSK], [WPA2-PSK], [WPA-EAP], [WPA2-EAP].

\* 1: “Glossary” (See page 44 – 45)  
\* 2: Available when the mode is set to [INFRASTRUCTURE].

Note

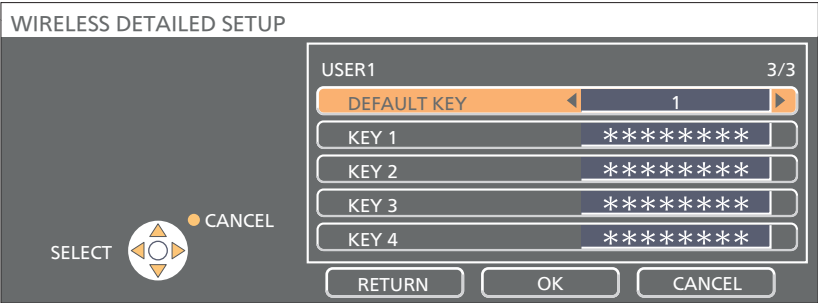
Important video/audio data is protected because AES encryption pr ng takes place in advance for all network numbers, even if [ENCRYPTION] is set to [NONE].

4

Press ▲▼◀▶ to select [NEXT], and press <ENTER> button.

At this point, select [RETURN] to go back to the previous screen (1/3), or select [CANCEL] to cancel the configuration change.

In addition, further perform the following setting depending on [AUTHENTICATION] and [ENCRYPTION] settings.



## NETWORK menu (continued)

- **When setting [OPEN] or [SHARED] as authentication and setting [WEP] as the encryption method:**

- DEFAULT KEY : Set 1 – 4 numerals for the default key.
- KEY1 – 4 : Set a WEP key to the key number selected with [DEFAULT KEY].  
Either the 64-bit or 128-bit WEP key can be set. For the 64-bit key, input five alphanumerics (or a 10-digit string for the hexadecimal format) for the 128-bit key, input 13 alphanumerics (or a 26-digit string for the hexadecimal format).

- **When using [WPA-PSK] or [WPA2-PSK] :**

Set a key.  
Input either 8 to 63 alphanumerics or a 64 digit string in the hexadecimal format.

- **When the authentication method is [WPA-EAP/WPA2-EAP], [WPA-EAP], [WPA2-EAP]:**

Set [EAP], [USER NAME], and [PASSWORD].

- EAP \*1: Select the EAP setup in the RADIUS server \*1. Types of EAP that can be selected are as follows.  
PEAP \*1(MS-CHAPv2 \*1), PEAP \*1(GTC \*1),  
EAP-TTLS \*1(MD5 \*1), EAP-TTLS \*1(MS-CHAPv2 \*1),  
EAP-FAST \*1(MS-CHAPv2 \*1), EAP-FAST \*1(GTC \*1),  
EAP-TLS \*1,2
- USER NAME: Input a user name used for authentication (excluding spaces)(maximum 64 characters).
- PASSWORD: Input a password used for authentication (maximum 64 characters).

\* 1: "Glossary" (See page 44 – 45)

\* 2: When [EAP-TLS] is selected as EAP, it is required to setup "USER NAME", "PASSWORD", "DIGITAL CERTIFICATE", and "CA CERTIFICATE" with the WEB browser. (See page 30 – 31)

### Notes

- If you are unable to connect to the wireless LAN through the access point even after performing the steps in "Projector settings (See page 22)", contact the manufacturer of the access point.
- When using EAP, the projector needs to be set according to the setting of the RADIUS server. Check with the network administrator for the setting of the RADIUS server.
- When using an EAP together with an access point with invalid SSID broadcast, select WAP-EAP or WAP2-EAP for the authentication method even if the authentication method of the access point is WPA-EAP/WPA2-EAP.

### ■ Default settings of [USER1] - [USER3]

The following settings as [USER1] - [USER3] in the wireless LAN are set before the projector leaves the factory.

|                 |                     |
|-----------------|---------------------|
| SSID            | Panasonic Projector |
| DHCP            | OFF                 |
| IP ADDRESS      | 192.168.11.100      |
| SUBNET MASK     | 255.255.255.0       |
| DEFAULT GATEWAY | 192.168.11.1        |
| MODE            | AD HOC              |
| AUTHENTICATION  | OPEN                |
| ENCRYPTION      | NONE                |
| CHANNEL         | 11                  |

## NETWORK menu (continued)

### 5 Press ▲▼◀▶ to select [OK], and press <ENTER> button.

Save the current network settings.

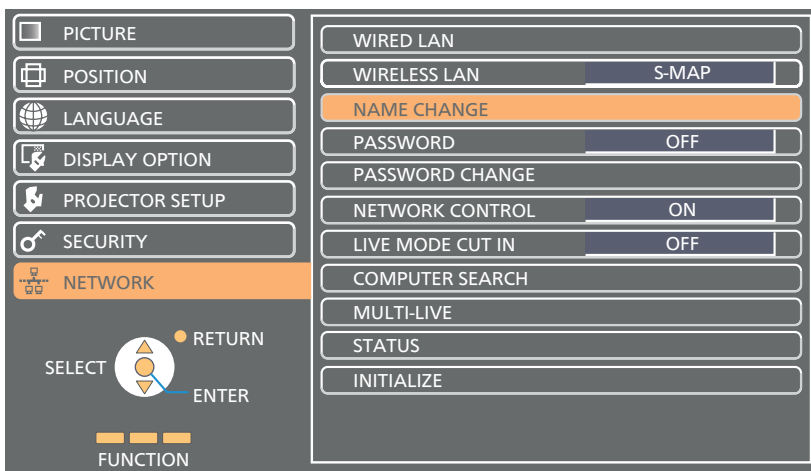
#### Note

When configuration is completed, you need to select [OK] and press the <ENTER> button. At this point, select [RETURN] to go back to the previous screen (2/3), or select [CANCEL] to cancel the configuration change.

## NAME CHANGE

You can change the projector name to be displayed on the network.

### 1 Press ▲▼ to select [NAME CHANGE], and press <ENTER> button.

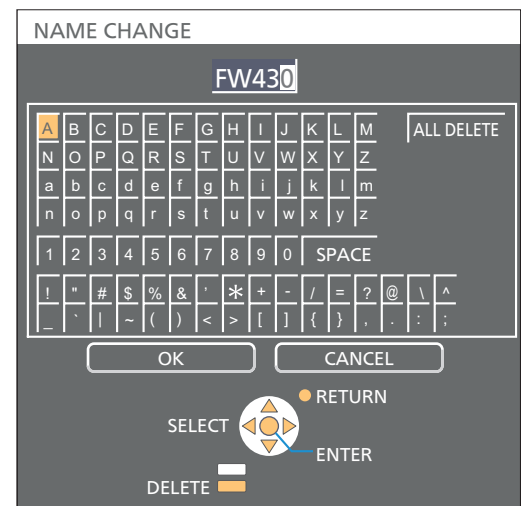


### 2 Select characters with the ▲▼◀▶ buttons and press the <ENTER> button to enter the projector name.

Select [ALL DELETE] to delete all input characters, and press the <DEFAULT> button on the remote control to delete one character selected with the cursor in the input box.

### 3 Select [OK] with the ▲▼◀▶ buttons and press the <ENTER> button.

Select [CANCEL] to undo the changes and then press the <ENTER> button.



#### Note

When [DISPLAY OPTION] - [ON-SCREEN DISPLAY] - [DETAILED] is set to [INPUT GUIDE], pressing the <NETWORK> button of the input switch on the remote control of the projector displays the current wireless LAN network number, projector name and ID in the [NETWORK] column of the input guide.

## NETWORK menu (continued)

### PASSWORD

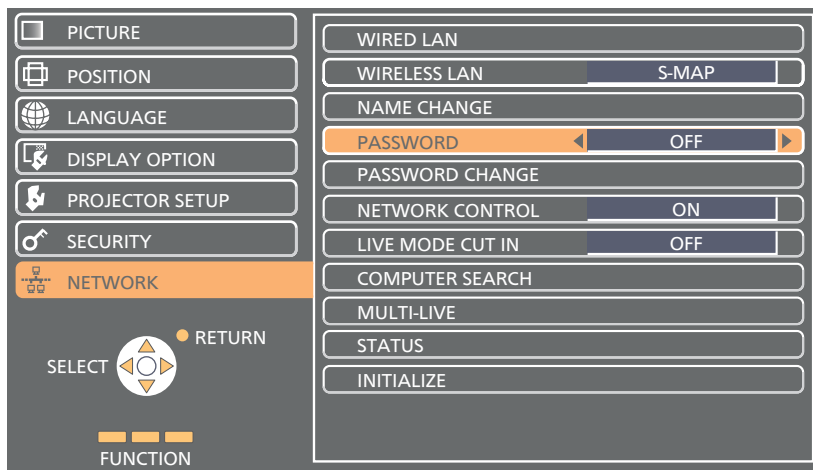
Set to [ON] to perform password check when connecting with the projector using “Wireless Manager mobile edition 5.5”. (Default : [OFF])

When using the deliver image to all function or the delivered image deletion function of the “Multi Projector Monitoring & Control Software”, image cannot be delivered to the projector with password setting set to [ON]. To use these image delivery functions, set it to [OFF].

By controlling connection with password setting, it is possible to prevent an external device from accidentally connecting and interrupting projection images, etc.

Register the password with [PASSWORD CHANGE].

#### 1 Press ▲▼ to select [PASSWORD].



#### 2 Select [ON] or [OFF] with the ◀▶ buttons.

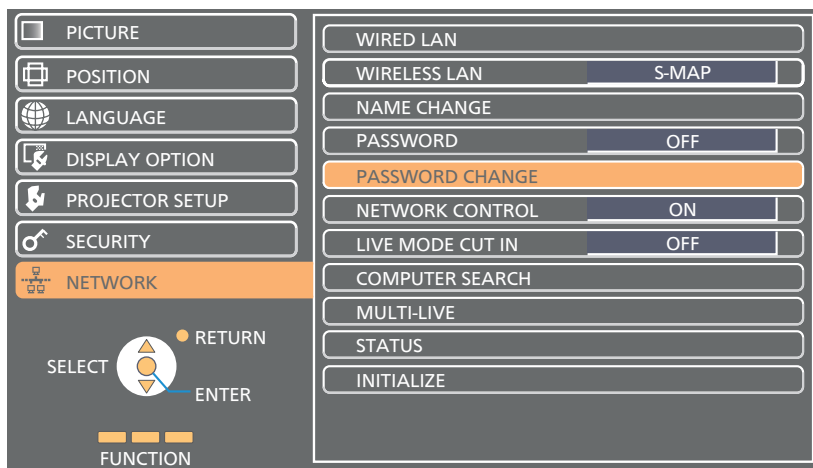
##### Note

When connecting to the projector using the “Logo Transfer Software”, setting of the password is irrelevant.

### PASSWORD CHANGE

Password can be registered or changed. No password is set in the default setting.

#### 1 Press ▲▼ to select [PASSWORD CHANGE], and press <ENTER> button.



## NETWORK menu (continued)

### 2 Select characters with the ▲▼◀▶ buttons and press the <ENTER> button to enter the password.

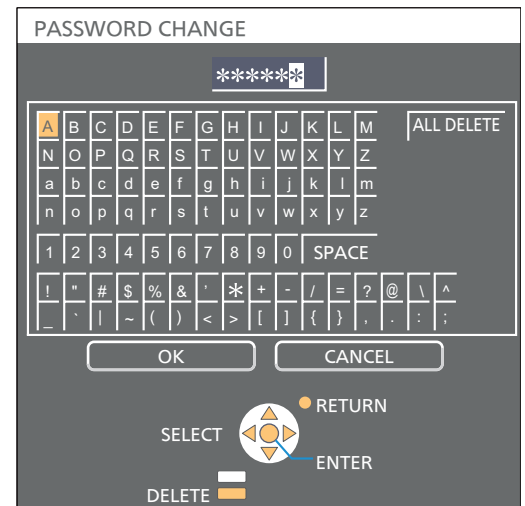
You can delete the letter immediately before the cursor in the entry box by selecting [ALL DELETE].

### 3 After inputting the password, select [OK] using the ▲▼◀▶ buttons and then press <ENTER> button.

Select [CANCEL] to undo the changes and then press the <ENTER> button.

#### Notes

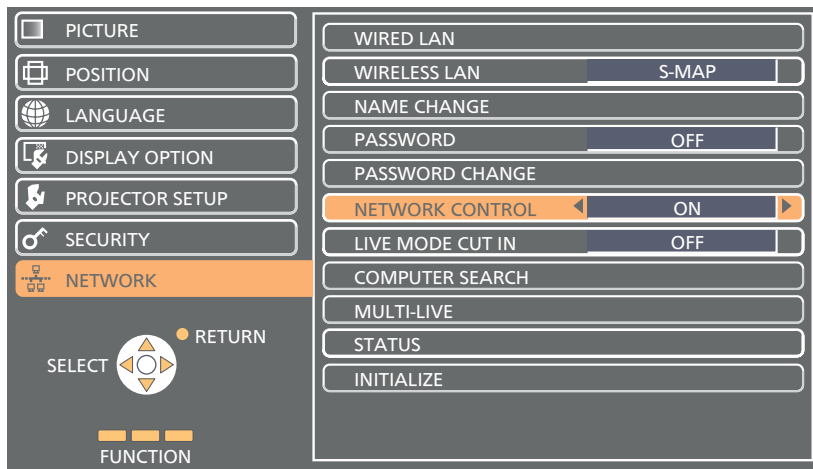
- It is recommended to change password on a regular basis for keeping it private.
- Up to 8 characters can be input as a password.



## NETWORK CONTROL

Set when you want to control the projector from a computer connected to the network.

### 1 Press ▲▼ to select [NETWORK CONTROL].



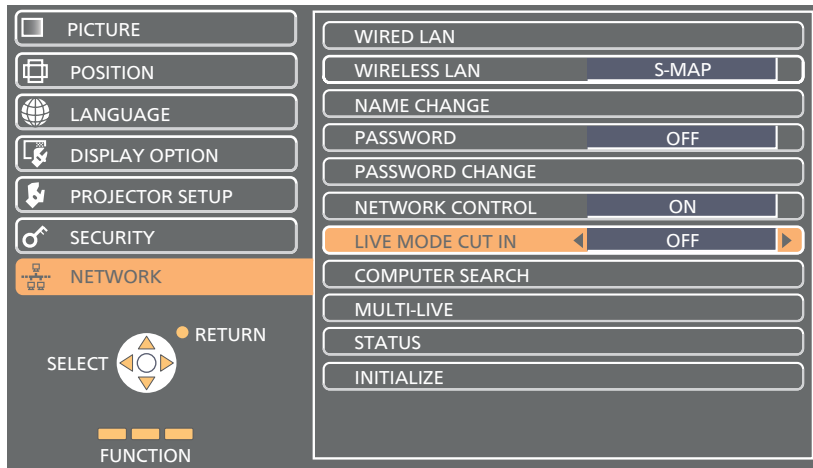
### 2 Select [ON] or [OFF] with the ◀▶ buttons.

## NETWORK menu (continued)

### LIVE MODE CUT IN

Set this [ON] to allow interrupt of the Live mode by other users, or to allow delivery of images by the “Multi Projector Monitoring & Control Software”, while the Live mode is active (sending image) by the “Wireless Manager mobile edition 5.5”. For details, refer to “Wireless Manager mobile edition 5.5” operating manual.

#### 1 Press ▲▼ to select [LIVE MODE CUT IN].



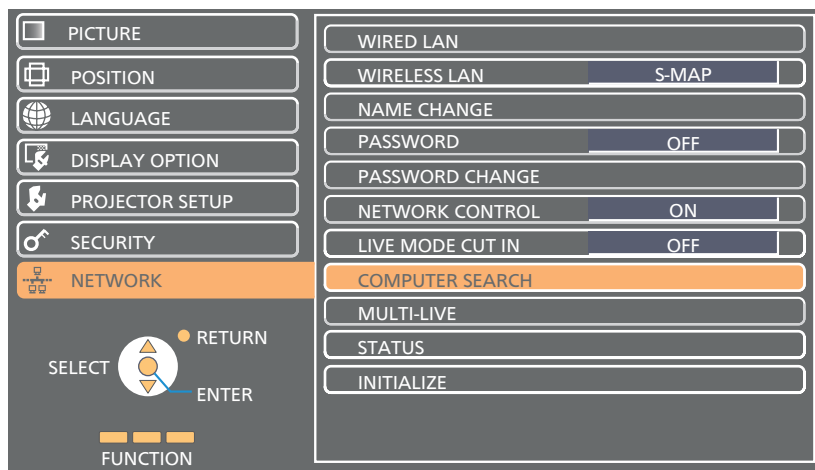
#### 2 Select [ON] or [OFF] with the ◀▶ buttons.

### COMPUTER SEARCH \*

You can search computers that can connect using the “Wireless Manager mobile edition 5.5”. See the “Wireless Manager mobile edition 5.5” operation manual for details.

\* You can configure settings when the wireless module (ET-WM200E/ET-WM200U) is mounted.

**Press ▲▼ to select [COMPUTER SEARCH], and press <ENTER> button.**

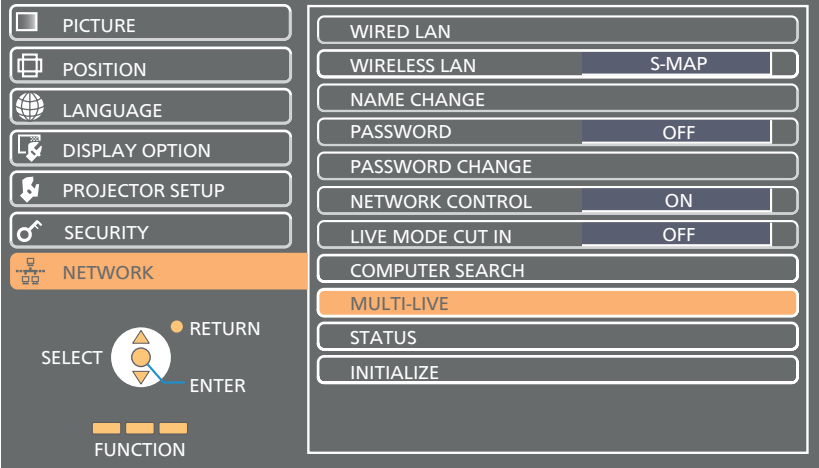


# NETWORK menu (continued)

## MULTI-LIVE

Switch to the MULTI-LIVE mode when using the “Wireless Manager mobile edition 5.5”. See the “Wireless Manager mobile edition 5.5” operation manual for details.

Press ▲▼ to select [MULTI-LIVE], and press <ENTER> button.



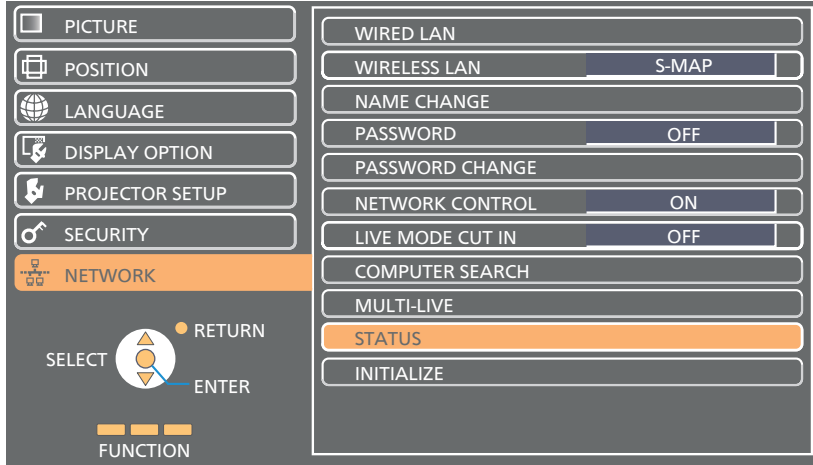
## NETWORK menu (continued)

### STATUS

Displays the current network status.

Press **▲▼** to select [STATUS], and press **<ENTER>** button.

Switch between the wired LAN screen and the wireless LAN screen with **▲▼** buttons.



The status of the following will appear.

#### WIRED LAN

|                 |               |
|-----------------|---------------|
| DHCP            | "ON" – "OFF"  |
| IP ADDRESS      | (See page 10) |
| SUBNET MASK     | (See page 10) |
| DEFAULT GATEWAY | (See page 10) |
| MAC ADDRESS *   | —             |

#### WIRELESS LAN

|                 |                                                                                                                                             |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| ANTENNA LEVEL   | (The strength of the connection will appear.)                                                                                               |
| NETWORK         | "S-MAP", "1"–"4", "USER1" – "USER3"                                                                                                         |
| MODE            | "AD HOC" – "INFRASTRUCTURE"                                                                                                                 |
| CHANNEL         | Refer to page 6 for usable channels.                                                                                                        |
| SSID            | (See page 12)                                                                                                                               |
| AUTHENTICATION  | "OPEN" – "SHARED"<br>– "WPA-PSK" – "WPA2-PSK"<br>– "WPA-EAP/WPA2-EAP"<br>– "WPA-EAP" – "WPA2-EAP"                                           |
| ENCRYPTION      | "NONE" – "WEP" – "TKIP" – "AES"<br>– "TKIP/AES"                                                                                             |
| DEFAULT KEY     | "-" – "1" – "4"                                                                                                                             |
| EAP             | "PEAP(MS-CHAPv2)" – "PEAP(GTC)"<br>– "EAP-TTLS(MD5)"<br>– "EAP-TTLS(MS-CHAPv2)"<br>– "EAP-FAST(MS-CHAPv2)"<br>– "EAP-FAST(GTC)" – "EAP-TLS" |
| DHCP            | "ON" – "OFF"                                                                                                                                |
| IP ADDRESS      | (See page 12,14)                                                                                                                            |
| SUBNET MASK     | (See page 12,14)                                                                                                                            |
| DEFAULT GATEWAY | (See page 12,14)                                                                                                                            |
| MAC ADDRESS *   | —                                                                                                                                           |

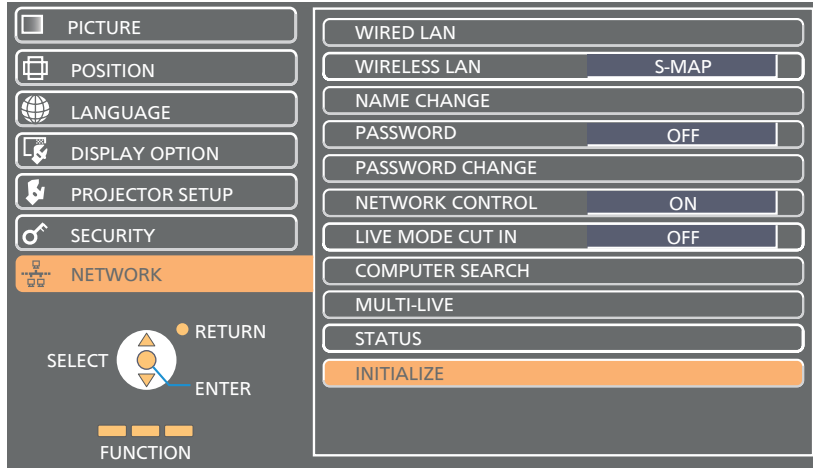
\* "Glossary" (See page 44 – 45)

## NETWORK menu (continued)

### INITIALIZE

You can reset the network setting to the factory default of the projector.

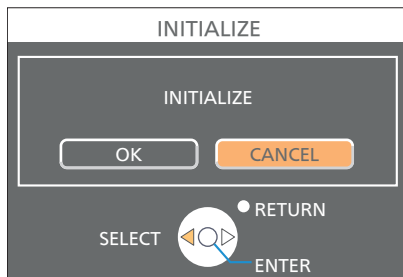
- 1 Press ▲▼ to select [INITIALIZE], and press <ENTER> button.



#### Note

When the [PASSWORD] is set to [ON] in the [ ♂ SECURITY] menu, input of security password is requested.

- 2 Select [OK] with the ◀▶ buttons and press <ENTER> button.



# Connecting with Wired LAN

## Computer operation

Connection can be made with wired LAN. However, confirm to your system administrator on network settings before changing any settings.

### 1 Turn on the computer.

### 2 Make the network setting according to your system administrator.

If the projector settings are the default settings (See page 10), the computer can be used with the following network settings.

|                 |                |
|-----------------|----------------|
| IP ADDRESS      | 192.168.10.101 |
| SUBNET MASK     | 255.255.255.0  |
| DEFAULT GATEWAY | 192.168.10.1   |

# Connecting with Wireless LAN

You can configure settings when the wireless module (ET-WM200E/ET-WM200U) is mounted.

## Projector settings

### 1 Turn on the projector and press the <NETWORK> button on the remote control.

### 2 Press the menu button to open the [NETWORK] menu, and then select from among [USER1] through [USER3] for [WIRELESS LAN] and press <ENTER>.

### 3 In the configuration of wireless LAN, set [DHCP \*], [IP ADDRESS \*], [SUBNET MASK \*], [DEFAULT GATEWAY \*], [SSID \*], [MODE], [AUTHENTICATION], [ENCRYPTION], and [CHANNEL].

For details, see “USER settings” of “WIRELESS LAN” (See page 11).

\* “Glossary” (See page 44 – 45)

#### Notes

- Wireless LAN and wired LAN cannot be used in the same segment.
- When multiple devices are connected, a unique IP address must be allocated to each device.
- SSID has to be entered in alphanumeric letters.
- You cannot set “any” or “ANY” for SSID.
- The following settings are set before the projector leaves the factory.

|                 |                     |
|-----------------|---------------------|
| DHCP            | OFF                 |
| IP ADDRESS      | 192.168.11.100      |
| SUBNET MASK     | 255.255.255.0       |
| DEFAULT GATEWAY | 192.168.11.1        |
| SSID            | Panasonic Projector |
| MODE            | AD HOC              |
| AUTHENTICATION  | OPEN                |
| ENCRYPTION      | NONE                |
| CHANNEL         | 11                  |

## Connecting with Wireless LAN (continued)

### Computer operation

#### 1 Make the network setting according to your system administrator.

If the projector settings are the default settings (See page 14), then the computer can be used with the following network settings.

|                 |                |
|-----------------|----------------|
| IP ADDRESS      | 192.168.11.101 |
| SUBNET MASK     | 255.255.255.0  |
| DEFAULT GATEWAY | 192.168.11.1   |

#### 2 Click [Start]→[Connect To \*]→[Wireless Network Connection \*], select the wireless network of [SSID] set with the projector, and then click [Connect \*].

If the projector setting is the factory setting, then [SSID] is [Panasonic Projector].

\* The names are for Windows XP. In Windows Vista/Windows 7, the procedure will be [Start]→[Connect To].

##### Notes

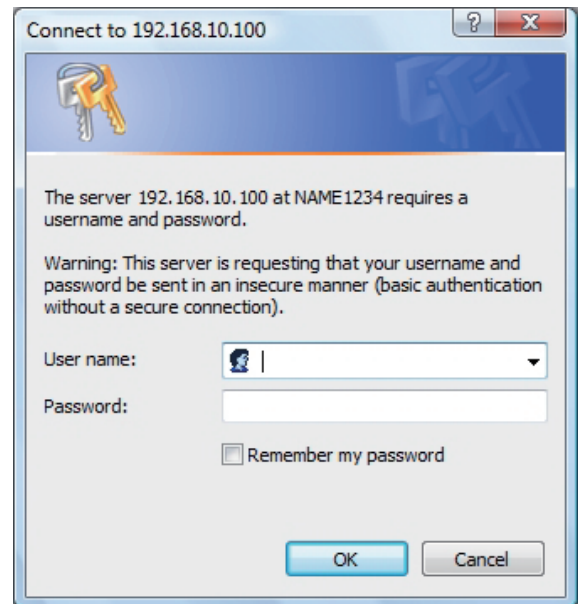
- If you use any wireless utility other than Windows [Wireless Network Connection], follow its operation procedure for connection.
- If you use the access point, configure the projector and each network setting of the computer following the instruction of the network administrator.

# Using Web Browser

## Accessing from the Web browser

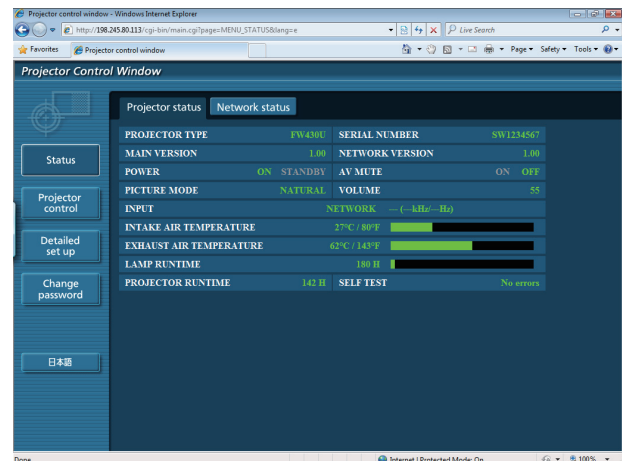
- 1 **Activate the Web browser in the personal computer.**
- 2 **Enter the IP address set by the projector into the URL input field of the Web browser.**
- 3 **Enter your “User name” and “Password”.**

The factory default settings are user1 (user privileges) or admin1 (administrator privileges) for the use name and panasonic (lowercase letters) for the password.



- 4 **Click [OK] to display the Projector status page.**

“Projector status” page is displayed.

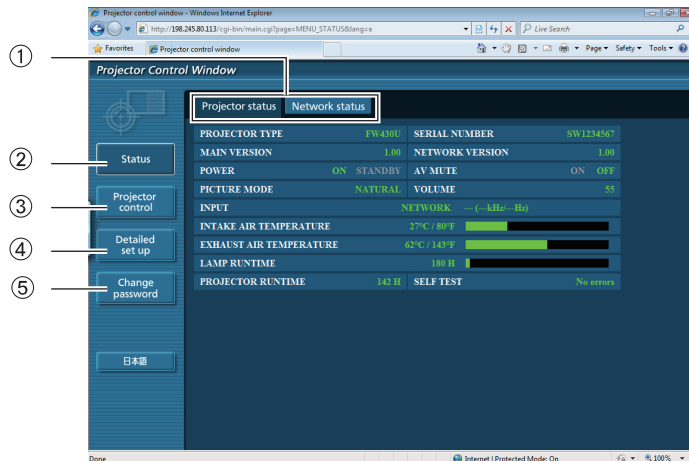


### Notes

- Avoid activating two or more Web browser simultaneously to work out setting or control actions.
- Change the password first of all.
- Administrator privileges enable the use of all functions. User privileges enable the use of only “Projector status”, “Network status”, “Basic control”, “Advanced control”, and “Change password”.
- If the password is incorrectly entered three times in a row, the lock is set for several minutes.
- If you want to control the projector using a Web browser, set [NETWORK CONTROL] in the network menu to [ON].

# Using Web Browser (continued)

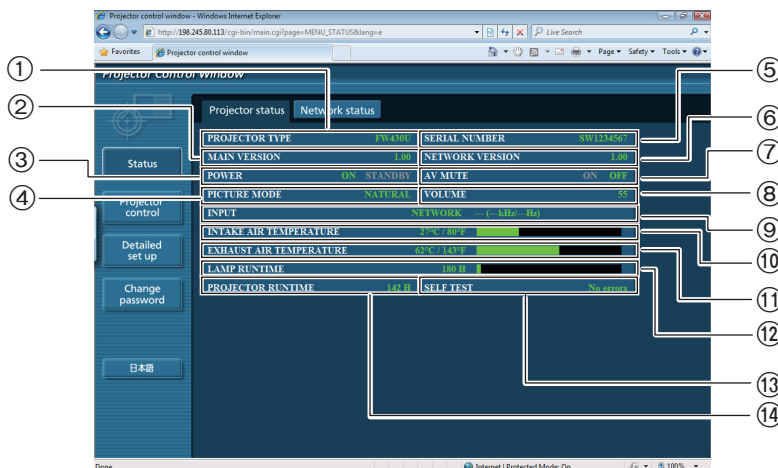
## ■ Description of each item



- ① Page selection tabs  
Click these to switch pages.
- ② Monitor information button  
Click this item, and the status of the projector is displayed.
- ③ Projector control button  
Click this item to display the projector control page.
- ④ Detailed set up button  
Click this item to display the advanced settings page.
- ⑤ Change password button

## Projector status page

Click [Status], then [Projector status] to display the Status information page.  
This page displays the projector statuses established for the items shown below.



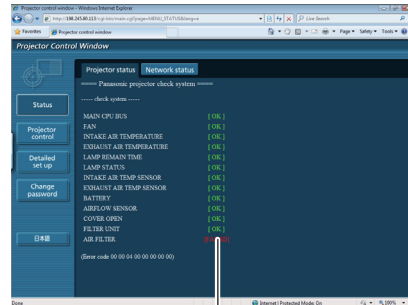
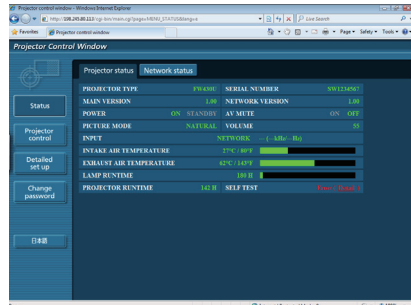
- ① Displays the type of projector.
- ② Displays the firmware version of the projector main unit.
- ③ Displays the power source status.
- ④ Displays the video mode status.
- ⑤ Displays the serial number of the projector.
- ⑥ Displays the firmware version of the network.
- ⑦ Displays the AV mute status.
- ⑧ Displays the volume status.
- ⑨ Displays the status of input switch.
- ⑩ Displays the intake temperature status of the projector.
- ⑪ Displays the exhaust temperature status of the projector.
- ⑫ Displays the usage time of the lamp.
- ⑬ Displays the self diagnostics information.
- ⑭ Displays the operating time of the projector.

## Using Web Browser (continued)

### Error information page

If [Error (Detail)] is displayed in the self-diagnosis information display column on the [Projector status] screen, click the part to display the details of the error.

- Depending on the nature of the error, the projector may be placed in the standby mode for its own protection.



OK: Normal operation  
FAILED: Occurrence of trouble

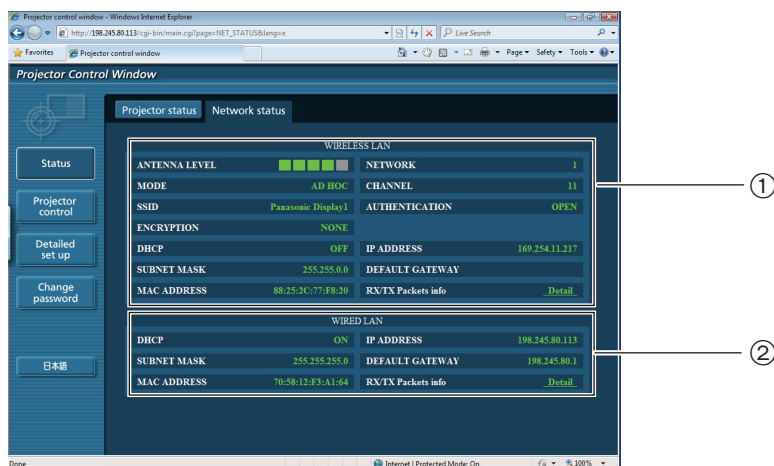
### ■ When [FAILED] has appeared for an item

| Parameter               | Description                                                                                                                                                                                                                                      |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MAIN CPU BUS            | Trouble has occurred in the microcomputer circuitry. Consult your dealer.                                                                                                                                                                        |
| FAN                     | Trouble has occurred in the fan or its drive circuit. Consult your dealer.                                                                                                                                                                       |
| INTAKE AIR TEMPERATURE  | Intake air temperature is high. It could be because it is used in an environment of high temperature such as close to a heating device, etc., the air intake is blocked, or the air filter is clogged.                                           |
| EXHAUST AIR TEMPERATURE | Exhaust air temperature is high. Exhaust may be blocked, or high altitude mode may be set wrong.                                                                                                                                                 |
| LAMP REMAIN TIME        | The lamp runtime has exceeded the prescribed cumulative time, and it is now time to replace the lamp.                                                                                                                                            |
| LAMP STATUS             | The lamp has failed to light.<br>Wait a short while for the lamp to cool off, and then turn on the power.                                                                                                                                        |
| INTAKE AIR TEMP.SENSOR  | Trouble has occurred in the sensor used to detect the intake air temperature. Consult your dealer.                                                                                                                                               |
| EXHAUST AIR TEMP.SENSOR | Trouble has occurred in the sensor used to detect the exhaust air temperature. Consult your dealer.                                                                                                                                              |
| BATTERY                 | The backup battery has been run out. Consult your dealer.                                                                                                                                                                                        |
| AIRFLOW SENSOR          | Trouble has occurred in the sensor used to detect the airflow volume. Consult your dealer.                                                                                                                                                       |
| COVER OPEN              | Installation of lamp cover is incomplete. Check the installation of the lamp cover.                                                                                                                                                              |
| FILTER UNIT             | The air filter unit is not mounted. Confirm the installation of the air filter unit.                                                                                                                                                             |
| AIR FILTER              | Too much dust is on the air filter.<br>Following the procedure described on page 30 of the "Operating Instructions - Projector Operations", turn off the <MAIN POWER> switch and clean the air filter. (See page 70 of the Projector Operations) |

# Using Web Browser (continued)

## Network status page

Displays the current configuration information of the network.



① Displays the configuration details of wireless LAN.

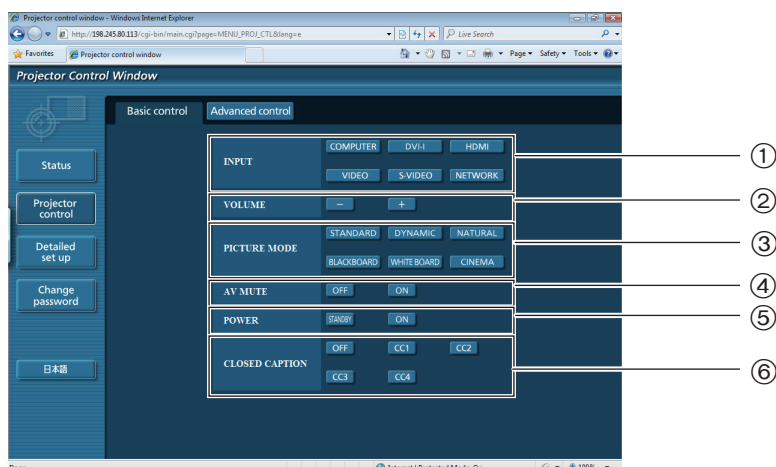
\* You can configure settings when the wireless module (ET-WM200E/ET-WM200U) is mounted.

② Displays the configuration details of wired LAN.

## Using Web Browser (continued)

### Basic control page

To move from another page, click [Projector control], then [Basic control].



① Use these to select the input signals

② Volume control

③ Switches video mode

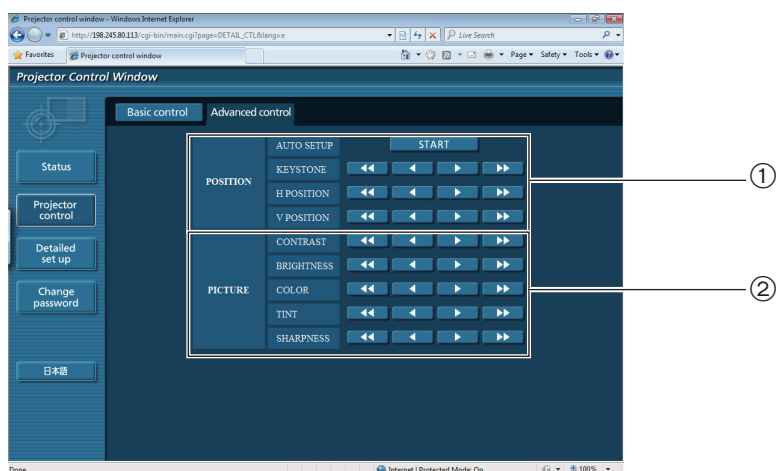
④ Operation of AV mute

⑤ Power On/Off control

⑥ Switches closed captioning

### Detail control page

Click [Projector control], then [Advanced control] to display the Detail control page.



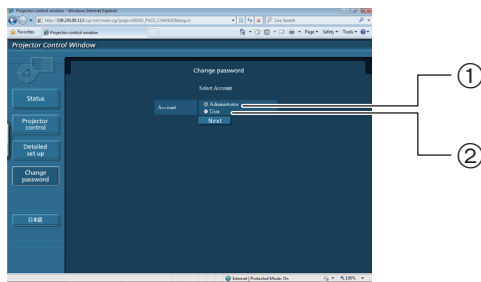
① Operations on field angles

② Operations on image quality

# Using Web Browser (continued)

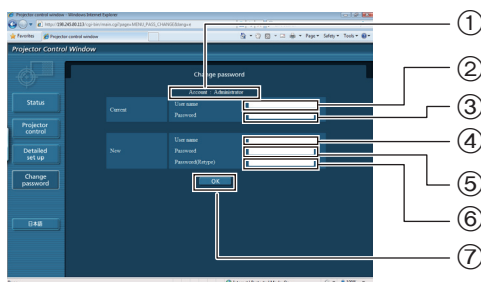
## Change Password page

Click [Change password].



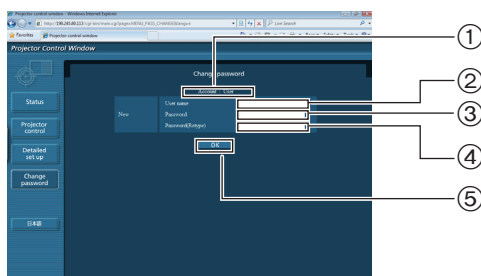
- ① Administrator
- ② User

### ■ Administrator mode



- ① Account
- ② Current user name input field
- ③ Current password input field
- ④ New user name input field
- ⑤ New password input field
- ⑥ New password input field (re-enter for confirmation)
- ⑦ Button for executing password change

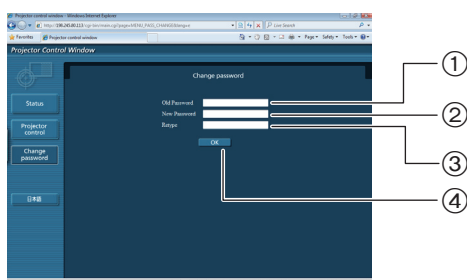
### ■ User account



- ① Account
- ② New user name input field
- ③ New password input field
- ④ New password input field (re-enter for confirmation)
- ⑤ Button for executing password change

### ■ User mode

A user can change password only.



- ① Current password input field
- ② New password input field
- ③ New password input field (re-enter for confirmation)
- ④ Button for executing password change

#### Note

When changing the administrator account, both “Current user name” and “Current password” are required.

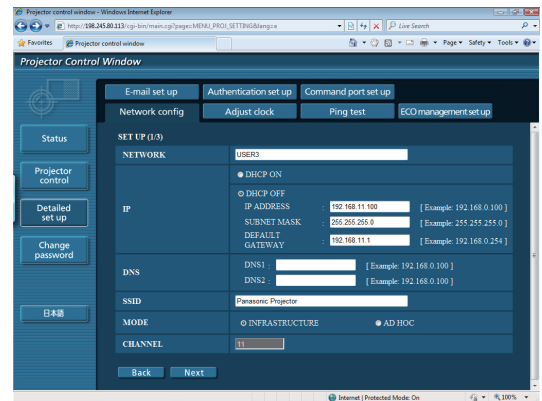
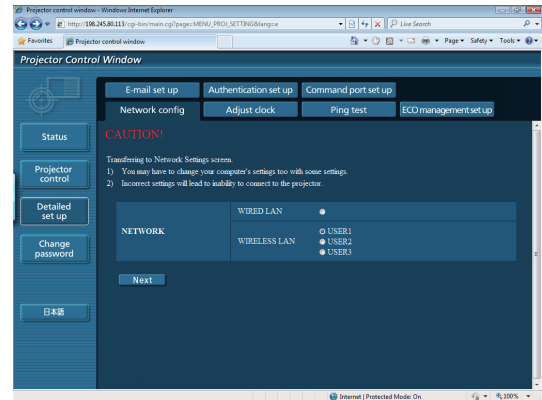
# Using Web Browser (continued)

## Network config page

You can make detail network settings on projector, when connecting without the administrator authority or when connecting through an access point (infrastructure mode).

### ■ LAN settings

- 1 Click [Detailed set up] in the menu.
- 2 Select the items to change and click [Next].  
The settings window appears, showing the current settings.
  - To change the LAN settings, click [Change].
  - To return to the previous window, click [Back].



(Wireless LAN screen)

## Using Web Browser (continued)

### 3 Complete the detailed settings and click [Next].

When [Next] is clicked, the next page appears, enabling you to complete the detailed settings as desired.

Settings performed here are the same as the settings performed with the [NETWORK] menu of the projector, except when “EAP-TLS” is selected as the EAP.

- WIRED LAN (See page 10)
- WIRELESS LAN (See page 11)

#### Notes

- Register user name, password, digital certificate, and CA certificate when the authentication method is “EAP-TLS \*”.

USER NAME : Input a user name used for authentication (excluding spaces) (maximum 64 characters).

PASSWORD : Input a password used for authentication (maximum 64 characters).

DIGITAL CERTIFICATE : Register a digital certificate (extension: PFX) to be used for authentication.

CA CERTIFICATE : Register a CA certificate (extension: CER) to be used for authentication.

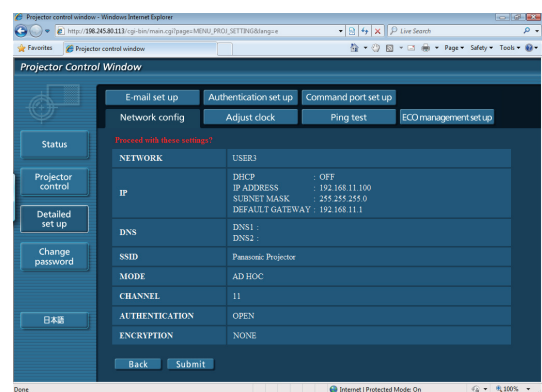
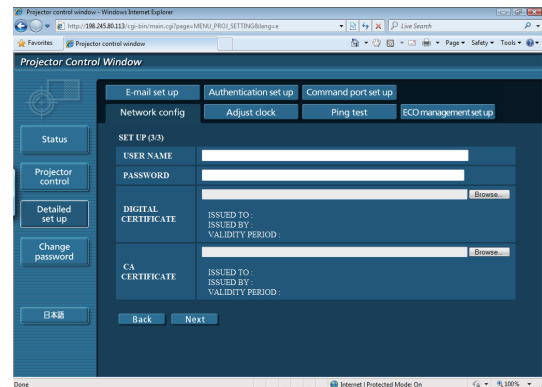
\* “Glossary” (See page 44 – 45)

- Authentication error occurs if the time of the projector is not set correctly.  
Check “PROJECTOR SETUP” → “DATE AND TIME” of the projector.

After all required items have been entered, a confirmation window appears.

### 4 Click [Submit].

The settings will be registered.



(Wireless LAN screen)

### ■ Making the above settings effective (Only for wireless LAN)

Select [WIRELESS LAN] in the network menu of the projector, and use the ◀▶ buttons to select the network set in this page.

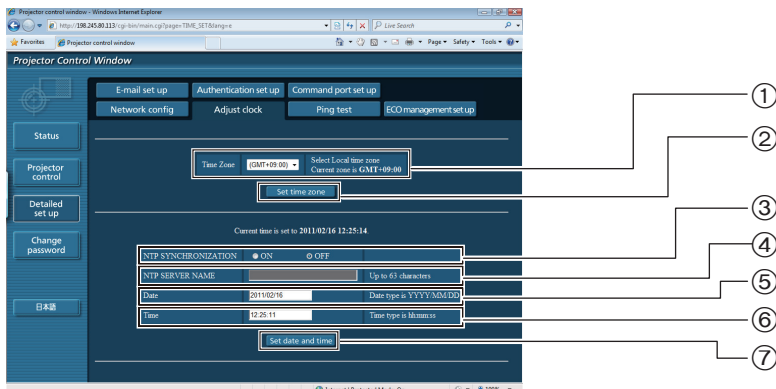
#### Notes

- Important video/audio data is protected because AES encryption processing takes place.
- Changing the setting of LAN while connected with LAN might disconnect the connection.

## Using Web Browser (continued)

### Adjust clock page

Click [Detailed set up], then [Adjust clock] to display the Adjust clock page.



- ① Time zone selection
- ② Button to update time zone setting
- ③ Turn this [ON] to set the date and time automatically.
- ④ When setting the date and time automatically, input the IP address or name of the NTP server. (When inputting the server name, the DNS server must be set.)
- ⑤ New date field
- ⑥ New time field
- ⑦ Button to update time and date settings

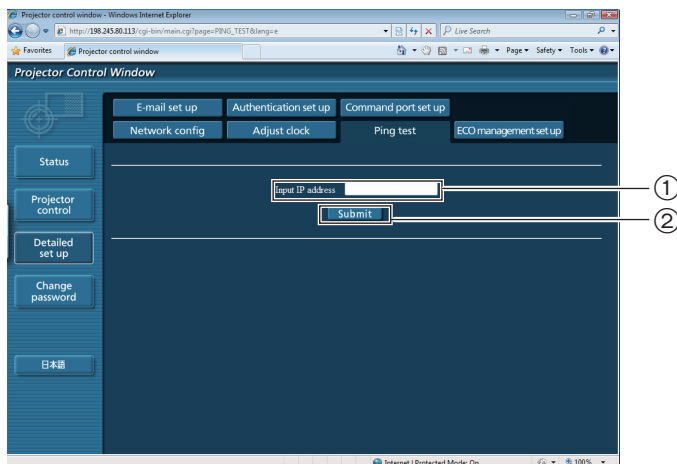
#### Note

If the time becomes incorrect immediately after setting the correct time, then the battery needs to be changed. Contact the dealer where you bought the projector to have the battery changed.

### Ping test page

This page makes it possible to check whether the network is connected to the e-mail server, POP server, DNS server, etc.

Click [Detailed set up], then [Ping test] to display the Ping test page.



Display which appears when the connection was successful.

```
PING 198.245.80.20 (198.245.80.20): 56 data bytes
64 bytes from 198.245.80.20: seq=0 ttl=64 time=0.837 ms
64 bytes from 198.245.80.20: seq=1 ttl=64 time=0.488 ms
64 bytes from 198.245.80.20: seq=2 ttl=64 time=0.479 ms
64 bytes from 198.245.80.20: seq=3 ttl=64 time=0.485 ms

--- 198.245.80.20 ping statistics ---
4 packets transmitted, 4 packets received, 0% packet loss
round-trip min/avg/max = 0.479/0.571/0.837 ms
```

Display which appears when the connection failed.

```
PING 198.245.80.15 (198.245.80.15): 56 data bytes

--- 198.245.80.15 ping statistics ---
4 packets transmitted, 0 packets received, 100% packet loss
```

- ① Enter the IP address of the server to be tested.
- ② Button for conducting the test.

## Using Web Browser (continued)

### E-mail setup page

With this projector, if a problem occurs or if the lamp usage time reaches a set value, an e-mail message can be sent to one or more preset e-mail addresses (maximum two addresses).

Click [Detailed set up], then [E-mail set up] to display the E-mail setup page.

① Select Enable to use the e-mail function.

② Enter the IP address or server name of the e-mail server (SMTP). The DNS server must be set if the server name is entered.

③ Enter the e-mail address of the projector. (maximum 63 characters)

④ The user can enter the location of, for example, the installed projector so that the recipient may easily identify the originator of the e-mail. (maximum 63 characters)

⑤ The user can modify the minimum time interval of temperature warning mail. The default value is 60 minutes. In this case, the user cannot send another mail for 60 minutes after sending previous temperature warning mail even the set warning temperature is reached again.

⑥ Select the temperature of the intake sensor at which to send a warning message.

① Enter the e-mail address of your desired recipient.

② Select the conditions for sending e-mail.

MAIL CONTENTS: Select [NORMAL] or [SIMPLE].

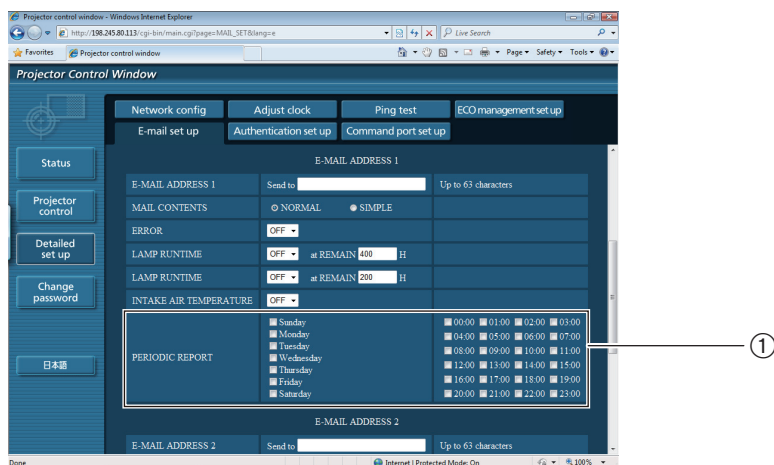
ERROR: An error is detected by self-diagnosis.

LAMP RUNTIME: Remaining lamp service time has reached the value set in the field.

INTAKE AIR TEMPERATURE: Intake air temperature has reached the value set in the field.

## Using Web Browser (continued)

### E-mail setup page (continued)



- ① Check these boxes when e-mail is to be sent periodically to the second e-mail address. E-mail will be sent at the times and on the days checked.

# Using Web Browser (continued)

## E-mail setup page (continued)

The screenshot shows the 'E-mail setup' page in the Projector Control Window. The 'E-mail address 2' section is highlighted with a red box and a circled 1. The 'MAIL CONTENTS' section is highlighted with a red box and a circled 2. The 'PERIODIC REPORT' section is highlighted with a red box and a circled 1. The 'Submit' button is highlighted with a red box and a circled 2.

- ① Enter the e-mail address to which the e-mail is to be sent when two e-mail addresses are going to be used.  
Do not enter it when the second e-mail address is not going to be used.
- ② Select the conditions for sending e-mail to the second e-mail address.  
MAIL CONTENTS: Select [NORMAL] or [SIMPLE].  
ERROR: An error is detected by self-diagnosis.  
LAMP RUNTIME: Remaining lamp service time has reached the value set in the field.  
INTAKE AIR TEMPERATURE: Intake air temperature has reached the value set in the field.

The screenshot shows the 'E-mail setup' page in the Projector Control Window. The 'PERIODIC REPORT' section is highlighted with a red box and a circled 1. The 'Submit' button is highlighted with a red box and a circled 2.

- ① Check these boxes when e-mail is to be sent periodically to the second e-mail address. e-mail will be sent at the times and on the days checked.
- ② Button to update settings

## Using Web Browser (continued)

### Authentication set up page

The POP/SMTP server is set on this page when POP/SMTP authentication is required for mail transmissions. Click [Detailed set up], then [Authentication set up] to display the Authentication server setup page.

- ① Select the authentication method specified by your Internet service provider.
- ② Set this if SMTP authentication has been selected.
- ③ POP server name field  
Available input characters:  
Alphanumeric characters (A - Z, a - z, 0 - 9),  
hyphen (-), period (.)
- ④ POP/SMTP server user name field
- ⑤ POP/SMTP server password field
- ⑥ Enter the port number for the SMTP server (normally "25").
- ⑦ Enter the port number for the POP server (normally "110").
- ⑧ Button to update settings

## Using Web Browser (continued)

### Contents of mail sent

■ Mail with the contents shown below is sent when the e-mail settings have been established.

```
=== Panasonic projector report(CONFIGURE) ===
Projector Type      : FX400
Serial No          : SC1234567

----- E-mail setup data -----
TEMPERATURE WARNING SETUP
MINIMUM TIME       at [ 60 ] minutes interval
INTAKE AIR TEMPERATURE Over [ 32C / 89F ]

ERROR              [ OFF ]
LAMP RUNTIME       [ OFF ] at REMAIN [ 400 ] H
LAMP RUNTIME       [ OFF ] at REMAIN [ 200 ] H
INTAKE AIR TEMPERATURE [ OFF ]
PERIODIC REPORT
Sunday [ OFF ] Monday [ OFF ] Tuesday [ OFF ] Wednesday [ OFF ]
Thursday [ OFF ] Friday [ OFF ] Saturday [ OFF ]

00:00 [ OFF ] 01:00 [ OFF ] 02:00 [ OFF ] 03:00 [ OFF ]
04:00 [ OFF ] 05:00 [ OFF ] 06:00 [ OFF ] 07:00 [ OFF ]
08:00 [ OFF ] 09:00 [ OFF ] 10:00 [ OFF ] 11:00 [ OFF ]
12:00 [ OFF ] 13:00 [ OFF ] 14:00 [ OFF ] 15:00 [ OFF ]
16:00 [ OFF ] 17:00 [ OFF ] 18:00 [ OFF ] 19:00 [ OFF ]
20:00 [ OFF ] 21:00 [ OFF ] 22:00 [ OFF ] 23:00 [ OFF ]

----- check system -----
MAIN CPU BUS      [ OK ]
FAN               [ OK ]
INTAKE AIR TEMPERATURE [ OK ]
EXHAUST AIR TEMPERATURE [ OK ]
LAMP REMAIN TIME  [ OK ]
LAMP STATUS       [ OK ]
AIR FILTER        [ OK ]
INTAKE AIR TEMP.SENSOR [ OK ]
EXHAUST AIR TEMP.SENSOR [ OK ]
BATTERY           [ OK ]
AIRFLOW SENSOR    [ OK ]
COVER OPEN        [ OK ]
(Error code 00 00 00 00 00 00 00 00)

Intake air temperature : 20 degC / 68 degF
Exhaust air temperature : 30 degC / 86 degF
PROJECTOR RUNTIME      100 H
LAMP ON                10 times
LAMP ECO               200 H
LAMP NORMAL            100 H
LAMP REMAIN            1900 H

----- Current status -----
MAIN VERSION          1.00
NETWORK VERSION       1.00
SUB VERSION           1.00
LAMP STATUS           LAMP=OFF
INPUT SIGNAL          COMPUTER

----- Wired Network configuration -----
DHCP Client           OFF
IP address            192.168.10.100
MAC address           00:0B:97:00:00:00

----- Wireless Network configuration -----
IP address            169.254.110.161
MAC address           00:26:4D:A5:CB:B0

Mon Nov 08 14:06:53 2010

----- Memo -----
```

## Using Web Browser (continued)

■ Mail with the contents shown below is sent when an error has occurred.

```
=== Panasonic projector report(ERROR) ===
Projector Type      : FX400
Serial No          : SC1234567

----- check system -----
MAIN CPU BUS        [ OK ]
FAN                 [ OK ]
INTAKE AIR TEMPERATURE [ OK ]
EXHAUST AIR TEMPERATURE [ OK ]
LAMP REMAIN TIME    [ OK ]
LAMP STATUS         [ OK ]
AIR FILTER          [ FAILED ]
INTAKE AIR TEMP.SENSOR [ OK ]
EXHAUST AIR TEMP.SENSOR [ OK ]
BATTERY             [ OK ]
AIRFLOW SENSOR      [ OK ]
COVER OPEN          [ OK ]
(Error code 00 00 04 00 00 00 00)

Intake air temperature : 20 degC / 68 degF
Exhaust air temperature : 30 degC / 86 degF
PROJECTOR RUNTIME      100 H
LAMP ON                10 times
LAMP ECO               200 H
LAMP NORMAL            100 H
LAMP REMAIN            1900 H

----- Current status -----
MAIN VERSION          1.00
NETWORK VERSION       1.00
SUB VERSION           1.00
LAMP STATUS           LAMP=OFF
INPUT SIGNAL          COMPUTER

----- Wired Network configuration -----
DHCP Client           OFF
IP address            192.168.10.100
MAC address           00:0B:97:00:00:00

----- Wireless Network configuration -----
IP address            169.254.110.161
MAC address           00:26:4D:A5:CB:B0

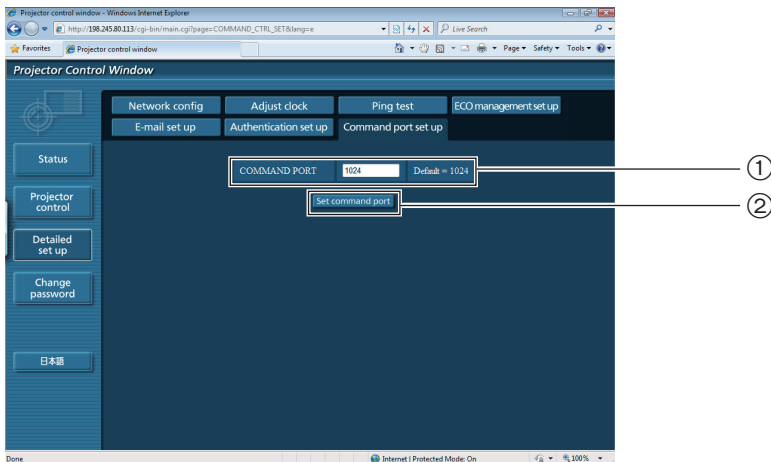
Mon Nov 08 14:06:53 2010

----- Memo -----
```

## Using Web Browser (continued)

### Command port set up page

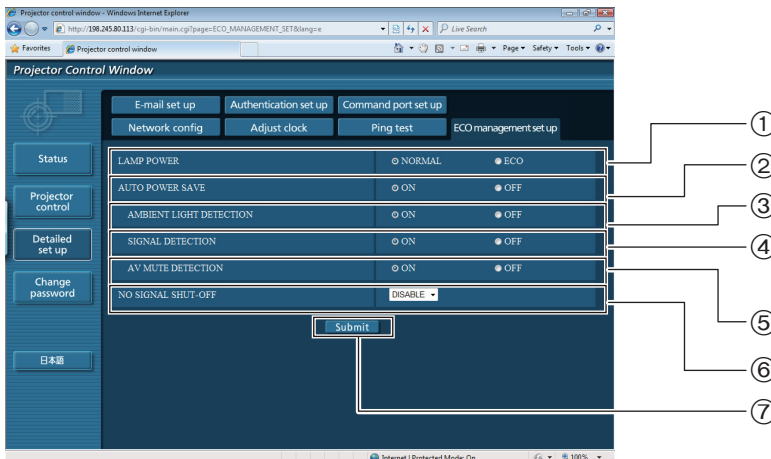
Set the port number to be used with command control.  
Click [Detailed set up] → [Command port set up].



- ① Input the port number to be used with command control
- ② Setting update button

### ECO management set up page

The setting of ECO management of the projector can be performed.  
Settings performed here are the same as the settings performed with “PROJECTOR SETUP” → “LAMP POWER”, “PROJECTOR SETUP” → “ECO MANAGEMENT” → “AUTO POWER SAVE”, “PROJECTOR SETUP” → “ECO MANAGEMENT” → “SIGNAL DETECTION” of the projector.  
Click [Detailed set up] → [ECO management set up].



- ① Select the setting of “LAMP POWER”
- ② Select the setting of “AUTO POWER SAVE”
- ③ Select the setting of “AMBIENT LIGHT DETECTION”
- ④ Select the setting of “SIGNAL DETECTION”
- ⑤ Select the setting of “AV MUTE DETECTION”
- ⑥ Select the setting of “NO SIGNAL SHUT-OFF”
- ⑦ Setting update button

# PJLink protocol

The network function of the projector supports PJLink class 1, and the PJLink protocol can be used to perform projector setting and projector status query operations from a computer.

## Control commands

The following table lists the PJLink protocol commands that can be used to control the projector.

| Command | Control details            | Notes                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| POWR    | Power supply control       | Parameters<br>0 = Standby<br>1 = Power ON                                                                                                                                                                                                                                                                                                                                                                             |
| POWR ?  | Power supply status query  | Parameters<br>0 = Standby      1 = Power ON<br>2 = Cool-down in progress      3 = Warm-up in progress                                                                                                                                                                                                                                                                                                                 |
| INPT    | Input selection            | Parameters<br>11 = RGB1      12 = DVI-I(ANALOG) *1<br>21 = VIDEO      22 = S-VIDEO<br>31 = HDMI      32 = DVI-I(DIGITAL)*2<br>51 = NETWORK                                                                                                                                                                                                                                                                            |
| INPT ?  | Input selection query      | * 1 Enabled when “display options” → “DVI-I IN” → “digital/ analog” setting is “analog”.<br>* 2 Enabled when “display options” → “DVI-I IN” → “digital/ analog” setting is “digital”.                                                                                                                                                                                                                                 |
| AVMT    | AV MUTE control            | Parameters<br>30 = AV MUTE mode off<br>31 = AV MUTE mode on                                                                                                                                                                                                                                                                                                                                                           |
| AVMT ?  | AV MUTE status query       |                                                                                                                                                                                                                                                                                                                                                                                                                       |
| ERST ?  | Error status query         | Parameters<br>1st byte : Indicates fan errors, range 0 – 2<br>2nd byte : Indicates lamp errors, range 0 – 2<br>3rd byte : Indicates temperature errors, range 0 – 2<br>4th byte : Fixed at 0<br>5th byte : Indicates filter errors, range 0 – 2<br>6th byte : Indicates other errors, range 0 – 2<br><br>Definitions for each value from 0 to 2 are as follows.<br>0 = No error known      1 = Warning      2 = Error |
| LAMP ?  | Lamp status query          | Parameters<br>1st digits (1 – 5 digits) : Lamp cumulative operating time<br>2nd digit : 0 = Lamp off, 1 = Lamp on                                                                                                                                                                                                                                                                                                     |
| INST ?  | Input selection list query | The following are returned as parameters.<br>When “display options” → “DVI-I IN” → “digital/ analog” setting is “analog”.<br>“11 12 21 22 31 32 51”<br><br>When “display options” → “DVI-I IN” → “digital/ analog” setting is “digital”.<br>“11 12 21 22 31 32 51”                                                                                                                                                    |
| NAME ?  | Projector name query       | The name set for [NAME CHANGE] in [NETWORK] is returned.                                                                                                                                                                                                                                                                                                                                                              |
| INF1 ?  | Manufacturer name query    | “Panasonic” is returned.                                                                                                                                                                                                                                                                                                                                                                                              |
| INF2 ?  | Model name query           | Answer the model name with either “FW430” or “FX400”                                                                                                                                                                                                                                                                                                                                                                  |
| INF0 ?  | Other information query    | Information such as version number is returned.                                                                                                                                                                                                                                                                                                                                                                       |
| CLSS ?  | Class information query    | “1” is returned.                                                                                                                                                                                                                                                                                                                                                                                                      |

## PJLink protocol (continued)

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### PJLink security authorization

When using PJLink with security authorization, either of the password set for administrator privileges and the password set for user privileges with Web browser control can be used as the password for PJLink (See page 24). When using PJLink without security authorization, set use without the password for administrator privileges and the password for user privileges of Web browser control.

- For specifications regarding PJLink, refer to the Japan Business Machine and Information System Industries Association website.  
URL <http://pjlink.jbmia.or.jp/>

# Control commands via LAN

When WEB Control administrator rights password is set (Protect mode)

## Connection method

### 1) Obtain the IP address and port number (Initial set value = 1024) of the projector and make a request for connection to the projector.

Acquire the IP address from the menu screen of the projector, and the port number from the WEB control page.

**IP address :** Obtain from MAIN MENU → [NETWORK] → [STATUS]

**Port No. :** Acquire from the WEB control “advanced setting” → “command port setting” page

### 2) There is a response from the projector.

Response data

| Data section                  | Blank       | Mode        | Blank       | Random number section                         | Termination symbol |
|-------------------------------|-------------|-------------|-------------|-----------------------------------------------|--------------------|
| “NTCONTROL”<br>(ASCII string) | ‘ ’<br>0x20 | ‘1’<br>0x31 | ‘ ’<br>0x20 | “ZZZZZZZZ”<br>(ASCII code hexadecimal number) | (CR)<br>0x0d       |
| 9 bytes                       | 1 byte      | 1 byte      | 1 byte      | 8 bytes                                       | 1 byte             |

Mode : 1 = Protect mode

### 3) Generate a 32-byte hash value from the following data using MD5 algorithm.

“xxxxxx:yyyyy:zzzzzzzz”

xxxxxx : Administrator rights user name for WEB CONTROL (Default user name is “admin1”)

yyyyy : Password of above administrator rights user (Default password is “panasonic”)

zzzzzzzz : 8-byte random number obtained in Step 2

## Command transmission method

Transmit using the following command format.

Transmitted data

| Header                                           |             |             | Data section                      | Termination symbol |
|--------------------------------------------------|-------------|-------------|-----------------------------------|--------------------|
| Hash value<br>(See above<br><Connection method>) | ‘0’<br>0x30 | ‘0’<br>0x30 | Control command<br>(ASCII string) | (CR)<br>0x0d       |
| 32 bytes                                         | 1 byte      | 1 byte      | Undefined length                  | 1 byte             |

Receive data

| Header      |             | Data section                      | Termination symbol |
|-------------|-------------|-----------------------------------|--------------------|
| ‘0’<br>0x30 | ‘0’<br>0x30 | Control command<br>(ASCII string) | (CR)<br>0x0d       |
| 1 byte      | 1 byte      | Undefined length                  | 1 byte             |

Error response

| Error message                                            |                                                                                                                                                                        | Termination symbol |
|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| “ERR1”<br>“ERR2”<br>“ERR3”<br>“ERR4”<br>“ERR5”<br>“ERRA” | Undefined control command<br>Out of parameter range<br>Busy state or no-acceptable period<br>Timeout or no-acceptable period<br>Wrong data length<br>Password mismatch | (CR)<br>0x0d       |
| 4 bytes                                                  |                                                                                                                                                                        | 1 byte             |

## Control commands via LAN (continued)

When WEB Control administrator rights password is not set (Non-protect mode)

### Connection method

#### 1) Obtain the IP address and port number (Initial set value = 1024) of the projector and make a request for connection to the projector.

Acquire the IP address from the menu screen of the projector, and the port number from the WEB control page.

**IP address :** Obtain from MAIN MENU → [NETWORK] → [STATUS]

**Port No. :** Acquire from the WEB control “advanced setting” → “command port setting” page

#### 2) There is a response from the projector.

##### Response data

| Data section                  | Blank          | Mode           | Termination symbol |
|-------------------------------|----------------|----------------|--------------------|
| “NTCONTROL”<br>(ASCII string) | ‘ ’            | ‘0’            | (CR)               |
| 9 bytes                       | 0x20<br>1 byte | 0x30<br>1 byte | 0x0d<br>1 byte     |

Mode : 0 = Non-protect mode

### Command transmission method

Transmit by the following command format.

##### Transmitted data

| Header |        | Data section     | Termination symbol |
|--------|--------|------------------|--------------------|
| ‘0’    | ‘0’    | Control command  | (CR)               |
| 0x30   | 0x30   | (ASCII string)   | 0x0d               |
| 1 byte | 1 byte | Undefined length | 1 byte             |

##### Receive data

| Header |        | Data section     | Termination symbol |
|--------|--------|------------------|--------------------|
| ‘0’    | ‘0’    | Control command  | (CR)               |
| 0x30   | 0x30   | (ASCII string)   | 0x0d               |
| 1 byte | 1 byte | Undefined length | 1 byte             |

##### Receive data

| Error message |                                    | Termination symbol |
|---------------|------------------------------------|--------------------|
| “ERR1”        | Undefined control command          | (CR)<br>0x0d       |
| “ERR2”        | Out of parameter range             |                    |
| “ERR3”        | Busy state or no-acceptable period |                    |
| “ERR4”        | Timeout or no-acceptable period    |                    |
| “ERR5”        | Wrong data length                  |                    |
| “ERRA”        | Password mismatch                  |                    |
| 4 bytes       |                                    | 1 byte             |

# Glossary

| Item                                        | Descriptions                                                                                                                                                                                                                                                                                                                                                                              | See page                            |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| <b>Access point</b>                         | These are stations for relaying electromagnetic signals between computers in a wireless LAN. When a computer is connected to an access point, it can communicate through the network connected to the access point.                                                                                                                                                                       | <b>12</b>                           |
| <b>AD HOC</b>                               | This is the mode in which computers communicate with each other directly, rather than via access points.                                                                                                                                                                                                                                                                                  | <b>12</b>                           |
| <b>AES</b>                                  | Next generation standard cryptography standardized by the National Institute of Standards and Technology (NIST).<br>AES: Advanced Encryption Standard                                                                                                                                                                                                                                     | <b>13</b>                           |
| <b>Default Gateway</b>                      | The devices that are used for different network standards from yours. Default Gateway enables a connection with other network, by adjusting bilateral differences such as communication protocols. If no gateway is specified for the IP address of access destination, data will be sent to the host set as the default gateway.                                                         | <b>10</b><br><b>12</b><br><b>22</b> |
| <b>DHCP</b>                                 | Abbreviation for Dynamic Host Configuration Protocol. This function automatically assigns IP addresses to the connected equipment. If a device with the DHCP server function is present within a LAN, it automatically assigns IP addresses to the connected equipment.                                                                                                                   | <b>10</b><br><b>12</b><br><b>22</b> |
| <b>EAP</b>                                  | Abbreviation of PPP Extensible Authentication Protocol. An authentication protocol extended from PPP, which is used for user authentication for remote access. MD5, TLS, S/Key, etc. are supported as authentication methods. This protocol is adopted by the wireless LAN authentication standard IEEE 802.1X, and available methods include EAP-TLS/EAP-TTLS/EAP-LEAP/EAP-PEAP/EAP-MD5. | <b>14</b>                           |
| <b>EAP-FAST</b>                             | Abbreviation of EAP-Flexible Authentication via Secure Tunneling. It is one of the wireless authentication methods compatible with IEEE 802.1X. It does not require digital authentication, but establishes a tunnel for the authentication process using a secret key cryptosystem, and authenticates the tunnel mutually to improve security. Cisco's proprietary method.               | <b>14</b>                           |
| <b>EAP-TTLS</b>                             | Abbreviation of EAP-Tunneled Transport Layer Security. It is one of the wireless authentication methods compatible with IEEE 802.1X. It performs mutual authentication with a digital certificate by the authentication server, and ID/ password by the client. A tunnel is established for the authentication process. Developed by Func Software in the U.S.                            | <b>14</b>                           |
| <b>EAP-TLS</b>                              | Abbreviation of EAP-Transport Layer Security. It is one of the wireless authentication methods compatible with IEEE 802.1X. This authentication method uses a digital certificate, and performs mutual authentication of client and server using a digital certificate.                                                                                                                   | <b>14</b><br><b>31</b>              |
| <b>GTC (EAP-GTC)</b>                        | Abbreviation of EAP-Generic Token Card. It is one of the wireless authentication methods compatible with IEEE 802.1X. Authentication is performed with ID and password. Password is acquired from a security token.                                                                                                                                                                       | <b>14</b>                           |
| <b>INFRASTRUCTURE (infrastructure mode)</b> | This is the mode in which communications are performed via the access point.                                                                                                                                                                                                                                                                                                              | <b>12</b>                           |
| <b>IP address</b>                           | Internet Protocol (IP) is a protocol for distributing data, and the address corresponding to the data distribution destination is called the IP address. The same IP address cannot be used within the same LAN.                                                                                                                                                                          | <b>10</b><br><b>12</b><br><b>22</b> |
| <b>LAN</b>                                  | Abbreviation for Local Area Network. This is a network with a relatively narrow range such as inside a company.                                                                                                                                                                                                                                                                           | <b>7</b>                            |

## Glossary (continued)

| Item                             | Descriptions                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | See page                            |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| <b>MAC address</b>               | Each network adapter has its own ID No. A discrete ID No. is assigned to each and every network adapter around the world. These IDs are used to exchange data between adapters. These IDs are a combination of a discrete number managed and assigned by the IEEE to each individual manufacturer and a unique number assigned to each individual adapter by the manufacturer.                                                                                                    | <b>20</b>                           |
| <b>MD5 (EAP-MD5)</b>             | Abbreviation of EAP-Message digest algorithm 5. It is one of the wireless authentication methods compatible with IEEE 802.1X. Authentication is performed with ID and password. Password is sent encrypted with challenge & response method.                                                                                                                                                                                                                                      | <b>14</b>                           |
| <b>MS-CHAPv2 (EAP-MS-CHAPv2)</b> | Abbreviation of EAP-Microsoft Challenge Handshake Authentication Protocol v2. It is one of the wireless authentication methods compatible with IEEE 802.1X. It performs mutual authentication using a one-way encrypted password.                                                                                                                                                                                                                                                 | <b>14</b>                           |
| <b>Open System/ OPEN</b>         | This is an authentication of wireless signals employing a public key cryptosystem.                                                                                                                                                                                                                                                                                                                                                                                                | <b>13</b>                           |
| <b>PEAP</b>                      | Abbreviation for EAP-Protected EAP. It is one of the wireless authentication methods compatible with IEEE 802.1X. It performs mutual authentication with a digital certificate by the authentication server, and ID/password by the client.                                                                                                                                                                                                                                       | <b>14</b>                           |
| <b>RADIUS server</b>             | RADIUS is an abbreviation of Remote Access Dial In User authentication Service, and it is a protocol used for authentication in various networks such as wireless LAN. An authentication server compatible with the protocol is called a RADIUS server.<br>The RADIUS server eliminates the need of registering user information separately in each device even when there are multiple network devices, and enables integrated management of multiple network devices and users. | <b>14</b>                           |
| <b>Shared Key/ SHARED</b>        | This is a secret key cryptosystem for wireless signals in which authentication is performed with a key pre-set in the WEP.<br>Other terms for this method, in which the same key is used for both encryption and decryption, are “shared key cryptosystem” and “common key cryptosystem”.                                                                                                                                                                                         | <b>13</b>                           |
| <b>SSID</b>                      | Abbreviation for Service Set ID. The SSID identification code must be set to distinguish equipment included in a wireless LAN that uses access points from equipment not included in that LAN.<br>This may appear as the “ESSID” or the “network name” for wireless LAN adapters made by some manufacturers.                                                                                                                                                                      | <b>12</b><br><b>22</b>              |
| <b>Subnetmask</b>                | This limits the range of the IP addresses assigned to computers in order to divide the network into a number of sections during TCP/IP connection. The value used to divide the network at this time is called the subnetmask.                                                                                                                                                                                                                                                    | <b>10</b><br><b>12</b><br><b>22</b> |
| <b>TKIP</b>                      | Abbreviation for Temporal Key Integrity Protocol.<br>This encryption protocol provides even greater security than WEP because it changes the encryption key at fixed intervals.                                                                                                                                                                                                                                                                                                   | <b>13</b>                           |
| <b>WEP</b>                       | Abbreviation for Wired Equivalent Privacy. This is a method for encrypting communication data. The encryption key is created and notified only to the communicating user, so the communication data cannot be decrypted by a third party.                                                                                                                                                                                                                                         | <b>13</b>                           |
| <b>WPA-EAP WPA2-EAP</b>          | Standard for the encryption method for wireless LAN. This is an encryption method for corporations, and encryption is performed using the external server.                                                                                                                                                                                                                                                                                                                        | <b>13</b>                           |
| <b>WPA-PSK WPA2-PSK</b>          | This is a standard covering encryption methods used in wireless LAN. It provides greater security than WEP, and has functions such as a user authentication function and also TKIP (encryption protocol) which automatically changes the encryption key at fixed intervals.<br>And this authentication requires no authentication server.                                                                                                                                         | <b>13</b>                           |

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Web Site : <http://panasonic.net/avc/projector/>

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