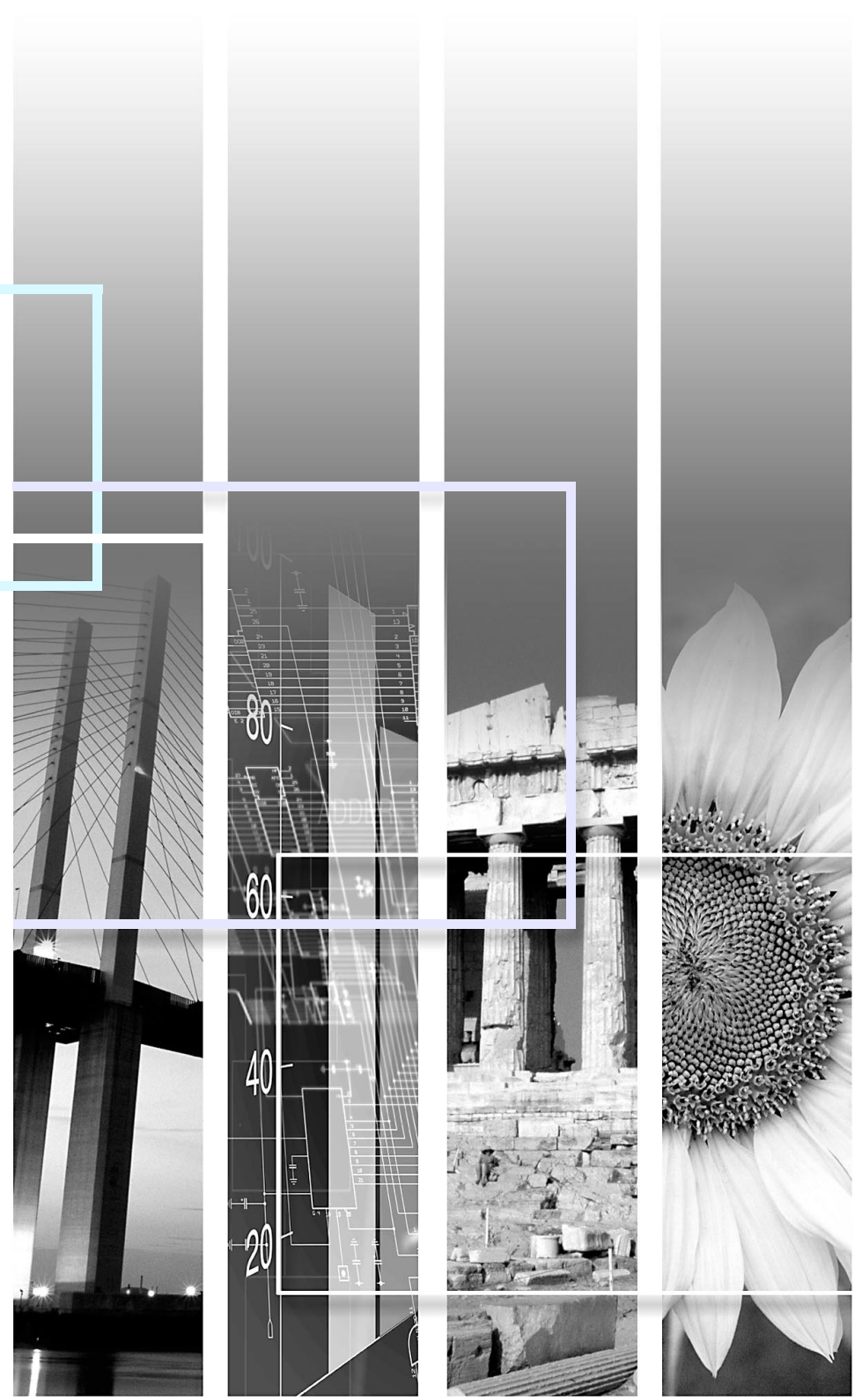







EPSON®

EMP NetworkManager Operation Guide



| | |
|--|---|
|  CAUTION | Indicates procedures which may result in damage or injury if sufficient care is not taken. |
|  TIP | Indicates additional information and points. |
|  | Indicates a page where useful information regarding a topic can be found. Click on the page number to display that page. |
|  | Indicates that an explanation of the underlined word or words in front of this symbol appears in the glossary of terms. Click the underlined word or words to display the corresponding entry in the "Glossary".  p.17 |
| PROCEDURE | Indicates operating methods and the order of operations. The procedure indicated should be carried out in the order of the numbers. |
| [(Name)] | Indicates names of buttons on the projector's control panel and on the remote control, and also names of the projector's input and output ports. Example: [Esc] |
| [(Menu name)] | Indicates buttons and menu names that appear on the screen. Example: "OK" |

■ Meaning of "unit" and "projector"

When "unit" or "projector" appears in the text of this *Guide*, it may refer to items which are accessories or optional equipment in addition to the main projector unit itself.

| | | | |
|--|-----------|---|-----------|
| Notations Used in This Guide | 1 | Batch Settings Using a Configuration File | 14 |
| What You Can Do With EMP NetworkManager | 3 | Creating a Configuration File | 14 |
| Operating Environment | 3 | Loading the Configuration File into a Projector | 15 |
| Before Operations | 3 | Glossary | 17 |
| Uninstalling the Software..... | 4 | | |
| Starting the EMP NetworkManager | 5 | | |
| EMP NetworkManager Window | 5 | | |
| Connecting to the Projector | 6 | | |
| Setting Network Parameters | 7 | | |
| Basic Network Settings | 7 | | |
| Setting the Mail Notification Function | 8 | | |
| Setting the SNMP | 10 | | |
| Wireless LAN Settings..... | 11 | | |
| If the Required Projector is Not Displayed | 13 | | |
| Connection by Specifying an IP Address | 13 | | |
| Importing the List Registered by EMP Monitor | 13 | | |

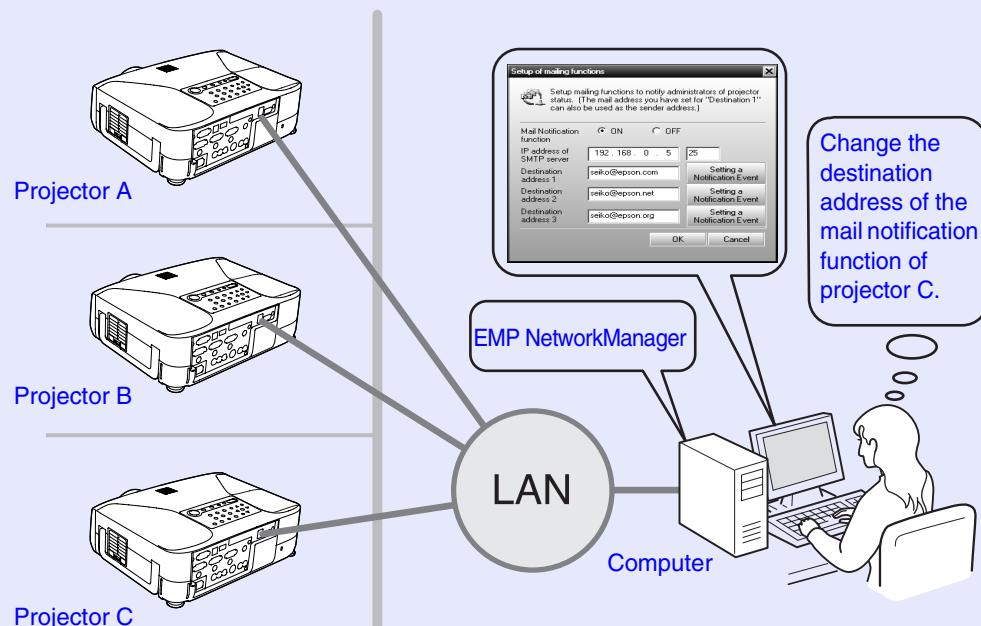
What You Can Do With EMP NetworkManager

3

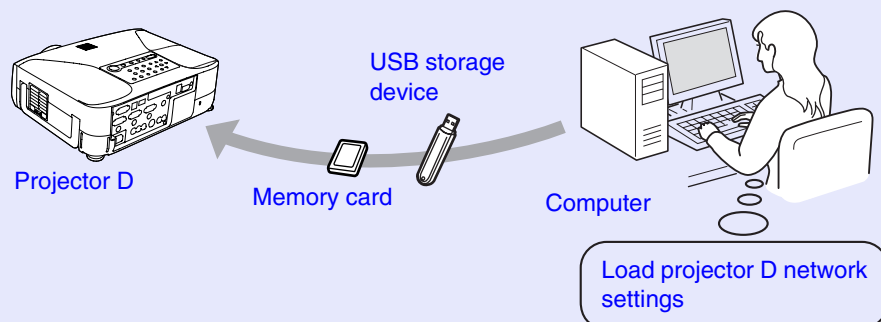
By using the EMP NetworkManager, you can change the current network setup of a projector from the computer.

You can change the projector name, LAN setup, mail notification function setup and SNMP setup.

Up to 64 projectors can be set.



In addition, the network setting details can be exported to a file and loaded into the projector in order to make the network settings for the projector.



TIP

You can use the web browser on a computer that is connected to the network to make projector settings from the computer (EasyWeb). Refer to the projector manuals for more information on EasyWeb.

Operating Environment

EMP NetworkManager will run under the following operating environment.

* Macintosh computers cannot be used.

| | |
|---------------------------------|--|
| OS* | Windows 98 SE/Me/NT4.0 (SP6a, upper IE5)/2000 Professional/XP Home Edition/XP Professional |
| CPU | Pentium MMX 166 MHz or higher frequency CPU (Pentium II 233 MHz or higher is recommended.) |
| Memory capacity | 7 MB or more (10 MB or more is recommended.) |
| Available hard drive disk space | 250 KB or more |
| Display unit | XGA (1024 × 768) or higher resolution, and 16-bit or higher colour display |

Before Operations

Check the following notes before starting the EMP NetworkManager.

- The EMP NetworkManager software must be installed in the computer to be used.
- The computer and projectors must be ready to be connected to the network.

Uninstalling the Software

To uninstall the projector software, select "Control Panel" from "My Computer", double-click "Add/Remove Programs", select the programs to be uninstalled, and then click "Add/Remove" (or "Change/Remove" if you are using Windows XP).



TIP

If using Windows 2000/NT4.0/XP, only a user with administrator privileges can uninstall the software.


Starting the EMP NetworkManager

5

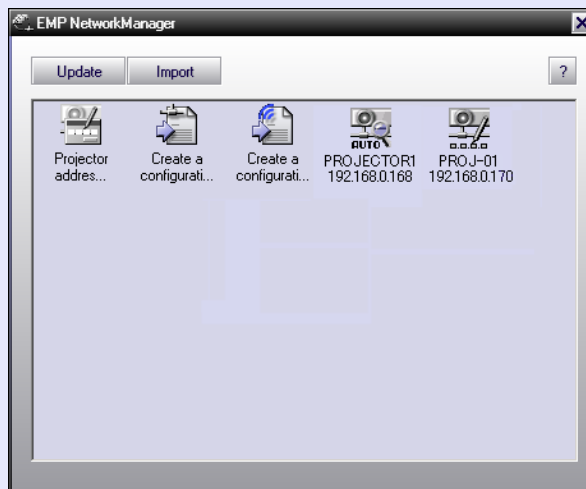
Start up the EMP NetworkManager from the Windows screen.

PROCEDURE





Select "Start" - "Program" (or "All Programs") - "EPSON Projector" - "EMP NetworkManager" in this order to start the EMP NetworkManager.







If the projector icon is not displayed, see "If the Required Projector is Not Displayed".  [p.13](#)

EMP NetworkManager Window



This shows projectors and functions using the following icons.

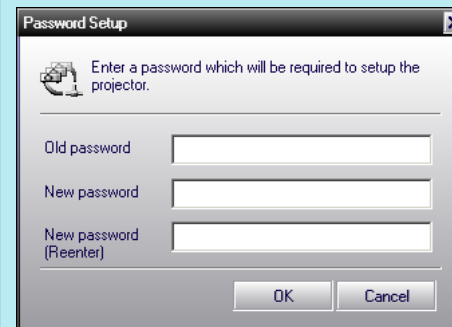
| | |
|---|---|
|  | This icon is used to specify an IP address to connect a projector. If you double-click the icon, the "IP Address Setup" window is displayed.  p.13 |
|  | This icon is used to create configuration files for projectors that are connected to a network via a wired LAN.  p.14 |

| | |
|---|--|
|  | This icon is used to create configuration files for projectors that are connected to a network via a wireless LAN.  p.14 |
|  | The projector which has been detected automatically.  p.7 |
|  | One of the following projectors.  p.7 <ul style="list-style-type: none">• Projectors registered using "Projector address selection"• The projector which has been registered by the EMP Monitor. |



TIP

We recommend you to set up a password for security. To do so, right-click the projector icon and select "Change Password". Now, you can change the administrator user (Admin) password.

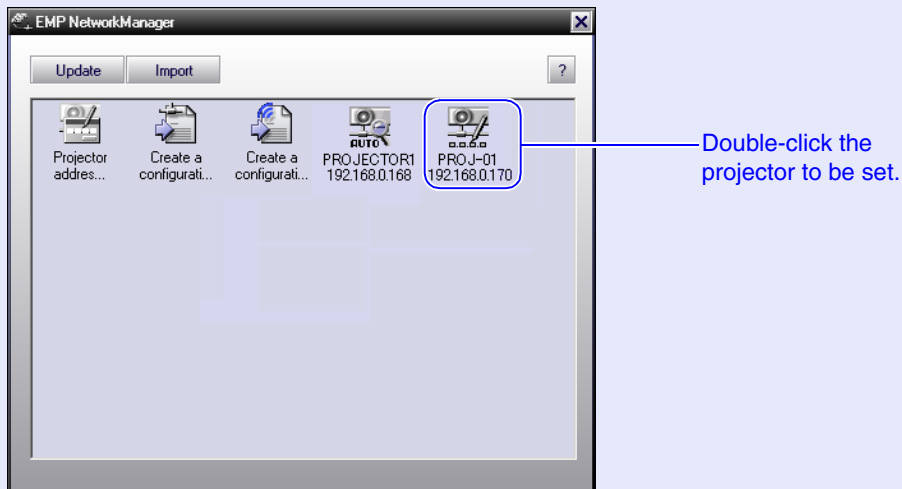


Connecting to the Projector

Use the following procedure to connect the computer to the projector using the EMP NetworkManager.

PROCEDURE

Double-click the projector icon for network setup.



The projector will be connected and the "Setup for Network Projector" window will appear.



TIP

If the password entry window appears, enter the password of projector administrator (having the Admin identification) and click "OK".

The administrator's password is not set in the initial setup. We recommend you to set a password of the administrator user (having the Admin identification) for security.

Right-click the projector icon of NetworkManager to set the password.

Basic Network Settings

When a projector is connected, the projector name and its network setup data are displayed.

When the "DHCP" is set to "ON", you cannot modify the network setup data. At initial value, "DHCP" is set to "OFF".

For projectors connected to a wired LAN

Setup for Network Projector

Set up the network of the projector.

MAC: 12:34:56:78:90:00

Projector name: PROJ-01

DHCP: ☐ ON ☒ OFF

IP address: 192 . 168 . 0 . 170

Subnet mask: 255 . 255 . 255 . 128

Gateway address: 192 . 168 . 0 . 129

Primary DNS:

Secondary DNS:

DNS domain name:

WINS 1:

WINS 2:

Priority gateway: ☒ Wired LAN ☐ Wireless LAN

Mail Notification Settings SNMP

Wireless LAN

Save Set Cancel

Cannot be selected

For projectors connected to a wireless LAN

Setup for Network Projector

Set up the network of the projector.

MAC: 12:34:56:78:90:00

Projector name: PROJ-02

DHCP: ☐ ON ☒ OFF

IP address: 192 . 168 . 0 . 171

Subnet mask: 255 . 255 . 255 . 128

Gateway address: 192 . 168 . 0 . 129

Primary DNS:

Secondary DNS:

DNS domain name:

WINS 1:

WINS 2:

Priority gateway: ☐ Wired LAN ☒ Wireless LAN

Mail Notification Settings SNMP

Wireless LAN

Save Set Cancel




PROCEDURE

1

Correct any of the following options if you wish to change.

| | |
|---------------------------------|---|
| Projector name | Enter a projector name. You can enter up to a maximum of 15 single-byte alphanumeric characters and "-" (hyphens). A projector name consisting of only digits is not allowed. |
| DHCP | Select "ON" to use the Dynamic Host Configuration Protocol (DHCP) for automatic IP address assignment. Select "OFF" to set the IP address manually. |
| IP address | Enter an IP address of the projector. You can enter numbers from 0 to 255 in each field of the IP address. However, the following IP addresses cannot be used. 0.0.0.0, 127.x.x.x, 224.0.0.0 to 255.255.255.255 (where x is a number between 0-255) |
| Subnet mask | Enter an IP address of the subnet mask. You can enter numbers from 0 to 255 in each field of the IP address. However, the following subnet masks cannot be used. 0.x.x.x to 254.255.255.255 , 255.255.255.255 (where x is a number between 0-255) |
| Gateway address | Enter an IP address of the default gateway. You can enter numbers from 0 to 255 in each field of the IP address. However, the following gateway address cannot be used. 0.0.0.0, 127.x.x.x, 224.0.0.0 to 255.255.255.255 (where x is a number between 0-255) |
| Primary DNS ^{*1} | Enter the first IP address for the DNS. |
| Secondary DNS ^{*1} | Enter the second IP address for the DNS. |
| DNS domain name ^{*1*3} | Specifies the DNS network domain for operating the projector. |
| WINS 1 ^{*1*3} | Specify the first IP address for the WINS server. |
| WINS 2 ^{*1*3} | Specify the second IP address for the WINS server. |



| | |
|-------------------------------------|--|
| Priority gateway ^{*2} | Specifies which network to use from "Wired LAN" or "Wireless LAN" to send problem notifications by SNMP traps or e-mail. |
| "Mail Notification Settings" button | When this button is clicked, the mail notification function can be set.  p.8 |
| " SNMP " button | When this button is clicked, the management functions by the SNMP can be set.  p.10 |
| "Wireless LAN" button | Click this button to make wireless LAN settings.  p.11 |
| "Save" button | When this button is clicked, your setup is saved in the specified file. |

*1 Some settings may not be possible depending on the model of projector.
Items that cannot be set will be greyed out.

*2 This item may not be displayed depending on the model of projector.

*3 The DNS domain name and the WINS1/WINS2 setting values return to the default settings the next time EMP NetworkManager is started.
Change the settings again if necessary.

2 Click the "Set" button.

The end of setup window will appear.



TIP

If you set the mail notification function to "ON", modify any of the parameters of the mail notification function and then click the "Set" button, a confirmation message for test message transmission will be displayed. If you click "Yes", the test message will be sent and the final setup screen will be displayed.

3 Click the "OK" button.


Your setup will be entered.

Setting the Mail Notification Function

The mail notification function can be used to send notification messages to preset e-mail addresses when a problem or warning occurs with a projector that is connected to the network. By using this function, the operator can be notified of problems with projectors even at locations away from projectors.



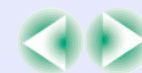
TIP

- *Up to a maximum of three notification destinations (addresses) can be recorded, and notification messages can be sent to all three destinations at once.*
- *If a critical problem develops with a projector which causes it to suddenly stop working, it may not be possible for the projector to send a message notifying an operator of the problem.*
- *If "Standby Mode" in the projector's configuration menu is set to "Network ON", network monitoring and control functions can be used even when the projector is in standby mode (when the power is turned off).  Projector's User's Guide*

PROCEDURE

1

Click the "Mail Notification Function" button in the "Setup for Network Projector" window.

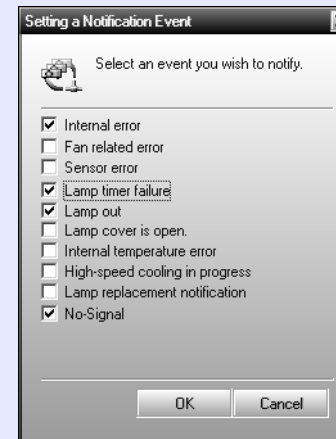


2 Set the following parameters.



| | |
|---|---|
| Mail Notification function | Set to "ON" to use the mail notification function. |
| IP address of SMTP server | Specify an IP address of the SMTP server. You can enter numbers from 0 to 255 in each field of the IP address. However, the following IP address cannot be used. 127.x.x.x, 224.0.0.0 to 255.255.255.255 (where x is a number between 0-255) When you change a port number of the SMTP server, specify this port number. The default value is "25". You can enter a valid number from 1 to 65535. |
| Destination address 1 | Specify the destination address of the notification mail. Up to three destinations can be set. You can enter up to 64 single-byte alphanumeric characters. The address you have set as "Destination address 1" is also used as the source address. |
| Destination address 2 | |
| Destination address 3 | |

3 Click the "Setting a Notification Event" button and check the items for mail notification in the window that appears.



4 Click the "OK" button.

When the "Setup of mailing functions" window appears again, repeat Steps 3 and 4 to set the events to be notified.

5 When the setup is complete, click the "OK" button.

The "Setup for Network Projector" window will appear again.



TIP

If you set the mail notification function to "ON" and modify any of the parameters of the mail notification function, a confirmation message for test message transmission will be displayed when you click the "Set" button in the "Setup for Network Projector" window. If you click "Yes", the test message will be sent.

Setting the SNMP

When the projector's SNMP settings are enabled, the projector can send notification messages to preset computers when a problem or warning occurs with the projector. By using this function, the operator can be notified of problems with projectors even at locations away from the projector.

PROCEDURE

- 1 Click the "SNMP" button in the "Setup for Network Projector" window.
- 2 Set the following parameters and then click the "OK" button.



TIP

- *Up to two destination IP addresses can be recorded, so that if the notification message cannot be sent to the first IP address specified, it will be sent to the second IP address instead.*
- *Management using SNMP should always be carried out by somebody who is familiar with networks such as a network administrator.*
- *Monitoring projectors by using the SNMP function requires SNMP manager program to be installed in the computer.*

| | |
|-----------------------------------|--|
| Trap IP address 1 | Enter the IP address for the computer that is to receive projector warning notifications. If a notification cannot be sent to the IP address that is set for "Trap IP Address 1", then it is sent to the IP address that has been set for "Trap IP Address 2". |
| Trap IP address 2 | You can enter numbers from 0 to 255 in each field of the IP address. However, the following IP addresses cannot be used. 127.x.x.x, 224.0.0.0 to 255.255.255.255 (where x is a number between 0-255) |
| Community Name | Enter a community name of the SMNP. Up to 8 alphanumeric characters can be entered. |

Wireless LAN Settings

If you click "Wireless LAN", the wireless LAN settings will be displayed. To make the wireless LAN settings by selecting a projector icon, the computer and the projector must be connected by means of a wireless LAN. Wireless LAN settings cannot be made in the following cases.

- If there is no wireless LAN card inserted in the projector's card slot
- If the projector and the computer are connected by means of a wired LAN
- If the projector does not support wireless LAN functions

To make the wireless LAN settings by selecting the "Create a configuration file (wireless)" icon (🖱️ p.14), the computer and the projector do not need to be connected by means of a wireless LAN.

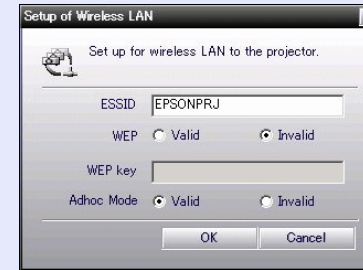
PROCEDURE

- 1 Click "Wireless LAN" in the network setup window.

2

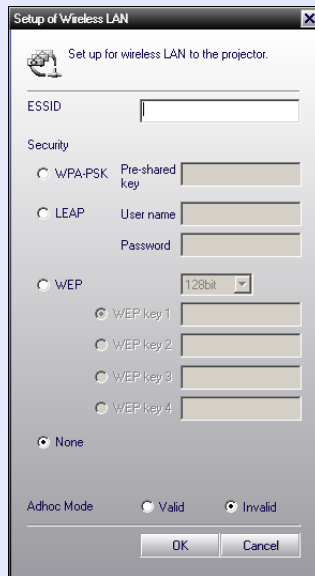
Make the following settings, and then click "OK".

Either of the following windows will be displayed depending on the type of projector.



| | |
|----------------|---|
| <u>ESSID</u> » | Enter the ESSID for the wireless LAN unit. You can enter up to a maximum of 32 single-byte alphanumeric characters and "-" (hyphens). This can also be omitted. |
| <u>WEP</u> » | A WEP key is used to encode the transmitted data. Select "Valid" to encrypt the data. If you select "Invalid", the "WEP key" setting will also be disabled. |
| WEP key | Enter the encryption key. When an encryption key is registered, data cannot be transmitted unless the encryption keys at the computer and the projector are identical to each other. Enter an encryption key containing the following single-byte alphanumeric characters. For ASCII character input: 5 or 13 characters For hexadecimal input: 10 or 26 characters |
| AdHoc Mode | Select "Valid" when you would like the projector to connect directly to a computer using a wireless LAN, without using an access point. If using easy connect mode in NetworkScreen, select "Valid". If using a projector with EasyMP installed, easy connect mode will be selected automatically when you set ad hoc mode to "Valid". Because the IP address for the projector is assigned automatically when you use easy connect mode, settings in "Setup for Network Projector" become invalid. |





| | | |
|----------|------------------------------|--|
| ESSID | | Enter the ESSID for the wireless LAN unit. You can enter up to a maximum of 32 single-byte alphanumeric characters or symbols* ² . This can also be omitted. |
| Security | | Select the security setting to be used from " WPA-PSK ", " LEAP " or " WEP ". If you do not want to make any security settings, select "None". |
| WPA-PSK | Pre-shared key* ¹ | Enter the PSK (Pre-shared key) for WPA. You can enter between 8–63 single-byte alphanumeric characters or symbols* ² . |
| LEAP | User name* ¹ | Enter the username. You can enter up to a maximum of 64 single-byte alphanumeric characters or symbols* ² . |
| | Password* ¹ | Enter a password. You can enter up to a maximum of 64 single-byte alphanumeric characters or symbols* ² . The password entered is displayed as "*****". |

| | | |
|------------|--------------|---|
| WEP | 64bit/128bit | The encryption method for WEP encryption can be selected from "64bit" or "128bit". |
| | WEP key | Enter the encryption key. Up to four keys can be entered. When an encryption key is registered, data cannot be transmitted unless the encryption keys at the computer and the projector are identical to each other. Enter an encryption key containing the following single-byte alphanumeric characters. For ASCII character input: 5 or 13 characters For hexadecimal input: 10 or 26 characters |
| AdHoc Mode | | Select "Valid" when you would like the projector to connect directly to a computer using a wireless LAN, without using an access point. If using easy connect mode in NetworkScreen, select "Valid". If using a projector with EasyMP installed, easy connect mode will be selected automatically when you set ad hoc mode to "Valid". Because the IP address for the projector is assigned automatically when you use easy connect mode, settings in "Setup for Network Projector" become invalid. |

*1 This setting can only be made when the "Create a configuration file (wireless)" icon is selected to make the network settings. It cannot be made when you have selected a projector icon to make the network settings.

*2 The space and colon characters cannot be entered.



If the Required Projector is Not Displayed

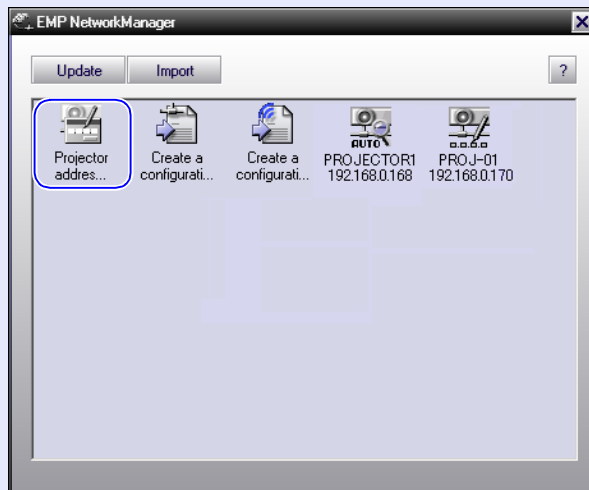
13

If an icon of the required projector is not displayed in EMP NetworkManager, use the following procedure.

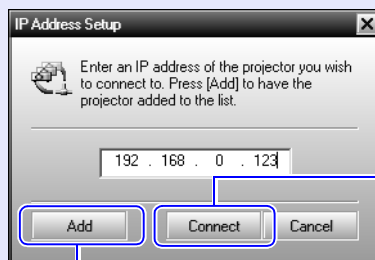
Connection by Specifying an IP Address

PROCEDURE

- 1 Double-click the "Projector address selection" icon.



- 2 Enter an IP address of the projector to be connected.



Click this button to connect to the specified projector.

Click this button to add the specified projector. The icon of this projector is displayed.

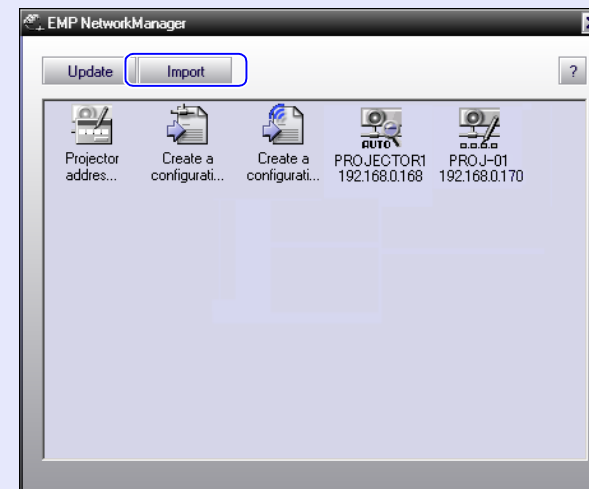
- 3 Click the "Connect" button.

Importing the List Registered by EMP Monitor

You can load and use the projector list that has been registered using EMP Monitor that is contained on the CD-ROM included with the projector.

PROCEDURE

- 1 Click the "Import" button.



- 2 Select the file that has been registered using EMP Monitor and then click the "Open" button.

The icon of the projector you have monitored using EMP Monitor is added.

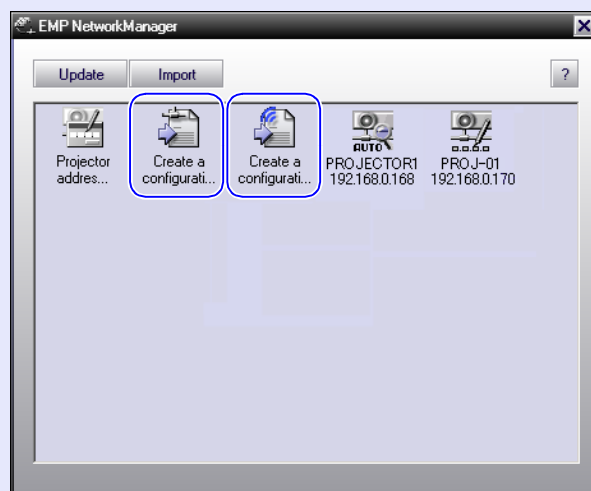
You can make network settings for projectors by exporting the network settings to a file and loading this file into the projectors.

Creating a Configuration File

PROCEDURE

- 1 Double click the "Create a configuration file (wired)" or the "Create a configuration file (wireless)" icon.

If the projector is connected to a wired LAN, click the "Create a configuration file (wired)" icon; if the projector is connected to a wireless LAN, click the "Create a configuration file (wireless)" icon.



- 2 Make the required settings in the network setting window, and then click "Create".

The setting method for each item is the same as when the window has been displayed using a projector icon. [p.7](#)

Create a configuration file (wired)

Create a configuration file (wireless)

Cannot be selected

- 3 Enter a filename, and then save the configuration file.
Save the configuration file onto a memory card or USB storage device.



**TIP**

- *The configuration file is encrypted in a unique way for that file, so the setting details (such as WEP encryption key) cannot be viewed.*
- *The configuration file is saved with a .ncf extension. Do not change this extension. If the extension is changed to something other than .ncf, it will not be possible to apply the settings to projectors.*
- *Do not use double-byte characters in the filename.*

Loading the Configuration File into a Projector

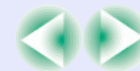
PROCEDURE

- 1 Press the [Power] button on the remote control to turn the power on for the projector.**
- 2 Carry out either of the following operations.**
 - Insert the memory card containing the configuration file into the projector's card slot.
 - Connect the USB storage device containing the configuration file to the projector's [USB Type A] port and turn on the power.
- 3 Press the [EasyMP] button on the remote control and check that "EasyMP" is displayed on the projection screen.**

CardPlayer will start and the contents of the memory card or USB storage device will be displayed.
- 4 Tilt the [⦿] button on the remote control to move the cursor to the file to be loaded into the projector.**

**TIP**

Refer to the projector's User's Guide for details on inserting the memory card or USB storage device.



5 Press the [Enter] button on the remote control.

The Easy menu will be displayed.



6 Check that the cursor is positioned at "Set", and then press the [Enter] button on the remote control.

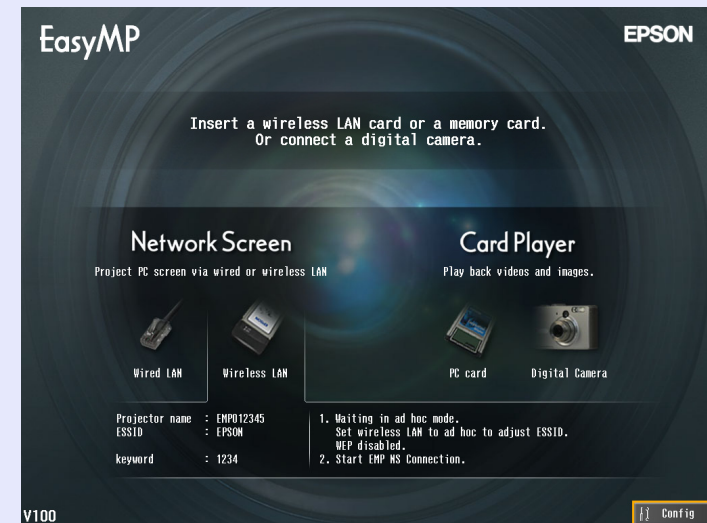
The settings in the configuration file will be loaded into the projector.

During processing, the cursor will change to blue and the "EJECT" button will not work. When processing is finished, the cursor will change back to orange and the "EJECT" button will work again.

7 Tilt the [⦿] button on the remote control up to move the cursor to "EJECT".

8 Press the [Enter] button on the remote control.

CardPlayer will close and the EasyMP standby screen will be displayed.



(The screen details may vary depending on the type of projector.)



Following is an explanation of some of the terms used in this guide which may be unfamiliar or which were not explained in the text of this guide itself. Further information can be obtained by referring to other commercially-available publications.

| | |
|-----------------------|---|
| Authentication server | This is a server that centrally manages user authentication. By using an authentication server, management of user information and user authentication tasks can be centralised. In addition, many authentication servers use high-level authentication methods and so they also tend to be highly secure. |
| CCX | Abbreviation for Cisco Compatible Extensions. This is a security technology for wireless LANs developed by Cisco Systems, Inc. It uses RADIUS server for authentication. |
| DHCP | Abbreviation of Dynamic Host Configuration Protocol. This protocol automatically assigns an IP address to a computer connected to a network. |
| ESSID | ESS is an abbreviation of Extended Service Set. The ESSID is an identification number for connecting with a counterpart on a wireless LAN. Wireless communication is possible between devices with corresponding ESSID numbers. |
| Gateway | A server (router) for communicating across a network divided according to subnet masks. |
| IP address | A series of numbers that identifies a device that is connected to a network. |
| LEAP | One of the authentication methods used by CCX . It uses usernames and passwords for authentication without using electronic signatures. |
| RADIUS server | RADIUS is an abbreviation for Remote Authentication Dialin User Service. It is a protocol that is used for authenticating transmissions for a variety of network servers including wireless LANs. A RADIUS server is an authentication server that stores information such as usernames and passwords and concentrates functions such as authenticating access to wireless LAN access points. By using a RADIUS server, access points and user information can be centrally managed without needing to store user information separately at each access point when there are several access points on a wireless LAN. |
| SNMP | An abbreviation for Simple Network Management Protocol, which is the protocol for monitoring and controlling devices such as routers and computers connected to a TCP/IP network. |
| Subnet mask | This is a number which defines, from the IP address, the number of bits used in network addresses of assigned networks (subnets). |
| TKIP | Abbreviation for Temporal Key Integrity Protocol. This is an encoding method used for WPA . The encryption key is renewed after a certain period of time to make it harder to break the encryption code. |
| Trap IP address | This is the IP address of the messaged computer used for error notification in SNMP. |
| WEP | This is an abbreviation of Wired Equivalent Privacy. This is a security method which encrypts data during transmission. Data communication cannot be performed unless the sending and receiving machines are registered with the same encryption key by the WEP. |
| WPA-PSK | WPA is an abbreviation for Wi-Fi Protected Access. This is an encryption standard that improves security which is a weak point of WEP . TKIP is used as the encryption method. PSK is an abbreviation for Pre Shared Key, which is a pre-shared key that is used for encryption. Data cannot be transmitted unless both machines are using the same pre-shared key. |

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