Canon

NMPJ Ver. 1.3 User's Manual

Networked Multi-Projection
Overview

Networked Multi-Projection Setup and Instructions

Operation in Each Mode

Functions

ENG

Table of Contents

Use of this manual

This manual does not provide the detailed description of basic operation and functions for computer, web browser, projector and network. For instructions about each piece of equipment or software, please refer to the respective manual.

Trademarks

- Microsoft, Windows, Windows Vista, Windows 7, Windows 8, Windows 8.1 and Windows 10 are registered trademarks of Microsoft Corporation in the United States and other countries.
- HDBaseT™ and the HDBaseT Alliance logo are trademarks of the HDBaseT Alliance.
- Wi-Fi is a registered trademark of the Wi-Fi Alliance.
- Wi-Fi CERTIFIED, WPA, WPA2, and the Wi-Fi CERTIFIED logo are used in reference to methods of configuration developed by the Wi-Fi Alliance.
- All other trademarks are the property of their respective owners.
- * Unauthorized use of a part or whole of the contents in this manual is prohibited.
- * The contents of this manual are subject to change without notice.

Symbols Used in This Manual

Meanings of the symbols used in this manual are as follows.

Indicates precautions and information to note when using the projector.

Safety Instructions

Federal Communication Commission Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

The cable with a ferrite core provided with the projector must be used with this equipment in order to comply with Class B limits in Subpart B of Part 15 of the FCC rules.
Use of a shielded cable is required to comply with class B limits in Subpart B of Part 15 of FCC Rules.
Do not make any changes or modifications to the equipment unless otherwise specified in the instructions. If such changes or modifications should be made, you could be required to stop operation of the equipment.
Canon U.S.A. Inc.
One Canon Park, Melville, New York 11747, U.S.A.
Tel No. (631) 330-5000

⚠ CAUTION IN USING THE PROJECTOR VIA NETWORKS

• When you find a problem with the projector, remove the power cable immediately and inspect the unit. Using the projector with failure may cause fire or other accidents.
• If you remotely use the projector via networks, carry out a safety check regularly and take particular care to its environment. Incorrect installation may cause fire or other accidents.

Caution in using network function

• We assume no responsibility for the loss or damage of data, or damage of the computer caused by using this projector. Making back-up copies of valuable data in your computer is recommended.

Safety instructions

Please read and understand all instructions thoroughly before using.

About safety symbols

The following symbols are used in this manual to alert you to important safety information. Always observe the instructions to reduce the risk of injury and property damage.

⚠Warning	Indicates a potentially hazardous situation which, if not avoided, may cause death or serious injury.
⚠Caution	Indicates a potentially hazardous situation which, if not avoided, may cause minor or moderate injury.

Safety information

⚠ Warning

Always mount and operate the product in accordance with the safety instructions specified by the projector and peripheral equipment makers.

- Do not attempt to disassemble or service the product yourself. Doing so may result in a fire, an electric shock, or product damage.
- If the projector emits a strange odor, or makes a strange noise, immediately turn the power and peripheral equipment off, unplug these devices, and contact your dealer.
- Do not drop the projector or subject it to strong shocks. Doing so may result in damage to the internal parts, an electric shock, a fire, or product damage.

⚠ Caution

- Do not touch the projector with wet hands when the power cord plugs of the projector or peripheral equipment inserted into the electrical outlet. Otherwise, an electric shock may result.

Notice regarding network security

Measures to ensure network security are the responsibility of the customer. Canon assumes no responsibility for direct or indirect damages due to network security issues such as unauthorized access.

Data transfers between the NMPJ software and the projector are not encrypted, so it is possible that image data sent from the software to the projector could be intercepted and viewed by a malicious third party if the software is used on an unsecured network.

Make sure that appropriate security settings have been made on the projector, the computer, and the network when using the software.
- Do not connect the projector to the Internet directly; make sure it is configured as part of a network with a firewall or similar protection.
- When using the projector in a wireless LAN environment, it is recommended that appropriate wireless LAN security settings be used.
- Make sure to change the NMPJ password and wireless LAN security key at regular intervals.

Open Source Software

The NMPJ software incorporates third-party software modules. For details, follow the procedure on P15 to download the compressed archive file containing the NMPJ software. Extract the contents of the compressed archive file and refer to the "ThirdPartySoftware.pdf" (third-party software license) file in the [thirdparty_software] > [NMPJ] > [LICENSE] folder.
Each module's license conditions are also available in the same folder.

Networked Multi-Projection Overview
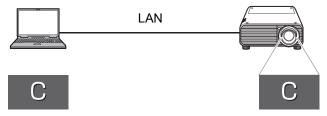
Introduction to Networked Multi-Projection

Networked Multi-Projection (NMPJ) is a projector function enabling projection of computer screens over a local network.

■ Projection Over a Network

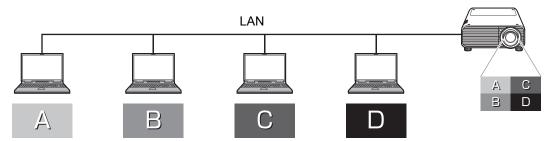Using this software, you can link multiple computers and multiple projectors, for a variety of projection scenarios.

Links computers and projectors via a network connection.
• Direct Mode

■ Split-Screen Projection of Multiple Images

Images from multiple computers can be projected at once, with the images projected in separate areas of a single screen.
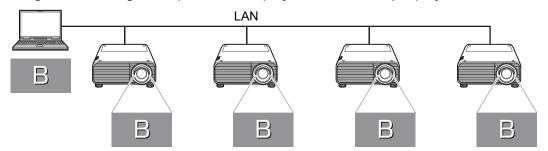
Projection of multiple computer screens in split-screen display.
• Meeting Mode, Classroom Mode

■ Projection of an Image from Multiple Projectors at Once
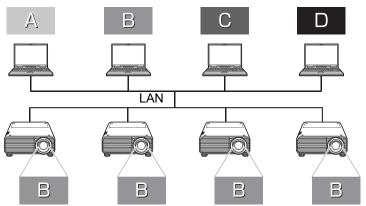
Images from a single computer can be projected from multiple projectors at once.

Projection of one computer screen from multiple projectors.
• Meeting Mode, Classroom Mode, Broadcast Mode

Among multiple computers in a network, projection of one computer screen from multiple projectors.
• Meeting Mode, Classroom Mode

■ Selecting the Projection Monitor
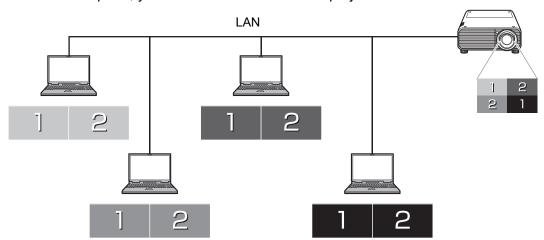
For multi-monitor computers, you can project either the primary or secondary monitor.

Select the primary or secondary monitor for projection
• Direct Mode, Meeting Mode, Classroom Mode, Broadcast Mode

For each computer, you can select the monitor to project.

Select the primary or secondary monitor of each computer
• Meeting Mode, Classroom Mode
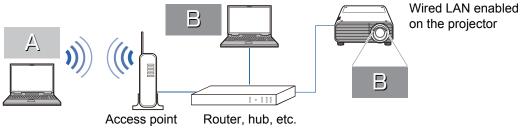
> • With some computers, it may not be possible to switch between projection of the primary and secondary monitor.
> • Software responsiveness may decline when many computers and projectors are connected over the network.
> • For computers that support three or more monitors, the monitor used for projection varies depending on the model of computer.

Networked Multi-Projection Overview

11

■ **Making Connections to the Projector**
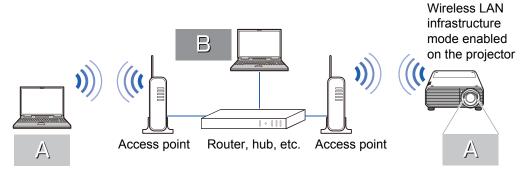
There are two ways to make connections to the projector via a network: "infrastructure connection" and "wireless direct connection."

Infrastructure Connection

• Infrastructure connection is a method of establishing connections with a projector that has been configured for the wired or wireless LAN infrastructure mode in the network function settings. This connection method is suitable for projectors that are already connected to the network.

Wired LAN enabled on the projector

Access point   Router, hub, etc.

Projector connected to wired LAN

Wireless LAN infrastructure mode enabled on the projector

Access point   Router, hub, etc.   Access point

Projector connected to multiple wireless LAN networks
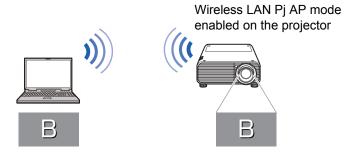
> 📓 It is not possible for a projector that is not equipped with wireless LAN functionality to connect to a wireless LAN network.

Wireless Direct Connection

• Wireless direct connection is a method of establishing connections between a computer with wireless LAN support and a projector that has been configured for the Pj AP (projector access point) mode. This connection method makes it possible to project screen images by means of direct communication between the computer and projector, even if the projector is not connected to the network.

Wireless LAN Pj AP mode enabled on the projector

📖 It is not possible to use wireless direct connection with a projector that is not equipped with wireless LAN functionality.

Networked Multi-Projection Overview

13

Installation

To use the NMPJ function, you must install the NMPJ software (hereafter, "the software") on the computers to be used.
Instructions in this manual are for installation in a Windows 7 environment.

System Requirements

Software system requirements are as follows.

CPU	Core 2 Duo P8600, 2.4 GHz or higher (32- or 64-bit)
Memory	1 GB or more
HDD	32 GB or more
Monitor	Resolution: 1024x768 dots or more Cannot be installed on computers without a minimum resolution of 1024x768. Additionally, operation is not ensured if the resolution is switched to less than 1024x768 after installation.
Operating System	Windows Vista (Business) SP2 Windows 7 (Home/Professional/Ultimate) SP1 Windows 8 (Pro) Windows 8.1 (Pro) Windows 10 (Pro) * Windows Vista compatibility is limited to 32-bit editions. * Both 32- and 64-bit editions of Windows 7 and later are supported. • Operation is not ensured in other operating systems or editions. • Menus are in English in all cases, except in Japanese and Simplified Chinese versions of the software. • Operation is not ensured in operating systems other than English, Japanese, or Simplified Chinese OSes. • If you are using an Aero style in Windows, this message may be displayed: "Do you want to change the color scheme to improve performance?" In this case, selecting "Keep the current color scheme, and don't show this message again" is recommended.
Network	In TCP/IP network environments, projectors can be connected to computers via the following LAN connections. Wired LAN (1000BASE-T, 100BASE-TX) Wireless LAN (IEEE 802.11b/g/n) • Although the software also supports computer-projector communication over a router, operation is only ensured over one router hop. • When using wireless direct connection, configure the computer to obtain a wireless IP address automatically (DHCP enabled). Note that it is not possible to use wireless direct connection with a projector that is not equipped with wireless LAN functionality.

Installation

1 **Download the compressed archive file containing the NMPJ software from the Canon website.**

2 **Extract the contents of the compressed archive file, and double-click the executable installer file (NMPJInstaller-01-03-00**-********.exe).**
Installation of the NMPJ software starts.

3 **Next, follow the instructions displayed to complete the installation process.**

> • Confirmation or warning messages may be displayed during installation or uninstallation.
> These messages request administrator credentials from the current user. If you are logged in as a user with administrator credentials, click [Yes] (or [Continue]) to continue.
> • Depending on the software, you may not be able to continue without administrator credentials. If you are logged in as a standard user, switch to an administrator account and try again.
> • You may need to restart the computer to complete the installation process. If restarting is requested, be sure to restart the computer.
> • A message urging you to register the software with Windows Firewall is displayed during the install process. It is recommended that you click "Yes" to register the software with Windows Firewall and then proceed with the installation. If you click "No," the software will not be registered with Windows Firewall and the installation will proceed, but Windows Firewall will display an error the first time the software is launched. (P18)

■ Updating the Software

If the software is installed on the computer and the computer is connected to the Internet, it will check automatically to see if a newer version is available (auto-update function). When a message offering to install a new version of the software appears, you can update to the latest version of the software by following the indications that appear.

> • To check what version of the software is currently installed, click " ？ " in the upper part of the software window.
> • The auto-update function cannot be used on Windows Vista.

Networked Multi-Projection Overview

Uninstallation

■ Windows 7 or Earlier

These instructions are for uninstallation in Windows 7 or earlier versions of Windows.

1 **Select [Start] > [All Programs] > [Canon NMPJ] > [Uninstall network multiple projection].**

2 **If a [User Account Control] message is displayed, click [Yes].**

3 **After the confirmation message is displayed, click [OK].**

4 **After uninstallation is finished, click [OK] when the confirmation message is displayed.**

> You may need to restart the computer to complete the uninstallation process. If restarting is requested, always restart the computer.

5 **Delete the following folder manually.**
C:\Users\<User Name>\AppData\Local\Canon\NMPJ

> These files are hidden. To view hidden files, follow these steps.
>
> **Windows Vista**
> To view hidden files in Windows Explorer, select [Tools] > [Folder options] > [View] > [Show hidden files, folders, and drives].
> **Windows 7**
> In Windows Explorer, select [Tools] > [Folder Options] > [View] > [Show hidden files, folders, and drives].

■ Windows 8 or Later

These instructions are for uninstallation in Windows 8 or later versions of Windows.

1 **On the [Apps] screen, right-click [Network Multiple Projection] under [Canon NMPJ].**

2 **In the menu displayed at the bottom of the [Apps] screen, click [Uninstall]. Otherwise, click [Uninstall] in the app bar and then [Uninstall] again on the screen displayed next.**

3 **In the [Programs and Features] screen that is displayed, select [Canon NMPJ].**

4 **Select [Uninstall/Change].**

5 **After the confirmation message is displayed, click [OK].**

> You may need to restart the computer to complete the uninstallation process. If restarting is requested, always restart the computer.

6 **Delete the following folder manually.**
C:\Users\<User Name>\AppData\Local\Canon\NMPJ

These files are hidden. To view hidden files, follow the steps below.

In Windows Explorer, select [Tools] > [Folder Options] > [View] > [Show hidden files, folders, and drives].

Networked Multi-Projection Overview

From Startup to Shutdown

The procedure from software startup to shutdown is as follows. Example windows shown here are from Direct mode.

1 Select Network Multiple Projection from the Start menu.

(Windows 7 or Earlier)
Select [Start] > [All Programs] > [Canon NMPJ] > [⬚ Network Multiple Projection].

(Windows 8 or Later)
Select [Start] > [Apps] (or [All Apps]) > [Canon NMPJ] > [⬚ Network Multiple Projection].
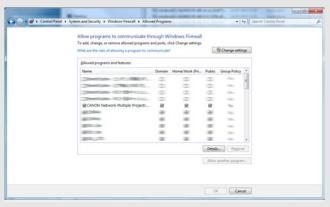
> **Windows Firewall**
> The following alert may be displayed the first time you start the software, depending on your Windows Firewall settings.
> To enable communication with projectors, select all check boxes and click the [Allow access].
>
>
>
> To change the settings after closing the alert, open the [Start] menu and select [Control Panel] > [System and Security] > [Windows Firewall] > [Allow an app through Windows Firewall].
> Select [CANON Network Multiple Projection] in the list of allowed apps and features, and then select each check box.
>
>

2 **Select the connection method.**

In the connection method selection menu, click [OK] next to the desired connection method.

> • It is not possible to select and use wireless direct connection with a projector that is not equipped with wireless LAN functionality.
> • It is not possible to select infrastructure connection if the computer's wireless network adapter is already connected to a projector configured for the Pj AP (projector access point) mode.
> • The same four buttons are shown in the upper right of this window and subsequent windows. (Additional buttons are shown on some windows.)
>   - ? View software help.
>   - ⚙ View settings window.
>   - — Minimize the window to the taskbar. To view the window again, click the taskbar icon.
>   - ✕ Close the window.

3 **Connect.**

If the computer is equipped with multiple network adapters, or if one network adapter has been assigned multiple IP addresses (IP aliases), a network adapter selection menu is displayed. Click [OK] next to the desired network adapter.

> • For infrastructure connection, unlinked network adapters are not listed.
> • A message is displayed if you select a network adapter that is not currently available for use.
> • A message is displayed if the computer's wireless LAN DHCP function is disabled (static IP address). In order to use the network adapter you must enable the DHCP function.

Networked Multi-Projection Overview

4 **A selection menu is displayed.**
(Infrastructure Connection)
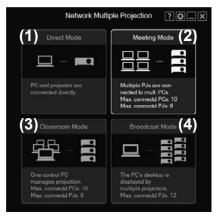The mode selection menu is displayed. Proceed to step 5.
(Wireless Direct Connection)
The projector SSID selection menu is displayed. Click the SSID of the projector
you wish to connect. (P24)

- It is not possible to use wireless direct connection with a projector that is not equipped with wireless LAN functionality.
- The SSIDs of projectors with wireless LAN support that have been configured for the Pj AP (projector access point) mode in the network function settings are listed.
- An icon showing the signal strength is displayed to the left of each SSID.
- If security settings are enabled for the selected SSID, a Wi-Fi security key input window is displayed. Input the security key. For information on SSID security key, refer to the projector user's manual.

5 **On the mode selection window, click the desired mode.**

(1) Direct Mode
When one computer is connected to one projector. (P26)

(2) Meeting Mode
When multiple computers are connected to multiple projectors. Useful when
showing multiple computer screens during meetings or other events. (P30)

(3) Classroom Mode
When multiple computers are connected to multiple projectors. Gives a single computer (in the role of presenter) control over which computer screen and which projector is used for projection. (P38)

(4) Broadcast Mode
When a single computer is connected to multiple projectors. Useful when multiple projectors are installed at various positions in an auditorium to project the same image. (P49)

> 📑 **Wireless Direct Connection**
> - In Meeting mode or Classroom mode, up to five computers and one projector can be connected.
> - Broadcast mode cannot be used with a wireless direct connection.
> - It is not possible to use wireless direct connection with a projector that is not equipped with wireless LAN functionality.

6 **Depending on the mode, you can create, join, or select a projection session.**

7 **Click [Start projecting].**
Click [Start projecting] on the window to start projection.
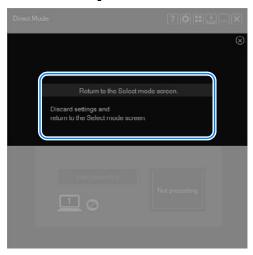

8 **To stop projection, click [Stop projecting].**

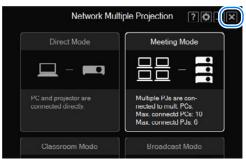Networked Multi-Projection Overview

21

9 **To return to the mode selection menu, click ⊞ in the upper right.**

Direct Mode

* Enter IP address or hostname to search
for projectors or select projectors from list.

> Click ✖ in the upper right to return directly to the connection method selection menu.

10 **After a confirmation message is displayed, click [Return to the Select mode screen].**

Direct Mode

Return to the Select mode screen.

Discard settings and
return to the Select mode screen.

Not projecting

11 **To return to the connection method selection menu, click ✖ in the upper right.**

Network Multiple Projection

Direct Mode

PC and projector are
connected directly.

Meeting Mode

Multiple PJs are con-
nected to mult. PCs.
Max. connectd PCs: 10
Max. connectd PJs: 6

Classroom Mode

Broadcast Mode

12 **To exit the software, click ![X] in the upper right of the connection method selection menu.**

■ Projection Sessions

A session consists of all the computers and projectors used in projection.
In Meeting and Classroom modes, the first user must create a session for the computers and projectors involved. Other users join the session by selecting it from a list of sessions.
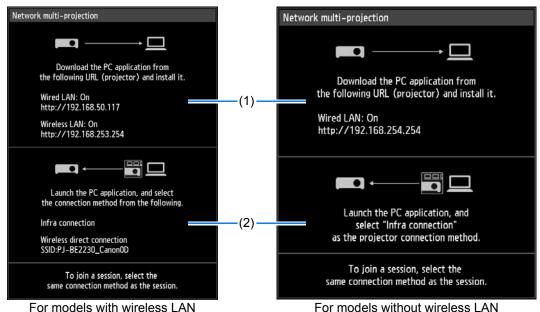In Broadcast mode, users can create a session automatically by selecting a projector.

> It is only possible to join a session when connected using the same connection method (infrastructure or wireless direct connection) used to create the session.

■ LAN Input Standby Window

The LAN input standby window is displayed when LAN is selected by switching the input setting on the projector.
Information such as the projector's network function settings and the available connection methods is displayed.

For models with wireless LAN   For models without wireless LAN

(1) Network Function Settings
Network functions that have been enabled on the projector are displayed. Disabled functions are grayed out in the display.
In addition, a URL for downloading the software is displayed. This lets you download the latest version of the software from the Canon website. For details on installing the software, refer to "Installation" (P14).

(2) Connection Methods
Connection methods that can be used by the software to establish a connection to the projector are displayed. Connection methods that cannot currently be used are grayed out in the display.
In addition, the SSID needed to establish a wireless direct connection to the projector is displayed.

Operation in Each Mode

Networked Multi-Projection Overview
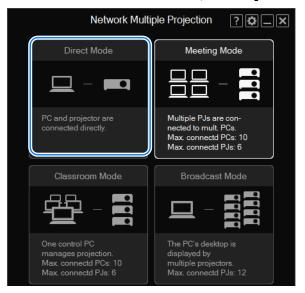
Operation in Each Mode

Functions

Using the Projector in Direct Mode

In this mode, one computer is connected to one projector over the network.

Procedure

1 In the mode selection menu, select [Direct Mode].

2 The Direct Mode window is displayed. Click ⊞ .

> 📝 To connect to projectors in another subnet, enter the projector's IP address or hostname in the [IP add. or hostname] field and click 🔍.

3 **The projector selection menu is displayed. Click the projector to connect to.**

📖 For details on the projector selection menu, refer to "Using the Projector Selection Menu" (P56).

4 **The Direct Mode window is displayed again. Click [Start projecting].**
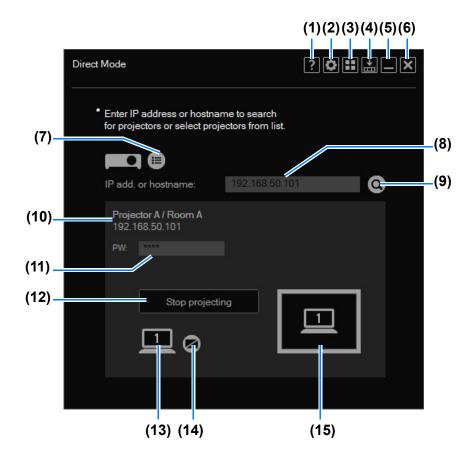
The computer screen is now projected.

📖 • If the [NMPJ Password] setting has been configured on the projector's settings screen, enter the password. For details on NMPJ passwords, refer to the projector user's manual.
   • To stop projection, click [Stop projecting].
   • A Busy icon (🔲) indicates that the projector is not available, whether it is off, in use by other computers, or unavailable for other reasons. The Busy icon (🔲) is not updated automatically. To view updated projector status, select or search for projectors again.

Operation in Each Mode

Direct Mode Window

(1) Help
View software help.

(2) Settings window display
View settings window.

(3) Back to mode selection
Return to the mode selection menu.

(4) Compact display
View the window at a compact size. (P69)

(5) Minimize
Minimize the window to the taskbar. To view the window again, click the taskbar icon.

(6) Exit
Return to the connection method selection menu.

(7) Projector list
View a list of projectors.

(8) IP address or hostname
To connect to projectors in another subnet, enter the projector's IP address or hostname here and click (9).

(9) Find projectors
Find the projector with the IP address or hostname entered in (8). Results of projector searching are shown in (10). You can also select from among the previous searches (up to five) displayed.

(10) Projector information
Shows the projector name, notes, IP address or hostname, and wireless mark (if there is a wireless LAN connection) for the projector selected in the list or found after searching by IP address or hostname.

(11) Password
Passwords for projectors on which [NMPJ Password] on the projector's settings screen has been configured must be entered here before projection. For details on NMPJ passwords, refer to the projector user's manual.

(12) Start
Start projection by the selected projector. During projection, this button is labeled [Stop projecting] and can be clicked to stop projection.

(13) Switch primary/secondary monitor
A number is shown here only when secondary monitor connectivity is activated on the computer. Clicking the number will switch between the primary and secondary monitor.

(14) Blank the projector
Pause projection. Click again to resume projection.

(15) Projection status
Indicates the projection status.

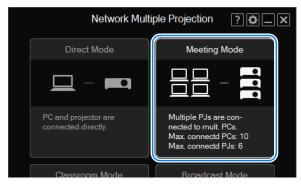Operation in Each Mode

Using the Projector in Meeting Mode

In meeting mode, multiple computers are connected to multiple projectors. This mode is intended for group meetings where multiple computers are used. Up to ten computers and six projectors can be connected.

> With a wireless direct connection, up to five computers and one projector can be connected. Note that it is not possible to use wireless direct connection with a projector that is not equipped with wireless LAN functionality.

Creating a Session

1 **In the mode selection menu, select [Meeting Mode].**
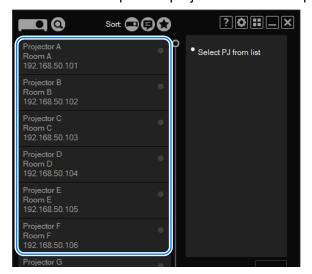
2 **The session selection menu is displayed. Click [New].**

3 **The projector selection menu is displayed. In the list of projectors at left, click the projector to connect to.**
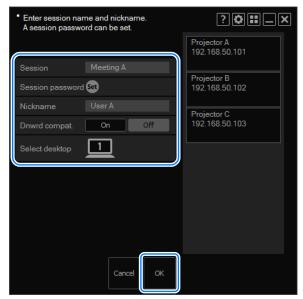You can select up to six projectors. Selected projectors are listed at right.

📝 • If the [NMPJ Password] setting has been configured on the projector's settings screen, the password is now requested. Enter the password. For details on NMPJ passwords, refer to the projector user's manual.
  • To clear a selected projector, click ⊗ in the upper right of that projector listing.
  • For details on the projector selection menu, refer to "Using the Projector Selection Menu" (P56).

4 **Click [Next].**

Operation in Each Mode

5 **A window for creating the session is displayed. Specify a session name, password, nickname, backward compatibility, and desktop (primary or secondary monitor for projection), and then click [OK].**

- If you choose to set a session password, other users must enter that password to join the session. To set a password, click [Set] and enter the password.
- In the backward compatibility setting, specify session compatibility.
  Although specifying [ON] enables projectors or computers running NMPJ V1.0 to join the session, some features (such as voice functions and PbyP) will not be available. Specifying [OFF] will restrict session compatibility and available functions to those of the projector selected when the session was created.
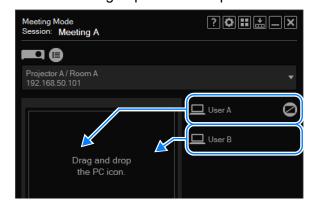 In this case, when only projectors compatible with NMPJ V1.3 are selected, projectors or computers running NMPJ V1.0 cannot join the session, but all NMPJ V1.3 functions will be available.
  Otherwise, if some projectors running NMPJ V1.0 are included, projectors or computers running NMPJ V1.0 can join the session, but features such as voice functions and PbyP will not be available. Features such as voice functions and PbyP are available when all the projectors and computers included in the session are compatible with or running NMPJ V1.1/V1.2/1.3.
- Desktop selection is only available with computers that have dual monitor support.

6 **The Meeting Mode window is displayed. Select a projector to control from the pull-down list.**

7 **In the list at right, select a computer to use with your designated projector. Drag the computer to a desired position in the layout area.**
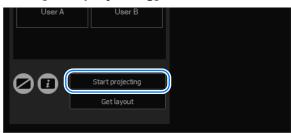You can arrange up to four computers as desired in the layout area.

8 **Drag the computers for use in projection in the layout area to rearrange them, as needed.**
During projection, screens of each computer will be arranged according to their position in the layout area.

9 **Click [Start projecting].**

Operation in Each Mode

33

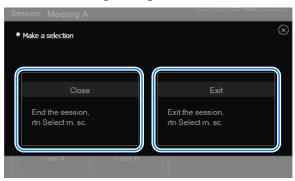Images are now projected from the computers in the layout area.

> • To stop projection, click [Stop projecting].
> • To rearrange the layout during projection, click [Start projecting] again. Note that if you simply rearrange the layout, the new layout will not be applied to projection.

10 To end the session, click ⊞ or ⊠ in the upper right.

> • To return to the mode selection menu, click ⊞ in the upper right.
> • To return to the connection method selection menu, click ⊠ in the upper right.

11 The following confirmation message is displayed. To end the entire session, click [Close]. To leave the session, click [Exit].
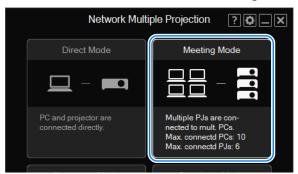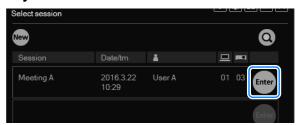

> [Exit] is not shown unless other computers are connected.
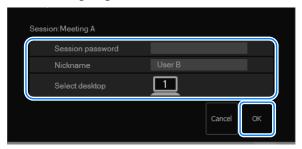
Joining a Session

1 **In the mode selection menu, select [Meeting Mode].**

2 **The session selection menu is displayed. Click [Enter] next to the session to join.**
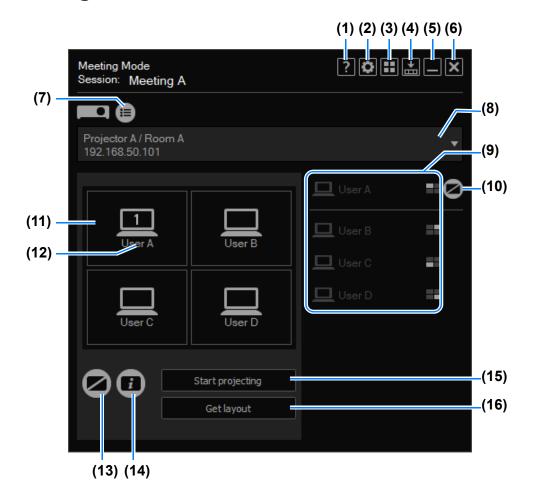

📝 To join a session in another subnet, click 🔍 and enter the projector's IP address or hostname to locate the projector. The software will search for sessions in the other subnet. For details, refer to "Using the Session Selection Menu" (P54).

3 **A session login window is displayed. Specify the session password, your nickname, and desktop (primary or secondary monitor for display), and then click [OK].**

📝 Desktop selection is only available with computers that have dual monitor support.

4 **The Meeting Mode window is displayed. Next, follow the instructions starting with step 6 in "Creating a Session" (P30).**

Operation in Each Mode

35

Meeting Mode Window

(1) (2) (3) (4) (5) (6)

(7)

(8)

(9)

(10)

(11)

(12)

(15)

(16)

(13) (14)

(1) Help
View software help.

(2) Settings window display
View settings window.

(3) Back to mode selection
Return to the mode selection menu.

(4) Compact display
View the window at a compact size. (P69)

(5) Minimize
Minimize the window to the taskbar. To view the window again, click the taskbar icon.

(6) Exit
Return to the connection method selection menu.

(7) Projector list
View a list of projectors.

(8) Projector pull-down list
Lists connected projectors. Your actions on this screen apply to the projector selected here.

(9) Computers
Lists connected computers. To prepare computers for projection, drag them to the layout area. Your own computer is listed first.
In ▬▬, the computer's display position is indicated by a white square.

(10) Blank the computer
Pause projection from the computer. Click again to resume projection.

(11) Layout area
Drag computers to this area to assign their projection position.

(12) Computers in layout area
Computers here can be dragged to rearrange them. A number is shown here only when secondary monitor connectivity is activated on the computer. Clicking the number will switch between the primary and secondary monitor.

(13) Blank the projector
Pause projection from the projector. Click again to resume projection.

(14) View information
Project information needed by other users to join the session. The IP address or hostname projected is used by one of the projectors in the session.

(15) Start/stop projection
Start projection by the selected projector. During projection, this button is labeled [Stop projecting] and can be clicked to stop projection.

(16) Acquire screen layout
Indicates the layout of the selected projectors.

> [Acquire screen layout] is not available when [ALL] is selected in the projector pull-down list.

Operation in Each Mode
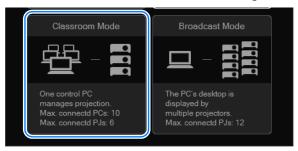
Using the Projector in Classroom Mode

In classroom mode, multiple computers are connected to multiple projectors. A single computer in the role of presenter can control which computer screen (whether one's own or another participant's) and which projector is used for projection. Up to ten computers and six projectors can be connected.
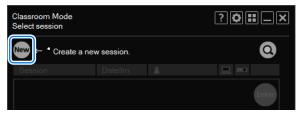
> 📑 With a wireless direct connection, up to five computers and one projector can be connected. Note that it is not possible to use wireless direct connection with a projector that is not equipped with wireless LAN functionality.

Leading a New Session

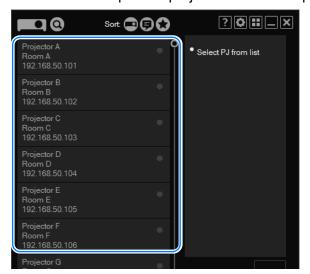*1* **In the mode selection menu, select [Classroom Mode].**

2 **The session selection menu is displayed. Click [New].**

3 **The projector selection menu is displayed. In the list of projectors at left, click the projector to connect to.**
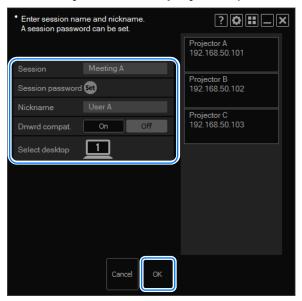You can select up to six projectors. Selected projectors are listed at right.

📝 • If the [NMPJ Password] setting has been configured on the projector's settings screen, the password is now requested. Enter the password. For details on NMPJ passwords, refer to the projector user's manual.
  • To clear a selected projector, click ⊗ in the upper right of the projector listing.
  • For details on the projector selection menu, refer to "Using the Projector Selection Menu" ().

4 **Click [Next].**

Operation in Each Mode

5 **A window for creating the session is displayed. Specify a session name, password, nickname, backward compatibility, and desktop (primary or secondary monitor for projection), and then click [OK].**
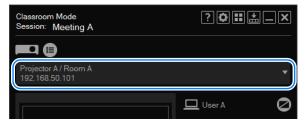
- If you choose to set a session password, other users must enter that password to join the session. To set a password, click [Set] and enter the password.
- In the backward compatibility setting, specify session compatibility.
  Although specifying [ON] enables projectors or computers running NMPJ V1.0 to join the session, some features (such as voice functions and PbyP) will not be available. Specifying [OFF] will restrict session compatibility and available functions to those of the projector selected when the session was created.
  In this case, when only projectors compatible with NMPJ V1.3 are selected, projectors or computers running NMPJ V1.0 cannot join the session, but all NMPJ V1.3 functions will be available.
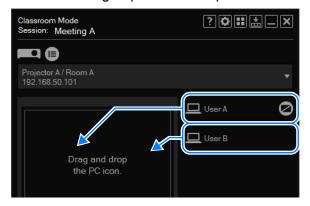 Otherwise, if some projectors running NMPJ V1.0 are included, projectors or computers running NMPJ V1.0 can join the session, but features such as voice functions and PbyP will not be available. Features such as voice functions and PbyP are available when all the projectors and computers included in the session are compatible with or running NMPJ V1.1/V1.2/1.3.
- Desktop selection is only available with computers that have dual monitor support.

6 **The Classroom Mode window is displayed. Select a projector to control from the pull-down list.**

7 **In the list at right, select a computer to use with your designated projector. Drag the computer to a desired position in the layout area.**
You can arrange up to four computers as desired in the layout area.

8 **Drag the computers for use in projection in the layout area to rearrange them, as needed.**
During projection, screens of each computer will be arranged according to their position in the layout area.

Operation in Each Mode

9 Click [Start projecting].

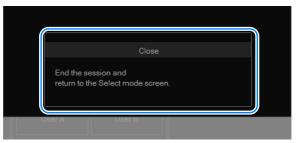Images are now projected from the computers in the layout area.

> • To stop projection, click [Stop projecting].
> • To rearrange the layout during projection, click [Start projecting] again. Note that if you simply rearrange the layout, the new layout will not be applied to projection.
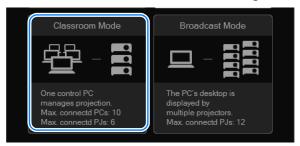
10 To end the session, click ⊞ or ☒ in the upper right.

> • To return to the mode selection menu, click ⊞ in the upper right.
> • To return to the connection method selection menu, click ☒ in the upper right.

11 The following confirmation message is displayed. Click [Close].
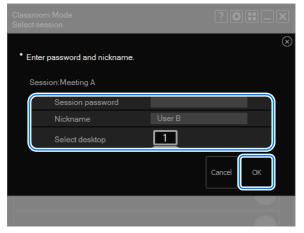
Joining an Existing Session

1 **In the mode selection menu, select [Classroom Mode].**

2 **The session selection menu is displayed. Click [Enter] next to the session to join.**

> 📝 To join a session in another subnet, click 🔍 and enter the projector's IP address or hostname to find the projector. The software will search for sessions in the other subnet. For details, refer to "Using the Session Selection Menu" (P54).

3 **A session login window is displayed. Specify the session password, your nickname, and desktop (primary or secondary monitor for display), and then click [OK].**

> 📝 Desktop selection is only available with computers that have dual monitor support.

43

4 **The Classroom Mode window (for joining a session) is displayed. Users joining sessions cannot change the projection layout or start or stop projection.**
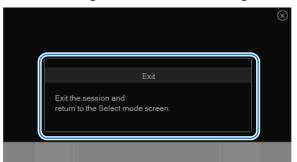
5 **To end the session, click ⊞ or ✕ in the upper right.**

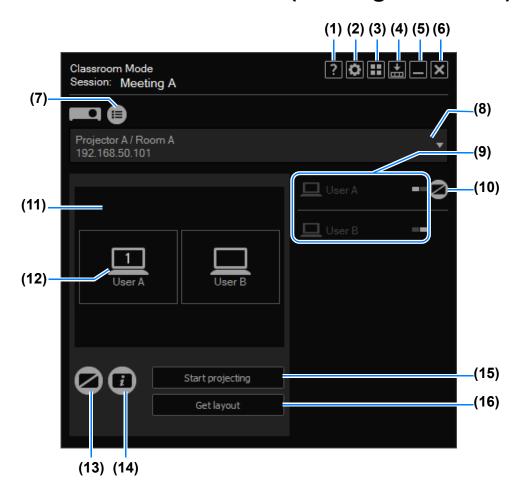> • To return to the mode selection menu, click ⊞ in the upper right.
> • To return to the connection method selection menu, click ✕ in the upper right.

6 **The following confirmation message is displayed. Click [Exit].**

Classroom Mode Window (Starting a Session)

(1) Help
View software help.

(2) Settings window display
View settings window.

(3) Back to mode selection
Return to the mode selection menu.

(4) Compact display
View the window at a compact size. (P69)

(5) Minimize
Minimize the window to the taskbar. To view the window again, click the taskbar icon.

(6) Exit
Return to the connection method selection menu.

Operation in Each Mode

(7) Projector list
View a list of projectors.

(8) Projector pull-down list
Lists connected projectors. Your actions on this window apply to the projector selected here.

(9) Computers
Lists connected computers. To prepare computers for projection, drag them to the layout area. Your own computer is listed first.
In ▮▬, the computer's display position is indicated by a white square.

(10) Blank the computer
Pause projection from the computer. Click again to resume projection.

(11) Layout area
Drag computers to this area to assign their projection position.

(12) Computers in layout area
Computers here can be dragged to rearrange them. A number is shown here only when secondary monitor connectivity is activated on the computer. Clicking the number will switch between the primary and secondary monitor.

(13) Blank the projector
Pause projection from the projector. Click again to resume projection.
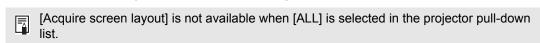
(14) View information
Project information needed by other users to join the session. The IP address or hostname projected is used by one of the projectors in the session.
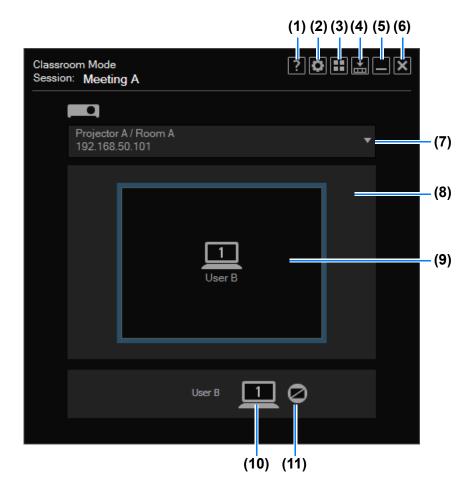
(15) Start/stop projection
Start projecting by the selected projector. During projection, this button is labeled [Stop projecting] and can be clicked to stop projection.

(16) Acquire screen layout
Indicates the layout of the selected projectors.

> 🗐 [Acquire screen layout] is not available when [ALL] is selected in the projector pull-down list.

Classroom Mode Window (Joining a Session)

(1) Help
View software help.

(2) Settings window display
View settings window.

(3) Back to mode selection
Return to the mode selection menu.

(4) Compact display
View the window at a compact size. (P69)

(5) Minimize
Minimize the window to the taskbar. To view the window again, click the taskbar icon.

(6) Exit
Return to the connection method selection menu.

Operation in Each Mode

(7) Projector pull-down list
Lists connected projectors. Your actions on this window apply to the projector selected here.

(8) Layout area
Lists computers selected for projection.

(9) Projection status
Indicates the projection status.

(10) Computer
A number is shown here only when secondary monitor connectivity is activated on the computer you are using. Clicking the number will switch between the primary and secondary monitor.

(11) Blank the computer
Pause projection from the computer. Click again to resume projection.
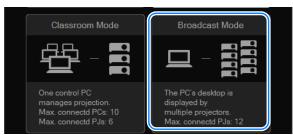
Using the Projector in Broadcast Mode

In Broadcast Mode, a single computer is connected to up to twelve projectors.

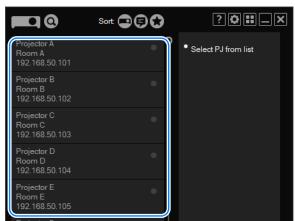📓 Broadcast Mode cannot be used with a wireless direct connection.

Procedure

1 **In the mode selection menu, select [Broadcast Mode].**

2 **The projector selection menu is displayed. In the list of projectors at left, click the projector to connect to.**
You can select up to twelve projectors. Selected projectors are listed at right.

📓 • If the NMPJ Password setting has been configured on the projector's settings screen, the password is now requested. Enter the password. For details on NMPJ passwords, refer to the projector user's manual.
 • To clear a selected projector, click ⊗ in the upper right of that projector listing.
 • For details on the projector selection menu, refer to "Using the Projector Selection Menu" (P56).

3 **Click [Next].**

Room F
192.168.50.106

Projector G
Room G
192.168.50.107

Next

4 **The Broadcast Mode window is displayed. Click [Start projecting].**

1 ⊘ Start projecting

The computer screen is now projected.

📖 To stop projection, click [Stop projecting].

5 **To end the session, click 🔲 or ❎ in the upper right.**

Broadcast Mode

? ⚙ 🔲 ⬇ _ ❎

📖 • To return to the mode selection menu, click 🔲 in the upper right.
• To return to the connection method selection menu, click ❎ in the upper right.

6 **The following confirmation message is displayed. Click [Close].**

• Make a selection ⊗

Close

End the session and
return to the Select mode screen.

Broadcast Mode Window

(1) **Help**
View software help.

(2) **Settings window display**
View settings window.

(3) **Back to mode selection**
Return to the mode selection menu.

(4) **Compact display**
View the window at a compact size. (P69)

(5) **Minimize**
Minimize the window to the taskbar. To view the window again, click the taskbar icon.

(6) **Exit**
Return to the connection method selection menu.

Operation in Each Mode

(7) Projector list
View a list of projectors.

(8) Projection status
Shows the projected image status.

(9) Switch primary/secondary monitor
A number is shown here only when secondary monitor connectivity is activated on the computer you are using. Clicking the number will switch between the primary and secondary monitor.

(10) Blank the projector
Pause projection. Click again to resume projection.

(11) Start/stop projection
Start projection by the selected projector. During projection, this button is labeled [Stop projecting] and can be clicked to stop projection.

Functions
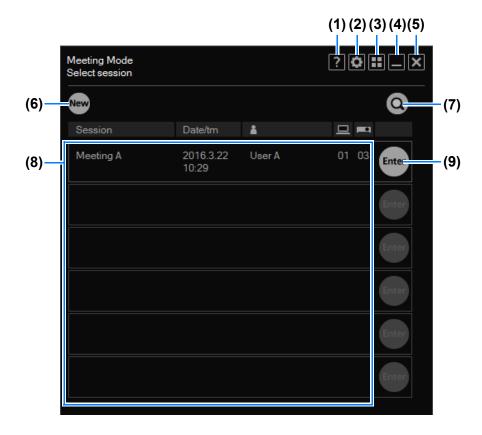
Using the Session Selection Menu

Session Selection Menu

(1) Help
View software help.

(2) Settings window display
View settings window.

(3) Back to mode selection
Return to the mode selection menu.

(4) Minimize
Minimize the window to the taskbar. To view the window again, click the taskbar icon.

(5) Exit
Return to the connection method selection menu.

(6) [New]
Start a new session. ()

(7) Find session
Search for a session to join by projector IP address or hostname. ()
You can also select from among the previous searches (up to five) displayed.

(8) Session list

Lists the sessions detected. Information shown here includes the session name, creation date, creator nickname, and number of computers and projectors involved.

(9) [Enter]
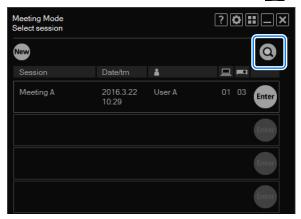
Join the session. (P35)

It is only possible to join a session when connected using the same connection method (infrastructure or wireless direct connection) used to create the session. A message is displayed if you click a session that cannot be joined because the connection method is different.
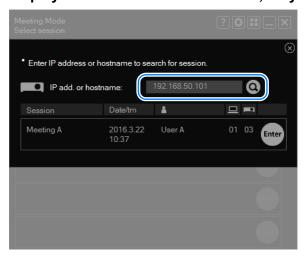
Finding Sessions

You can find sessions from the session selection menu.

1 **In the session selection menu, click 🔍 .**

2 **The search window is displayed. Enter the IP address or hostname of a projector in the session to join, and then click 🔍 to find the projector. You can also select from among the previous searches (up to five) displayed. Once sessions are found, they are listed.**

Functions
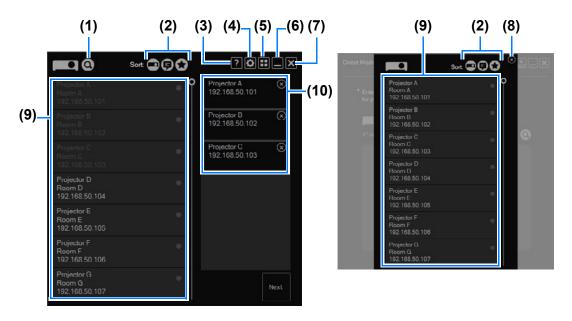
Using the Projector Selection Menu

Projector Selection Menu

■ **Other than Direct mode**　　　　　　■ **Direct mode selected**

(1) Find projectors
Find projectors in another subnet. You can also select from among the previous searches (up to five) displayed. (P57)

(2) Sort
Change the sort order of the projector list. (P59)

(3) Help
View software help.

(4) Settings window display
View settings window.

(5) Back to mode selection
Return to the mode selection menu.

(6) Minimize
Minimize the window to the taskbar. To view the window again, click the taskbar icon.

(7) Exit
When creating a new session (when the projector selection menu was displayed by clicking NEW on the session list menu), clicking this button returns you to the connection method selection menu. After a session has been created (when the projector selection menu was displayed by clicking the projector list button on the Meeting mode, Classroom mode, or Broadcast mode window), clicking this button returns you to the previous screen.

(8) Back to direct mode
Return to the direct mode menu.

(9) Projector list
Projectors are listed here. Information shown here includes the projector name, notes, IP address or hostname, and wireless mark (if there is a wireless LAN connection).
A message is displayed if you click a projector that is not available, whether it is in use by other computers, or powered off in the case of a projector linked by infrastructure connection, or unavailable for other reasons. Note that projectors with wireless LAN functionality enabled are not listed when they are powered off.
Clicking a listed projector will select it for use in the session, and it will be shown in the field at right. Selected projectors are indicated by gray text.

Projectors you have selected are indicated by gray text.

Projectors that have not been selected, projectors that are in use by other computers, and projectors that are powered off are indicated by white text.
A message is displayed if you click a projector that is powered off or in use by another computer.

(10) List of projectors used in the session
Projectors selected in the list at left are shown here.
To remove projectors from this list, click .

■ Finding Projectors
To find projectors in other subnets, do the following in the projector selection menu.
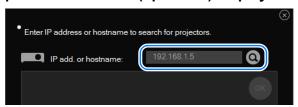
1 **In the projector selection menu, click .**

Functions
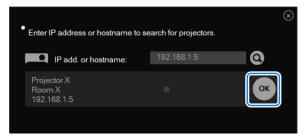
2 **The search window is displayed. Enter the projector's IP address or hostname, and then click [Q]. You can also select from among the previous searches (up to five) displayed.**
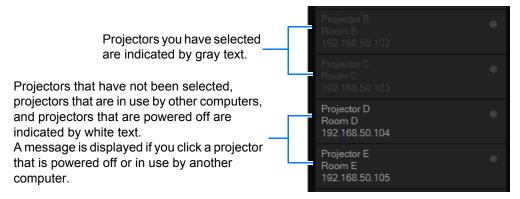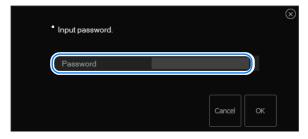

3 **Once the projector is found, click [OK].**

The selected projector is now added to the projector list.

■ Selecting Password-Protected Projectors

Selecting a password-protected projector will display a password input screen.
Enter the correct password and click [OK].

An error is indicated on the password input screen if you enter an incorrect password, or if no password is entered.

■ **Using the Favorites Function**

You can register commonly used projectors as favorites.
Favorite projectors are listed first when you click the ⭐ button (sort by favorites).

To register a projector as a favorite, click the Favorites icon in the projector selection menu.

The projector is now registered as a favorite, and a star is displayed in the Favorites column.

The favorites function cannot be used with a wireless direct connection.

■ **Resorting the Projector List**

You can change the sort order of projector information by clicking the sort buttons.

🔲 List by projector name.

💬 List by notes.

⭐ List favorite projectors first.

Functions

■ Turning Projectors On

A message is displayed if you click a projector that is currently off in the projector selection menu. (These projectors cannot be selected for projection.)
You can turn them on by clicking [Access Projector] to display the projector web screen and switching the power on.

Use the web screen for subsequent operations. For web screen instructions, refer to the projector user's manual.

Once you turn a projector on, you can select it for other operations.

Using Layout Functions

■ Switching Projectors Used for the Layout
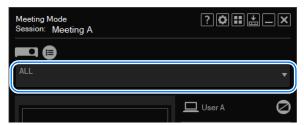
You can set up the projection layout in the Meeting Mode window or the Classroom Mode window (used by the presenter).
To choose a different projector for the layout, select it from the projector pull-down list.

■ Controlling all Projectors at Once

To set up the projection layout for all projectors at once, select [ALL] in the projector pull-down menu.

■ Projecting from Multiple Projectors (Multi-Projection)

In Meeting and Classroom Modes, separate images from multiple projectors can be projected together. This is called "multi-projection." On the layout window for Meeting or Classroom Modes, you can set up the projection layout for each projector used.

1 **On the layout window for Meeting or Classroom Modes, specify the projection layout for each projector.**
In the layout area, drag the computer to use in projection, and then click [Start projecting] to start projection.

2 **In the pull-down list, select another projector to use.**

3 **Repeat steps 1 and 2 to set up the computers to use in projection from all projectors.**

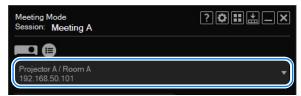## ■ Switching between Primary and Secondary Monitors

Using the software, you can switch between projection from the primary or secondary monitor.
If your computer has dual monitor support, the computer icons are labeled with numbers. The primary monitor is labeled "1," and the secondary one, "2."
To switch the monitor used for projection, click the icon of computers shown with a number.

■ Temporarily Enlarge Images

During display from multiple computers, you can enlarge projection from one of the computers. To enlarge the display, place the cursor over the computer in the layout area, click ▣ in the upper left, and then click [Start projecting]. The image from the selected computer is now projected in full-screen mode.
To cancel the enlarged display, place the cursor over the computer in the layout area again. Click ▣ in the upper left, and then click [Start projecting].

■ **Projecting Session Information**

You can project session information needed by other users to join a session, such as the connection method, session name, and projector IP address or hostname. To project session information, click 🔳 . To cancel display, click 🔳 again.

> 📝 With a wireless direct connection, the SSID is also projected as part of the session information.

■ **Fully Blanking Projection**

Blanking refers to temporarily stopping projection from computers, so that no image is projected. To blank projection, click 🚫 . To cancel blanking and return to normal projection, click 🚫 again.

Direct Mode window

Meeting Mode window

Functions
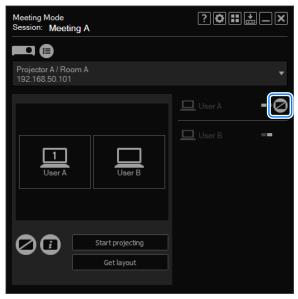
Classroom Mode window (starting a session)

Broadcast Mode window

■ **Blanking Projection from Your Computer**

In Meeting and Classroom Modes, you can blank projection your computer alone. To blank projection from your computer, click ⊘ in the computer list. To cancel blanking and return to normal projection, click ⊘ again.

Meeting Mode window

Classroom Mode window (joining a session)

■ **Checking for Computers That Join or Leave Sessions**

In Meeting and Classroom Modes, computer users can join or leave sessions as needed. Computers joining a session are added to the computers listed on the window.

Similarly, computers leaving a session are removed from the list of computers.

Completing Software Projection Settings

Software settings can be configured to specify the image quality of computer projection, user nicknames, and other details.

1 **Click** ⚙ **next to the computer icon.**

2 **The settings window is displayed. Complete each setting as needed, and then click [OK].**
The settings entered in the settings window are saved.

Available settings are as follows. These setting values are stored by user (account), so when you log into the same computer using the same account, the same settings will be applied when you launch the software.

> 📖 When setting windows are displayed while they are minimized to the taskbar, some information may appear outside the window.

Picture qual setting	High	: Projects at a lower frame rate while emphasizing image quality. Select this mode if lower image quality is not acceptable.
	Medium	: Projection with image quality and frame rate balanced. (Initial value)
	Low	: Projects at lower image quality to maintain a high frame rate. Select this mode to reduce the network bandwidth used for projection.
Real	On	: Projection matching the computer display resolution. Available under the following conditions. • When projecting from a single computer • During projection from multiple computers, when projecting an enlarged image from one computer • When the display resolution is lower than the projector resolution
	Off	: Automatically adjust the projection size to match the projector screen size. (Initial value)

Projection type	Normal	: Although some windows cannot be projected, the cursor on the computer monitor will not flash. (Initial value)
	Advanced	: Most windows can be projected, but the cursor on the computer monitor will flash. (Only the cursor on the computer monitor will flash, not the cursor in projected images.)
	Note: It may not be possible to project windows using the software in either of the above modes if software that restricts screen capture is running on the computer.	
Sound	Specify audio transfer. This item is not displayed for sessions that include projectors or computers running NMPJ V1.0.	
	On	: Images displayed on the computer are transferred with accompanying sounds to the projector. This sound is produced by the projector showing the images at the same time as the images. (Initial value) "LAN" must be selected as the audio input terminal on the projector. This function is available when projecting from a single computer, or during projection from multiple computers, when projecting an enlarged image from one computer. Although sound also stops when projection is blanked from the NMPJ software, sound does not stop when projection is blanked from a projector, by activating the blanking function. Volume is automatically adjusted by the NMPJ software.
	Off	: Sounds are not transferred. Audio output from the projector is stopped.
Nickname	Nickname specified when creating or joining sessions. Cannot be changed during sessions. The initial value is the computer name. The nickname may consist of half-width (1 to 15) or full-width (1 to 7) characters.	
Auto-update	• Specify whether or not the software is updated automatically. • If the setting is changed, the new setting takes effect the next time the software is launched.	
	On	: Auto-update is enabled. (Initial value)
	Off	: Auto-update is disabled.

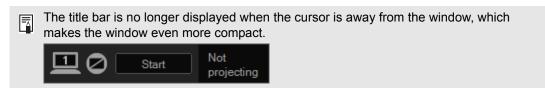# Reducing Windows to a Compact Size

A compact version of windows in all modes is available, showing only the minimum buttons and information needed.

1 **Click** **.**

The window is now reduced to a compact size.

> 📄 The title bar is no longer displayed when the cursor is away from the window, which makes the window even more compact.
>
>

2 **To revert to original size, click** **.**

Split-Screen Display with Non-Network Sources

Split-screen display combining images transferred over a network with other input signals (HDMI, digital or analog computer, component signals, HDBaseT) is supported.

> Network input cannot be combined with USB input for split-screen display.
> When a session includes projectors or computers running NMPJ V1.0, nothing is projected on the screen for the network source, because no signal is received.

Network sources can be used for both sides of split-screen display. For details on split-screen display, refer to the projector user's manual.

Projection of images from network sources   Image input from non-network source

Split-screen display is only available when the screen is evenly divided on the left and right, not with 70:30 or 30:70 layouts.
Even when only one projector is used for split-screen display with images transferred from this software, image quality is automatically set to [Low] (to maintain transfer speed) and cannot be changed.
However, the image quality setting itself, on the setting screen, is not changed. The original image quality is restored once you finish with split-screen display.

Tips for Better Networked Projection

■ Avoid Exceeding Connection Limits

The maximum number of computers and projectors that can be connected varies by mode. When this limit would be exceeded, it is not possible to add computers or projectors to a session. Thus, if the total number of computer users requesting to join a session at the same time would exceed the limit, their requests may be denied. In this case, an error message is displayed on the computers that could not join the session.

Similarly, if the total number of projectors users attempt to add to a session at the same time would exceed the limit, their requests may be denied. In this case, a message is displayed on computers that could not add projectors, indicating that the projector list has been updated.

■ When Removing the Only Projector Listed

In Meeting, Classroom, and Broadcast modes, projectors can also be added or removed after sessions are created. However, a confirmation message is displayed if you attempt to remove the last connected projector in a session, which would leave no projectors in the session.

■ Operation if Devices Are Disconnected

If a computer or projector can no longer be communicated with, for example because a LAN cable was disconnected or the wireless LAN signal cannot be received, it is removed from the session. Disconnection of essential computers or projectors will terminate a session.

For example, in Classroom Mode, disconnection of the presenter's computer will terminate the session.

■ Projector with Wireless LAN Functionality Enabled in Standby Mode

If a projector has automatically powered down and entered the standby state due to the power management settings, wireless LAN communication is cut off. The projector will disappear from the projector list.

Functions

Restrictions

■ Router Connections

Although the software can also link computers and projectors over a network via a router, operation is only ensured over one router hop.

■ Wireless Direct Connection

- It is necessary to use a projector equipped with wireless LAN functionality in order to use wireless direct connection.
- When a computer has established a wireless direct connection to a projector, the wireless LAN interface cannot be used to connect wirelessly to another device.
- In an environment where signal conditions are poor, connecting to a projector may take time or not be possible.

■ Security Dialog Box Projection

The software cannot be used to project the Windows Security dialog box, normally accessed by pressing Ctrl+Alt+Del.

■ Screen Capture Software

It may not be possible to start the software while software that restricts screen captures is running.

■ Animated Cursors

Animation of animated cursors is not projected.

■ Alternative Cursors

Cursors used by some software may not be projected correctly. In this case, an arrow pointer is projected.

■ Projection Restrictions

Some windows and icons displayed on computers cannot be projected. Although switching the projection type to advanced will enable projection of more elements, not all elements can be projected even in this case.
Projected images may not always match the computer screens.

■ Network Bandwidth

Some network conditions may cause a delay in projection. The source may also be disconnected, if the connection is unstable.

■ Projection through Firewalls

Some software functions may not be available in environments where Windows Firewall or other software restricting network communication are installed.

■ **Software Display**

Software display may be distorted if you have adjusted the screen resolution in Windows.

■ **Sound**

- A valid playback device (default device) is required when the software starts up. If no such device is found, no sound will be produced.
- Sound may skip, or audio and video playback may be out of sync in some cases, due to computer settings or performance, or network conditions.
- In the following cases, no sound will be produced. To restore audio output, you must restart the software.
    - The playback device is deactivated when the software starts up
    - The playback device is disconnected when the software starts up
    - Playback device settings were changed
    - The playback device was switched to another device
    - The system has entered sleep or hibernation mode

■ **Images**

Video projection may not be as smooth as playback on the computer monitor in some cases, due to computer settings or performance, or network conditions.

Functions

Canon