

DATA PROJECTOR

Network Function Guide

- Be sure to read the “Safety Precautions” and “Operating Precautions” in the “User’s Guide”, and make sure you use this product correctly.
- Keep this manual in a safe place for future reference.
- For information about the projector models covered by this manual and for the latest updates, visit the CASIO website below.

<https://world.casio.com/manual/projector/>

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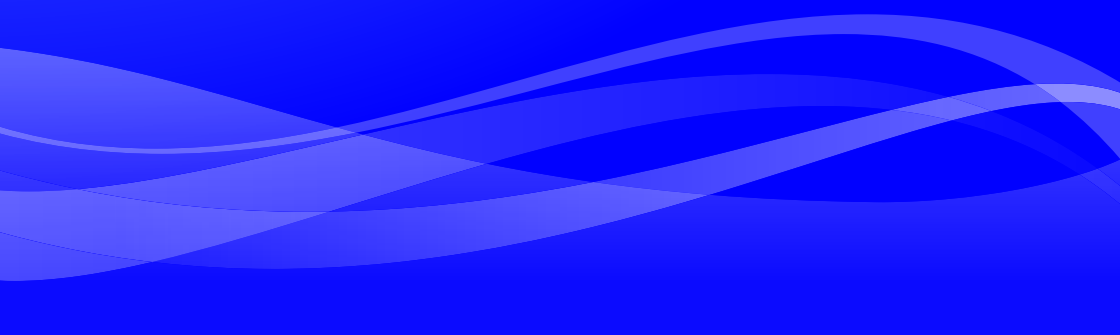
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Environment Setup Guide

The contents of this Environment Setup Guide are intended mainly for network administrators. It contains information about preparing an environment that enables network projection by the projector. This Environment Setup Guide covers the topics below.

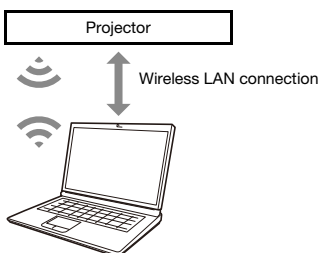
- Configuring a network that includes the projector (including how to connect to an existing network)
 - Projector network setup details
 - Creation of projection files for network users (One Click Connection files, Favorites list files)
- 

Establishing a Network Connection Between the Projector and a Computer

To start network projection from a computer, there must be a network connection between the computer and projector.

Establishing a Direct Wireless LAN Connection Between a Computer and the Projector

With this configuration, the projector is used as a wireless LAN access point. A computer connects directly to the projector via a wireless LAN network connection.



Note

- Wireless connection requires use of the YW-41 wireless adapter, which may have been provided with your projector or which you may need to purchase separately. For information about whether or not the wireless adapter is included with your projector, refer to “Unpacking” in the User’s Guide that is available from the CASIO website.
- You can have up to eight computers and/or smart devices connected to a single projector at the same time over a wireless LAN.

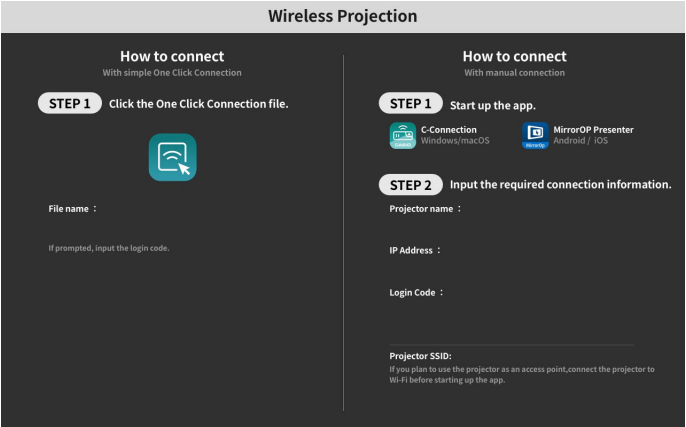
To connect the projector and a computer via wireless LAN

- 1. Connect the YW-41 wireless adapter to the projector’s USB-A port.**
 - Make sure that the projector is turned off before connecting the wireless adapter. After connecting the wireless adapter, turn on the projector.
- 2. On the projector’s network standby screen (page 7), note the projector SSID.**
- 3. On the computer, connect to the projector SSID via wireless LAN.**

To display the projector’s network standby screen

- Projector Operation

1. Press the [INPUT] key to display the input menu.
2. Use the [INPUT], [▲], and [▼] keys to select “Network”, and then press the [ENTER] key.
 - This displays the network standby screen.

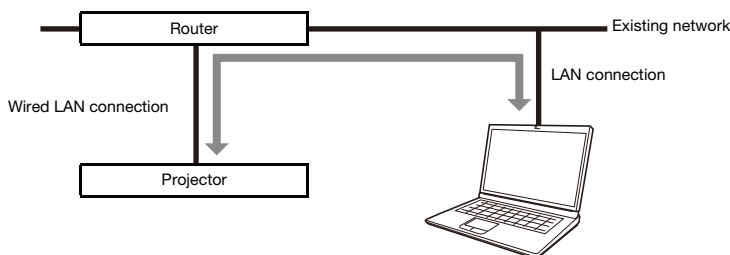


- The information that appears on the screen is explained below.

This item:	Shows this:
File name	File name of this projector’s One Click Connection file (page 32)
Projector name	This projector’s name (page 30)
IP Address	This projector’s IP address. When using both a wireless LAN and wired LAN connection (page 13), this item shows the wireless LAN IP address (LAN2 IP address, page 27).
Login Code	This projector’s login code (page 23). This item is displayed when “Fixed” or “Random” is selected for the “Login Code Options” setting.
Projector SSID	This projector’s SSID.

Using a Wired LAN Connection to Connect the Projector to an Existing Network

You can use a LAN cable to connect the projector to an existing network.



To use a wired LAN connection to connect the projector to an existing network that has a DHCP server

1. Use a LAN cable to connect the projector to the existing network.
2. Display the projector's wired LAN information screen (page 9), and use it to confirm that the projector is correctly connected to the network.

To use a wired LAN connection to connect the projector to an existing network with a fixed IP

1. Use a LAN cable to connect the projector to the existing network.
2. Specify the projector's fixed IP.
 - Projector Operation
 - (1) Press the [MENU] key to display the setup menu.
 - (2) Select the following in sequence: "Network Settings" → "Network Settings". Next, press the [ENTER] key.
 - (3) Confirm that "IP Setting(LAN1)" is selected, and then press [◀] or [▶] to select "Manual".
 - (4) Input the applicable information for the "IP Address", "Subnet Mask", and "Default Gateway" settings.
 - (5) Select "Update Network Settings" and then press the [ENTER] key.
 - (6) Use the [▲] and [▼] keys to select "Yes", and then press the [ENTER] key.
 - This restarts the network system. Restarting updates settings and then displays the network standby screen.
3. Display the projector's wired LAN information screen (page 9), and use it to confirm that the projector is correctly connected to the network.



Note

- If you need to configure DNS server settings, use the projector's Web Service page. See "To configure projector settings" (page 21) for more information.

To display the projector’s wired LAN information screen

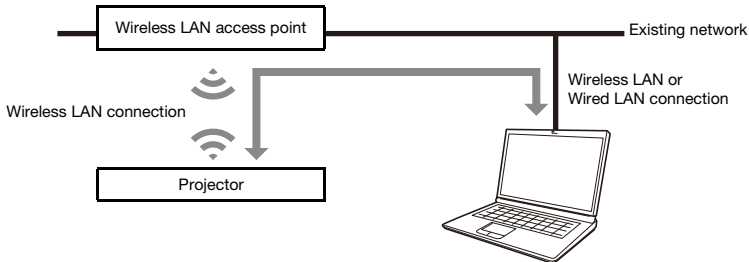
- Projector Operation

1. Press the [MENU] key to display the setup menu.
2. Select the following in sequence: “Network Settings” → “Wired LAN info”. Next, press the [ENTER] key.
 - This displays the Wired LAN info screen.
 - The information that appears on the screen is explained below.

This item:	Shows this:
Projector name	This projector’s name (page 30)
MAC Address	MAC address (physical address) of the wired LAN board of this projector
IP Address	This projector’s LAN1 IP address (page 27)
Subnet Mask	This projector’s LAN1 subnet mask
Default Gateway	This projector’s LAN1 default gateway
Access Filter	Access Filter (page 29) setting

Connecting the Projector to an Existing Wireless LAN Access Point

Use the procedure in this section to connect the projector to an operating wireless LAN access point. Connecting the computer to the same wireless LAN access point as the projector or to a hub, router, or another device on the same network as the projector will establish a network connection between the computer and projector.



To connect the projector to a wireless LAN access point

- 1. Perform steps 1 through 3 under “To connect the projector and a computer via wireless LAN” (page 6).**
 - Use the computer connected via wireless LAN to configure projector settings.
- 2. On the projector’s network standby screen (page 7), note the projector’s IP address.**
- 3. Start up the computer’s browser, input the projector’s IP address into the address bar, and then press the computer’s [Enter] key.**
 - This displays the projector’s Web Service page (page 18).
- 4. Use the Web Service page to put the projector into the Client Mode (required to connect with an external wireless LAN access point).**
 - (1) On the Web Service page window title bar, click the [Setup] button.
 - (2) Input the password (Initial Default: admin) into the “Password” box, and then click the [Login] button.
 - (3) Click “Wireless LAN Settings”.
 - (4) Select the “Enable Client Mode” check box.

5. Connect the projector to the wireless LAN access point.

- (1) Click the [Scan Access Point] button.
 - When scanning is complete, a down arrow button (▼) appears on the right side of the “External Access Point SSID” box.
- (2) Click the ▼ button. On the list that appears, click the SSID of the wireless LAN access point you want to connect the projector with.
 - This inputs the SSID you clicked.
 - If you know the character string that represents the SSID of the wireless LAN access point, you can input it into the “External Access Point SSID” box manually without clicking the [Scan Access Point] button.
- (3) Click the “Security” box. On the list that appears, select the encryption you want to use for the wireless LAN access point.
- (4) In the “Passphrase/WEP Key” box, input the password of the wireless LAN access point.



Note

- Perform the operation below when connecting the projector to an existing network that is a fixed IP environment.
- (1) Click the [Save changes] button.
 - In response to the restart dialog box that appears, click the [Reboot later] button.
 - (2) In the sidebar click “Network Settings” (the lower one).
 - (3) Select the “LAN1 IP Settings (Auto if not checked)” check box.
 - (4) Input the applicable information for the “IP Address”, “Subnet Mask”, “Default Gateway”, and “DNS Server” settings.

6. Click the [Save changes] button.

- In response to the restart dialog box that appears, click the [Reboot now] button. Wait until the projector restarts.
- At this time, the wireless LAN connection between the projector and computer is terminated.
- Restarting the projector causes the network standby screen to be projected.

7. Check if the projector is connected to the wireless LAN access point.

- Perform the procedure under “To display the projector’s wireless LAN information screen” (page 12) and then confirm the information below.
 - The wireless LAN information screen “Operation Mode” item is “Client Mode”.

To display the projector's wireless LAN information screen

- Projector Operation

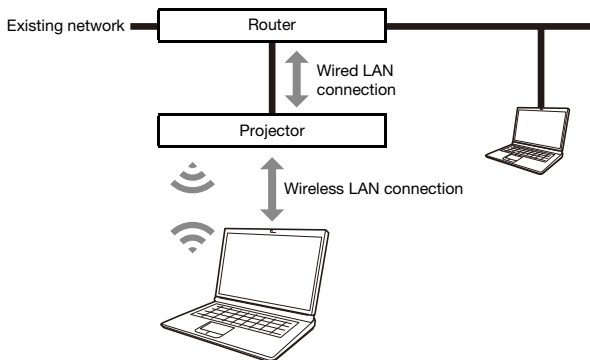
1. Press the [MENU] key to display the setup menu.
2. Select the following in sequence: “Network Settings” → “Wireless LAN Info”.
Next, press the [ENTER] key.

- This displays the Wireless LAN Info screen.
- The information that appears on the screen is explained below.

This item:	Shows this:
Projector name	This projector's name (page 30)
MAC Address	MAC address (physical address) of the wireless adapter connected to this projector.
Operation Mode	“Access Point Mode” (page 24) or “Client Mode” (page 25) is shown when this projector's “Enable Wireless LAN” check box (page 24) is selected. When the “Enable Wireless LAN” check box is not selected, “Disable” is shown.
IP Address	When “Access Point Mode” is selected, this item shows this projector's LAN2 IP address. When “Client Mode” is selected, this item shows this projector's LAN1 IP address. For information about the LAN1 IP address and LAN2 IP address, see “Network Settings” (page 27).
SSID	Access Point Mode display item. It shows this projector's SSID.
Security	Access Point Mode display item. It shows this projector's security setting status (page 25).
Subnet Mask	Client Mode display item. It shows the Subnet mask (page 28) specified by the Client Mode.
Default Gateway	Client Mode display item. It shows the Default gateway (page 28) specified by the Client Mode.

Using the Projector as a NAT Router (Simultaneous Use of Wireless LAN and Wired LAN)

The projector can be connected to an existing network via a wired LAN while it is simultaneously connected to one or more terminals (computers and/or smart devices) via a wireless LAN connection. In this configuration, the projector functions as a NAT router, which is capable of wireless LAN side and wired LAN side data communication.



Note

- Wireless connection requires use of the YW-41 wireless adapter, which may have been provided with your projector or which you may need to purchase separately. For information about whether or not the wireless adapter is included with your projector, refer to “Unpacking” in the User’s Guide that is available from the CASIO website.
- You can have up to eight computers and/or smart devices connected to a single projector at the same time over a wireless LAN.

To connect a computer to the projector via wireless LAN, and to connect the projector to an existing network at the same time

- 1. Perform steps 1 through 3 under “To connect the projector and a computer via wireless LAN” (page 6).**
- 2. Use a LAN cable to connect the projector to the existing network.**
 - Depending on the existing network environment, perform either of the following operations: “To use a wired LAN connection to connect the projector to an existing network that has a DHCP server” (page 8) or “To use a wired LAN connection to connect the projector to an existing network with a fixed IP” (page 8).



Note

- If you want to change the SSID display name or other projector wireless LAN access point settings, use the procedure under “To configure projector settings” (page 21) to change the settings of the items included under “Access Point Mode” (page 24).
- If the projector is simultaneously connected to both a wireless LAN and wired LAN with the above type of connection, the wireless LAN computer will be able to access the wired LAN under initial default projector settings. “Access Filter” settings (page 29) can be configured to completely block wired LAN access from the wireless LAN, or to allow internet access only from the wireless LAN.

Using the Remote Controller to Configure Projector Network Settings

You can configure basic projector network settings with the projector's remote controller by using the Setup Menu that appears on the projection screen.



Note

- To configure more advanced network settings, use the projector's Web Service page (page 18).
- The operations below can be performed using only the projector's Setup Menu. For these, there are no corresponding setting items on the projector's Web Service page.
 - Displaying "Wired LAN info" and "Wireless LAN Info"
 - Changing the "Remote On" setting
 - Changing the "PJLink Authentication" setting

See the table below for information about these settings.

Projector Setting Menu Network Setting Items

This menu item:	Does this:						
Wired LAN info	Shows the current status of a wired LAN connection.						
Wireless LAN Info	Shows the current status of a wireless LAN connection.						
Network Settings → IP Setting(LAN1)	<p>Specifies how an IP address is specified when the projector is connected to a network. Auto (initial default): Obtain an IP address automatically from a network DHCP server. Manual: Manual IP address input. Selecting the "Manual" option enables input for the following three items: "IP Address", "Subnet Mask", and "Default Gateway".</p> <div><div></div><div>Note<ul style="list-style-type: none">● This setting also affects the "LAN1 IP Settings" (page 28) below, which are on the Web Service page.</div></div> <table><tr><th>Web Service Page Setting Items</th><th>Projector's Setup Menu Setting Items</th></tr><tr><td>LAN1 IP Settings (Auto if not checked)</td><td>Auto, Manual</td></tr><tr><td>IP Address, Subnet Mask, Default Gateway</td><td>Menu setting items of the same name.</td></tr></table>	Web Service Page Setting Items	Projector's Setup Menu Setting Items	LAN1 IP Settings (Auto if not checked)	Auto, Manual	IP Address, Subnet Mask, Default Gateway	Menu setting items of the same name.
Web Service Page Setting Items	Projector's Setup Menu Setting Items						
LAN1 IP Settings (Auto if not checked)	Auto, Manual						
IP Address, Subnet Mask, Default Gateway	Menu setting items of the same name.						
Network Settings → Wireless LAN Function	Switches the projector's wireless LAN function between "Enable" (initial default) and "Disable". This setting also affects the "Enable Wireless LAN" (page 24), which is on the Web Service page.						
Network Settings → Remote On	<p>Specifies whether the projector can be turned on via wired LAN while it is in standby (projector off with power being supplied). Enable: Enable remote power on. Disable (initial default): Disable remote power on.</p>						
Network Settings → PJLink Authentication	Enables (initial default) or disables PJLink connection authentication.						

This menu item:	Does this:
Network Settings → Update Network Settings	Applies changes to the projector that were made to the menu setting items included in “Network Settings” → “Network Settings”.
Network Settings → Initialize Network Settings	Returns network settings to their factory defaults.

To use the projector’s Setup Menu to configure network settings

- Projector Operation

- 1. Display the projector’s network standby screen (page 7).**
- 2. Press the [MENU] key to display the setup menu.**
- 3. Select the following in sequence: “Network Settings” → “Network Settings”. Next, press the [ENTER] key.**
- 4. Configure the settings you want.**
- 5. After all the settings are the way you want, select “Update Network Settings” and then press the [ENTER] key.**
 - This displays a confirmation dialog box asking if you want to update.
- 6. Use the [▲] and [▼] keys to select “Yes”, and then press the [ENTER] key.**
 - This restarts the network system. Restarting updates settings and then displays the network standby screen.

To use the projector's Setup Menu to initialize network settings



Note

- The procedure below can be used to initialize all items included in the “Network Settings” of the projector's Setup Menu. Though it also initializes most of the items included in “Projector Setup” on the Web Service page (see “Projector Setting Items” on page 23), the current settings of the items below are maintained.

Projector name, User List, Crestron Control, Firmware Update

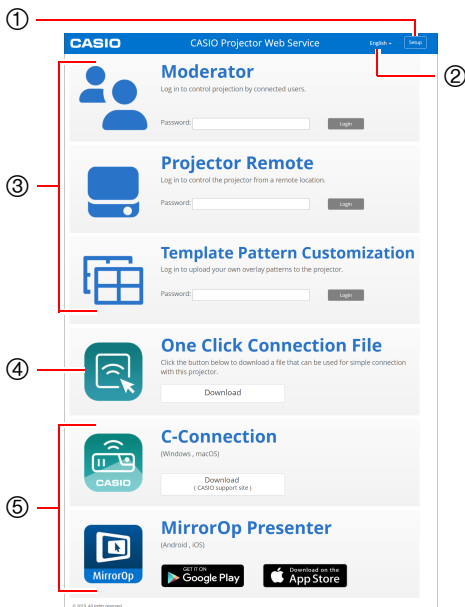
- 1. Perform steps 1 through 3 of the procedure under “To use the projector's Setup Menu to configure network settings” (page 16).**
- 2. Select “Initialize Network Settings” and then press the [ENTER] key.**
 - This displays a confirmation dialog box asking if you want to perform initialization.
- 3. Use the [▲] and [▼] keys to select “Yes”, and then press the [ENTER] key.**
 - This restarts the network system. Restarting initializes settings and then displays the network standby screen.

Using a Computer to Configure Projector Network Settings

You can use the web browser of a computer to access the projector's Web Service page in order to configure projector network settings and to perform various other operations.

Web Service Page Top Menu




Displaying the Web Service page first displays the top menu shown below.



- ① [Setup] button
Click to access the projector network detailed settings.
- ② Language selection button
Click to display a list of languages and select the one you want to use for the Web Service page.
- ③ Function login menu
This menu accesses the Moderator (page 49), Projector Remote (page 52), and Template Pattern Customization (page 54) function pages.
- ④ One Click Connection File
See "Creating a One Click Connection File" (page 32).
- ⑤ Links to connection applications
These are download links to C-Connection of a computer and MirrorOp Presenter for smart devices.

To display the Web Service page

You can use either of the operations below to display the Web Service page.

For this type of connection:	Perform this operation:
Computer and projector connected to a network*1	1. On the projector's network standby screen, note the projector's IP address. 2. Start up the computer's browser, input the projector's IP address into the address bar, and then press the computer's [Enter] key.
Connection with the projector from a computer using C-Connection*2	1. Display the C-Connection list panel and then click  . 2. Move the mouse cursor to a projector name that is marked with a blue check mark (), which indicates a currently connected projector. Click the  mark to the right of the projector name.

*1 This operation can be used to display the Web Service page even if the projector and computer are connected by LAN cable, while both of them are assigned fixed IP addresses. For information about specifying the projector's fixed IP address, see step 2 of the procedure under "To use a wired LAN connection to connect the projector to an existing network with a fixed IP" (page 8).

*2 See "Network Projecting a Computer Screen Image (Using C-Connection)" (page 36).



Important!




- Depending on the setup of your web browser, attempting to open the Web Service page may cause a dialog box warning you about security and privacy issues. Note that there are no security or privacy issues to worry about, so you can ignore the warning message and open the projector's Web Service.

Projector Setup

This section explains how to configure detailed projector network settings.

To log into the Projector Setup page

1. Use the computer to display the projector's Web Service page (page 19).
2. On the Web Service page window title bar, click the [Setup] button.
3. Input the password (Initial Default: admin) into the "Password" box, and then click the [Login] button.
 - "admin" will be input automatically as the user name in the "User Name" box. Do not change it.
 - If login is successful, the Projector Setup page will appear.
 - The meanings of the icons that appear at the bottom of this page are described below.


Icon and Text	Description
 casiolpj123	SSID of the connected projector. Clicking this icon displays the Wireless LAN Settings page.
 casiolpj123 192.168.100.10	Name and IP address of the connected projector.
 Projecting	Projector network projection status

4. To return to the top menu of the Web Service page, click  in the title bar of the window, and then click the [Home] button.

To configure projector settings

- 1. Perform steps 1 through 3 under “To log into the Projector Setup page” (page 20).
- 2. Click a link to display the page whose settings you want to configure or the page whose information you want to view.

Click this:	To go to this page:	For more:
Login Settings (sidebar)	Login Settings page This page is for configuring settings related to the login code that is used when connecting a computer (or smart device) to the projector over a network.	Page 23
Network Settings (sidebar)	Network Settings page This page includes projector wireless LAN settings and IP settings.	Page 24
System Settings (sidebar)	System Settings page This page includes projector system information, a section to change the login password, and other settings (same as “Other Settings” below).	Page 30
Update (sidebar)	Update page Includes Firmware Update and Troubleshooting (For Developer).	Page 31
System Info	System Settings → System Info page	Page 30
Wireless LAN Settings	Network Settings → Wireless LAN Settings page	Page 24
Other Settings	System Settings → Other Settings page This page includes Moderator function user list screen display settings and Crestron control settings.	Page 31

- 3. On the page that is displayed, configure settings as required.
 - To cancel all of the changes you have made on the page to the projector, click the [Discard changes] button. To discard your changes, click the [Yes. Refresh the page] button on the confirmation dialog box. If you want to maintain your changes without canceling them, click the [No. Cancel the page refresh.] button.
- 4. To apply the changes you have made on the page to the projector, click the [Save changes] button.
 - If none of the settings you configured require restarting the projector, the following message will appear: “Changes were applied successfully.”.
 - If any of the settings you configured require restarting the projector, a restart dialog box will appear. To restart the projector immediately, click the [Reboot now] button. If you want to configure other settings before restarting, click the [Reboot later] button.
 - If you clicked the [Reboot later] button on the restart dialog box, either of the operations below will apply the setting changes to the projector.
 - After configuring other settings, click the [Save changes] button. On the restart dialog box that appears, click the [Reboot now] button.
 - Turning the projector off and then back on.
- 5. After you are finished, click  in the title bar of the window, and then click the [Home] button.

To change the Web Service page password



Important!

- When connecting the projector to a network, be sure to change the initial default passwords below to passwords you want to use.

1. Perform steps 1 through 3 under “To log into the Projector Setup page” (page 20).

2. In the sidebar, click the following links in sequence: “System Settings” → “Change Passwords”.

- This displays the Change Passwords page.
- Perform both or either of the operations in step 3 to change the Admin Password and step 4 to change the Moderator Password.

3. Change the Admin Password.

- Admin Password is the login password for the Projector Setup page (page 20). This password also is used when logging into the projector from a PJLink device (page 58).
- Each character you input is hidden, and indicated by a dot (●) in the input box.

(1) For “Admin Password”, input the current Admin Password into the “Old password” box.

- The initial default Admin Password is: admin.

(2) Under “Admin Password”, input the new password into both the “New password” and “Reinput Password” boxes.

- A password must have at least five characters and can have up to 50 characters.
- You can use any of the following types of characters: numerals, alpha characters (upper case or lower case), or single-byte symbols (except \, ", ').
- A password strength indicator below the input box shows the strength of the password being input into “New password”.

4. Change the Moderator Password.

- The Moderator Password is the login password for the following function pages: Moderator (page 49), Projector Remote (page 52), and Template Pattern Customization (page 54).
- Each character you input is hidden, and indicated by a dot (●) in the input box.

(1) For “Moderator/Projector Remote/Template Password”, input the current Moderator Password into the “Old password” box.

- The initial default Moderator Password is: moderator.

(2) For “Moderator/Projector Remote/Template Password”, input the new password into both the “New password” and “Reinput Password” boxes.


- The number of characters, allowable characters, and password strength indicator are the same as those for Admin Password.

5. To apply the new password, click the [Save changes] button.

Projector Setting Items

Login Settings

Login Settings let you specify the login code for projector connection from C-Connection on a computer or MirrorOp Presenter on a smart device. You can also use it to display connection information on the projection screen.

Use this item:	To do this:
Login Code Options	<p>Specify whether or not to require login code input when connecting to the projector from a terminal.*</p> <p>Disable (initial default): Login code input not required.</p> <p>Random: Login code input required. A random four-digit code is generated for the login code whenever the number of users that are network connected to the projector becomes zero.</p> <p>Fixed: Login code input required. After selecting this option, be sure to input a text string to be used as the login code into the “Login Code” input box.</p>
Login Code	<p>If you selected “Fixed” under “Login Code Options”, input a four-character string into this input box. You can use numerals or alpha characters (upper case or lower case).</p>
Connection information	<p>Specify whether to show or hide connection information (login code, SSID, projector name, IP address) in the projected image.</p> <p>Enable (initial default): Show connection information when any event below occurs.</p> <ul style="list-style-type: none">● When a terminal connects with the projector*● When network projection from a terminal to the projector starts● When the [Show Login Code] button (page 50) is clicked <p>Disable: Hide connection information.</p> <div>Note<ul style="list-style-type: none">● The login code is not displayed when “Disable” is selected for the “Login Code Options” setting.● The SSID does not appear in the Client mode (page 25).</div>
Display Duration	<p>Specify for how many seconds connection information should be shown in the projected image. You can input a value up to 300 (Initial Default: 10).</p> <p>Even if “Enable” is specified for the “Connection information” setting, connection information will not be shown in the projected image if you input 0 here.</p>

* When the projector is connected with a computer using C-Connection or with a smart device using MirrorOp Presenter.

Network Settings

Network Settings include projector wireless LAN settings and IP settings.

Wireless LAN Settings


This page is for configuring detailed settings related to projector wireless LAN connection.

Use this item:	To do this:
Enable Wireless LAN	<p>Switch the projector's wireless LAN function between enabled and disabled.</p> <p><input checked="" type="checkbox"/> : Select this option when using the wireless LAN function (initial default).</p> <p><input type="checkbox"/> : Select this option when not using the wireless LAN function. This option should be selected in the cases below.</p> <ul style="list-style-type: none">● When the projector is connected only to a network by a wired LAN● When you don't want the projector to output radio waves (same as a smart device's Airplane Mode)

Use this item:	To do this:
Access Point Mode	
Enable Access Point Mode	<p>Specify whether or not the projector will be used as a wireless LAN access point. Selecting this check box exits the Client Mode.</p> <p><input checked="" type="checkbox"/> : Enters the Access Point Mode, which allows the projector to be used as a wireless LAN access point (initial default). In this case, the projector can be connected with from a computer or smart device via wireless LAN.</p> <p><input type="checkbox"/> : Exit the Access Point Mode.</p> <p>The settings from "SSID" to "SSID Broadcast" below are applied while the projector is being used as a wireless LAN access point.</p>
SSID	<p>Specify an SSID (Initial Default: casiolpj000).</p> <p>The "000" part of the SSID are the final three digits of the MAC Address (Wired LAN) (unique product number, page 30).</p> <p>If you want to manually specify an SSID, input any character string into this input box.</p> <ul style="list-style-type: none">● You can use any of the following types of characters: numerals, alpha characters (upper case or lower case), or single-byte symbols (except \, ", ').● Up to 32 characters can be input for the SSID. However, if the SSID is so long that all of it cannot be displayed on the network standby screen (page 7), shorten it.● Attempting to save settings while this input box is blank will display an error message.
Mode	<p>Select a wireless LAN standard.</p> <p>B/G/N (initial default): Automatically select IEEE802.11b, g, or n as the wireless LAN standard.</p> <p>B: IEEE802.11b (maximum communication speed 11 Mbps*).</p> <p>G: IEEE802.11g (maximum communication speed 54 Mbps*).</p> <p>N: IEEE802.11n (maximum communication speed 300 Mbps*).</p> <p>* Specification values. Actual speeds may be slower, depending on the system environment.</p>

Use this item:	To do this:
Access Point Mode	
Bandwidth	Select “20MHz” (initial default) or “40MHz” as the wireless LAN channel width. ● If you selected “B” or “G” for the “Mode” setting, “Bandwidth” will automatically be fixed as “20MHz”.
Channel	Select “Auto” (initial default) or a channel number from 1 to 11 for the wireless LAN channel.
Security	Configure wireless LAN communication encryption settings. NONE (initial default): Wireless LAN communication not encrypted. WPA-PSK: Wireless LAN communication encrypted using WPA-PSK. WPA2-PSK: Wireless LAN communication encrypted using WPA2-PSK.
Passphrase/WEP Key	Specify an encryption key (password) when “WPA-PSK” or “WPA2-PSK” is selected for the “Security” setting. Since the initial default setting for “Security” is “NONE”, this input box is blank under initial default settings. To encrypt wireless LAN communication, be sure to input an encryption key here. ● You can use any of the following types of characters: numerals, alpha characters (upper case or lower case), or single-byte symbols (except “,”, “.”). ● A passphrase must have at least eight characters and can have up to 63 characters. ● Include two each of the following types of characters in the passphrase you input: upper case alpha characters, lower case alpha characters, numerals, single-byte symbols.
SSID Broadcast	Specify whether the projector SSID should be visible to terminals (computers and smart devices) attempting wireless LAN access. When the projector SSID is not visible, its SSID will not appear in the SSID list of a terminal. enable (initial default): Visible SSID Disable: Invisible SSID

Use this item:	To do this:
Client Mode	
Enable Client Mode	Enter the Client Mode and connect the projector to an external wireless LAN access point. Selecting this check box exits the Access Point Mode. <input checked="" type="checkbox"/> : Enter the Client Mode. This makes it possible for the projector to be connected to an external access point. <input type="checkbox"/> : Exit the Client Mode (initial default). For detailed information about the procedure for connecting the projector to an external access point, see “Connecting the Projector to an Existing Wireless LAN Access Point” (page 10).
External Access Point SSID	Manually input the SSID of the wireless LAN access point to which the projector will connect (Initial Default Setting: Blank). You can also perform the steps below to scan for access points in the vicinity of the projector, and select one from the list of SSIDs that appears. 1. Click the [Scan Access Point] button. ● When scanning is complete, a down arrow button (▼) appears on the right side of the “External Access Point SSID” box. 2. Click the ▼ button. On the list that appears, click the SSID of the wireless LAN access point you want to connect the projector with. ● This inputs the SSID you clicked.

Use this item:	To do this:
Client Mode	
Security	<p>Specify the type of encryption used by the external access point being connected with. NONE (initial default): Select this option when connecting with an external access point that does not use encryption.</p> <div> <div> WEP WPA-PSK AES WPA2-PSK AES WPA-PSK TKIP WPA2-PSK TKIP WPA/WPA2-EAP* </div> <div> When connecting with an external access point that is encrypted, select its encryption type. </div> </div> <p> Important!</p> <ul style="list-style-type: none"> ● If you select “WPA/WPA2-EAP” for this setting, be sure also to configure the settings for each of the “EAP type” setting items (page 26).
Passphrase/WEP Key	Input the encryption key (password) of the external access point being connected with when an option other than “NONE” is selected for the “Security” setting. However, not supported for a hexadecimal WEP key.

* WPA/WPA2-EAP can be selected for a projector whose IO/USB version is 0.02.xx.xx.xx or higher. To find the IO/USB version of your projector, go to the Setup Menu and select “Operational Info”. Find the “Version” item and check what is shown for “IO/USB”. For information about the Setup Menu, refer to the projector’s User’s Guide on the CASIO website.

Use this item:	To do this:
EAP type	
Configure an authentication setting that is required when “WPA/WPA2-EAP” is selected for the “Security” setting.	
EAP type	Select PEAP (initial default setting), TTLS, or TLS as the authentication protocol for the RADIUS server being connected with.
When “PEAP” or “TTLS” is selected for the “EAP type” setting:	
User Name	Input the user name (up to 31 single-byte alphanumeric characters) to use for authentication.
Password	Input the password (up to 64 single-byte alphanumeric characters) to use for authentication.
When “TLS” is selected for the “EAP type” setting:	
User Name	Input a user name for authentication (up to 31 single-byte alphanumeric characters) when required.
Password	Input not required (This projector supports private key without a password only, so password input is not required.)
Client certificate	Select the client certificate file*1 to be used for authentication and register it on the projector.
CA certificate	Select the CA certificate file*1 to be used for authentication and register it on the projector.
Private key	Select the private key file*2 to be used for authentication and register it on the projector.

*1 File name extension: pem. Format: X.509 v3. Encoding: BASE64 text.

*2 File name extension: key. Format: RSA. Encoding: BASE64. Key length: 2048 bits.

Network Settings

This page is for specifying the projector name and IP address.
This projector has two IP addresses, which are described in the table below. These IP addresses need to be specified in accordance with the type of network connection being used.

LAN1 IP Address

The projector IP address when connecting the projector to an existing network. It corresponds to the IP addresses described below.

- Wired LAN IP address when connecting the projector to an existing network using a wired LAN
- IP address when the projector is connected wirelessly to an existing network in the Client Mode (page 25)


You can select either a fixed IP address or auto acquisition of IP address depending on the type of network being connected with. Network settings that need to be configured are those shown for “Network Settings” → “LAN1 IP Settings” (page 28).

LAN2 IP Address

The projector IP address when connecting a computer by wireless LAN to a projector that is in the Access Point Mode (page 24).

Network settings that need to be configured are those shown for “Network Settings” → “LAN2 IP Settings” (page 29).

Use this item:	To do this:
Projector name	Specify a projector name (Initial Default: casiolpj000). The “000” part of the SSID are the final three digits of the MAC Address (Wired LAN) (unique product number, page 30). If you want to manually input a projector name, input a character string up to 16 characters long into this input box. You can use numerals or alpha characters (upper case or lower case).

Use this item:	To do this:
LAN1 IP Settings	
LAN1 IP Settings (Auto if not checked)	<p>Specify whether to use a manually specified fixed IP address or an IP address automatically obtained from an external DHCP server when connecting the projector to an existing network.</p> <p><input checked="" type="checkbox"/> : Fixed IP address <input type="checkbox"/> : Automatically obtain IP address (initial default).</p> <p>If you are using a fixed IP address, you also need to manually input information for the settings from “IP Address” to “DNS Server” below.</p> <p>You do not need to input anything for the settings below if you selected the setting to automatically obtain an IP address.</p> <p> Note</p> <ul style="list-style-type: none"> ● If you selected the setting to automatically obtain an IP address, the values automatically assigned to the projector will not be displayed for the setting items below.
IP Address	Input a fixed projector IP address of the format below. xxx.xxx.xxx.xxx (Initial Default: 192.168.100.1)
Subnet Mask	Input a subnet mask of the format below. xxx.xxx.xxx.xxx (Initial Default: 255.255.255.0)
Default Gateway	Input a default gateway IP address of the format below. xxx.xxx.xxx.xxx (Initial Default: 192.168.100.10)
DNS Server	Input a DNS server IP address of the format below. xxx.xxx.xxx.xxx (Initial Default: 192.168.100.10)



Note

- When inputting addresses for “IP Address”, “Default Gateway”, and “DNS Server”, do not input leading zeros for one-digit and two-digit octets (xxx parts of an address). For example, the following types of input are not allowed: 029 for 29, 005 for 5, etc.

Use this item:	To do this:
LAN2 IP Settings	
IP Address	Input an IP address of the format below when using the projector as a wireless LAN access point. xxx.xxx.xxx.xxx (Initial Default: 192.168.100.10)
DHCP Server Start Address DHCP Server End Address	Specify the start and end of the range of IP addresses to be automatically assigned to a computer or smart device connecting to the projector via wireless LAN. Each address must be the format below. xxx.xxx.xxx.xxx (Initial Default: 192.168.100.11 to 192.168.100.200) Regardless of the value that is input for "Subnet Mask" below, the first three octets (Initial Default: 192.168.100) of the start and end addresses must be the same.
Subnet Mask	Input a subnet mask of the format below. xxx.xxx.xxx.xxx (Initial Default: 255.255.255.0)
DNS Server	Input a DNS server IP address of the format below. xxx.xxx.xxx.xxx (Initial Default: 192.168.100.10)
Access Filter	Configure settings to control wireless LAN side and wired LAN side communications when using the projector as a NAT router (page 13). Pass (initial default setting): Allow all computers and/or smart devices connected to the wireless LAN (access point side) to access the wired LAN local network and the internet. Block: Block all computers and/or smart devices connected to the wireless LAN (access point side) from accessing the wired LAN. Internet only: Allow computers and/or smart devices connected to the wireless LAN side (Access Point Mode side) to access the wired LAN side network, including the internet, for HTTP communication only.



Note

- When inputting addresses for "IP Address", "DHCP Server Start Address", "DHCP Server End Address", and "DNS Server", do not input leading zeros for one-digit and two-digit octets (xxx parts of an address). For example, the following types of input are not allowed: 029 for 29, 005 for 5, etc.

System Settings

System Settings can be used to view projector system information, and to change login passwords and other settings (Moderator function user list screen display settings, Crestron control settings).

System Info

This item:	Shows this:
Model Name	"casio[pj]"
Wireless LAN Access Point SSID	Projector SSID (Access Point Mode only)
Projector name	Projector name
Firmware version	Firmware version of the projector's network system
MAC Address (Wired LAN)	MAC address (physical address) of the wired LAN board of the projector
MAC Address (Wireless LAN)	MAC address (physical address) of the wireless adapter connected to the projector. The following will be shown if the wireless adapter is not connected to the projector: -- : -- : -- : -- : -- : --.

Change Passwords

This page can be used to modify the two passwords described below.

Password	Purpose
Admin Password	Login password for the Projector Setup page (page 20). This password also is used when logging into the projector from a PJLink device (page 58).
Moderator/Projector Remote/ Template Password	Login password for the following function pages: Moderator (page 49), Projector Remote (page 52), and Template Pattern Customization (page 54).

Other Settings

This page lets you configure display settings for the Moderator function user list screen and Crestron control settings.

Use this item:	To do this:
User List	
Show user list thumbnails.	<p>Specify whether to show or hide thumbnail images on the user list when using the Moderator function (page 49).</p> <p><input checked="" type="checkbox"/> : Show thumbnails (initial default).</p> <p><input type="checkbox"/> : Hide thumbnails, but show the terminal type.</p> <p>Regardless of what is selected for this setting, the user name is always shown in the user list.</p>
Crestron Control	
Use these settings to specify how the projector should be controlled by the Crestron controller.	
IP Address	<p>Input a controller IP address of the format below.</p> <p>xxx.xxx.xxx.xxx (Initial Default: Blank)</p> <p>When inputting addresses for each octet (xxx parts of an address) do not input leading zeros for one-digit and two-digit octets. For example, the following types of input are not allowed: 029 for 29, 005 for 5, etc.</p>
IP ID	Input the controller IP ID (Initial Default: 5). Input of single-byte numerals only is allowed.
Port	Input the port number for communication with the Crestron controller (Initial Default: 41794). Input of single-byte numerals only is allowed.

Update

Includes Firmware Update and Troubleshooting (For Developer).

Firmware Update

This function updates the projector’s firmware.

For more information, visit the CASIO website below.

<https://world.casio.com/download/projector/>

Troubleshooting (For Developer)

This page is for use by developers.

Preparing for C-Connection

C-Connection is software that is required to perform network projection of images from a computer. Visit the CASIO website at the URL below to download the software.

<https://world.casio.com/download/projector/>



Important!

- Before installing C-Connection on the computer you plan to use, first be sure to visit the CASIO website and check the required operating environment, as well as required conditions for download and use of the software.
- Download the Chrome OS version of C-Connection from the Chrome Web Store.
- For information about how to install C-Connection, refer to its download web page.

Creating a One Click Connection File

One Click Connection is a C-Connection file that simplifies network projection from a computer to a particular projector. A One Click Connection file can be downloaded from the projector's Web Service page to a computer.



Note

- Before using the procedure below to download a One Click Connection file from the projector, make sure you have completed configuration of the projector's network settings (connection of the projector to a network, assignment of a projector name). The IP address and projector name of the projector at the point when the One Click Connection file is downloaded are included in the file data. Because of this, changing projector network settings makes a One Click Connection file downloaded prior to the changes unusable.
- One Click Connection is a file used by C-Connection. It cannot be used with the MirrorOp Presenter smart device app (page 18).

To download a One Click Connection file from the projector

- 1. Use the computer to display the projector's Web Service page (page 19).**
- 2. On the Web Service page, click the [Download] button under "One Click Connection File" to download the One Click Connection file to the computer.**
 - The file name extension of a One Click Connection file is .occ.
 - Opening a One Click Connection file starts up C-Connection and automatically starts projection of the computer's screen contents.
 - For details about C-Connection operations, see "Network Projecting a Computer Screen Image (Using C-Connection)" (page 36).



Important!

- Depending on the web browser you are using, you may not be able to download a One Click Connection file. If this happens, try using a different web browser.

Network Connection Between a Single Projector and Multiple Computers


A C-Connection installer file and One Click Connection file downloaded to a particular computer can be copied to and used by another computer. Distributing these files to other users simplifies the task of connecting multiple computers to the same projector.

To use a copied file on other computers, perform the operation under “To project using a One Click Connection file” (page 36) on each of the computers.


Creating a Projector Favorites List

C-Connection includes a function that lets you add multiple projectors on a network to a Favorites list. A Favorites list can be exported to a file, which can then be distributed among other users on the same network. This helps to simplify network projection to specific projectors.

To add a projector to Favorites

- 1. On the computer, start up C-Connection.**
- 2. Perform either of the operations below to search for the projector you want to add for Favorites.**
 - Normally you should use operation (a). Use operation (b) when the projector you want is on a subnet that is different from the computer you are using.
 - (a) On the C-Connection list panel (page 41), click .
 - (b) On the C-Connection list panel, perform the procedure from step 2 under “To project by using a projector name or IP address to search for a projector” (page 39).
- 3. Move the mouse cursor to the line where the name of the projector you want to add to Favorites is located, and then click the star (☆) on the right.**
 - This will cause the star to change to ★, which indicates that the projector was added to Favorites.

To remove a projector from Favorites

- 1. On the computer, start up C-Connection.**
- 2. On the C-Connection list panel (page 41), click .**
- 3. Move the mouse cursor to the line where the name of the projector you want to remove from Favorites is located, and then click the star (★) on the right.**
 - This removes the projector from Favorites and removes the projector name from the list.

To export Favorites data

- 1.** Perform steps 1 and 2 under “To configure C-Connection settings” (page 47).
- 2.** Display the Favorites tab and then click the [Export] button.
- 3.** On the save file dialog box that appears, specify the file name and storage location, and then click the [Save] button.
 - The file name extension is .xml.

To import Favorites data



Important!

- Performing the procedure below will replace the current Favorites with the imported data.

- 1.** Perform steps 1 and 2 under “To configure C-Connection settings” (page 47).
- 2.** Display the Favorites tab and then click the [Import] button.
- 3.** On the select file dialog box that appears, select the file you want to import.
 - Select the file that contains Favorites data you exported from C-Connection.
- 4.** Click the [Open] button.

Tutorial

This section covers projection from a computer connected to the projector over a network, as well as more advanced projector operations performed over a network.

Network Projecting a Computer Screen Image (Using C-Connection)

Use C-Connection to perform network projection of a computer screen image. To perform the operations in this section, you must first perform the operations below.

- C-Connection installed on the computer (page 32).
- Network connection between a computer and the projector (page 6).



Important!

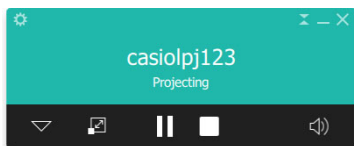
- Some functions are limited with the Chrome OS version of C-Connection. Before using the Chrome OS version of C-Connection, be sure to read the information under “Differences in Functions Provided by the Chrome OS Version of C-Connection” (page 48).

Projecting with One Click Connection

To perform the operation below, first obtain a One Click Connection file for the projector you plan to use for network projection. A One Click Connection file can be obtained from your network administrator or downloaded using the procedure under “Creating a One Click Connection File” (page 32) from the projector to be used for projection.

To project using a One Click Connection file

- 1. On the projector, display the network standby screen.**
- 2. On the computer, open the One Click Connection file.**
 - This starts up C-Connection. Network projection to the projector will start, and the C-Connection window (Info Panel, page 42) will appear.



Projecting by Selecting a Projector From a List

You can select a projector for projection from a list that appears in the C-Connection window. There are two types of list, described below.

Favorites List

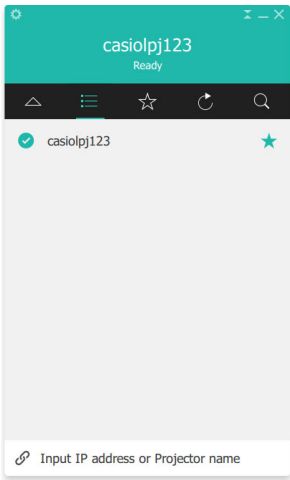
The Favorites List is a list of network projectors that you have specified as ones you often use. You can use the procedure under “To import Favorites data” (page 34) to import the contents of a previously-created Favorites file provided by your network administrator. For details about how to create a Favorites list, see “Creating a Projector Favorites List” (page 33).

Auto Search Results List

This is a list of projectors that were found as the result of a network auto search operation.

To project using a Favorites list to select a projector

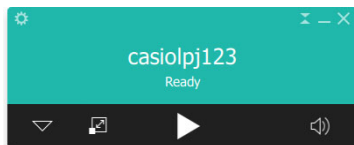
1. On the projector, display the network standby screen (page 7).
2. On the computer, start up C-Connection.



3. On the C-Connection list panel that appears, click .

4. Move the mouse cursor to the line where the name of the projector you want to connect with is located, and then click the [CONNECT] button.

- If the “Login code” dialog box appears at this time, input the 4-digit login code shown on the projector’s network standby screen.
- After connection between C-Connection and the projector is established, a blue check mark (✓) will be shown to the left of the connected projector’s name on the projector list. The name of the connected projector will be shown at the top of the C-Connection window.
- The C-Connection window style changes from the list panel to the info panel. If you do not perform any operation after that, the display will switch to the mini panel.



Info panel



Mini panel

5. To start computer screen projection, click ►.

- This projects the computer screen image from the projector.
- To freeze the computer screen image currently being projected, click ■■. The frozen screen image will continue to be projected until you click ► to resume or until you stop projection.

6. To stop projection, click ■.

- The connection between C-Connection and the projector is maintained even after projection is stopped. To resume projection, click ►.
- To terminate the connection between C-Connection and the projector, click the close (x) button in the upper right corner of the C-Connection window to exit C-Connection.

To project using auto projector search

1. On the projector, display the network standby screen (page 7).

2. On the computer, start up C-Connection.

- C-Connection will search for projectors on the network and display a list panel that shows all of the projectors it finds. An auto search operation covers only the projectors on the same network subnet as the computer.

3. Move the mouse cursor to the line where the name of the projector you want to connect with is located, and then click the [CONNECT] button.

- The remainder of this procedure is the same as that under “To project using a Favorites list to select a projector” (page 37), from the point after the [CONNECT] is clicked in step 4. Chrome OS version: On the dialog box that appears when you click ► in step 5 of the procedure, select what you want to share and then click the [Share] button.

Using Manual Projector Search

If a projector is not found when you perform the operation under “To project using auto projector search” (page 38), you can perform a search by projector name or IP address. With manual search, you can also connect to projectors that are outside of the subnet where the computer is located.

To project by using a projector name or IP address to search for a projector

- 1. Perform steps 1 and 2 of the procedure under “To project using a Favorites list to select a projector” (page 37).**
- 2. Click “Input IP address or Projector name” at the bottom of the window.**
- 3. Input the name or IP address of the projector you want to connect.**
 - Input what is shown for “Projector name” or “IP Address” on the network standby screen of the projector you want to connect.



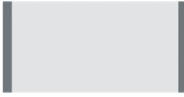
Note

- Chrome OS version C-Connection users: IP address only can be input.

- 4. Click [CONNECT].**
 - If the projector is found, the remainder of this procedure is the same as that under “To project using a Favorites list to select a projector” (page 37), from the point after the [CONNECT] is clicked in step 4. Perform the steps of the procedure from step 4.
 - If you are unable to locate a projector using its name, it could mean that the DNS server address assigned to the projector is wrong. Consult with your network administrator.
 - This operation can be used to add the found projector to Favorites and make it simpler to connect using its projector name and/or IP address in the future. For details, see “Creating a Projector Favorites List” (page 33).

Simultaneous Projection of Images from Multiple Computers on a Single Projector

If you perform a network projection operation with two or more computers projecting on a single projector, projection will be performed using one of the layouts below, depending on how many computers are projecting (when the projection layout setting is “Auto Layout”).



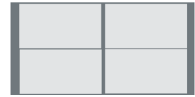
1 computer



2 computers*



3 computers



4 computers

* With XGA model projectors, the two screens will be aligned vertically.



Note

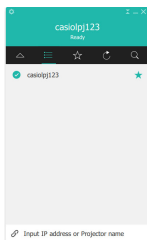
- The projector has two projection layout settings: “Auto Layout” and “Full Screen”. Even if multiple computers are projecting, selecting the “Full Screen” projection layout setting on one of the currently projecting computers will cause only the image of the computer to be projected in a full-screen view. You can return to multiple computer image projection by switching back to “Auto Layout”.
- If four computers are already projecting to a single projector, projection operations from any additional computers are disabled. Projection operations from another computer will be enabled again if any one of the currently projecting computers is stopped.

C-Connection Details

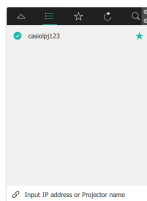
This section explains operations that are supported by each C-Connection form, along with detailed information about C-Connection operations.

C-Connection Windows and Buttons

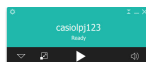
The different forms that C-Connection window can take are shown below.



List panel (full)



List panel (mini)



Info panel






Mini panel

Normal startup of C-Connection displays the list panel (full). If there is no cursor movement within the C-Connection window after connection between C-Connection and the projector is established, the form of the window will change automatically to Info panel and then Mini panel, in order to reduce the panel area.

List Panel



The list panel can be used to perform operations related to selecting the connected projector. The function of each button is explained in the table below.

List Panel (Full)





Clicking this button:	Does this:								
 *1	<p>Windows version: Displays a menu that includes the items below.</p> <table><tr><td>Preferences</td><td>Displays the Preferences dialog box. For details, see “C-Connection Settings” on page 45.</td></tr><tr><td>Disconnect</td><td>Terminates the connection between C-Connection and the projector.</td></tr><tr><td>About</td><td>Displays C-Connection version information and copyright information.</td></tr><tr><td>Quit</td><td>Exits C-Connection.</td></tr></table> <p>Chrome OS version: Displays the Preferences dialog box. For details, see “C-Connection Settings” on page 45.</p>	Preferences	Displays the Preferences dialog box. For details, see “C-Connection Settings” on page 45.	Disconnect	Terminates the connection between C-Connection and the projector.	About	Displays C-Connection version information and copyright information.	Quit	Exits C-Connection.
Preferences	Displays the Preferences dialog box. For details, see “C-Connection Settings” on page 45.								
Disconnect	Terminates the connection between C-Connection and the projector.								
About	Displays C-Connection version information and copyright information.								
Quit	Exits C-Connection.								
	Switches to the mini panel. This button appears while the projector is connected with the computer using C-Connection.								
	Switches to the info panel.								

*1 With macOS, operations are performed using the menu bar. See “C-Connection Menu Bar (macOS)” (page 44).

List Panel (mini)

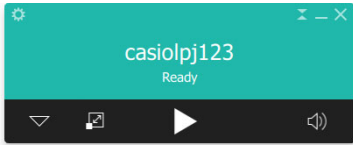
Clicking this button:	Does this:
	Switches to the list panel (full).
	Switches to the mini panel.

List Panel Common Buttons

Clicking this button:	Does this:
	Displays a list showing found projectors and Favorite projectors.
	Displays a Favorites list of projectors (page 37).
	Re-executes the projector search operation.
	Searches for a projector based on the name on the currently displayed projector list.
x	Exits C-Connection.

Info Panel and Mini Panel

The info panel and mini panel are reduced-size versions of the C-Connection window.






Info panel





Mini panel

You can use info panel and mini panel buttons to perform the operations below.








Info Panel

Clicking this button:	Does this:
	Performs the same operation as the same button under “List Panel (Full)” (page 41).
	Switches to the mini panel.
	Switches to the list panel (full).

Mini Panel




Clicking this button:	Does this:
	Switches to the info panel.
	Switches to the list panel (mini).

Info Panel and Mini Panel Common Buttons

Clicking this button:	Does this:
	Toggles the projection layout between “Auto Layout” and “Full Screen”. For details, see “Simultaneous Projection of Images from Multiple Computers on a Single Projector” (page 40).
	Starts computer screen projection.
	Stops computer screen projection.
	Pauses computer screen image projection, which freezes the currently displayed image.
	Toggles the computer audio output to the projector between mute () and unmute ().
x	Exits C-Connection.

C-Connection Menu Bar (macOS)

The operations described in the table below can be performed using the menu bar of the macOS version C-Connection.

Menu	This menu item:	Does this:
C-Connection	About C-Connection	Displays C-Connection version information and copyright information.
	Preferences	Displays the Preferences dialog box. For details, see “C-Connection Settings” on page 45.
	Quit C-Connection	Exits C-Connection.
View	Discover List	Same operation as the  button. See “List Panel Common Buttons” (page 42).
	Favorites List	Same operation as the  button. See “List Panel Common Buttons” (page 42).
Controls	Disconnect	Terminates the connection between C-Connection and the projector.
	Play/Pause	Starts computer screen projection. If projection is already in progress, this menu item toggles between project and pause.
	Stop	Stops computer screen projection.
	Split Screen	Toggles the projection layout between “Auto Layout” and “Full Screen”. For details, see “Simultaneous Projection of Images from Multiple Computers on a Single Projector” (page 40).
	Mute	Same operation as the  button. See “Info Panel and Mini Panel Common Buttons” (page 43).
Window	Minimize	Minimizes the C-Connection window.
	Mini Panel	Switches to the mini panel.
	Always on Top	Specifies whether or not the C-Connection window should always be kept on top of other windows. The C-Connection window is always kept on top of other windows when there is a check mark (✓) next to this item.* * Even if this setting is enabled, the C-Connection window may not be displayed on top while the full-screen view of another application's window is displayed.

C-Connection Settings

You can configure C-Connection settings and tailor its operation to suit your needs.

C-Connection Setting Items

General Tab

Use this item:	To do this:
User name	Input the user name when using the Moderator function (page 49). The input name is shown on the projector's user list screen and the computer's Moderator page. Allowable number of input characters: 20 maximum Initial Default: Computer login user name
Allow control inputs from receivers	Specify whether or not remote control of the computer from a smart device is allowed. For details about remote operations, see "PC Remote" (page 53). <input checked="" type="checkbox"/> : Remote operation enabled. <input type="checkbox"/> : Remote operation disabled (initial default). Changing the remote control setting from disabled to enabled will display an enter passcode dialog box. Input any four digits. The passcode you input here must be input on a smart device that will be used for remote control of the computer.
Mute PC audio when projecting (Windows only)	Specify whether or not audio output from the speakers of the computer whose screen image is being projected should be muted. <input checked="" type="checkbox"/> : Mute audio. <input type="checkbox"/> : Unmute audio (initial default).
Always on Top	Specifies whether or not the C-Connection window should always be kept on top of other windows. <input checked="" type="checkbox"/> : Always keep C-Connection window on top.* <input type="checkbox"/> : Allow C-Connection window to be hidden by another running application (initial default). * Even if this setting is enabled, the C-Connection window may not be displayed on top while the full-screen view of another application's window is displayed.

Favorites Tab

Use this item:	To do this:
Default List	Specify what C-Connection should do after it starts up. Auto Discovery: Display a list of found projectors (initial default). Favorites: Display the Favorites list (page 33).
Favorites List	Export Favorites data to a file or import Favorites data from a file. For details, see "To export Favorites data" (page 34) and "To import Favorites data" (page 34).

Advanced Tab

Use this item:	To do this:
Mode	Specify whether the computer's main screen or extended screen should be projected. For extended display screen projection, a commercially available display emulator is required. Duplicate: Main screen projection (initial default) Extend: Extended screen projection For more information, visit the CASIO website below. https://world.casio.com/download/projector/
One Click Connection	Specify what operation the computer should perform after connection with a projector using a One Click Connection File (page 32). Projection: Start projection automatically after connection (initial default). Connection: Stand by after connection.
Restore Defaults (button)	Return all the Advanced tab settings to their initial defaults.

HotKey Tab

Use this item:	To do this:
Enable	Enable or disable hot keys (keyboard shortcuts) for C-Connection operations. <input checked="" type="checkbox"/> : Enabled (initial default) <input type="checkbox"/> : Disabled
Play/Pause	Specify the hot key combination that starts and pauses projection. Initial Default: Windows: Ctrl + Shift + P macOS: control + command + P
Stop	Specify the hot key combination that stops projection. Initial Default: Windows: Ctrl + Shift + S macOS: control + command + S
Toggle Extended Screen	Specify the hot key combination that, during projection of the computer screen, toggles the projection image between the main screen and extended screen. Initial Default: Windows: Ctrl + Shift + E macOS: control + command + E
Mute/Unmute	Specify the hot key combination that toggles computer audio output to the projector between mute and unmute. Initial Default: Windows: Ctrl + Shift + M macOS: control + command + M
Toggle Full Screen/Auto Layout	Specify the hot key combination that toggles the projection layout between "Auto Layout" and "Full Screen". Initial Default: Windows: Ctrl + Shift + A macOS: control + command + A
Restore Defaults (button)	Return all settings, except for the HotKey tab "Enable" setting, to their initial defaults.

About Tab

This tab shows C-Connection version number and copyright information.

Configuring Settings

Settings can be configured even if there is no network connection between the computer and projector.

To configure C-Connection settings


1. On the computer, start up C-Connection.

2. Display the Preferences dialog box.

Windows:

(1) Display the info panel or list panel (full).

- See “C-Connection Windows and Buttons” (page 41).

(2) In the upper left corner of the C-Connection window, click . On the menu that appears, select “Preferences”.

macOS:

(1) On the menu bar, click the following in sequence: “C-Connection” → “Preferences”.

3. Use the Preferences dialog box to configure settings.

- For information about the setting items on each tab, see “C-Connection Setting Items” (page 45).

4. To apply all of the setting changes you have made on all tabs, click the close (x) button in the upper right corner of the Preferences dialog box.

Differences in Functions Provided by the Chrome OS Version of C-Connection

The Chrome OS version of C-Connection does not have the functions listed below.

- One Click Connection (pages 32, 36)
- Favorites List* (page 37)
 - * The Chrome OS version does not have a separate Favorites List screen. To view projectors you registered as Favorites, display the Auto Search Results List.
- Projector search by projector name (page 39)
- Hot Keys (page 46)
- PC Remote (page 53)
- Some functions on the Preferences dialog box (See the table below.)

Item	O: Available x: Not available
General Tab (page 45)	O
User name	O
Allow control inputs from receivers	x
Mute PC audio when projecting	x
Always on Top	O
Favorites Tab (page 45)	O
Default List	x
Favorites List	O
Advanced Tab (page 46)	x
HotKey Tab (page 46)	x
About Tab (page 46)	O

Advanced Operations

This section explains the advanced operations below, which can be performed using a terminal (computer or smart device) that is connected to the projector over a network.

- Computer control, or projector remote controller control of the start or stop of projection from multiple terminals connected to the projector over a network (Moderator Function)
- Computer control of projector operations (Projector Remote)
- Remote control of a computer from a smart device via the projector (PC Remote)
- Addition and deletion of projector template images (Template Pattern Customization)

Using the Moderator Function

When there are network connections between the projector and multiple terminals (computers and/or smart devices), you can use the Moderator function to control which terminal's screen is projecting.



Note

- Up to a maximum of 40 computers and/or smart devices can be connected to the projector over a wired LAN using an existing network.
- If the projector is being used as a NAT router (page 13), up to a maximum of 40 terminals can be connected at one time from the wired LAN side. However, if terminals are connected using both wireless and wired LAN connections, the maximum number of allowable wired LAN connections is reduced by the number of wireless LAN connections. For example, if there are five terminals connected to the projector over wireless LAN, the maximum number of allowable wired LAN connections becomes 35.

To use a computer to control projection from multiple terminals

1. Use the computer to display the projector's Web Service page (page 19).
2. Input the password into the "Moderator" box, and then click the [Login] button.
 - The initial default password is: moderator.
 - If login is successful, the Moderator page will appear and the user names of the terminals connected to the projector will appear in the list.

CASIO CASIO Projector Web Service English - Logout

☐ Allow control from this page only

Login Code: -











Show Login Code

User Name	Projection Operation
Student A	
Student B	

3. If required, select the “Allow control from this page only.” check box.

- While this check box is selected, projection start and projection layout settings can be configured on this page only. The only operations that can be performed on a terminal connected to the projector are stopping projection and terminating the connection.
- While this check box is not selected, all operations can be performed on a terminal connected to the projector.

4. Perform Moderator operations as required.

To do this:	Perform this operation:
Start projection from a terminal using auto layout	1. In the list of user names, find the name of the target terminal. 2. In the Projection Operation column, click  .
Start projection from a terminal using full screen	1. In the list of user names, find the name of the target terminal. 2. In the Projection Operation column, click  .
Stop projection from a terminal	1. In the list of user names, find the name of the target terminal. 2. In the Projection Operation column, click  .
Switch the projection layout of the projecting terminal	1. In the list of user names, find the name of the target terminal. 2. In the Projection Operation column, click  or  . ● Clicking  switches to full-screen projection, while clicking  switches to auto layout projection.
Terminate the connection between a terminal and the projector	1. In the list of user names, find the name of the target terminal. 2. In the Projection Operation column, click  .
Stop projection from all terminals	Click  .
Terminate the connections between all terminals and the projector	Click  .

- Projection can be performed from as many as four terminals at the same time. While projection is being performed from four terminals, you need to stop projection from one of them before you can start projection from another terminal.
- To see the projector’s login code, click the [Show Login Code] button. This causes the login code (or “-” if the login code is disabled) to appear to the left of the button. Connection information (page 23) will also be shown on the projection screen.

5. After you are finished, click the [Logout] button in the upper right corner of the window.

- This will return to the top menu.



Note

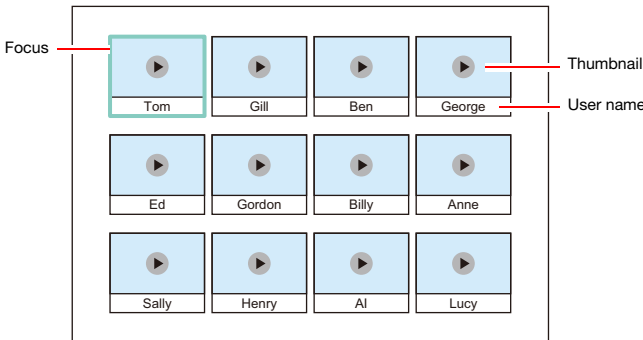
- If the “Allow control from this page only.” check box is left selected, logging out from the Moderator page or using a web browser operation to close the Moderator page will re-enable projection operations from each terminal. The next time you log in to the Moderator page, the check box will be selected on the page.
- The user name list of the Moderator page is automatically refreshed as terminals are connected to and disconnected from the projector. You can also refresh the list manually by performing a page reload with your web browser.
- You can change the login password for the Moderator page by changing the Projector Setup page item below.
“System Settings” (page 30) → “Change Passwords” → “Moderator/Projector Remote/Template Password”

To use the remote controller to control projection from multiple terminals

- Projector Operation

1. While the network standby screen is displayed or if network projection is in progress, press the [ESC] key.

- This displays the user list screen, which shows thumbnail images and user names for all the terminals (12 terminals per screen) currently connected to the projector.



- Thumbnails are arranged according to the sequence they were connected with the projector (C-Connection on a computer or MirrorOp Presenter on a smart device), starting from the upper left corner and proceeding from left to right.
- Each thumbnail also indicates the current projection status (▶ : not projecting, ■ : projecting) of each terminal.

2. Use the cursor keys to move the focus to the thumbnail of the terminal whose projection status you want to change.



3. Press the [ENTER] key.

- Each press of the [ENTER] key will toggle the projection status of the terminal where the focus is located between ■ (projecting) and ▶ (not projecting).

4. Repeat steps 2 and 3 as required.

- Projection can be performed from as many as four terminals at the same time.

5. To exit the user list screen press the [ESC] key.

- This will start projection from all terminals for which  (projecting) was selected.
- If the status of all terminals becomes  (not projecting), the network standby screen will appear.

Projector Remote

Projector Remote lets you perform projector operations remotely from a computer.

To perform projector operations from a computer

1. Use the computer to display the projector's Web Service page (page 19).

2. Input the password into the "Projector Remote" box, and then click the [Login] button.

- The initial default password is: moderator.

3. Use the buttons in the displayed window to control the projector.

4. After you are finished, click the [Logout] button in the title bar of the window.

- This will return to the top menu.



Note

- The power button of the Projector Remote window cannot be used to turn on the projector.

Remotely Controlling a Computer from a Smart Device (PC Remote)

The procedures in this section make it possible to use a smart device to remotely control a computer that is connected to the projector with C-Connection.



Important!

- A smart device needs to have MirrorOp Receiver installed on it in order to perform remote operations. Download MirrorOp Receiver from the app store of your device: Google Play store for an Android™ device, iTunes App Store for an iOS device.
- When using PC Remote, it is assumed the devices described in (a) through (c) below are on the same subnet (first octet through third octet are the same).
 - (a) Network projecting (source) computer
 - (b) Smart device remotely controlling the computer
 - (c) Network projecting (destination) projector

To start PC Remote


1. Use C-Connection to start network projection from a computer.

2. Perform the steps below to enable PC Remote.

- Once you enable PC Remote, it remains enabled until you disable it. This means you don't need to perform this operation each time, as long as PC Remote is not disabled.

(1) Display the Preferences dialog box.

Windows:

On the C-Connection info panel or list panel (full), click  → "Preferences".

macOS:

On the menu bar, click "C-Connection" and then click "Preferences".

(2) Display the General tab and then select the "Allow control inputs from receivers" check box.

- This displays an enter passcode dialog box. Input any four digits. The passcode you input here must be input on a smart device that will be used for remote control of the computer.

(3) Click the [x] button to close the dialog box.

3. On the smart device, execute the steps below.

- The settings you make with these steps are saved for future use. You will not have to perform this operation again unless you need to change the settings.

Android:

(1) Start up MirrorOp Receiver.

(2) In the upper right corner of the screen, tap [:] and then tap "Settings".

(3) Select the "Search for senders on start" check box.

(4) Exit MirrorOp Receiver and then start it back up again.

(5) On the list that appears, tap the computer you want to control remotely.

(6) Input the passcode you set on the computer with C-Connection to establish a connection.

iOS:

(1) If MirrorOp Receiver is running, exit it.

(2) Tap the iOS settings icon and then tap "Receiver" (MirrorOp Receiver).

(3) Enable "Search for senders on start".

(4) Start up MirrorOp Receiver.

(5) On the list that appears, tap the computer you want to control remotely.

(6) Input the passcode you set on the computer with C-Connection to establish a connection.

To exit PC Remote

1. On the smart device being used for remote control, exit MirrorOp Receiver.

- Execute any one of the operations below to exit PC Remote.
 - Turn off the projector.
 - On the computer, exit C-Connection.

Template Pattern Customization

With Template Pattern Customization, you can add, replace, and delete template images for projection.



Important!

- Do not add template images that include personal information to this projector. There is the risk that added template images stored in projector memory can be viewed by others due to unauthorized access, or if the projector is stolen, discarded, etc.
Personal information is your name, address, phone number, date of birth, or other information that can be used to identify you.




Note

- You can have up to 81 added template images in projector memory.
- Images added as templates must be JPG file format, with a maximum resolution of 4096 x 2160.
- The projector's built-in templates cannot be replaced or deleted.
- For projector operations required to control template projection, refer to the User's Guide that is available from the CASIO website.

To add or delete a template image

- 1. Use the computer to display the projector’s Web Service page (page 19).
- 2. Input the password into the “Template Pattern Customization” box, and then click the [Login] button.
 - The initial default password is: moderator.
- 3. Click the folder whose content you want to change or check.
 - This displays the template editing page.
 - The contents of the first folder (projector built-in templates) can be browsed only. This folder and its contents cannot be modified or deleted.

4. Add or delete a template image.

To do this:	Perform this operation:
Add an image	<div><div>1. Click the [Choose Image] button.</div><div>2. On the select file dialog box that appears, select the image file you want to add as a template, and then click the [Open] button.</div></div> <div> Note<ul style="list-style-type: none">● Up to nine images can be added to a folder.</div>
Delete an image	<div><div>1. Move the mouse cursor to the image you want to delete.</div><div>2. Click the trash icon.</div><div>3. On the confirmation dialog box that appears, click the [Yes. Delete the overlay.] button.</div></div>
Replace an image	<div><div>1. Move the mouse cursor to the image you want to delete.</div><div>2. Click the [Change Image] button.</div><div>3. On the select file dialog box that appears, select the image file you want to use to replace the current image, and then click the [Open] button.</div></div>

- 5. To apply the changes you have made on the template editing page, click the [Save changes] button.
- 6. To return to the folder selection page, click “back”.
- 7. After you are finished, click the [Logout] button in the title bar of the window.
 - This will return to the top menu.

To rename a folder



Important!

- When inputting a folder name with the procedure below, keep the name short enough to fit in the folder name box. Inputting a name that completely fills the input box or that does not fit in the input box can cause the end of the name to be cut off when displayed on the template selection screen.

- 1. Perform steps 1 and 2 of the procedure under “To add or delete a template image” (page 55).**
- 2. Click the folder name box of the folder you want to rename.**
- 3. Input the new folder name and then click the [Save changes] button.**
 - To cancel your change, click the [Logout] button in place of [Save changes].

Network Administrator Appendix

This section contains supplementary information that is mainly intended for network administrators.

Controlling the Projector from an External Network Device

This projector supports the external devices and commands below.

External Devices and Commands	Refer to:
All PJLink Class1 (Version 1.00) commands	http://pjlink.jbmia.or.jp/english/
Crestron Electronics controller and software (RoomView® Express) commands	https://www.crestron.com
AMX Device Discovery	http://www.amx.com

For more information, visit the CASIO website below.

<https://world.casio.com/download/projector/>



Note

- The authentication password used when connecting a PJLink device to the projector is the projector's Admin Password (page 30).
- For information about the ports used by PJLink, see "Ports Used for TCP/UDP" (page 59).

Ports Used for TCP/UDP

C-Connection and MirrorOP Presenter use the network ports shown in the table below for projection functions and PC Remote functions. As required, check to make sure that your network firewall or personal firewall of your environment is configured accordingly.

Port Type	Port No.	Network Projection	PC Remote
TCP Port	1234	○	
	389		○
	3268		○
	515		○
	8080		○
	18765		○
UDP Port	5353	○	
	54022	○	
	1900	○	○
	18676		○

PJLink uses the network ports shown in the table below. Check the settings of the network firewall or personal firewall of your environment as required to ensure there are no problems.

Port Type	Port No.	Use
TCP Port	4352	Control port
UDP Port	4352	Search port

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