

Projector

NP-UM352W

User's Manual for the APPS MENU

Contents

1. What can you do with the APPS MENU?	2
2. VIEWER	6
3. WHITEBOARD	10
4. COLLABORATION	13
5. REMOTE DESKTOP CONNECTION	17
6. IMAGE EXPRESS UTILITY	21
7. Miracast	22
8. WEB SERVER FUNCTION	23
8-1. WEB SHARING.....	23
8-2. IMAGE EXPRESS UTILITY LITE	26
8-3. PROJECTOR CONTROL	28
9. NETWORK SETTINGS	29
9-1. PROJECTOR NAME	29
9-2. NETWORK INFORMATION.....	29
9-3. WIRED LAN	29
9-4. Wireless LAN	29
9-5. IMAGE EXPRESS UTILITY	36
9-6. NETWORK SERVICE	36
10. TOOLS	38
10-1. PEN SETTINGS	38
10-2. MOUSE.....	42
10-3. PROGRAM TIMER.....	42
10-4. DATE AND TIME	45
10-5. ADMINISTRATOR MODE.....	45
10-6. DEFAULT APP	45
Trademarks	46

NOTE:

The explanation in this manual corresponds to the projector's firmware 2 in version "1.05" or after.

The firmware version can be checked in the following procedure:

[INFORMATION] on the onscreen menu → [VERSION(2)] → [FIRMWARE2].

1. What can you do with the APPS MENU?

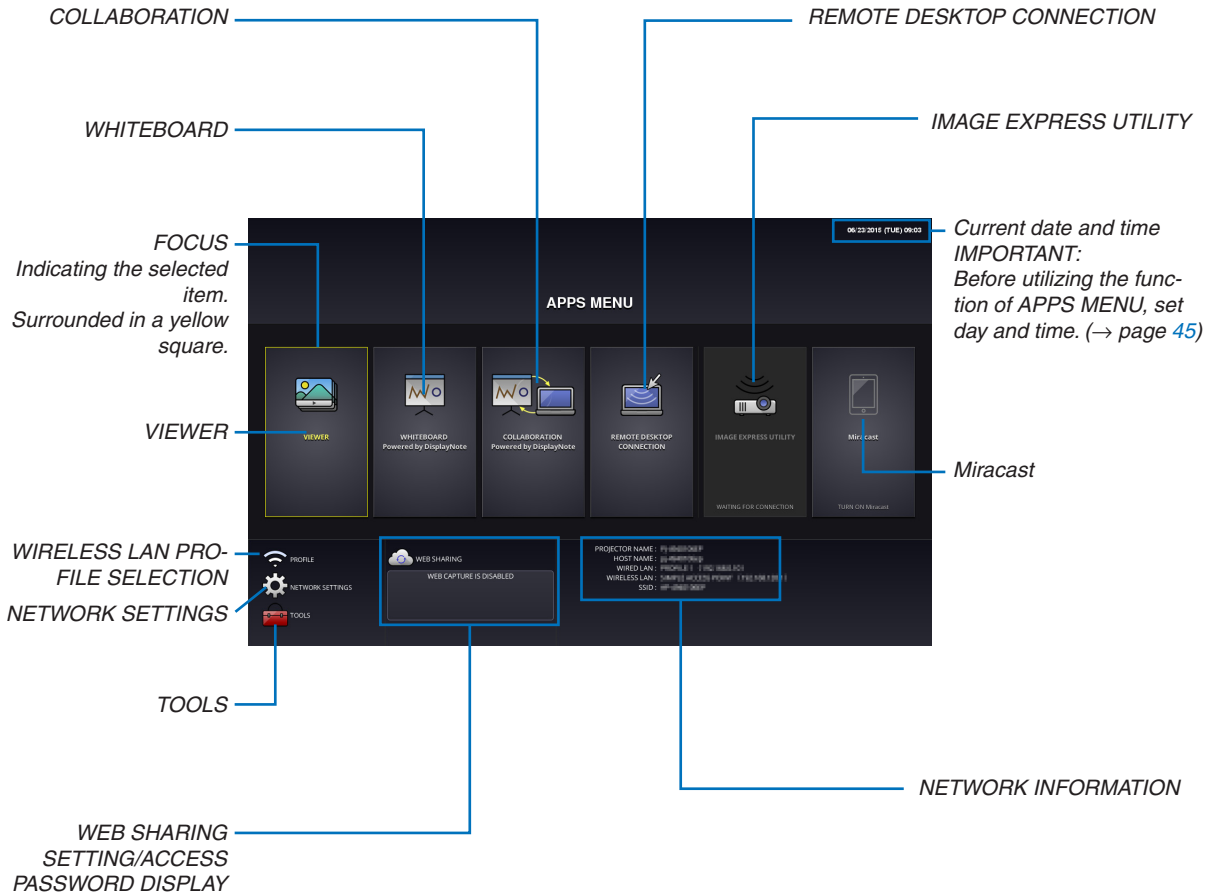
It becomes available to select the expansion functions indicated in below and various setting with the APPS MENU. For displaying the APPS MENU, press the APPS button on the remote control or select [APPS] as the [SOURCE] on the onscreen menu.

Once calibration for the stylus pen is performed, the stylus pen becomes available for selecting and setting up various functions on the APPS MENU.

INFORMATION

For going back to the APPS MENU interrupting to use each application in the APPS MENU, press APPS button on the remote control when the onscreen menu is not displayed on.

APPS MENU screen display



NOTE:

- When this projector is not in a network, you cannot select [REMOTE DESKTOP CONNECTION], [IMAGE EXPRESS UTILITY], [Miracast], and [WEB SHARING].
- [WHITEBOARD] and [COLLABORATION] are the exclusive software. For utilizing the [WHITEBOARD], please "Exit" the [COLLABORATION] not suspend it. Please "Exit" the [WHITEBOARD] not suspend it for utilizing the [COLLABORATION] as well.

1. What can you do with the APPS MENU?

VIEWER

Select the saved images/videos and project them by the projector. This function is available for explained below:

- (1) Projector Memory: Images temporarily saved in the projector built-in memory. (Call “Captured image” in this manual)
- (2) USB Memory: Images and videos saved in the USB memory connected with the projector.
- (3) Shared Folder: Images and videos saved in the shared folder in a network connected with the projector.

WHITEBOARD

Enables to perform drawing by the stylus pen supplied with the projector. Before starting the [WHITEBOARD], perform the calibration in the [TOOLS] → [PEN SETTINGS].

COLLABORATION

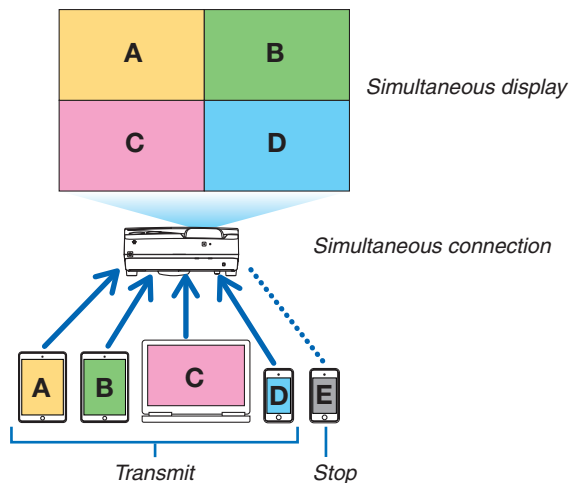
Enables to share the drawing drawn by the stylus pen with the computer connected in a network.

REMOTE DESKTOP CONNECTION

- Select the computer connected in the same network with the projector, and the projector projects the images on the computer over the network.
A commercially available USB keyboard can be used for controlling Windows 8 and Windows 7 computers in the network connected with the projector.

IMAGE EXPRESS UTILITY

- If various terminal units such as a computer, a smartphone, and a tablet are connected with the projector in the network, it enables to transfer images saved on each terminal to the projector and to project them.
- You can connect terminal units in multiple OS (Windows, Mac OSX, Android, and iOS) with the projector simultaneously.
- The projector receives images transferred from multiple terminal units (Max. 50 units) and projects them on the screen dividing it (Max. 4 × 4) at the same time.



- Install the application software “Image Express Utility Lite”, included in the CD-ROM supplied with the projector on computers.
- For a smartphone and a tablet, download the application “Wireless Image Utility” from our web site and install it on these.

Miracast

By wirelessly connecting the terminal units supporting the Miracast such as the Android with the projector, it enables the projector to project images transferred from these terminals.

Before connecting these terminal units, set [Miracast] in the [NETWORK SETTINGS] on the projector.

WEB SERVER FUNCTION

WEB SHARING

Without using the exclusive software, it enables to share images and files among the projector and computers in the same network by accessing the web server of the projector utilizing the web browser.

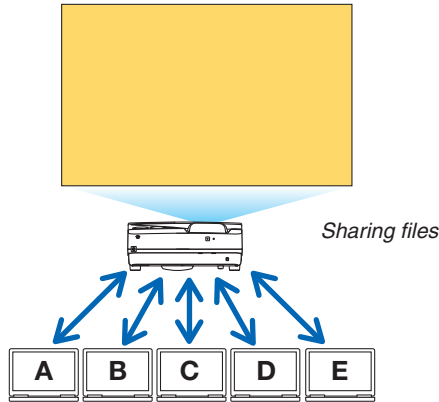


IMAGE EXPRESS UTILITY LITE

It enables to control screen splitting pattern and displaying position of the images that are simultaneously transmitted from each terminal utilizing the application software, Image Express Utility Lite or Wireless Image Utility, on the computer browser screen. Precise controls as changing number of screen portions and pages to display are available.

PROJECTOR CONTROL

It enables to control the projector on the web browser screens on the computers.

HOW TO ACCESS THE WEB SERVER

Connect the projector and computers in a network and access the URL in below by the web browser of the computers.

URL: <http://<Projector's IP address>>

NETWORK SETTINGS

Set up below for connecting the projector with a wired/wireless LAN.

PROJECTOR NAME

Set up the projector name and host name. Serial number of the projector is set as factory default.

NETWORK INFORMATION

Indicate information when the projector has connected in a network (by a wired/wireless LAN)

WIRED LAN

Set up for connecting the projector by a wired LAN.

WIRELESS LAN

Set up for connecting the projector by a wireless LAN. At the same time, set up for the SIMPLE ACCESS POINT, Wi-Fi Direct, and Miracast.

IMAGE EXPRESS UTILITY

Set up the MODE (FREE, MANAGED) for the IMAGE EXPRESS UTILITY.

NETWORK SERVICE

Set up various setting for the AMX, HTTP server, PJLink, Alert mail and CRESTRON.

TOOLS

Set up for various features as the stylus pen, mouse, program timer, date and time, administrator mode and default APP.

1. What can you do with the APPS MENU?

PEN SETTINGS

For using the stylus pen at the first time or when the projector installation place is changed, make sure to perform calibration of the stylus pen for letting the projector to recognize the stylus pen position properly. (→ page 38)

MOUSE

A commercially available USB mouse can be used for operating the APPS MENU. Perform the set up for using it.

PROGRAM TIMER

Once day and time is set up, changing the projector's condition in powering ON/standby, switching input signals, and switching ECO mode can be automatically performed.

DATE AND TIME

Set up current date and time to the projector.

ADMINISTRATOR MODE

Selecting the menu mode of the projector, enable/disable to save all set up values of the projector, and set up a password for the administrator mode.

DEFAULT APP

When the projector is turned on under the condition of being selected the "APPS" terminal, the function set up as the default APP will be started automatically.

In case a terminal besides the APPS terminal has been selected, the function set up as the default APP will be started automatically when the APPS terminal is selected.

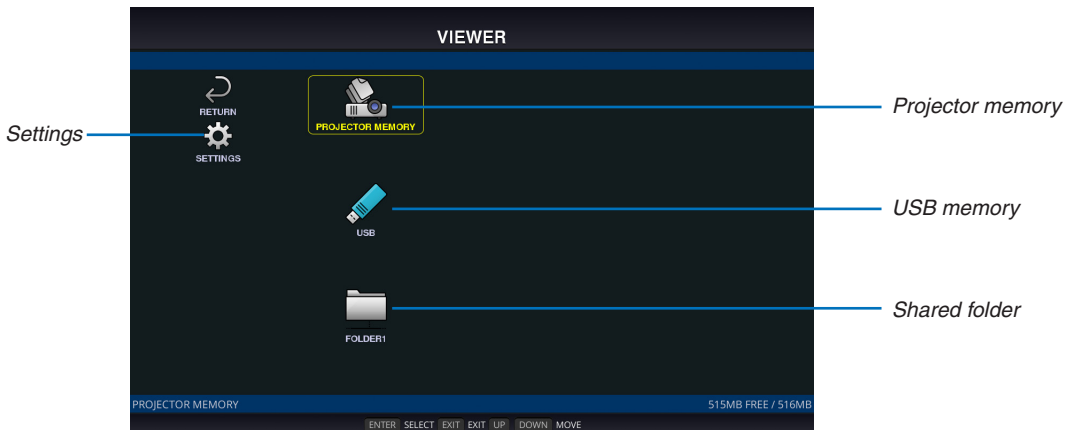
2. VIEWER

What you can do with the viewer

Select a saved image or video and project it from this device. The following 3 destinations can be used.

- (1) Projector memory: Screen images saved temporarily in the internal memory of this device (known as “capture images” in this manual).
- (2) USB memory: Images and videos inside the USB memory connected to this device.
- (3) Shared folder: Images and videos inside the shared folder on the network connected to this device.

Top screen of the viewer



- See the user's manual of the projector on how to store captured images in the projector memory.
- The projector memory is the temporary storage for projected images. Once the projector is turned OFF, you will lose the images in the memory.
- Select [SETTINGS] to change the settings for the slide show, videos, shared folders and so on.
- While "Autoplay" has been set either to "Still image" or "Video" in the Settings, the projector starts performing "Autoplay" by the operation in below:
 - When the Viewer top screen is displayed on, a USB memory is connected in the projector.
 - When the Viewer screen is displayed on first time after powering ON the projector in which a USB memory has been connected.

For starting "Autoplay", the system will automatically search both the root directory and the folders in the subsequent level in the USB memory and then display found still images or videos in order. The images and videos will be displayed in the "Sorted" order.

NOTE:

- Only 1 USB memory can be recognized by the viewer. Do not connect the USB memory to the USB port of this device used for connecting to a wireless LAN.
- 1 to 4 shared folders can be set.
- When the connection to the shared folder fails, an error message is displayed and an "x" is displayed in the folder icon. Carry out the following checks in this case.
 - Is the LAN cable connected correctly?
 - Is the name of the destination folder correct?
 - Is the destination folder set for sharing?
 - Have access rights been set in the destination folder?
 - Are there any displayable files saved in the destination folder?
 - Is date and time set correct?

Displayable/playable files**Still image****Supported formats**

File extension	Supported
*.gif	Interlace, transmission, animation
.jpg/ .jpe/* .jpeg	Baseline, Progressive, RGB, CMYK
*.png	Interlace, α channel
*.bmp	

* MS-Office files and PDF files cannot be displayed in the viewer.

Supported image resolution

File extension	Resolution
JPEG	Up to 5000 x 5000 pixels
Gif	Up to 1280 x 1280 / file size up to 5 MB
Other images (.png, .bmp)	Up to 4000 x 4000 pixels

Video**Supported formats**

File extension	Video codec	Audio codec
.mpg/ .mpeg	MPEG2	MPEG Audio Layer2 MPEG Audio Layer3 (MP2/MP3 in abbreviation)
*.wmv	WMV9	WMA 9 Standard (WMA9 in abbreviation)
*.mp4	H.264/AVC	AAC-LC (AAC in abbreviation)

Detailed information

Item	Conditions
Resolution	From 320 x 240 up to 1920 x 1080
Video frame rate	Up to 30 FPS
Video bit rate	Up to 30 Mbps
Audio channel	Up to 2-ch stereo
Audio sampling rate	Up to 48 KHz
Audio bit rate	MP2/MP3: Up to 448 kbps WMA9: Up to 384Kbps ACC: Up to 256Kbps
Maximum file size	Up to 2 gigabytes
Unsupported codec	The WMV files containing sound data in the WMA Professional format can not be played.

NOTE:

- Depending on a file, it may occur you cannot play it even when it satisfies all above mentioned conditions.
- Depending on network environments, a type of the USB memory, and file bitrate, it may occur a video cannot be played properly.
- You cannot play DRM files (Digital Right Management files).
- Regardless the setting of file aspect, the MPEG2/WMV formatted videos are played at 1:1

Supported USB memory

This device cannot recognize USB memory formatted in the NTFS format. Check the format if this device cannot recognize the connected USB memory.

Format a USB memory in the FAT32 or FAT16 format for using it in the VIEWER, WHITEBOARD, and COLLABORATION. Refer to the Windows instruction manual or Help file on how to format a USB memory.

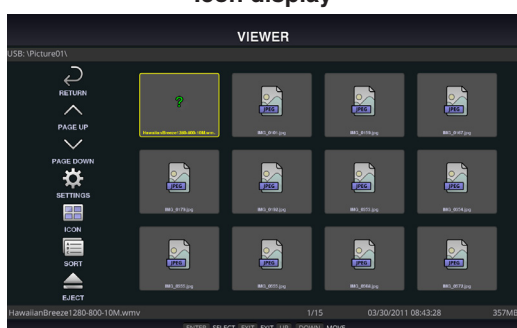
NOTE:

- The USB port of this device is not guaranteed to work with all USB memories sold commercially.

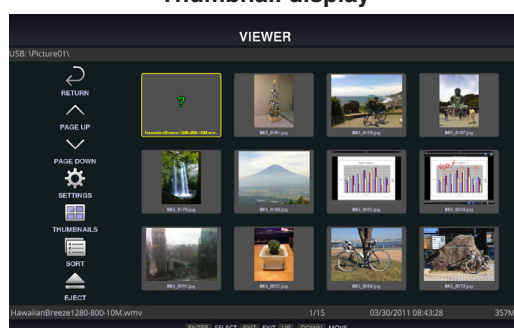
File display screen









- 12 files (4 lateral × 3 longitudinal) including the folder icons can be displayed on a single screen. Use the “PAGE UP” or “PAGE DOWN” button on the left of the screen to change the list of files displayed.
- The files can be displayed using either icons or thumbnails in the viewer.

Icon display



Thumbnail display



	RETURN	Go back one level higher.
	PAGE UP	Display a list of the previous files.
	PAGE DOWN	Display a list of the next files.
	SETTINGS	Display the setting screen.
	THUMBNAILS/ICON	Switch between thumbnail display and icon display.
	SORT	Change the order to display files by name (filename), type (file extension), date (date of creation), or size (file capacity). The default sorting order is by “Name”.
	DELETE ALL	All the files in the memory can be deleted only when a list of the files in the projector memory is displayed. Be careful when executing “DELETE ALL” as deleted files will not be recoverable.
	EJECT	“Remove” the USB memory when a list of the files in the USB memory is displayed.

NOTE:

- The maximum number of files can be displayed in a folder including folder icons is 300.
- Filenames with a “.” at the beginning of the filename will not be displayed.
- The icon of a file whose type cannot be determined is indicated by a “?”.
- A short video file may be displayed with the thumbnail in black.


Slideshow display

- Focus on a still image on the file display screen (icon display or thumbnail display) and press the ENTER button to switch to the Slideshow display.
- A slideshow may be displayed using “Manual Playback” in which the images are switched by operating a button on the remote control, or “Auto Playback” in which the images are switched automatically at a set interval (playback mode is “Auto”).
- The default factory setting is “Manual Playback”. To perform “Auto Playback”, set the “Playback Mode” in the “Settings” to “Auto”.
- The images will be displayed in the order selected under “Sort” on the file display screen.

Playback of video

- Focus on a motion image in the file display screen (icon display or thumbnail display) and press the (ENTER) button to start video playback.

Viewer settings

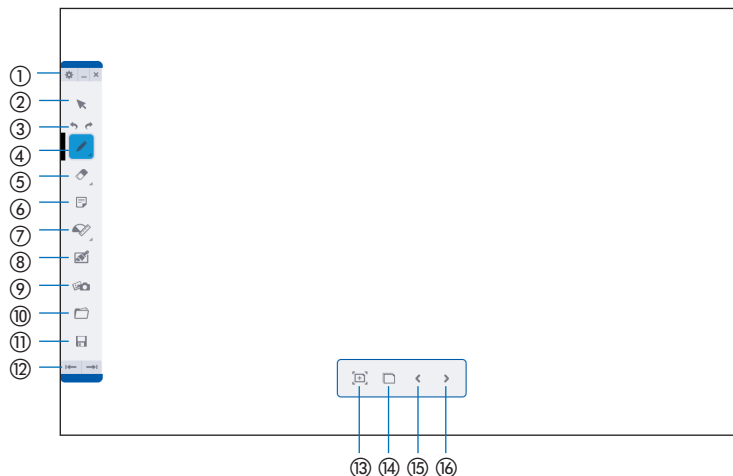
Select the  icon in the file list screen or top screen of the viewer to display the configuration screen of the viewer.

The following settings can be configured on the configuration screen.

Item 1	Item 2	Options (figures within the parentheses [] are default values)	Remarks
Slideshow	Screen size	[Maximum size]/Actual size	
	Playback mode	Auto / [Manual]	
	Interval	[5] - 300 seconds	Enabled when “Auto” is selected
	Repeat	[Disable] / Enable (default setting is unchecked)	
Video settings	Screen size	[Maximum size]/Actual size	
	Repeat	[OFF]/Single File/All Files	
Auto play	AutoPlay	[OFF]/Still image/Video	Enabled only when a USB memory device is connected
Shared folder	Folder 1/Folder 2/ Folder 3/Folder 4	[Disable] / Enable (default setting is unchecked)	
		Shared folder [¥¥]	Up to 41 characters
		User name	Up to 64 characters
		Password	Up to 64 characters

3. WHITEBOARD

Boot up the DisplayNote as the software for the whiteboard, it enables to draw pictures by a stylus pen supplied with the projector. Before booting up the software, perform the pen settings. (See page 32)



①	Setting () Minimize () Exit ()	Setting: Indicates version information of the WHITEBOARD and COLLABORATION Minimize: Go back to the APPS MENU without interrupting the DisplayNote, Exit: Exit the DisplayNote
②	Cursor	Drag drawn letters and pictures to other positions.
③	Undo () Redo ()	Undo: Back to the previous state Redo: Back to the previous state of UNDO performance.
④	Pen tool	Select a tool for drawing. When [MULTI USER MODE] is selected, it enables to draw simultaneously by two stylus pens (→ page 12)
⑤	Eraser tool	Select this for erasing drawing.
⑥	Notes	By connecting the USB keyboard to the USB-A port on the projector, it enables to make a note on the Notes window and stick the written notes on the WHITEBOARD screen in the Notes icon, however, this function does not support Japanese. <i>Attention:</i> <ul style="list-style-type: none"> Letters input by the keyboard connected with the projector are displayed as input by the 101 layout keyboard. If the 106 or 109 layout keyboard is used, input letters are displayed as input by the 101 layout keyboard.
⑦	Stationary tool	Select a drawing support toll as a ruler, a protractor, and a compass.
⑧	Background	Select a background of the whiteboard. Default setting is “White”
⑨	Media tool	Open the drawing files saved in the projector memory and the JPEG, PNG files saved in the USB memory. The maximum resolution for JPEG in baseline and progressive format is 4000x4000 and for PNG is 3000x300.
⑩	Open the saved data	Open the saved Lesson file (extension.dn: Exclusive file for the DisplayNote) and PDF file. <i>NOTE:</i> <ul style="list-style-type: none"> Some PDF files may not be opened depends on the file. It does not indicate fonts that are not embedded in PDF files. In case displayed letters are overlapped on the PDF file, please try to change font for the file. Maximum number of indicatable page saved in a PDF file is 10 pages.
⑪	Save the displaying data	Save the display under drawing as a Lesson file (extension.dn) Recommend to save important data into the USB memory.
⑫	Switch the Tool bar display position	Move the Tool bar to the left or right end of the display screen.

⑬ Add a slide	Copy the currently displaying slide (displayed screen) and add a slide.
⑭ Contents	Display the list of contained slides. Once the dust box is selected on the displayed slide, the slide will be deleted.
⑮ Shift to the previous slide	Shift to the slide that is displayed previously.
⑯ Shift to the next slide	Shift to the next slide. In case the slide currently displayed on is the last one, create a blank slide and shift to it. The maximum number of slides is 10 slides.

NOTE:

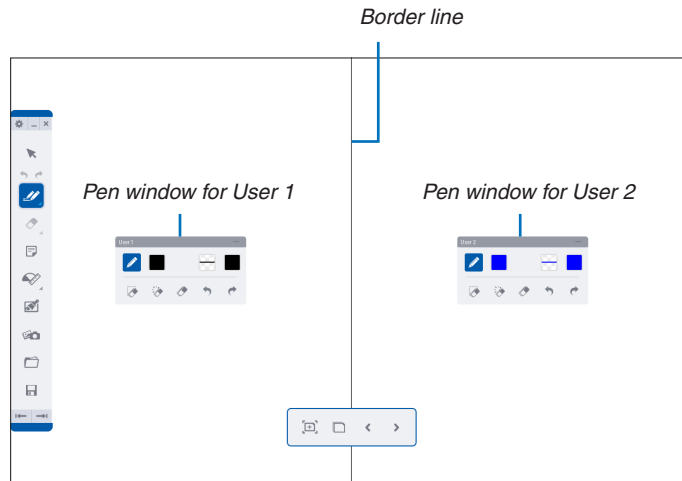
- *If the stylus pen is not functioned to draw, please check if ④ Pen tool is properly selected.*
 - *In case, the line drawn by the stylus pen is interrupted, the battery of the stylus pen is almost empty. Charge the stylus pen by the supplied USB cable for the exclusive use to charge the stylus pen.*
 - *The system may become heavy when many letters and images are added on a slide. In this case, please save important data in the USB memory and exit the WHITE BOARD once, then start it again.*
 - *If you saved lesson files in the USB memory, do not pull out the USB memory until powering off the projector.*
 - *The remote can not be used for operating the WHITE BOARD functions. Please use either the stylus pen or the USB mouse.*
-

MULTI USER MODE

Once the MULTI USER MODE is selected on the PEN TOOL window in the WHITE BOARD, it enables to perform drawing by two stylus pens simultaneously.

When the PEN TOOL goes into the MULTI USER MODE, the border line will appear almost at the lateral center of the WHITE BOARD screen and the pen windows for User 1 and User 2 will appear at the left and right sides of the border.

The pen window can be dragged by a stylus pen. You can change the position of the pen window and depending on the position of pen window, the position and angle of the border line are changed.



Attention:

- In the MULTI USER MODE, you cannot use a mouse for drawing. Make sure to use a stylus pen.
 - When two stylus pens are used simultaneously, unexpected drawing may be appeared as two lines separately drawn by each stylus pen are connected, etc. In this case, keep more distance between two stylus pens or perform drawing in turn.
-

4. COLLABORATION

Connect multiple terminals as a computer and a tablet, on which the DisplayNote (NEC Edition)(hereinafter called DisplayNote) is intalled, with the projector in a network and share drawn slides (illustration) utilizing the WHITE BOARD.

Furthermore, it enables to connect the projector as a participant with DisplayNote on a computer and a tablet to share files.

Please visit our web page and download DisplayNote.

About the functions of the tool bar, please refer to the chapter 3. WHITE BOARD. It enables to connect up to 5 terminals simultaneously.

Boot up the DisplayNote



① Presentation	Select this for having a presentation (session) as a presenter. Once this is selected, the presenter's screen described on the next page will appear.
② Participate	Select this for joining in a presentation (session) as a participant. Once this is selected, the participant's screen described on page 16 will appear.
③ Close	Close the COLLABORATION

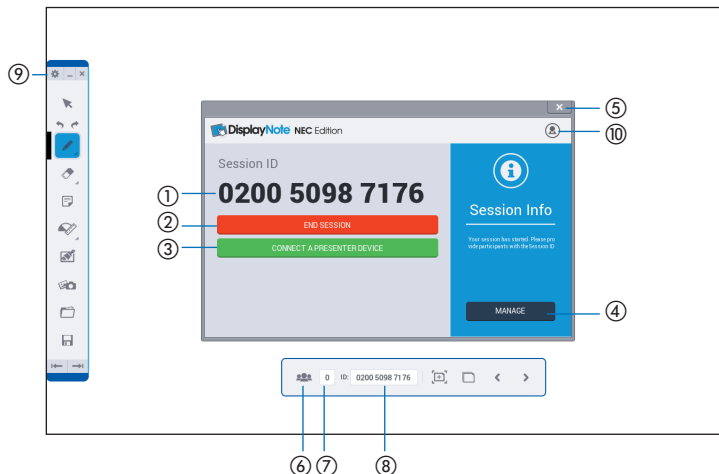
Attention:

It is required to connect the USB keyboard with the projector for joining a presentation (session), for logging in the DisplayNote NEC Edition, and for setting up the proxy server address on the setting screen.

Letters input by the keyboard connected with the projector are displayed as input by the 101 layout keyboard. If the 106 or 109 layout keyboard is used, input letter are displayed as input by the 101 layout keyboard.

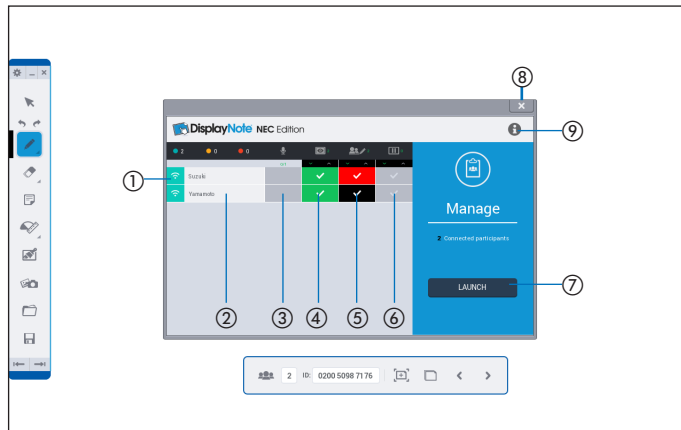
Presenter's screen

Session ID will be displayed on the presenter's screen. The session ID is changed every time to display the presenter's screen.



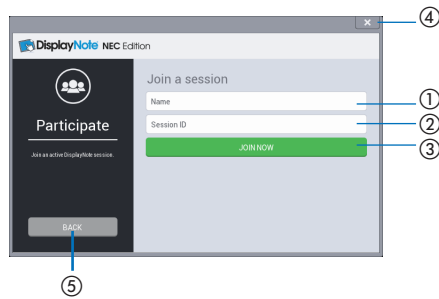
① Session ID	For joining in the session via DisplayNote on a computer or a tablet, input the ID number.
② END SESSION	Finish the session
③ CONNECT A PRESENTER DEVICE	Display the QR code as the session ID. In case the camera function is installed on the participants' tablets, they can participate the session by reading out the QR code. Please use DisplayNote supports QR code.
④ MANAGE	Display the screen to manage the participation status and ON/OFF setting for the COLLABORATION.
⑤ Close the window	Close the window indicating the Session ID.
⑥ MANAGE	Display the screen to manage the participation status and ON/OFF setting for the COLLABORATION.
⑦ Number of the participants to the session	Display numbers of participating terminal to the session.
⑧ Session ID	For joining in the session via DisplayNote on a computer or a tablet, input the ID number.
⑨ SETTING	<ul style="list-style-type: none"> • Display version information of the WHITEBOARD and COLLABORATION. • Set up the address of the proxy server connecting with this device. Please consult with your network administrator about details of the proxy server. • The check box [USE CLOUD SERVICE] is setting for the customers who have the DisplayNote account on which cloud connection is available. The terms of validity for the cloud service is one year from license key registration date. Once check mark is added to [USE CLOUD SERVICE] after logging in, you can have a session with remote location via the cloud service of DisplayNote.
⑩ LOGIN	Display the login screen to the DisplayNote account. For logging in as a presenter, it is required to register your account on the DisplayNote web page in advance. Please visit our web page about details: In US: http://www.necdisplay.com/DisplayNote/ In EU: https://www.nec-display-solutions.com/p/dn/en/home.xhtml

Managed screen



① Connection status	Indicate connection status to the session by color. Green: Participating Orange: The communication has shut down without ending the session Red: Over 30 minutes has passed after shutting down the communication without ending the session
② Name of participant	Indicate the name of participant. Up to 5 terminals can be connected.
③ Not available on the projector.	
④ Participant's screen display	Select to display or not to display each participant's screen. The participants's screen whose setting are ON will displayed on when ⑦ Startup is touched.
⑤ ON/OFF the collaboration	When ON is selected, the presenter and all participants can share same slides. The color in the check column shows each participant's color of pen.
⑥ ON/OFF the collaboration MUTE	When ON is selected for the collaboration MUTE, it disables the participants to share slides temporarily.
⑦ Startup (Display participants' screens)	Display screens of participants whose setting for ④ is ON. In case, several participants are selected, the projector divides its screen in portion and display their screens simultaneously.
⑧ Close	Close the managed screen.
⑨ Information	Display information about the session.

Participant's screen

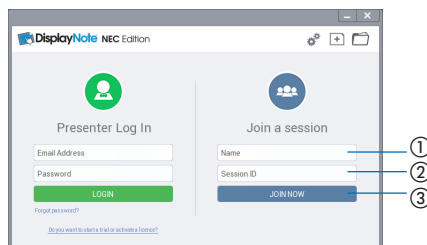


① Input your name
② Input the session ID
③ Select after inputting ① and ②
④ Back to the startup screen
⑤ Close the COLLABORATION

NOTE:

- Screen display of the DisplayNote is subject to change without notice.

Boot up the DisplayNote on the participant's terminal (Reference information)



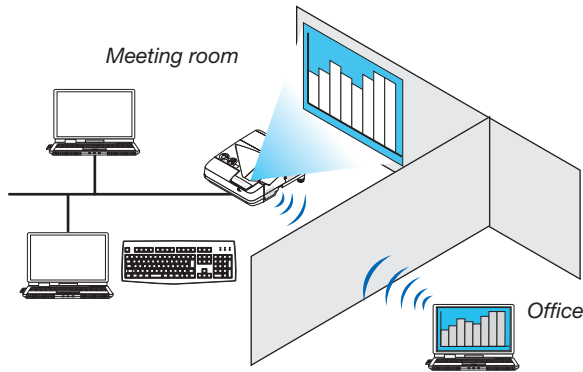
① Input your name
② Input the Session ID
③ Click this after inputting ① and ②.

NOTE:

- Screen display of the DisplayNote is subject to change without notice.

5. REMOTE DESKTOP CONNECTION

- By selecting the PC connected in the same network with the projector, the image on the PC can be projected to the screen via network.
- Then, by operating the keyboard, you can control Windows 8 or Windows 7 PC connected in the network.
- With the Remote Desktop function, you can remotely operate the PC placed at a distance from the projector.

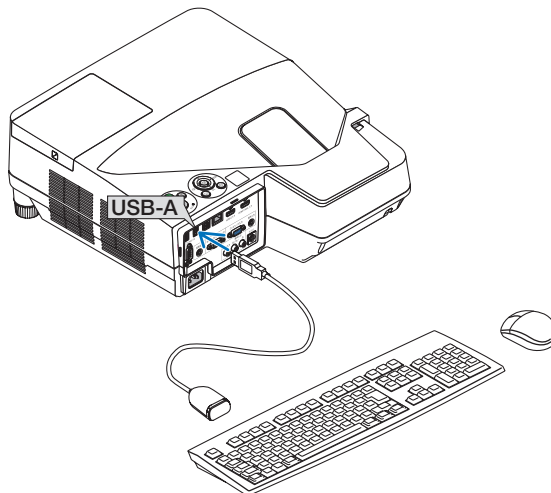


NOTE:

- The [REMOTE DESKTOP] function will work on the following Windows editions.
Windows 8 Pro, Windows 8 Enterprise,
Windows 7 Professional, Windows 7 Ultimate, Windows 7 Enterprise,
- In this user's manual, this feature is described using Windows 7 as an example.
- A USB keyboard is required to use the Remote Desktop connection.
- The Remote Desktop connection can be operated with a keyboard. Using a wireless mouse with a wireless keyboard is more useful for operating.
Use a commercially available wireless keyboard, a wireless mouse, and a USB wireless receiver.
Use a commercially available USB keyboard and USB mouse.
- A USB keyboard with a built-in USB hub cannot be used with the projector.
- A wireless keyboard or mouse that supports Bluetooth cannot be used with the projector.
- We do not warrant that the USB port of the projector will support all USB devices in the market.
- On the login screen for the REMOTE DESKTOP CONNECTION, make sure to use the standard US layout keyboard (called 101 keyboard). If Japanese layout keyboard (as JIS layout keyboard) is used, letters differ from printed letters on the keys may be input.

Prepare a commercially available wireless keyboard (US layout version).

1. Connect the USB wireless receiver to the USB port (Type A) of the projector. Make all necessary settings for your wireless keyboard and mouse.



2. Press [APPS] on the remote to display the APPS MENU.

3. Focus on [TOOLS] and press [ENTER]

4. Focus on [MOUSE SETTING] and press [ENTER]

5. Focus on [MOUSE] and press [ENTER]

Check mark will be added.

6. Focus on [BACK] and press [ENTER]

7. Press [STANDBY] button on the remote twice.

The projector will be powered OFF.

8. Press [ON] button on the remote

The projector will be powered ON and the connected USB mouse will be available.

Setting the password to the user account of Windows 7

TIP: If a password has been set for an account, the steps 1 to 8 can be skipped.

1. Click [Start] from the desktop of Windows 7.

2. Click [Control Panel].

3. Click [Add or remove user accounts] displayed under [User Accounts and Family Safety].

4. Click [Administrator].

5. Click [Create a password].

6. Input the password to the [New password] box.

7. Input the same password as that at Step 6 to the [Confirm new password] box.

8. Click [Create a password].

The Administrator is changed to [Password Protection].

Setting the Remote Access

1. Click [Start] from the desktop of Windows 7.

2. Click [Control Panel].

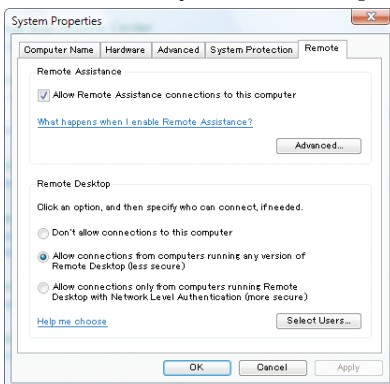
3. Click [System and Security].

4. Click [Allow remote access] displayed under [System].

5. When the [User Account Control] confirmation window appears, click [Continue].

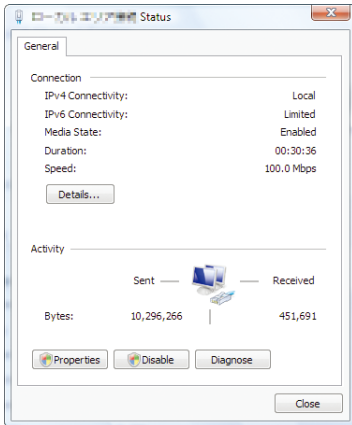
The [System Properties] window appears.

6. Click [Allow connections from computers running any version of Remote Desktop (less secure)] in the Remote Desktop box and click [OK].



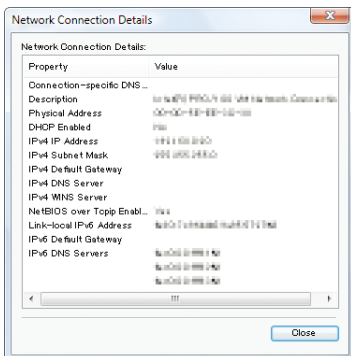
Checking the IP address on Windows 7

1. Click [Start] from the desktop of Windows 7.
2. Click [Control Panel].
3. Click [View network status and tasks] displayed under [Network and Internet].
4. Click [View status] displayed in blue on the right of [Local Area Connection] in the window.
The [Local Area Connection Status] window appears.



5. Click [Details...].

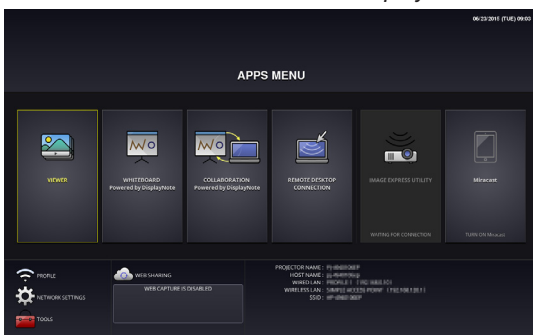
Write down the value for "IPv4 IP Address" (xxx.xxx.xxx.xxx) displayed.



6. Click [Close].
7. Click [X] at the upper right of the window.
The system goes back to the desktop.

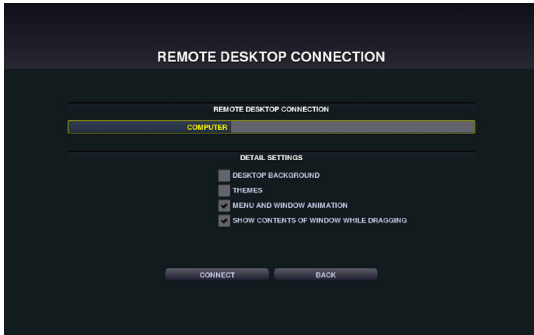
Starting REMOTE DESKTOP CONNECTION

1. Press the APPS button on the remote control when the projector is in the state of powered ON.
The APPS MENU screen will be displayed.



2. Select [REMOTE DESKTOP CONNECTION] on the APPS MENU.

The [REMOTE DESKTOP CONNECTION] window appears.



3. Operate one among the wireless keyboard, wireless mouse and the remote control to input the IP address of Windows 7 and click [CONNECTION].

The log-on screen of Windows 7 is displayed on the screen projected by the projector.

4. Operate the wireless keyboard to input the user's password and press "Enter".

The REMOTE DESKTOP CONNECTION is started.

Windows 7 desktop is displayed on the screen projected by the projector.

Log out the computer.

Use the wireless keyboard connected to the projector to operate Windows 7.

NOTE:

- If you cannot connect with the REMOTE DESKTOP CONNECTION properly and black screen remains to display, or you cannot perform the REMOTE DESKTOP CONNECTION caused on unexpected shut down, etc., press (APPS) button on the remote control for displaying the APPS MENU, select the REMOTE DESKTOP CONNECTION then select DISCONNECT. Try to reconnect the REMOTE DESKTOP CONNECTION.

Exiting the REMOTE DESKTOP CONNECTION

1. Operate one among the wireless keyboard, wireless mouse and the remote control to click [Start] from the desktop screen projected by the projector.

2. Click [LOG OFF] on the right of the start menu.

The remote desktop connection is stopped.

3. Press the button for an input terminal other than APPS on the remote control.

TIP:

Setting [DETAIL SETTINGS] in REMOTE DESKTOP CONNECTION

[DETAIL SETTINGS] will allow you to display the desktop background, or to enable the window animation function during the Remote Desktop operation.

DESKTOP BACKGROUND: Clear the check mark to display the desktop background in a single color.

THEMES: Clear the check mark not to use Themes.

MENU AND WINDOW ANIMATION: Clear the check mark to disable menu and window animation.

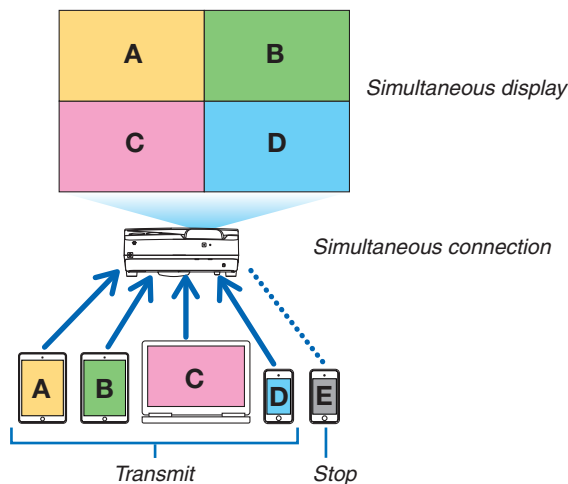
SHOW CONTENTS OF WINDOW WHILE DRAGGING: Clear the check mark to show only the window pane while dragging.

6. IMAGE EXPRESS UTILITY

- When the projector is connected with various terminal units as a computer, a smartphone, and a tablet over a network, it enables to transfer and project images saved on each terminal using this Image Express Utility software program.
- Terminal units in various OS (Windows, Mac OSX, Android, and iOS) can be connected to the projector simultaneously.
- The projector enables to receive images transferred from multiple terminal units (max. 50 units) at once and project them splitting up its screen display into portions (max. 4 × 4).
- IMAGE EXPRESS UTILITY has two performance modes, the FREE mode and MANAGED mode. Each mode can be selected on the network setting for IMAGE EXPRESS UTILITY (See page 36)
 - In the Free mode, you can freely connect to the projector via Image Express Utility Lite installed on a computer or Wireless Image Utility installed on a smartphone, etc. The splitting pattern of the display screen is based on the number of connected terminals. At the same time, you can select either splitting screen display or full screen display from each terminal.
 - In the Managed mode, same as in the Free mode in the state of the connection with several terminals you can switch the splitting/full screen display to the full/splitting screen display but either by the remote control or via the WEB server.

REMOTE Once pressing the ENTER button during projecting the connected terminals' screen, the menu for selecting display splitting pattern will be displayed on.

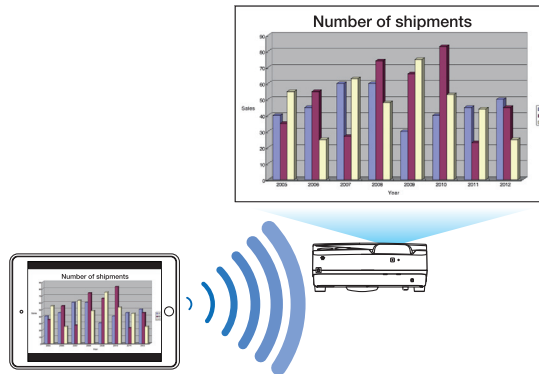
WEB SERVER More precise setup is available as changing the screen splitting pattern and displaying position (See page 27)



- Install the application software, “Image Express Utility” that is contained on the CD-ROM supplied with the projector. Please refer to the help file about detailed software information.
- Download and install the application software, “Wireless Image Utility” onto terminal units as a smartphone and a tablet. About detailed information of this application software, please refer to the Wireless Image Utility manual that is uploaded on our web site.
- Our application software, Image Express Utility 2.0, is also available. Download from our web site and install it on your computer. Please be reminded the simultaneous connection and simultaneous display are not functioned by Image Express Utility 2.0.

7. Miracast

This device can be connected wirelessly to a wireless terminal such as an Android terminal etc. that supports the Miracast standard to project mirroring images transmitted from the terminal. Set the network setting of this device to "Miracast" before connecting it. (→ page 27)

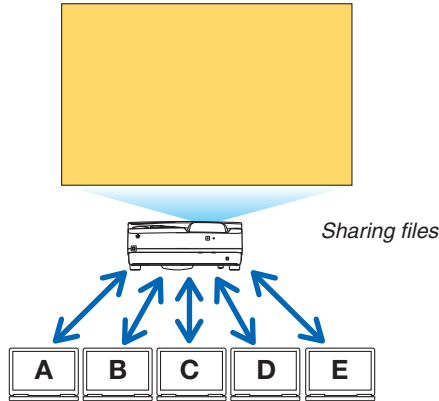


NOTE:

- Depending on the wireless terminal supported the Miracast in use and the environment of radio wave, images and sound may be interrupted.
 - The procedure to connect with Miracast is differed from each Miracast supported wireless terminal. For detailed information, please refer to the user's manual of Miracast supported wireless terminal or the HELP file.
 - The Miracast functions on the projector are not guaranteed for connecting all Miracast supported wireless terminals sold commercially.
-

8. WEB SERVER FUNCTION

- Without using the exclusive software, it enables to share images and files among the projector and computers in the network by accessing the projector's WEB SERVER utilizing the web browser. (→ this page, WEB SHARING)
- While images on various terminals are transmitted and simultaneously projected on the projector by utilizing the IMAGE EXPRESS UTILITY, it enables to control screen splitting pattern and change the order to display by utilizing the web browser on the computer. (See page 26, IMAGE EXPRESS UTILITY LITE)
- It is able to control the projector by the web browser screen on the computer. (→ page 28, PROJECTOR CONTROL)



- The WEB SERVER Function supports the web browsers in below:

For Windows	Internet Explorer 11 Chrome (latest version)
For Mac OS X	Safari 6 or later
For iOS	Safari (latest version)
For Android	Chrome (latest version)

- * Compared with the computer, some functions can be restricted for utilizing the WEB SHARING on smartphones or tablets.
- * The PC CONTROL supports PC version only.

How to access the WEB SERVER

Connect the computer and the projector (this device) in a network.

Boot up the web browser on the computer and then access the following URL:

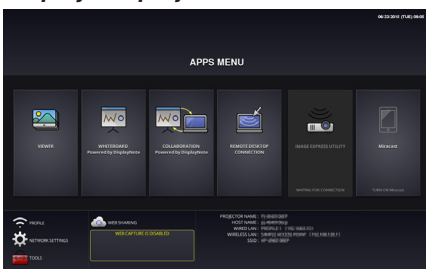
URL=http://(Projector's IP address)

- The projector's IP address is indicated at the right bottom of the APPS menu.
- If the SIMPLE ACCESS POINT mode for the wireless LAN is set on the projector, it enables to access the WEB SERVER by inputting any characters to the column for inputting URL. In this case, you do not need to input the projector's IP address, however, please input the projector's IP address if it fails to access the WEB SERVER.

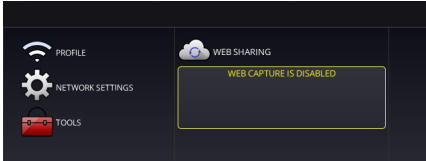
8-1. WEB SHARING

Setting for the WEB SHARING

1. Connect the projector with your computer over a network.
2. Display the projector APPS MENU

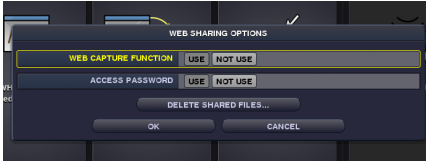


3. Move the focus to the box under the WEB SHARING in the APPS MENU.



4. Press ENTER button on the remote control.

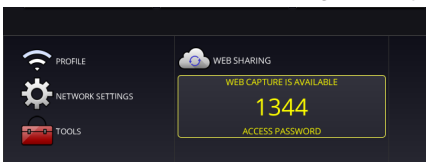
Display the WEB SHARING options setting screen.



Item	Explanation	Remark
WEB CAPTURE	Select USE/NOT USE capture from the WEB browser. By setting this ON, the projector screen will be displayed onto the browser screen every 5 seconds.	Factory default setting is NOT USE
ACCESS PASSWORD	Select whether to USE/NOT USE the password for accessing the WEB SHARING.	Factory default setting is NOT USE
DELETE SHARED FILES	Delete all shared files after	

5. After setting up options, move the focus to OK and press the ENTER button.

If USE is selected both for WEB CAPTURE and ACCESS PASSWORD, the screen in below will displayed on. The access password will be changed every time the password is reset or the projector is powered ON and OFF.



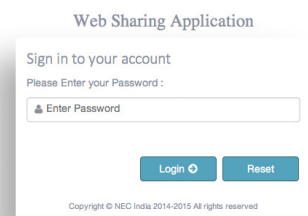
Starting the WEB SHARING

1. Start up the web browser on the computer and access to the below URL.

- Refer "How to access the WEB SERVER" described on the previous page

2. Input four digits number displayed on the APPS MENU and then click LOGIN.

- If NOT USE is selected for the access password at the step [5], the WEB SHARING screen will be displayed.
- The projector screen will be switched to the PROJECTOR CONTROL screen once you click the PROJECTOR CONTROL tab, same as it, the projector screen will be switched to the IMAGE EXPRESS UTILITY LITE screen once you click the IMAGE EXPRESS UTILITY LITE tab.

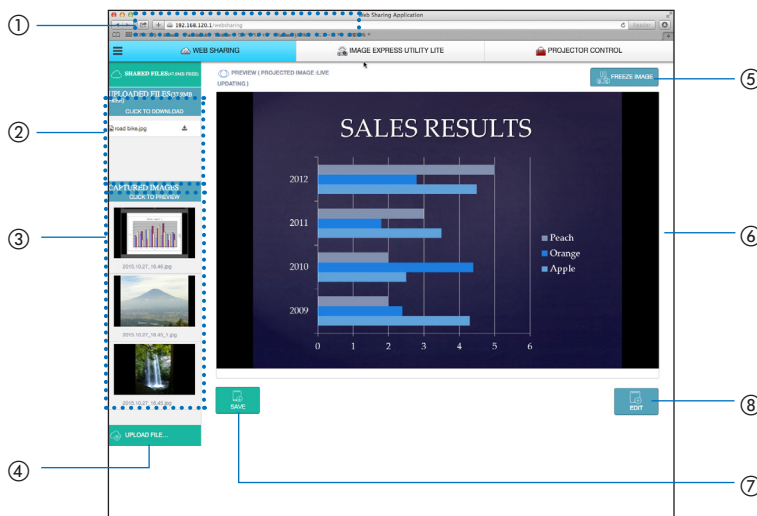


Operations on the WEB SHARING screen

- By using this WEB SHARING, it enables to display projected functions of the APPS MENU as VIEWER, WHITEBOARD, COLLABORATION, REMOTE DESKTOP CONNECTION, IMAGE EXPRESS UTILITY, etc onto the web browser screen every 5 seconds and you can save them onto your computer. (WEB capture)
 - * When the projector is in the state disables the Capture function, the captured screen display every 5 seconds is not performed. About the detailed information of the capture, refer 3-2 Freezing a Picture/Screen Capture in the User's manual of the projector.
- When you will save the projected screen, you can add text on the projected screen (memo) and save these up to 10 pages and save it on the computer as one image.
- It enables to call out the saved image on the projector memory onto the web browser screen and save it on your computer.
- The projector memory is the temporary storage for projected images. Once the projector is turned OFF, you will lose the images in the memory.
- It enables to upload the image saved on the computer and share it among the computers connected in the network.

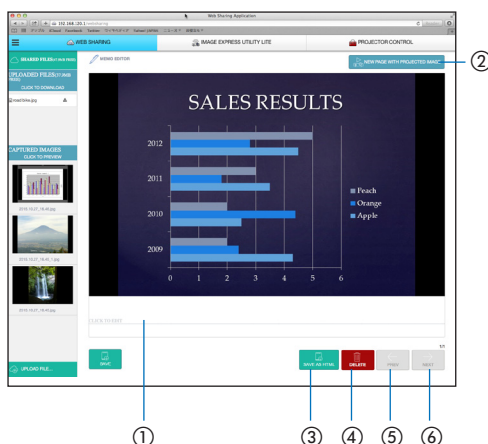
NOTE:

- If Safari is used, screen displays may be distorted depending on the timing of reloading. In this case, try again by rebooting the Safari.
- Data storing function in HTML format (explained at ③ in the clause of Memo creating screen on the next page) is not available on both the IOS and OS X devices. On these devices, you need to save text added screens page by page.
- If you use the browser, Internet Explorer, data saving by right click may not be performed correctly in performing the web capture. Recommend to try capturing after stopping the every 5 seconds display by pressing ⑤ freeze button in the below picture.
- Up to 50 units can be connected simultaneously. However, number of units that can be connected at the same time is vary depending on the performance of the projector and the network environment.



Number	Description
①	http://<Projector's IP address>
②	Indicate the file name that is shared among the computers in the network. The file can be downloaded by clicking the file name. <i>NOTE: For utilizing the downloaded files on the terminals as tablets, it may be required to use other application.</i>
③	Display the image saved on the projector memory by thumbnail. Once a thumbnail is clicked, it will be displayed at the center of the browser..
④	Upload the file on the computer that will be shared. Name of the called out file is indicated as the upload file.
⑤	Stop to update every 5 seconds. Click again to resume updating.
⑥	Display projected functions of the APPS MENU (VIEWER, WHITEBOARD, REMOTE DESKTOP, IMAGE EXPRESS UTILITY, etc) onto the screen every 5 seconds.
⑦	Save the image indicated at ⑥ onto the computer. <i>NOTE: This function is not supported on iOS and OS X devices.</i>
⑧	Create text added screen (memo) utilizing the screen displayed at the center.

Memo creating screen



Number	Explanation
①	Click to input text. After inputting, click [OK] at the right side.
②	Create a new page
③	Save all pages in 1 file. <i>NOTE: This is not displayed on the iOS and OS X devices.</i>
④	Delete either the editing page or all pages
⑤	Back to the previous page
⑥	Move to the next page

8-2. IMAGE EXPRESS UTILITY LITE

Set the **MODE** to **MANAGED** for the **IMAGE EXPRESS UTILITY**

1. Focus on the **NETWORK SETTING** on the **APPS MENU** and press the **ENTER** button.
2. Focus on the **IMAGE EXPRESS UTILITY** and press the **ENTER** button.
The **IMAGE EXPRESS UTILITY** setting screen will be displayed on.
3. Focus on the **MODE** column and select **MANAGED**.
4. Focus on **OK** and press the **ENTER** button.

Reference:

- If [HTTP password] has been set up, the password input window is displayed on before switching to the **IMAGE EXPRESS UTILITY LITE** window by the web browser.

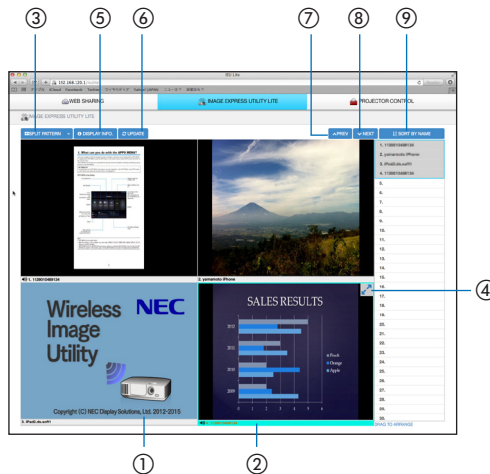
Display images transmitted by various terminals as computers and tablets and simultaneously project them on the projector

- The Image Express Utility Lite is contained on the CD-ROM supplied with the projector. It is also available to download from our web site.
- The Wireless Image Utility is available to download from the App Store and Google Play.
- For detailed information about installation and operation of each software, please see the User's Manual of the projector and the HELP command for each software.

Start the IMAGE EXPRESS UTILITY LITE

1. Connect the computer and the projector in a network.
2. Boot up the web browser on the computer and then access to the WEB SERVER:
Refer "How to access the WEB SERVER" described on page 23.
3. Click the IMAGE EXPRESS UTILITY LITE tab. If [HTTP password] has been set for the IMAGE EXPRESS UTILITY LITE in NETWORK SETTING on the APPS menu, input the password. The IMAGE EXPRESS UTILITY LITE screen will be displayed on after confirming the password.

Control on the IMAGE EXPRESS UTILITY LITE screen



Number	Explanation
①	Thumbnail Gallery <ul style="list-style-type: none"> • Thumbnails that are transmitted to the projector via the Image Express Utility Lite or Wireless Image Utility. Thumbnails will be displayed in black when no one uses the screens or the IMAGE EXPRESS UTILITY has not selected on APPS MENU. • Enables to switch the thumbnail displayed position by the drag and drop
②	Focus <ul style="list-style-type: none"> • Focus is displayed on with a light blue frame.
③	Changing screen split pattern <ul style="list-style-type: none"> • Once the "SPLIT PATTERN" button is clicked, it enables to change screen split pattern. Based on meeting purposes, you can select one pattern among 2×1, 2×2, 3×3, 4×4, 1×12.
④	Maximize the projected image <ul style="list-style-type: none"> • Focused image will be maximize by click. Click it again for displaying the image in the previously projected size.
⑤	Selection to Indicate or Not to indicate terminal names on the projected screen. <ul style="list-style-type: none"> • Enables to switch either to indicate or not to indicate terminals' information on the projected screen
⑥	Update the thumbnail gallery <ul style="list-style-type: none"> • Once the "UPDATE" button is pressed, it update and display the latest thumbnail gallery.
⑦ ⑧	Page change <ul style="list-style-type: none"> • Change the page to display to the previous page by pressing the "PREV" button and to the next page by pressing the "NEXT" button.
⑨	Terminal list <ul style="list-style-type: none"> • List of terminals that are connecting with the projector via Image Express Utility Lite or Wireless Image Utility. • The terminal names currently shown on the display are listed in gray . • Able to switch the position to display by the drag and drop terminal names. • Terminal names can be sorted by clicking the SORT BY NAME.

NOTE:

- For utilizing this function, images transmitted from the computer and other terminals must be projected on. For more detailed information for utilizing the Image Express Utility Lite and the Wireless Image Utility, please see the HELP for each application.
 - This is the function for exclusive one person. You cannot share to use this function while it has been utilized on other computers.
-

8-3. PROJECTOR CONTROL

There are 2 types of screen available, a "PROJECTOR ADJUSTMENTS" screen to control the projector and a "NETWORK SETTINGS" to configure the network settings. You can switch between these 2 screens using the tabs.

Start the PROJECTOR CONTROL

1. **Connect the projector and the computer in a network.**
2. **Boot up a browser on the computer and access to the WEB SERVER.**
 - Please refer to "How to access the WEB SERVER" on page 23.
The screen of the WEB SHARING will be displayed.
 - Click the [PROJECTOR CONTROL] tab for switching it to the PROJECTOR CONTROL.

Controlling the projector (PROJECTOR ADJUSTMENTS)

Enable to control image and volume and switch the input terminal. At the same time, it can be used for checking the lamp life remaining, lamp and filter hours.

Configure network settings (NETWORK SETTINGS)

See "6-9. Network Settings" for details on the wired LAN and wireless LAN settings. (→ page 29)

- Set the alert mail (ALERT MAIL)
Refer to Page 36 for the functional description.
- NETWORK SERVICE
Set each login password for the HTTP server and PJLink, and validity of AMX BEACON.
- CRESTRON setting
Refer to Page 37 for the functional description.
- Network information (INFORMATION)
Display the information of the network set in this device.

9. NETWORK SETTINGS

Configuration for connecting this device to a wired LAN or wireless LAN.

9-1. PROJECTOR NAME

Set the projector name and host name. The default factory setting is the manufacturing number of this device.

Item	Description	Remarks
Projector name	Set up the projector name	A maximum of 16 alphanumeric characters
Host name	Set the host name of this device.	A maximum of 16 alphanumeric characters

9-2. NETWORK INFORMATION

Display the information when this device is connected to a network (wired LAN / wireless LAN).

9-3. WIRED LAN

Configure the settings for connecting this device to a wired LAN.

Item	Description	Remarks
Profile	The settings when connecting this device to a wired LAN can be registered in 2 ways (Profile 1 and Profile 2).	
DHCP/IP ADDRESS/ SUB NETMASK/ GATEWAY/AUTO- MATIC DNS	Perform required settings	
Reconnection	Try connecting to the network again. Reconnect after changing the settings.	

NOTE:

- If you cannot obtain IP address by disconnecting/connecting the LAN cable under the state the DHCP has been set, power off this device once and then power it on again.

9-4. Wireless LAN

Configure the settings for connecting this device to a wireless LAN.

Item	Description	Remarks
Profile	Select the configuration name when connecting this device to a wireless LAN. <ul style="list-style-type: none">• Disable: No radio waves will be transmitted from the wireless LAN unit connected to this device.• Simple access point: Connect to a computer or smartphone by setting this device as a simple access point.• Wi-Fi Direct: Connect to a device compatible with Wi-Fi Direct.• Miracast: Connect to a device compatible with Miracast• Profile 1 / Profile 2: The wireless LAN settings can be registered in 2 ways.	<ul style="list-style-type: none">• The default factory setting when shipped is "Disable".• If a simple access point has been set up, the IP address of this device will be "192.168.120.1" or "192.168.130.1". <p><i>NOTE: When a simple access point is set up. Up to 20 units can be connected simultaneously. Recommend to connect approx. 10 units for normal operation.</i></p>
DHCP/IP address/ Subnet mask/Gate- way/DNS	These can be set when Profile 1 or Profile 2 is selected.	
Advanced settings	The configuration items differ for each profile option. Refer to the following table.	
Reconnection	Try connecting to the network again. Reconnect after changing the settings.	

Advanced settings (simple access point)

Item	Description	Remarks
WPS settings	Select the WPS push button method. <ul style="list-style-type: none"> • Disable: Disable the WPS function. • Push button: Select the WPS push button method. WPS push button will be displayed in the application menu. 	
Security setting	Select the security type (WPA2-PSK).	<ul style="list-style-type: none"> • The default factory setting when shipped is "Disable". • The WPA2-PSK key consists of 8 - 63 half-byte alphanumeric characters.
SSID	Set the SSID.	This consists of 1 - 32 half-byte alphanumeric characters. The default factory setting is the manufacturing number of this device.
LAN mode	Choose the wireless mode.	The default factory setting when shipped is "IEEE802.11b/g/n".
Channel	Choose the wireless channel.	The default factory setting when shipped is "6".

Connection method with the push button method

1. Press the WPS push button under the application menu of the projector (AP).

A countdown of the WPS appears in the application menu.

2. Press the WPS push button on the WPS supported wireless terminal (Client side) during the countdown.

The WPS supported wireless terminal (Client side) will connect to the projector (AP).

Advanced Settings (Wi-Fi Direct)

Item	Description	Remarks
WPS settings	Select the WPS push button method. <ul style="list-style-type: none"> • Auto push button: Enable to omit the procedure searching the terminal when receiving connection request from the Wi-Fi Direct supported wireless terminal. • Push button: Perform the procedure for accepting the connection request reply from the Wi-Fi Direct supported wireless terminal. 	The default factory setting when shipped is "Auto Push Button".

How to connect with the auto push button method

1. Perform to search the Wi-Fi Direct supported device on the Wi-Fi Direct supported wireless terminal.

2. Select the projector name (this device) that is displayed in the search results.

The Wi-Fi Direct supported wireless terminal will connect to this device.

How to connect with the push button method

1. Display the APPS MENU screen on the projector.

2. Perform to search the Wi-Fi Direct supported device on the Wi-Fi Direct supported wireless terminal

3. Select the projector name (this device) that is displayed in the search results.

Countdown for connection request will appear on the APPS MENU of the projector

4. Press the accept button of the connection request reply dialog box during the countdown.

The Wi-Fi Direct supported wireless terminal will connect to this device.

Advanced settings (Miracast)

Item	Description	Remarks
WPS settings	Select the WPS method. <ul style="list-style-type: none"> • Auto push button: Enable to omit the searching procedure when receiving the connection request from the Miracast supported wireless device. • Push button: Perform the searching procedure to accept the connection request reply from the Miracast supported wireless device. • PIN code: Input the PIN code indicated on the projector onto the Miracast supported wireless device. 	The default factory setting when shipped is "Auto Push Button"
HDCP setting	Choose the function of contents protection by HDCP. <ul style="list-style-type: none"> • Disable: Does not support HDCP • Enable: Support HDCP 	The default factory setting when shipped is "Enable". This projector supports HDCP2.2.

How to connect with the auto push button method

- 1. Perform to search a Miracast supported device (receiver side) on the Miracast supported wireless terminal (sender side)**
- 2. Select the projector name (this device) that is displayed in the search result.**
The connection between the projector and the Miracast supported wireless terminal (sender) will be established and start the Miracast transmission.

How to connect with the push button method

- 1. Display the APPS MENU of this projector.**
- 2. Perform to search a Miracast supported device (receiver side) on the Miracast supported wireless terminal (sender side)**
- 3. Select the projector name (this device) that is displayed in the search result.**
Countdown for requesting the connection will appear on the APPS MENU of this device.
- 4. button during the countdown**
The connection between the projector and the Miracast supported wireless terminal (sender) will be established and start the Miracast transmission.

How to connect with the PIN code method

- 1. Display the APPS MENU of this projector.**
- 2. Perform to search a Miracast supported device (receiver side) on the Miracast supported wireless terminal (sender side)**
- 3. Select the projector name (this device) that is displayed in the search result.**
Countdown for requesting the connection will appear on the APPS MENU of this device.
- 4. button during the countdown**
The connection between the projector and the Miracast supported wireless terminal (sender) will be established and start the Miracast transmission.

Advanced Settings (Profile 1 / Profile 2)

Item	Description	Remarks
Site survey	<ul style="list-style-type: none"> Run the site survey and display the detected access points. A maximum of 64 access points can be displayed. Only 1 access point with the same name as SSID is displayed. The applicable access points are the security-disabled WPA-PSK, WPA2-PSK, WPA-EAP and WPA2-EAP. A “Key” mark is attached when the security setting of the access point has been enabled. 	<p>Selection is not possible if this device is not connected to a wireless LAN unit.</p> <p><i>NOTE: If any access point is not searched, select the site survey again after selecting [RECONNECT] on the wireless LAN screen.</i></p>
Security setting	<p>Select the type of security.</p> <ul style="list-style-type: none"> Disable: Disable the security setting. WPA2-PSK: Input column of the key is displayed. WPA/WPA2-PSK: Input column of the key is displayed. WPA2-EAP: Authentication settings are displayed. WPA/WPA2-EAP: Authentication settings items are displayed 	<ul style="list-style-type: none"> The default factory setting when shipped is “Disable”.
SSID	Set the SSID.	<p>This consists of 1 - 32 half-byte alphanumeric characters.</p> <p>The default factory setting when shipped is “NECPJ”.</p>

[AUTHENTICATION]

Setting is required for using WPA2-EAP or WPA/WPA2-EAP.

Preparation before setting

Select a wireless LAN compliant WPA-EAP or WPA2-EAP authentication and install a digital certificate on the projector.

1. Set [DATE AND TIME] and [TIME ZONE] on the projector. (→ page 45)
2. Use a computer to save digital certificates (files) for WPA2-EAP setting to your USB memory device.
After completing saving the file, remove the USB memory device from the computer.

Important:

- The supported file extensions for client certificate are ".pfx" and ".p12", for root certificate are ".cer" and ".der".
- The file formats of digital certificate that are supported by the projector are DER and PKCS#12 only.
- The projector cannot handle any digital certificate whose file size exceeds 8 KB.

3. Plug the USB memory device into the USB port of the projector.

Setting Procedures

1. Select either [WPA2-EAP] or [WPA/WPA2-EAP] for the [SECURITY TYPE] on the [SECURITY] page
The pull-down list will be displayed.
2. Focus on the [AUTHENTICATION].
Select either [EAP-TLS] or [PEAP-MSCHAPV2] for [EAP TYPE]. The setting items vary depending on the EAP type.

See the table below.

EAP Type	Setting Item	Note
EAP-TLS	User Name	1 character or more and 32 characters or less
	Client Certificate	PKCS#12 format file
	CA Certificate (Certificate authority's certificate)	DER format file
PEAP-MSCHAPV2	User Name	1 character or more and 32 characters or less
	Password	1 character or more and 32 characters or less
	CA Certificate (Certificate authority's certificate)	DER format file

① Selecting [EAP-TLS] for [EAP TYPE]:

The operation for selecting [EAP-TLS], refer the step 3 on this page.

The operation for selecting [PEAP-MSCHAPV2] refer the step 3 on page 34.

3. Focus on [USER NAME] field and press the ENTER button.

The character entry screen (software keyboard) will be displayed. Set a user name.

- A user name must be 1 character or more and 32 characters or less.

4. Focus on [CLIENT CERTIFICATE] and press the ENTER button.

A list of files ([FILES] screen) will be displayed.

- To return to the [AUTHENTICATION] page, press the EXIT button.

NOTE:

Installing a digital certificate

You can install each digital certificate (client certificate and CA certificate) for [PROFILE 1 (or 2)] on a file-by-file basis.

- Install a root CA certificate for a CA certificate.
- If you install a digital certificate over your existing digital certificate, the existing digital certificate will be overwritten with the new digital certificate.
- Once a digital certificate has been installed, its information cannot be deleted even if you stop setting WPA2-EAP, WPA/WPA2-EAP.

5. On the [FILES] screen, focus on a digital certificate (PKCS#12 format file) saved in your USB memory device and press the ENTER button.

The password screen will be displayed.

6. Focus on [PASSWORD] field and press the ENTER button.

The character entry screen (software keyboard) will be displayed. Set the password of the private key. A password must be 1 character or more and 32 characters or less.

The selected digital certificate file will be installed on the projector.

- When the root CA certificate is not included in the file that was selected in Step 5, proceed to Step 7. When the root certification authority certificate is included, proceed to Step 9.

7. Focus on [CA CERTIFICATE] and press the ENTER button.

The drive list screen will be displayed.

8. On the [FILES] screen, focus on a digital certificate (DER format file) saved in your USB memory device and press the ENTER button.

- Select your root CA certificate here.

The selected digital certificate will be installed on the projector.

9. After completing required settings, focus on [OK] and press the ENTER button.

Back to the [SECURITY] page.

10. Select [OK] and press the ENTER button.

Back to the [ADVANCED] setting screen.

This will complete setting [EAP-TLS] for [EAP TYPE] in [WPA-EAP] or [WPA2-EAP].

TIP:

Clearing the digital certificate that is installed on the projector

To clear the digital certificate installed on the projector, follow the steps below.

By doing the following procedure, all the digital certificates for the currently displayed profile will be cleared.

1. Focus on [CLEAR CERTIFICATES] at the bottom of the [ADVANCED] setting screen and press the ENTER button.

A message for confirmation will be displayed.

2. Focus on [YES] and press the ENTER button.

The digital certificates will be cleared.

② Selecting [PEAP-MSCHAPV2] for [EAP TYPE]:

3. From the [AUTHENTICATION] page, focus on [EAP TYPE] field and press the ENTER button.

The pull-down list will be displayed.

4. Focus on [PEAP-MSCHAPV2] and press the ENTER button.

5. Focus on [USER NAME] field and press the ENTER button.

The character entry screen (software keyboard) will be displayed. Set a user name.

- A user name must be 32 characters or less.

6. After completing setting a user name, focus on the [PASSWORD] field and press the ENTER button.

The character entry screen (software keyboard) will be displayed. Set a password.

- A password must be 32 characters or less.
- You can select either "Use the certificate" or "Not use the certificate" for PEAP-MSCHAPV2. For using the certificate, set at "Use the certificate", on the other hand, if you do not use the certificate, set at "Not use the certificate".

7. After completing setting the password, focus on [CA CERTIFICATE] field and press the ENTER button.

The drive list screen will be displayed.

- To return to the [AUTHENTICATION] page, press the EXIT button.
-

NOTE:

Installing a digital certificate

You can install each digital certificate (client certificate and CA certificate) for [PROFILE 1 (or 2)] on a file-by-file basis.

- Install a root CA certificate for a CA certificate.
 - If you install a digital certificate over your existing digital certificate, the existing digital certificate will be overwritten with the new digital certificate.
 - Once a digital certificate has been installed, its information cannot be deleted even if you stop setting WPA2-EAP, WPA/WPA2-EAP.
-

8. On the [FILES] screen, focus on a digital certificate (DER format file) saved in your USB memory device and press the ENTER button.

The selected digital certificate will be installed on the projector.

9. After completing required settings, focus on [OK] and press the ENTER button.

Back to the [SECURITY] page.

10. Focus on [OK] and press the ENTER button.

This will complete setting [PEAP-MSCHAPV2] for [EAP TYPE] in [WPA2-EAP].

TIP:

Clearing the digital certificate that is installed on the projector

To clear the digital certificate installed on the projector, follow the steps below.

By doing the following procedure, all the digital certificates for the currently displayed profile will be cleared.

1. Focus on [CLEAR CERTIFICATES] in the bottom left of the [ADVANCED] setting screen and press the ENTER button.

A message for confirmation will be displayed.

2. Focus on [YES] and press the ENTER button.

The digital certificates will be cleared.

9-5. IMAGE EXPRESS UTILITY

Configure the settings when using Image Express Utility Lite.

Item	Description	Remarks
Mode	Select the operating mode. Free: Set the free mode. Control: Set the managed mode.	The default factory setting when shipped is "Free".
HTTP Password	Able to setup a password to log in the MANAGED MODE for the IMAGE EXPRESS UTILITY in the WEB SERVER functions.	Max 32 alphanumeric characters, If it leaves in blank, the password becomes "Null". Default setting: Blank

NOTE:

- If you change the setting of the operating mode, connecting to the IMAGE EXPRESS UTILITY, it will not be reflected immediately. When the IMAGE EXPRESS UTILITY becomes unused condition, the change in the operating mode will be reflected.

9-6. NETWORK SERVICE

AMX setting

If you connect this device to a network compatible with the NetLinx control system of AMX Corporation, set enable or disable to detect the device by AMX Device Discovery. No check mark is placed as the default factory setting. See the website of AMX Corporation for more information on AMX Device Discovery.

HTTP server configuration

Set the password for logging into the PROJECTOR CONTROL screen. A maximum of up to 10 alphanumeric characters can be set for the password.

PJLink setting

Set the login password for using PJLink. A maximum of up to 32 alphanumeric characters can be set for the password.

Alert e-mail setting

When using this device connected to a network, computers and other devices will be notified of the status of this device via e-mail if the lamp of this device is due for replacement, or if an error occurs.

ALERT MAIL	This option will notify your computer of lamp replace time or error messages via e-mail when using wired LAN. Placing a checkmark will turn on the Alert Mail feature. Clearing a checkmark will turn off the Alert Mail feature. Sample of a message to be sent from the projector: The lamp and filters are at the end of its usable life. Please replace the lamp and filters. Projector Name: PJ-XXXXXXXX Lamp Hours Used: XXX [H]
SENDER'S ADDRESS	Enter sender's address.
SMTP SERVER NAME	Enter the SMTP server name to be connected to the projector.
RECIPIENT'S ADDRESS 1, 2, 3	Enter your recipient's address. Up to three addresses can be entered.

TEST MAIL	Send a test mail to check whether your settings are correct or not. <i>NOTE:</i> <ul style="list-style-type: none">• If you execute a test, you may not receive an Alert mail. Should this happen, check if network settings are correct.• If you entered an incorrect address in a test, you may not receive an Alert mail. Should this happen, check if the Recipient's Address is correct.
-----------	---

CRESTRON SETTINGS

Configure the settings for connecting this device to a CRESTRON product.

Item	Description
ROOMVIEW	Check this when controlling the unit with a computer.
CRESTRON CONTROL	Check this when controlling the unit with a controller.
IP address	Set the IP address of the controller.
IP ID	Set the IP ID of the controller.

10. TOOLS

10-1. PEN SETTINGS

Either when using the stylus pen for the first time or changing the installation place of the projector, make sure to perform calibration for letting the projector to recognize the stylus pen position properly. There are four options for the pen set up.

AUTO CALIBRATION	Adjust the stylus pen position automatically. Select this for easy adjustment.
MANUAL CALIBRATION	Adjust the stylus pen position manually. Select this for precise position adjustment as for permanent projector installation.
REMOTE PEN	Operation by a computer mouse can be performed by the stylus pen touch. For utilizing the remote pen, connect the USB-B port on the projector and the USB-A port on the computer by the supplied USB cable. <i>NOTE:</i> <ul style="list-style-type: none">• Before starting to use the remote pen, install the latest IWB Setup Software for the white board kit onto the computer and perform calibration. The latest IWB Setup Software for the white board kit is available to download from our web site: http://www.nec-display.com/dl/en/pj_soft/lineup.html
TOUCH MODULE, ADJUSTMENT	For using the separately sold TOUCH MODULE. Display the TOUCH MODULE adjustment screen.
SENSOR VIEWER	Display the photograph took by the camera on whole screen for checking influence of the illumination and external light. Perform this when the pen calibration is not finished properly or the pen performance is unstable. Whitish area on the displayed screen may be influenced by the illumination or external light. Get rid of the influence of the illumination and/or external light. Two kinds of screen display are switching each other by pressing the ENTER button. One is to display the detection screen of the light influence and another is to display a photograph that is taken by the built-in camera as it is.

After performing calibration of the stylus pen, you can use the stylus pen on the WHITEBOARD, etc. in the APPS MENU.

NOTE:

- Do not use the stylus pen with wet hands and use it in water splash apprehended place.
- If a part of human body gets close or contacts with the screen, it may cause of malfunction. Make sure to keep certain distance from the screen surface.
- It will cause of malfunction if you put hands onto the screen.
- For drawing precise letters and drawings onto the separately sold Touch Module, please use the stylus pen.
- If the calibration is performed when the onscreen menu is displayed on, it may cause of malfunction. Confirm if the onscreen menu is disappeared before performing the calibration.

Automatic Calibration

1. Focus on the [AUTO CALIBRATION] and then press ENTER button.

Start calibration.

Position adjustment will be completed within 20 to 25 seconds and the message of the calibration completion will be displayed on.

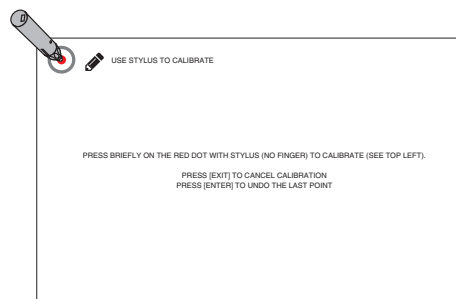
Manual Calibration

1. Focus on the [MANUAL CALIBRATION] in the [PEN SETTINGS] and press ENTER.

The projection screen will switch to the manual calibration screen and a red dot will be indicated at the left top of the screen.

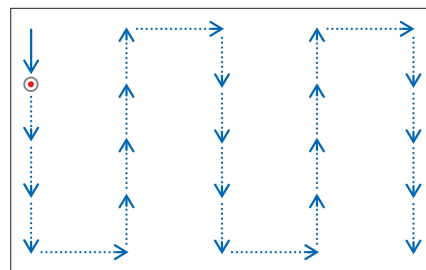
2. According to the instructions displayed on the screen, touch the center of dot for 1 to 2 seconds.

After touching the red dot, it moves to 25 positions in order.



3. Touch all 25 positions.

Complete the position adjustment and the message of calibration completion will be displayed on.



NOTE:

- You may not be able to perform manual calibration by the affection of the light from outside.

Remote Pen

1. Same as the “8 Operating Your Computer’s Mouse Functions from the Projector’s Remote Control via the USB Cable (Remote Mouse Function)”, connect the projector and the computer by the supplied USB cable.
2. Focus on the [REMOTE PEN] in the [PEN SETTINGS] and press ENTER.
The checked mark is added.
3. Press the USB-B button on the remote control.
Or select [USB-B] as the [SOURCE] on the onscreen menu.
The computer screen will be displayed on.
4. Start the latest IWB Setup Software for the white board kit onto the computer and perform calibration.
The stylus pen becomes available for operations as a computer mouse.
 - The stylus pen can be used on displayed image from terminals besides USB-B.

NOTE:

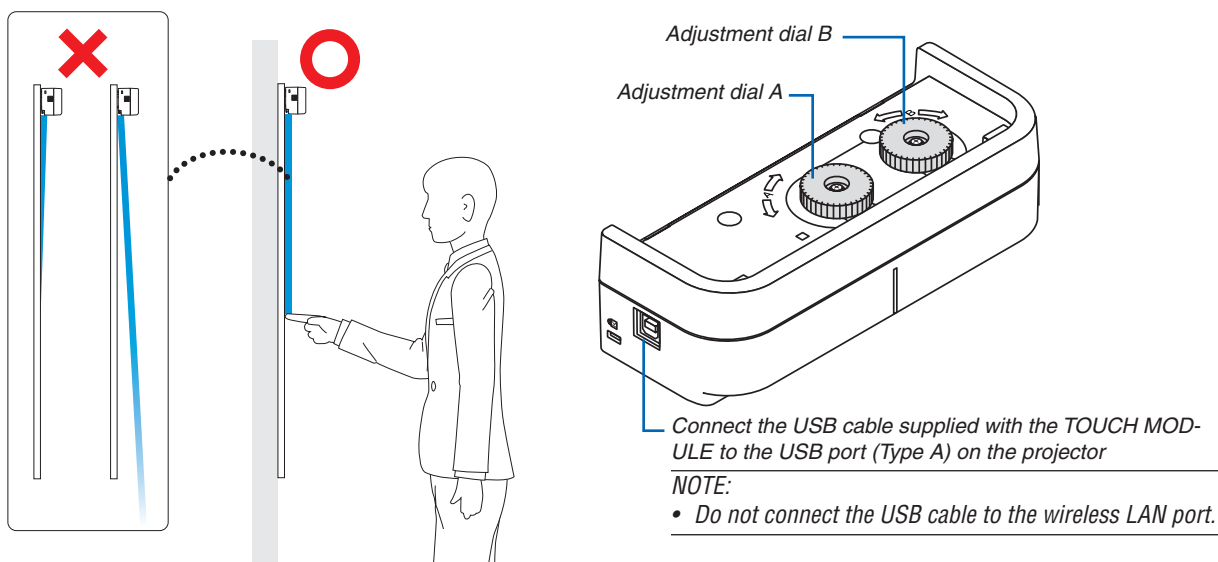
- While the remote pen is available, the operations by a computer mouse can be performed by the stylus pen but the operations on the projector [APPS MENU] and the [WHITEBOARD] cannot be performed by the stylus pen.

Touch Module Adjustment (For using the Touch Module sold separately)

Mount the Touch Module at the top of the screen according to the installation manual supplied with the Touch Module. Then adjust the Touch module to emit the infrared light parallel to the screen surface. Remove the dial cover on the Touch Module and adjust the two dials in the following procedures:

NOTE:

- Make sure to perform the calibration before the Touch Module Adjustment.
- In the case [MANUAL CALIBRATION] will be performed when a check mark is placed to [TOUCH MODULE], automatic calibration will be performed first.
- The drawing accuracy may be worse caused on affection of the ambient conditions such as temperature. It is recommended to perform calibration for the Touch Module periodically. From the second time of calibration, you can skip the adjustment of dial A at Step 3 and dial B at Step 4. When you skip these steps, touch the "Continue" on each adjustment menu.
- The drawing line may become disconnected if the infrared light emitted from the Touch Module strikes a part of your hand before striking your fingertip.




1. Remove the dial cover of the Touch Module.

2. Set the focus to [TOUCH MODULE] on the pen setting screen and then press the [ENTER] button.

The TOUCH MODULE adjustment screen will be displayed on.

3. Adjustment by the adjustment dial A on the Touch Module.

(1) Select the evenness of the surface on the screen.

		Accuracy of touch operation
Even	Select when the screen unevenness is within the flatness 3 mm.	 good poor
Moderate	Select when the screen unevenness is within the flatness 5 mm.	
Uneven	Select when the screen unevenness is within the flatness 8 mm.	

(2) Select the distance from the touch module to the blue dot on the screen.

If you change the setting, the blue dot position will move upward or downward. For using the small screen, select the [FAR]. For using the large screen, select the [CLOSE].

(3) Turn the adjustment dial A counterclockwise until its turn end.

(4) Touch the blue dot at the bottom of the screen by a finger.

Adjustment value will be displayed.

If the value is not displayed, holding to touch the blue dot and turn the adjustment dial A clockwise until the value is displayed.

(5) Holding to touch the blue dot, turn the adjustment dial A clockwise until the value gets close to 100%.

When the position is adjusted optimally, the blue dot will turn into green.

(6) Focus on [CONTINUE] and press [ENTER].

Go to the next step.

4. Adjustment by the adjustment dial B on the Touch Module.

(1) Turn the adjustment dial B counterclockwise by its turn end.

(2) Touch the blue dot at the bottom of the screen by a finger..

Adjustment value will be displayed..

(3) Holding to touch the blue dot, turn the adjustment dial B clockwise until the value gets close to 100%.

When the position is adjusted optimally, the blue dot will turn green.

(4) Focus on [CONTINUE] and press [ENTER].

Go to the next step.

5. Calibrate the position to touch.

(1) Touch the nine dots on the screen for 1 to 2 seconds until all of them turn into green.

The calibration menu will be displayed.

The adjustment of the touch module is completed.

NOTE:

- If you cannot obtain accurate drawing by the finger touch operation, please repeat the Touch Module adjustment.

SENSOR VIEWER

Display a photograph taken by the built-in camera on the whole screen. If whitish area is found on the displayed screen, it means the illumination and/or external light may influence the stylus pen performance. For getting rid of such influence, take an appropriate measure as turning off the illumination, closing the curtain, or changing the projector installation place, etc.

By pressing the ENTER button, two screen displays are switched each other, one is the light influence detection screen and another is the photograph screen taken by the built-in camera as it is.

Press the EXIT button to exit the SENSOR VIEWER.

Troubleshooting

State	Please check
The Stylus pen does not work	<ul style="list-style-type: none"> • Are you using the stylus pen in one of the following environment? <ul style="list-style-type: none"> - If direct sunlight strikes the screen surface and/or camera unit, change the installation place where it is not exposed to direct sunlight. - If light of a halogen and/or a filament lamp strikes the screen surface and/or camera unit, change the installing direction of the screen and/or camera unit, or block off lamp light. - If light from outside including reflected light hits on the screen and/or camera unit, change the installing direction of the screen and/or camera unit, or block off light. - Do not use a screen whose material of frame reflects light. • Does the stylus pen have proper charge? <ul style="list-style-type: none"> - If pressing the pen tip will not turn LED to red, charge the stylus pen. • Is the screen size and usage temperature within appropriate range? <ul style="list-style-type: none"> Use a screen within the effective range. Use the stylus pen within a temperature range of 5° to 40°C (41° to 104°F). • Is the lens of the camera unit soiled? <ul style="list-style-type: none"> If the lens is soiled, wipe it with a soft, dry, non-fluffy cloth. • Is anyone around using infrared remote? <ul style="list-style-type: none"> - The stylus pen may not work properly.
Lines drawn with the stylus pen do not match screen	<ul style="list-style-type: none"> • Has the sensor been properly calibrated? • If you cannot solve the problem by the automatic calibration, try to perform the manual calibration. • Since images are obtained by the camera, drawn lines may be interrupted and shifted if an obstruction as a finger stays between the camera and the pen.
Touch operation	<ul style="list-style-type: none"> • Please refer the installation manual of the Touch Module sold separately.
The APPS menu malfunctions	<ul style="list-style-type: none"> • Confirm if a check mark is remained for enabling a mouse in the mouse setting. <ul style="list-style-type: none"> - If the stylus pen is used when a mouse is enabled state, the APPS menu may malfunction. Clear a check mark in the mouse setting and restart the projector.

10-2. MOUSE

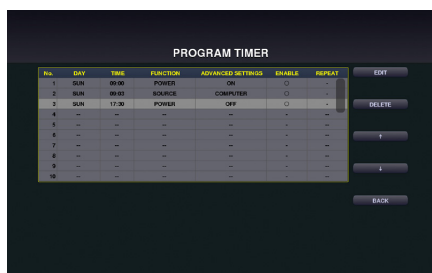
When this device is connected to a USB mouse sold commercially, the menu can be operated using the mouse. The configuration of the mouse is as follows:

Item	Description	Remarks
Mouse	If a check mark is marked, it enables to use the mouse connected with the projector from the next start.	–
Button setting	Switch the functions of the left and right buttons on the mouse.	–
Speed setting	Select the pointer speed reflecting mouse motion among three levels.	–

NOTE:

- If the stylus pen is used when a mouse is enabled state, the APPS menu may malfunction. Make sure to clear a check mark in the mouse setting.

10-3. PROGRAM TIMER



By setting day and time onto the projector, it enables the projector to automatically switch the power, the condition of standby, the video signal and the condition of ECO mode. As an example based on the above, every Sunday projector is powered on at 9 AM, is switched to the computer display at 9:03 and is gone into the Standby condition at 17:30.

NOTE:

- Before using [PROGRAM TIMER], make sure that the [DATE AND TIME] feature is set. (→ page 45)
Make sure that the projector is in the standby condition with the POWER cord connected.
If the projector leaves for over two weeks without the power supply, the set date and time will be reset to the factory default setting and the program timer function will become ineffective. When the program timer function becomes ineffective, set "Date and time" again.
- * For utilizing the program timer, set [NETWORK STANDBY] for [STANDBY MODE].

Setting a new program timer

1. On the PROGRAM TIMER screen, use the ▲ or ▼ button to select [EDIT] and press the ENTER button.

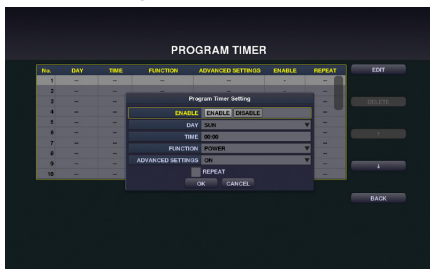


The [PROGRAM LIST] screen will be displayed.

2. Focus on a blank program number and press the ENTER button.

The [EDIT] screen will be displayed.

3. Make settings for each item as required.



ENABLE Select to enable or disable the event.

DAY..... Select days of the week for the program timer. To execute the program from Monday to Friday, select [MON-FRI].

To execute the program in everyday basis, select [EVERY DAY].

TIME Set the time to execute the program. Enter time in 24-hour notation.

FUNCTION Select a function to be executed. When [POWER] is selected, you can set powering ON/OFF at [ADVANCED SETTINGS], when [SOURCE] is selected, you can set video signal at [ADVANCED SETTINGS] and when [ECO] is selected, you can set [OFF]/[AUTO ECO]/[NORMAL]/[ECO] for ECO mode at [ADVANCED SETTINGS].

USB/B terminal is not available as the input terminal of the Program Timer.

ADVANCED SETTINGS.. Select power on/off, a type of video source, or ECO MODE for the selected item in [FUNCTION].

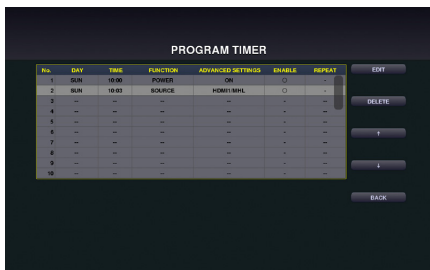
REPEAT..... Place a check mark to repeat the program continuing basis. To use the program this week only, clear the check mark.

4. Focus on [OK] and press the ENTER button.

This will complete the settings.

You will be returned to the [PROGRAM LIST] screen.

5. Focus on [BACK] and press the ENTER button.



You will be returned to the [PROGRAM TIMER] screen.

6. Focus on [OK] and press the ENTER button.

You will be returned to the [TOOLS] screen.

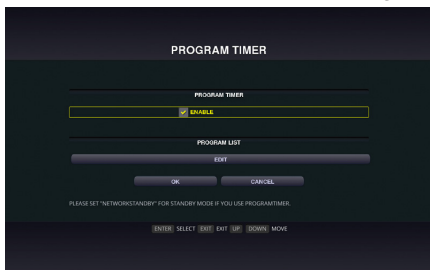
NOTE:

- Up to 30 different timer settings can be programmed.
- Once the program not marked with a check in [REPEAT] has been executed, the check mark in the [ACTIVE] check box will be cleared automatically and the program will be disabled.
- If several programs are set at the same time, these programs are executed in order of the program list number.
- The on-time setting will not be executed while the cooling fans are running or an error is occurring.
- If the off-time setting is expired under the condition in which the power off is not possible, the off-timer setting will not be executed until the power off becomes possible.
- Programs not marked with a check mark in [ACTIVE] of the [EDIT] screen will not be executed even if ENABLE for the Program Timer is not activated.
- When the projector is turned on by using the program timer and if you want to turn off the projector, set the off-time or do it manually so as not to leave the projector on for a long period of time.

Activating the program timer

1. Focus on [ENABLE] at the top of the [PROGRAM TIMER] screen and press the ENTER button.

The check mark is added to the program list.



NOTE:

- The program will not be executed without adding a check mark “√” to ENABLE for the program timer even when a check mark is added for the program list.
- Even a check mark is added for the effective setting of [PROGRAM TIMER], the [PROGRAM TIMER] will not work until the [PROGRAM TIMER] screen is not closed.

Changing the programmed settings

1. On the [PROGRAM LIST] screen, focus on a program you want to edit and press the ENTER button.
2. Change the settings on the [EDIT] screen.
3. Focus on [OK] and press the ENTER button.

The programmed settings will be changed.

You will be returned to the [PROGRAM LIST] screen.

Changing the order of programs

When set time is come, the program will be executed in order of program list number (smaller first)

1. On the [PROGRAM LIST] screen, focus on a program you want to change and press the ► button.
2. Press the ▼ button to select ↑ or ↓.
3. Press the ENTER button a few times to select a row to which you wish to move the program.

The order of the programs will be changed.

Deleting the programs

1. On the [PROGRAM LIST] screen, focus on a program number you want to delete and press the ► button.
2. Press the ▼ button to focus on [DELETE].
The confirmation screen will be displayed.
3. Focus on [DELETE] and press the ENTER button.

The program will be deleted.

This will complete deleting the program.

10-4. DATE AND TIME

Set the current date and time in this device.

Item	Description	Remarks
Time zone settings	Set the time difference with UTC (Universal Time, Coordinated) and the region where this device is used.	The default value is "+00:00". When using the device in Japan, set it to "+09:00".
Date and time settings	Set the current date and time. Synchronize with the NTP server on the network and put a check mark in "Internet Time Server" to obtain the correct time. Then enter the IP address or host name of the NTP server to perform updating. The default date is "01/01/2015" (Thurs). The default time is "00:00".	
Summer time setting	Set summer time. When Enable is checked, summer time is enabled. Set the various time differences and the start and end of summer time.	

Important:

- For utilizing the clock function of this device, leave the device in the standby mode when it is not in use. If the projector leaves for over two weeks without the power supply, the set date and time will be reset to the factory default setting and the clock function will become ineffective. When the clock function becomes ineffective, set "Date and time" again.

NOTE:

- If date and time is reset around the timing of starting or finishing Summer time, Summer time setting may not become effective properly. In case date and time is required to reset, perform the settings in order of TIME ZONE → DATE AND TIME SETTING → SUMMER TIME.

10-5. ADMINISTRATOR MODE

Select the menu mode of this device, enable/disable the saving of settings of the entire projector, and configure the password setting in the administrator mode.

Item	Description	Remarks
Menu mode	Select the basic menu or advanced menu. See the user's manual of the projector for the items that can be used in the respective menus.	
Do not save the settings	Put a check mark if you are not saving the value of the configured item in the on-screen menu.	No check mark as the factory default setting.
New password / Confirm new password	Set the password in the administrator mode.	A maximum of 10 alphanumeric characters.

10-6. DEFAULT APP

Omit to display the application menu and select the start-up function either when the APPS button on the remote control is pressed, or [APPS] is selected as the input terminal on the onscreen menu.

Item	Description	Remarks
Default application	When the projector is turned on under the condition of being selected the "APPS" terminal, the functions set up as the default APP will be started automatically.	The default factory setting is "APPS MENU".

Trademarks

- OS X and Safari are trademarks of Apple Inc. registered in the U.S. and other countries.
- iOS is a trademark or registered trademark of Cisco in the U.S. and other countries and is used under license.
- APP Store is a service mark of Apple Inc.
- Internet Explorer is either a registered trademark or trademark of Microsoft Corporation in the United States and/or other countries.
- Trademark PJLink is a trademark applied for trademark rights in Japan, the United States of America and other countries and areas.
- Wi-Fi®, Wi-Fi Alliance®, Wi-Fi Protected Access®, Wi-Fi Direct® are registered trademarks of the Wi-Fi Alliance®. WPA™, WPA2™, Wi-Fi Protected Setup™, Miracast™ are trademarks of the Wi-Fi Alliance®.
- CRESTRON and ROOMVIEW are registered trademarks of Crestron Electronics, Inc. in the United States and other countries.
- Android, Google Play, and Chrome are trademarks of Google Inc.
- Other product names and company logos mentioned in this user's manual may be the trademarks or registered trademarks of their respective holders.