OMRON

Programmable Terminal NA•NB-series

Practices Guide
HMI Remote Viewer

NA5-15[]101[]
NA5-12[]101[]
NA5-9[]001[]
NA5-7[]001[]
NB10W-TW0[]B
NB7W-TW[][]B
NB5Q-TW0[]B
NB3Q-TW0[]B

SYSMAC
always in control

V430-E1-02

■ Introduction

This guide provides reference information when using HMI Remote Viewer. It does not provide safety information.

Be sure to obtain the NA·NB-series Programmable Terminal User's Manuals, read and understand the safety points and other information required for use, and test sufficiently before actually using the equipment.

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1 Related Manuals

The following manuals are related to this manual.

Cat.No.	Model	Manual Name
W501	NX701-□□□□/ NX102-□□□□/ NX1P2-□□□□□□/ NJ501-□□□□/NJ301-□□□□/ NJ101-□□□□	NJ/NX-series CPU Unit Software User's Manual
W506	NX701-□□□□/ NX701-□□□□/ NX1P2-□□□□□□/ NJ501-□□□□/NJ301-□□□□/ NJ101-□□□□	NJ/NX-series CPU Unit Built-in EtherNet/IP™ Port User's Manual
W504	SYSMAC-SE2□□□	Sysmac Studio Version 1 Operation Manual
W502	NX701-□□□□/ NX701-□□□□/ NX1P2-□□□□□□/ NJ501-□□□□/NJ301-□□□□/ NJ101-□□□□	NJ/NX-series Instructions Reference Manual
V118	NA5-15W□□□□ NA5-12W□□□□ NA5-9W□□□□ NA5-7W□□□□	NA-series Programmable Terminal Software User's Manual
V119	NA5-15W□□□□ NA5-12W□□□□ NA5-9W□□□□ NA5-7W□□□□	NA-series Programmable Terminal Device Connection User's Manual
V120	NA5-15W□□□□ NA5-12W□□□□ NA5-9W□□□□ NA5-7W□□□□	NA-series Programmable Terminal Startup Guide
N153	WE70-AP WE70-CL	WE70-AP/CL FA Wireless LAN Unit Operation Manual
0969584-7	W4S1-03B W4S1-05B W4S1-05C	[Instruction Sheet] W4S1 Switching Hub (ENG/JPN)
V109	NB-10W-TW0□B NB7W-TW□□B NB5Q-TW0□B NB3Q-TW0□B	NB-series Programmable Terminals Startup Guide Manual
V107	NB-10W-TW0□B NB7W-TW□□B NB5Q-TW0□B NB3Q-TW0□B	NB-series Programmable Terminals Setup Manual
V106	NB-10W-TW0□B NB7W-TW□□B NB5Q-TW0□B NB3Q-TW0□B	NB-series Programmable Terminals NB-Designer Operation Manual

2 Precautions

(1) When building an actual system, check the specifications of the component devices of the system, use within the ratings and specified performance, and implement safety measures such as safety circuits to minimize the possibility of an accident.
(2) For safe use of the system, obtain the manuals of the component devices of the system and check the information in each manual, including safety precautions, precautions for safe use.
(3) It is the responsibility of the customer to check all laws, regulations, and standards that the system must comply with.
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(5) The information in this guide is current as of April 2018.
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(6) The operation of each design template has been tested using the device configuration indicated in *section 4-1* in this guide. The screen operation after incorporating the template is not guaranteed.

Special information in this document is classified as follows:

Precautions for Safe Use

Indicates precautions on what to do and what not to do to ensure safe usage of the product.

Precautions for Correct Use

Indicates precautions on what to do and what not to do to ensure proper operation and performance.

Additional Information

Additional information to read as required.
This information is provided to increase understanding or make operation easier.

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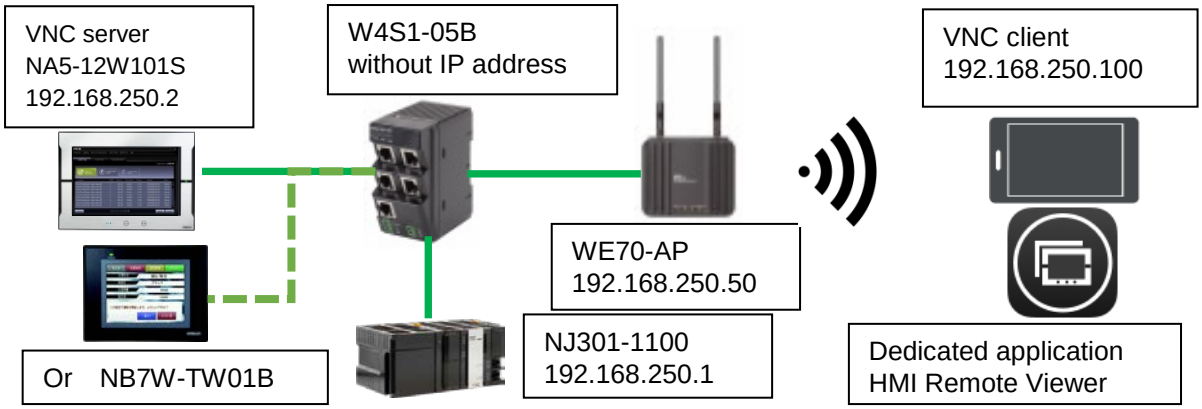
3 Overview of the HMI Remote Viewer

HMI Remote Viewer is an application that provides a remote operation with VNC (Virtual Network Computing) by connecting NA/NB-series to VNC client device including iOS or Android tablet.
This guide describes how to monitor and operate NA/NB screens from a tablet (iOS) using ”3-1 System Configuration”.

3-1 System Configuration

The system configuration to use the HMI Remote Viewer is as follows:.



Manufacturer	Name	Model	IP address
OMRON	CPU Unit	NJ301-1100	192.168.250.1
OMRON	HMI	NA5-12W101S or NB7W-TW01B	192.168.250.2
OMRON	Switching hub	W4S1-05B	-
OMRON	FA-wireless LAN Unit	WE70-AP	192.168.250.50
	iOS device	-	192.168.250.100

Additional Information

As long as IP address is not duplicated, it is not required to set the same IP address as indicated above.

Additional Information

VNC client can also be connected with Personal Computer (PC) software.
Before attempting the connection, you need to confirm whether VNC client can be connected to individual software.

Additional Information

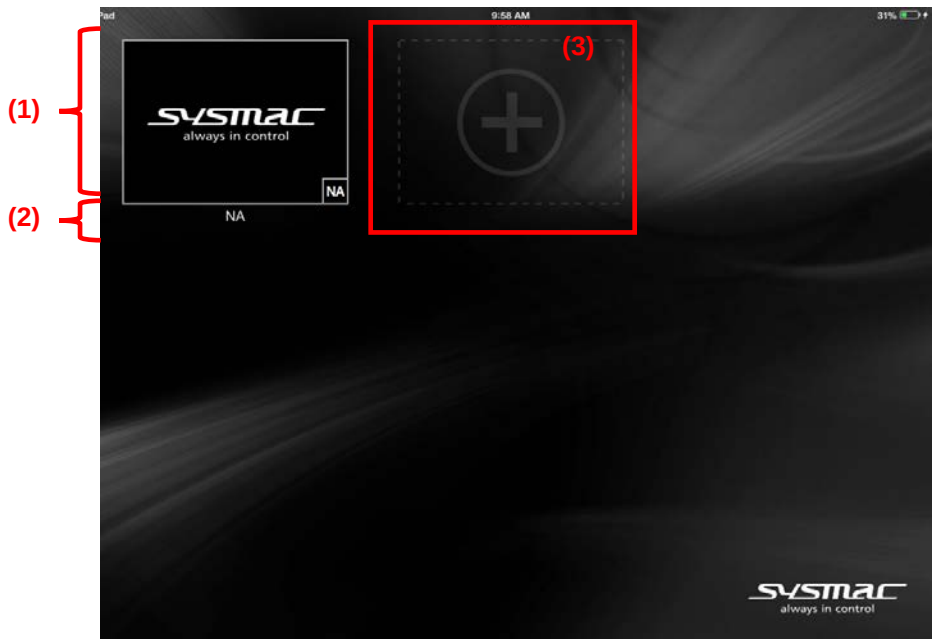
VNC function can be used without connecting the controller.

4 Description of the HMI Remote Viewer Screen

This section describes HMI Remote Viewer screens on the iOS device.

4-1 Initial Screen

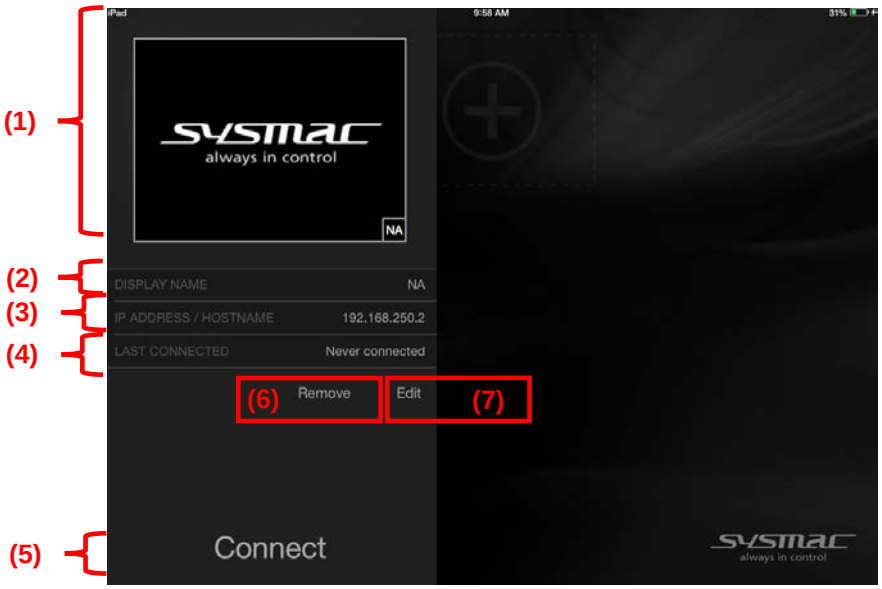
This is the initial screen after starting the HMI Remote Viewer.
A list of the registered NA/NB is displayed on the screen.



No	Name	Description
1	Thumbnail	• Moves to the setup screen by pressing a thumbnail. • Displays screens at a time when VNC was disconnected in thumbnail view. • Displays a Sysmac logo if no connection has been made.
2	Display name	• Sets any device name. • Displays an IP address if no name is set.
3	“+” button	• Sets a new screen by pressing this button.

4-2 Setup Screen

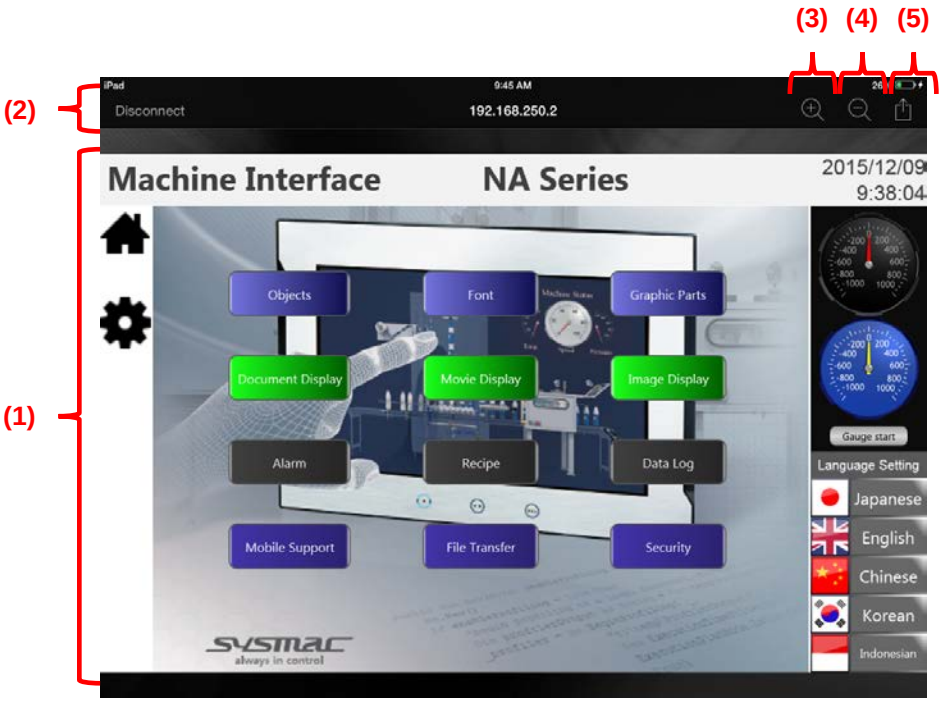
This screen sets devices to be connected.



No	Name	Description
1	Thumbnail	• Displays screens at a time when VNC was disconnected in thumbnail view. • Displays a Sysmac logo if no connection has been made.
2	Display name	• Displays a screen name. • Displays a name under the thumbnail on the initial screen. • Displays an IP address under the thumbnail on the initial screen if no name is set.
3	IP/ Host	• Displays an IP address to be connected.
4	Last connected	• Displays the data and time when VNC was most recently connected.
5	“Connect” button	• Connects VNC to the NA/NB with the current setting by pressing this button.
6	“Remove” button	• Clears the current setting by pressing this button. • The cleared screen will not be displayed on the initial screen.
7	“Edit” button	• Edits each setting by pressing this button.

4-3 Display and Operation Screens

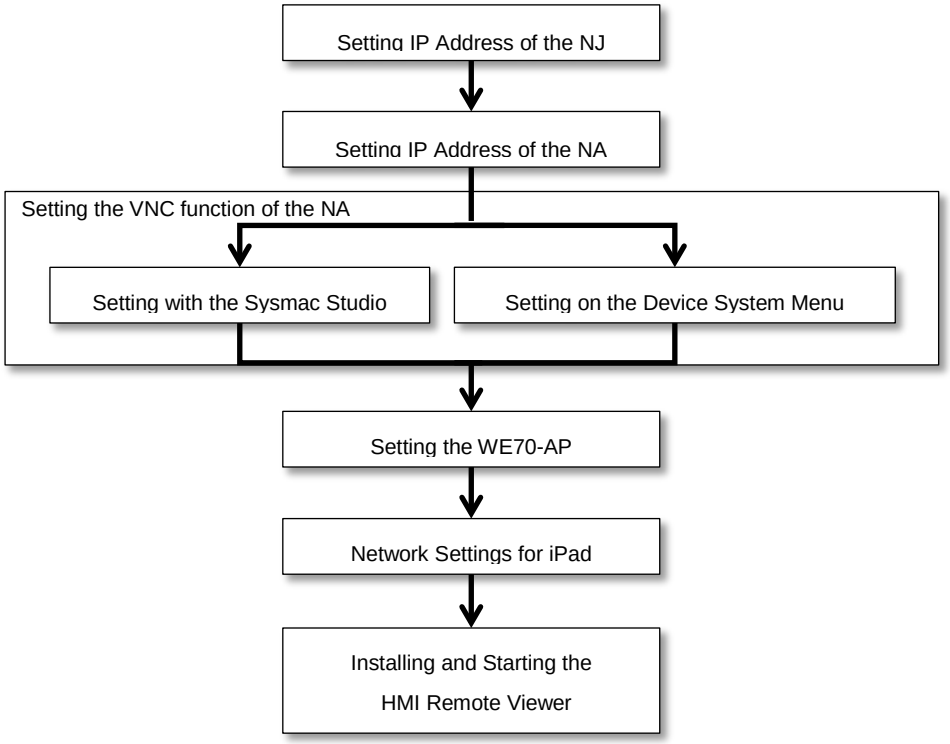
This screen displays and operates NA/NB screens.



No	Name	Description
1	Operation screen	• Displays the connected NA/NB screen. • Operation is also available from a tablet.
2	“Disconnect” button	• Disconnects VNC to the connected NA/NB. • Moves to the setup screen after disconnecting VNC .
3	“Zoom in” button	• Zoom in the current view.
4	“Zoom out” button	• Zoom out the current view.
5	“Share” button	• Performs the “Share” function provided by Apple.

5 Setting Procedures

To “install the HMI Remote Viewer to an iOS device” and “perform VNC to the NA”, the following procedure is required.



The required settings and procedures to perform VNC connection between the iOS device and NA are described in the following pages.

Additional Information

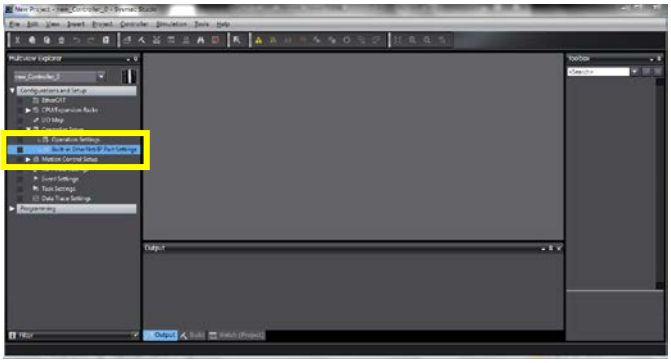
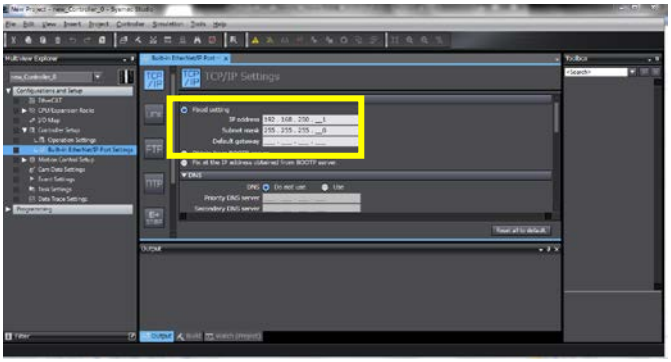
To use VNC connection, setting for NJ is not necessarily required.

Additional Information

When connecting to NB-series, the same procedure is used; however, replace the statement “Setting IP Address of the NA” with “Setting IP Address of the NB”.

6 Setting IP Address of the NJ

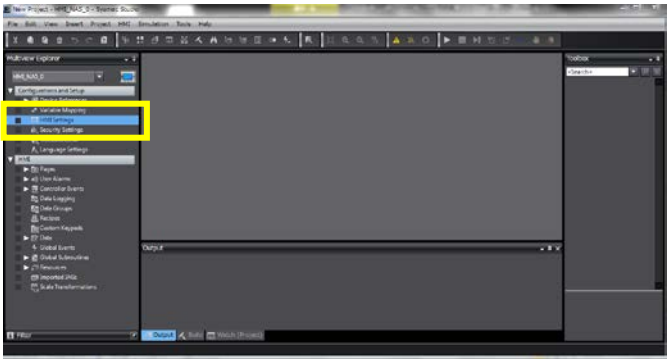
Perform the following procedure to set an IP address of the NJ.

1. Select [Multiview Explorer]->[Configurations and Setup]->[Controller Setup]->[Built-in EtherNet/IP Port Settings] on the NJ project. Double-click (or right-click-> Edit) to open the ”Built-in EtherNet/IP Port Settings” table.	
2. Set the IP address and subnet mask as follows; IP address：192.168.250.1 Subnet mask：255.255.255.0	
3. Transfer the project to the NJ.	

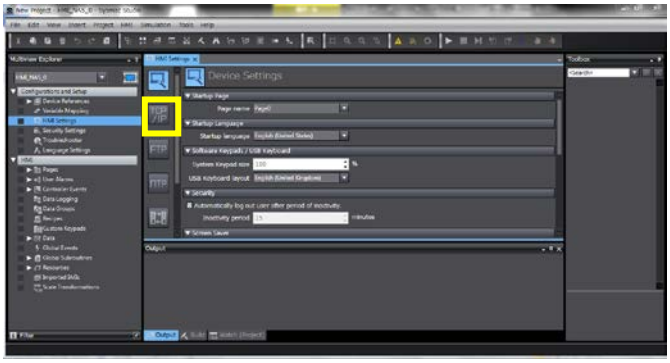
7 Setting IP Address of the NA

Perform the following procedure to set an IP address of the NA.

1. Select [Multiview Explorer]->[Configurations and Setup]->[HMI Settings] on the NA project.
   Double-click (or right-click-> Edit) to open the ”HMI Settings” table.

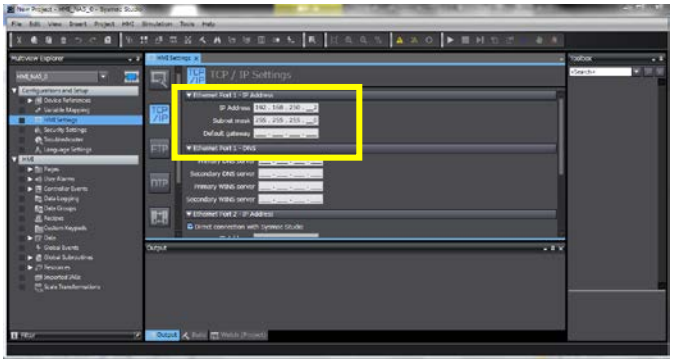


2. Select the TCP/IP icon on the “HMI Settings” table.



3. Set the IP address and subnet mask of Ethernet port 1 as follows;

   IP address：192.168.250.2
   Subnet mask：255.255.255.0



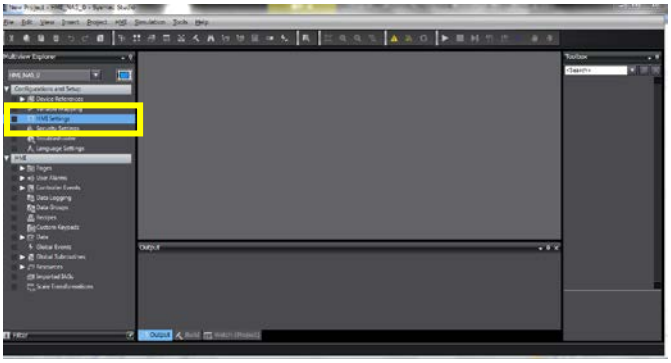
8 Setting VNC for the NA

To publish the displayed NA screen, VNC server must be enabled.
How to enable VNC server is described below.
This setting can be made either by HMI Settings from the Sysmac Studio or from the Device System Menu of the NA.

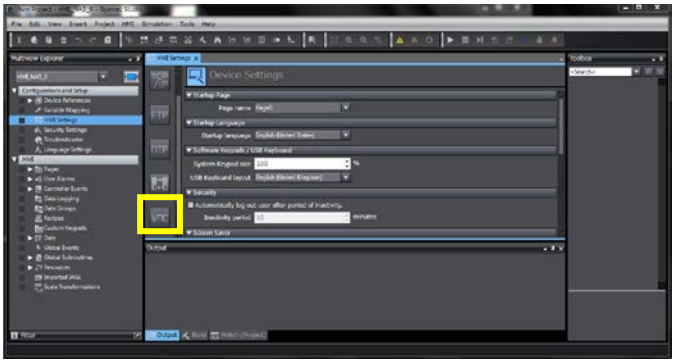
8-1 Setting with the Sysmac Studio

Perform the following procedure to enables VNC function with the Sysmac Studio.

1. Select [Multiview Explorer]->[Configurations and Setup]->[HMI Settings] on the NA project. Double-click (or right-click-> Edit) to open the ”HMI Settings” table.

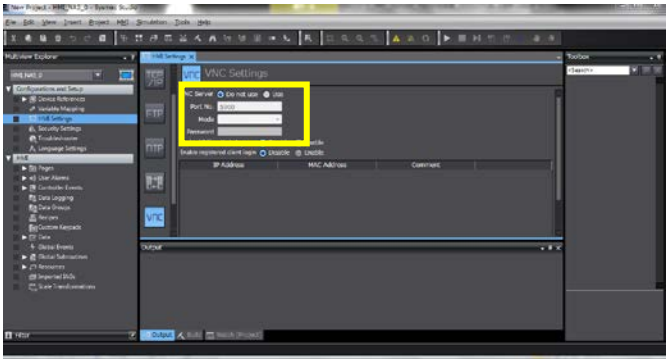


2. Select the icon on the “HMI Settings” table.



3. Select [Use] for [VNC Server] and set as follows;

   VNC：Use
   Port No.：5900 (default)
   Mode：Choose from ”View Only” or “View and Operate”.
   Password：must be set (5 to 8 alphanumeric characters long)

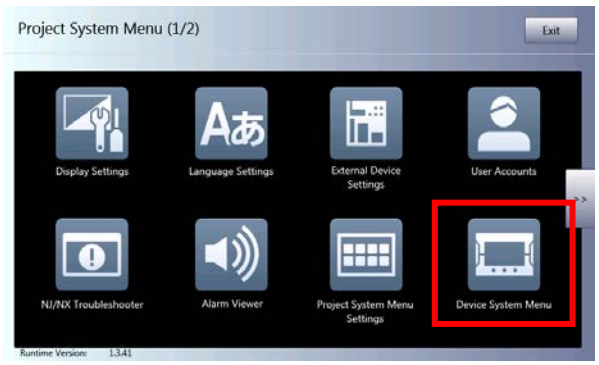


4. Transfer the project to the NA.

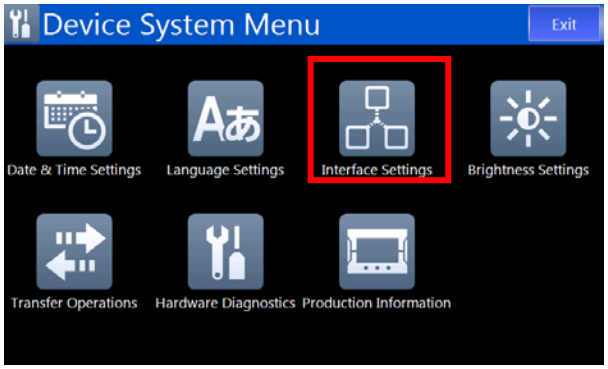
8-2 Setting from the Device System Menu of the NA

Perform the following procedure to enables VNC function on the Device System Menu while NA is in operation.

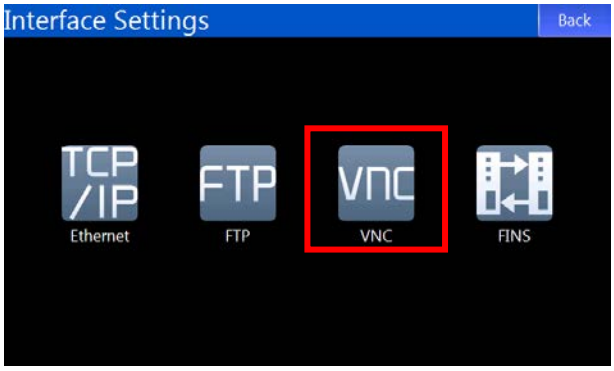
1. Start the NA and select “Device System Menu” on the “Project System Menu” screen.



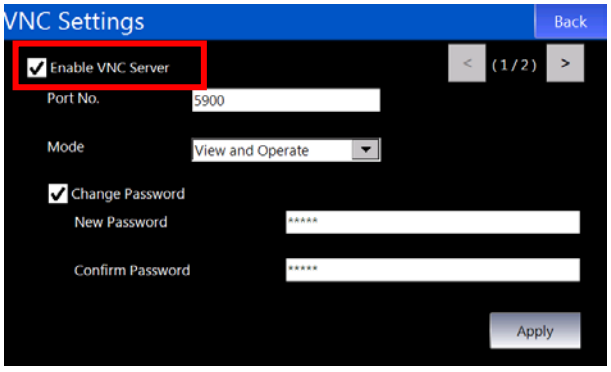
2. Select “Interface Settings”.



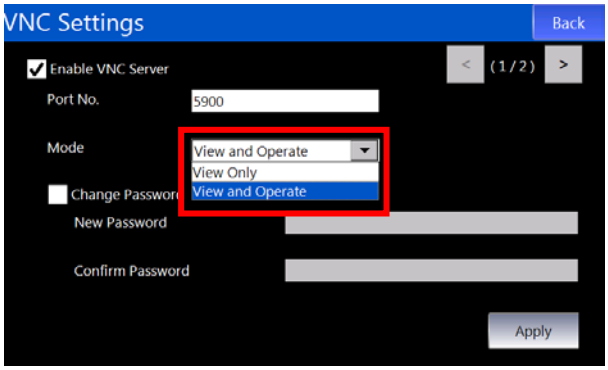
3. Select “VNC”.



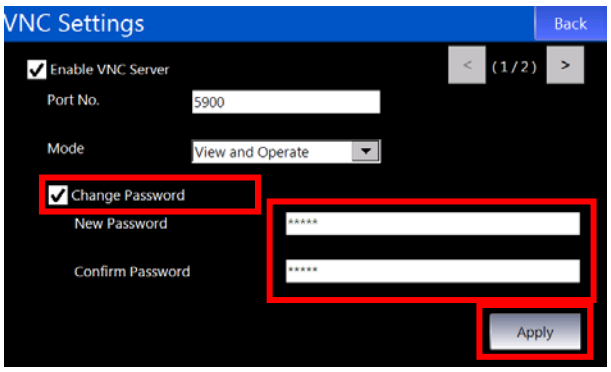
4. Select “Enable VNC Server”, which allows you to set the VNC function.



5. Select either of “View Only” or “View and Operate” from the “Mode” pull-down menu.



6. Select “Change Password”, set a new password (5 to 8 alphanumeric characters long), and click the “Apply” button.



9 Setting the WE70-AP

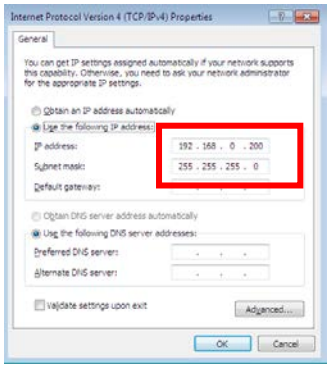
A Wifi router is required to connect to an iOS device with Ethernet communications.
Perform the following procedure to connect the NA-series to an iOS device using OMRON “WE70-AP”.

1. Connect the WE70-AP to a PC with an Ethernet cable, and turn on the WE70-AP.

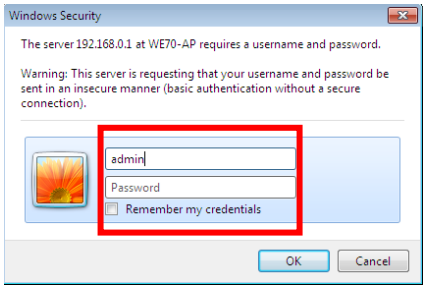
2. Set the IP address and subnet mask of the PC as follows;

   IP address：192.168.0.200
   Subnet mask：255.255.255.0

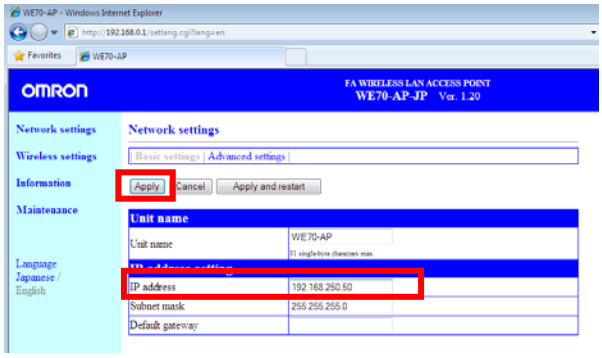
   * The above is just an example. You can set any IP address and subnet mask as long as they are not duplicated among other devices.



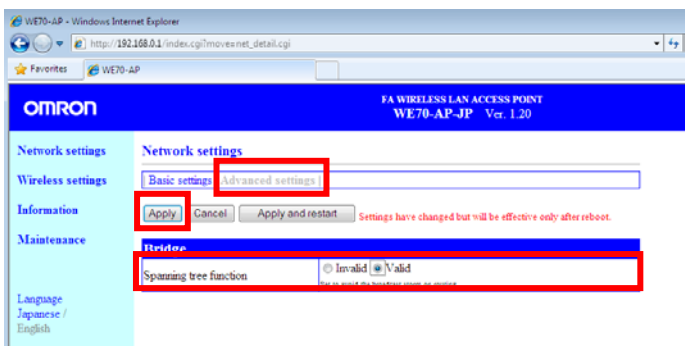
3. Start the Web browser and enter http://192.168.0.1 (default IP address of WE70-AP) on the address bar. A dialog on the right is displayed.
   Set “admin” for the user name and leave the password box blank, and press the ”OK” button.



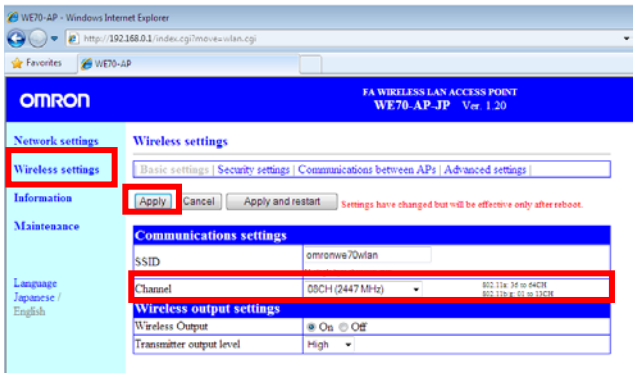
4. The ”Network settings” screen is displayed on the browser.
   Set ”192.168.250.50” to the IP address and click the ”Apply” button.



5. Click “Advanced settings” to open. Select “Valid” for “Spanning tree function” and click the ”Apply” button.

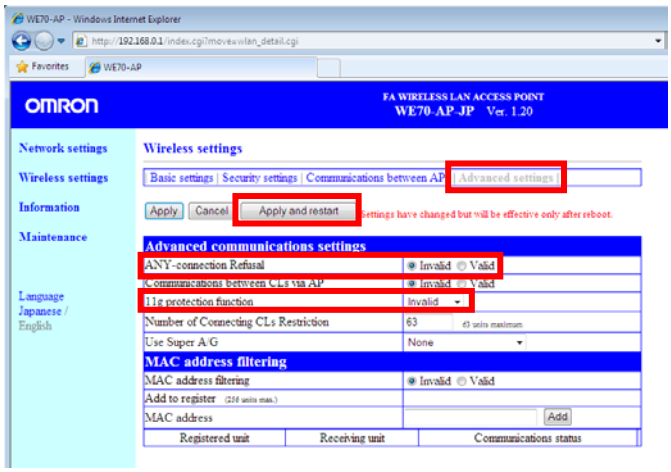


6. Click “Wireless settings” to open. Set ”08CH(2447 MHz)” to “Channel”, and click the ”Apply” button.



7. Click “Advanced settings” to open. Set “Invalid” to “ANY- connection Refusal”, set “Invalid” to ”11g protection function”, and click the ”Apply and restart” button.

   This ends the setting of the WE70-AP.



Additional Information

For how to wire and install the WE70-AP, refer to “WE70-AP/CL FA Wireless LAN Unit Operation Manual (Cat. No. N153)”.

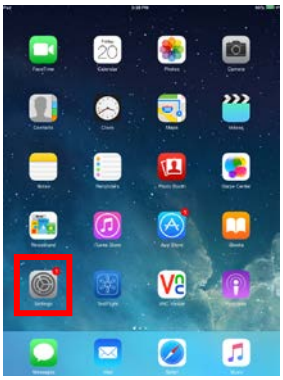
Additional Information

After restart, IP address of the WE70-AP will be changed.
Accordingly, set”192.168.250.50” to the IP address of the web browser when using the web browser again to set the WE70-AP.

10 Network Setting for iOS Device

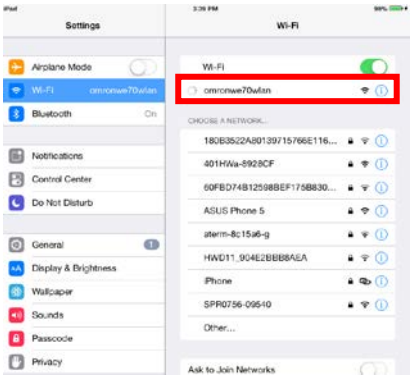
To connect VNC to the NA using the HMI Remote Viewer, network setting for iOS is required.
Perform the following procedure to set the iOS device network.

1. Start the iOS device. Touch ”Settings” on the home screen.



2. Touch “Wi-Fi” to display the setting screen for Wi-Fi.
Enable Wi-Fi, and select a network name for the WE70-AP (default is “omronwe70wlan”).

3. Touch “omronwe70wlan” to open the network setting.



4. Set the network setting to ”Static” and set the IP address and subnet mask as follows;

IP address：192.168.250.100
Subnet mask：255.255.255.0

11 Installing and Starting the HMI Remote Viewer

HMI Remote Viewer is the dedicated application that monitors and operates NA/NB screens, which is a VNC server.
The following procedure describes steps from “starting the HMI Remote Viewer” to “connecting the NA-series with VNC connection”.

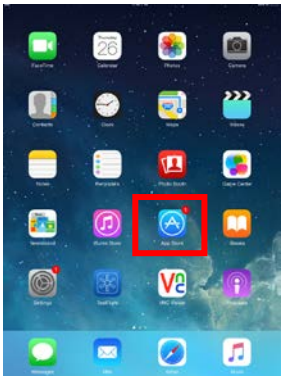
HMI Remote Viewer of iOS version can be installed from App Store, and Android version can be installed on Google Play for free of charge, respectively.

Download on the App Store GET IT ON Google Play

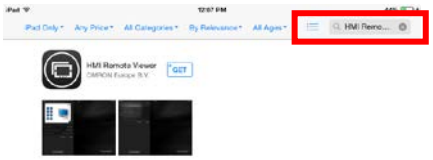
11-1 Installing the HMI Remote Viewer

Perform the following procedure to install HMI Remote Viewer to the iOS device.

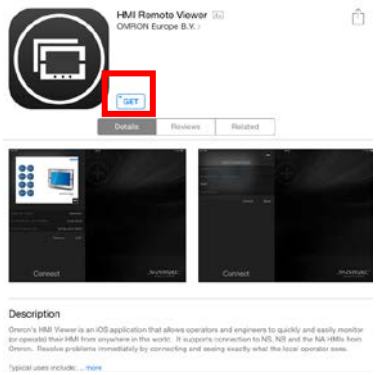
1. Start the iOS device. Touch ”App Store” on the home screen.



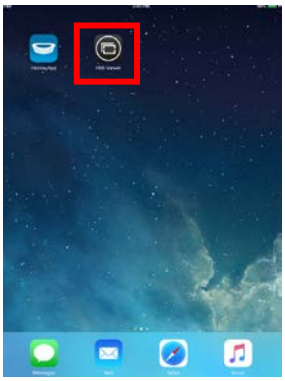
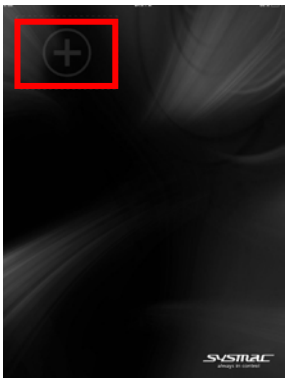
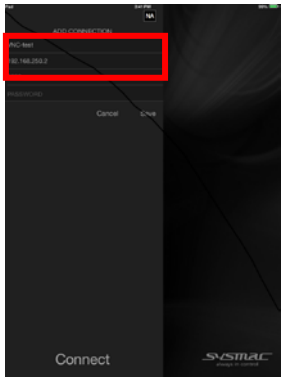
2. Touch the search box and enter ”HMI Remote Viewer”.



3. Install the HMI Remote Viewer.



11-2 Starting the HMI Remote Viewer

1. After the HMI Remote Viewer is installed, ”HMI Viewer” is added on the home screen. Touch ”HMI Viewer” to start the HMI Remote Viewer.	
2. Touch on the initial screen of the HMI Remote Viewer.	
3. Set ”VNC-test (desired name)” to “Display name”, set “192.168.250.2 (IP address of the NA)” to ”IP/ Host”, and touch ”Save”.	
4. Touch “Connect”.	

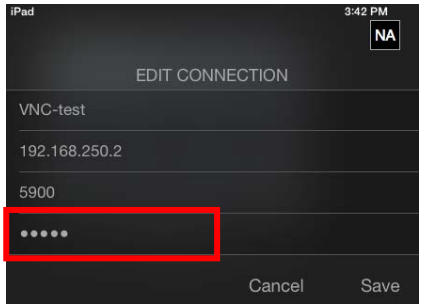
5. Enter the password that you set for the VNC settings of the NA, and touch”OK”.

6. NA screen is displayed on the iOS device. Make sure that the screen is operational.

7. To disconnect the VNC connection, touch ”Disconnect” shown on the top left of the screen.

Additional Information

If you set a password in step 3 when setting an IP address, the password entry in step 5 can be skipped.



12 How to Operate the HMI Remote Viewer

This section describes how to operate the HMI Remote Viewer on the NA-series during VNC connection.

12-1 Tap Operation

Tapping is a gesture to briefly touch a screen surface with fingertip.
The following explains a tap operation that is available during the VNC connection.

Single tap

Touch the surface once with fingertip. This is the same motion when the NA screen is tapped/ clicked once.
This gesture is used for basic operations, for instance, clicking a button or selecting a list.

Double tap

Rapidly touch the surface twice with fingertip.
This is the same motion when the NA screen is tapped/ clicked twice
This gesture is mainly used to scale up or scale down a trend graph.

By double tapping the graph,

the area will be enlarged.

Long tap Press and hold the surface with fingertip. This is the same motion when the NA screen is pressed and held down. This gesture is mainly used to run a momentary button.	During a long tap, the tapped momentary button is being pressed down.

12-2 Drag Operation

Dragging is a gesture to move fingertip over the surface while the object is being pressed and held down.
The following explains a drag operation during the VNC connection.

1. This is the same motion when dragging an object on the NA screen.
This gesture is used to move a slider or scroll bar.

   Press the object that you want to move.

2. Move fingertip over the surface while the object is being pressed and held down, the object follows the movement of fingertip.

3. Move the object to the desired location and drop it by releasing the fingertip. The object will be placed in the location.

12-3 Flick Operation

Flicking is a gesture to quickly brush the surface with fingertip.
The following explains a flick operation during the VNC connection.

1. Touch the screen and quickly brush the surface with fingertip. This gesture is used to scroll the listed items at once. Touch any location on the screen.	
2. Quickly brush the surface with fingertip in an upward direction, the list will be scrolled down smoothly in a downward direction.	

12-4 Pinch in/Pinch out Operation

Pinching is a gesture to touch the surface with two fingers.
The following explains the pinch in/pinch out operations during the VNC connection.

Pinch out

Touch the surface with two fingers and bring them wider together.
This gesture is used to enlarge the screen.

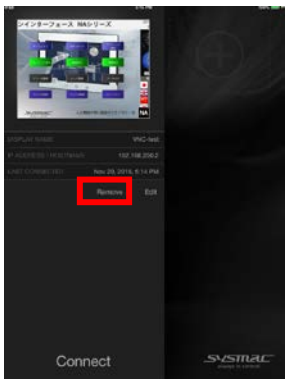
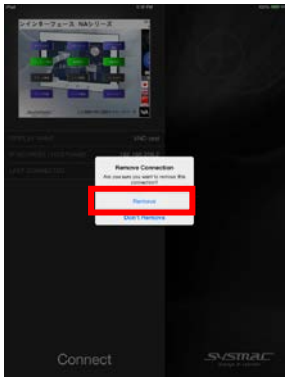
Pinch in

Touch the surface with two fingers and bring them closer together.

This gesture is used to scale down the enlarged screen.
* The screen size cannot be reduced right after the connection.

12-5 Deleting the Registered Screen

The following explains how to delete the screens registered with the HMI Remote Viewer.

1. Touch ”Remove” on the setup screen.	
2. A pop up is displayed. Touch ”Remove”.	
3. The registered screen is deleted.	

13 Setting VNC for the NB

Since the VNC function has been added to NB-Designer V1.46 and later, a remote connection using the HMI Remote Viewer is also supported by NB-series.
How to set VNC function for NB-series is described below.
How to connect the WE70 AP, iOS device, and HMI Remote Viewer is the same as when using NA. Accordingly, for the information, refer to *sections 9 to 11* in this guide.

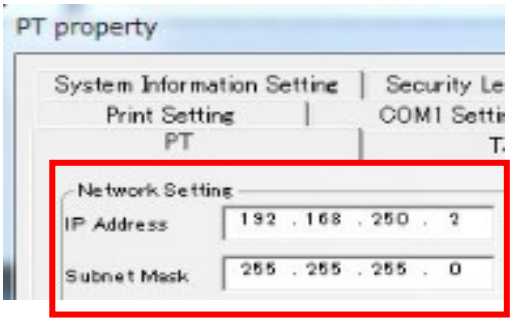
13-1 Setting IP Address and VNC with the NB-Designer

Perform the following procedure to enables IP address and VNC function with the NB-Designer.

1. Double-click the PT placed on the Configurations and Setup window to display PT property.

2. Select the “PT” tab and set the IP address and subnet mask for network setting as follows;

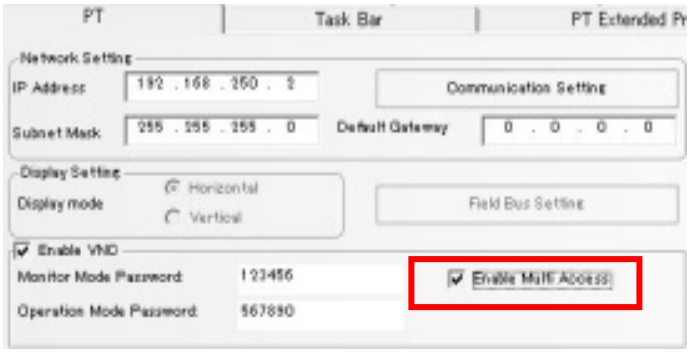
   IP Address：192.168.250.2
   Subnet Mask：255.255.255.0



3. Select “Enable VNC”

4. Set numeric passwords in range from 0 to 4294967295.
(Within the range, no restrictions on the number of digits). A password must be set for monitor mode and operation mode, respectively.
When the same password is set for both modes, the password is set for operation mode.

5. If you want to log-in from multiple clients, select ”Enable Multi Access”.



Precautions for Correct Use

When logging-in from multiple clients with VNC, there is no restriction on the number of devices to be connected simultaneously. However, the response speed of screens may be deteriorated when the number of connected devices increases. Therefore, you need to check acceptable number of devices to be connected in your environment before the connection.

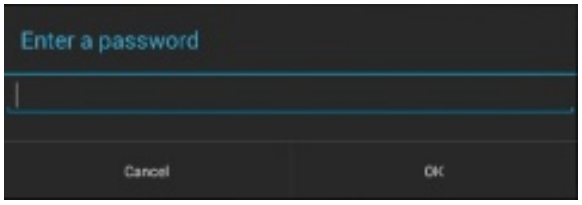
Precautions for Correct Use

You can set values start with 0, such as "001234", as a password on the NB-Designer, however, 0 will be ignored and the password will be set as "1234".
If you enter "001234" when logging- in, an error will occur.

13-2 Starting the HMI Remote Viewer (NB)

Basically, the operation method is the same as *Section 11-2 Starting the HMI Remote Viewer* in this guide. Only the difference is the log-in operation.

1. Start the HMI Remote Viewer and display “Enter a password” screen.
When a monitor mode password is entered, this is operated as monitor mode that enables only monitoring from VNC client.
When an operation mode password is entered, this is operated as operation mode that also enables operation from VNC client.



Revision History

Revision code	Date	Revised content
01	January, 2016	Original production
02	April, 2018	Add some statements since HMI Remote Viewer is newly supported by NB-series.