MITSUBISHI ELECTRIC

CE

Air-conditioner Control System

BM ADAPTER Setting Tool For BAC-HD150

Instruction Book

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Contents

Safety precautions

Before using the BAC-HD150 Setting Tool, read the Safety Precautions section carefully to ensure proper operation.
These safety precautions must be observed by anyone who operates the BAC-HD150 Setting Tool.
Keep the Instruction Book for future reference. Make sure the manual is passed on to any future air condition system users.

⚠ WARNING	This symbol indicates that failure to follow the instructions exactly as stated poses the risk of serious injury or death.
⚠ CAUTION	This symbol indicates that failure to follow the instructions exactly as stated poses the risk of injury or damage to the BAC-HD150 Setting Tool.

Note:
- **Please observe the safety precautions detailed in the installation manuals and operation manuals of the other machines such as computers, peripherals, and air conditioners.**

⚠ WARNING

If any abnormality is noticed (e.g., burning smell), stop the operation, turn off the power supply, and contact your dealer or technical representative immediately.
Continuing the operation may result in damage to the BAC-HD150 Setting Tool, electric shock, or fire.

Read the installation manuals and operation manuals for the computer, peripherals and other machines.
Improper operation could result in fire or damage to the computer or peripherals.

Stop the operation immediately and notify your dealer if the BAC-HD150 Setting Tool does not operate, or when any abnormality is noticed.
Continuing the operation may result in damage to the BAC-HD150 Setting Tool or fire.

Read the Installation Manual and Instruction Book for the air conditioner controller.
Improper operation could result in fire or damage to the air conditioner controller.

⚠ CAUTION

Do not use the BAC-HD150 Setting Tool for specialized applications.
This product is designed exclusively for use with the MITSUBISHI ELECTRIC building air conditioning control system. The use of this product for other purposes may result in malfunction.

Use a security device such as a VPN router when connecting the BAC-HD150 Setting Tool to the Internet to prevent unauthorized access.
If no security devices are installed, the operation settings may be changed by an unauthorized person without the knowledge of the user.

Warning to all users (User Agreement)
MITSUBISHI ELECTRIC shall not be responsible for any damage caused by downloading, installation, or uninstallation of the program.

1. Introduction

This manual explains how to configure BAC-HD150 (Ver. 2.10.00 or later) from the BAC-HD150 Setting Tool Ver. 2.1.0.0 or later (hereafter abbreviated as the Setting Tool). Install the SetBM_ADAPTER program on your computer to use the Setting Tool.

1.1 Terms and screenshots used in the manual

(1) Mouse operation

Placing the cursor on the tab or other items to be selected and tapping the left button of the mouse once is called “click.” Tapping the left button of the mouse twice quickly is called “double-click.”

(2) Screenshots

The screenshots used in this manual are from Windows® XP.

1.2 BAC-HD150 and Setting Tool version compatibility

The table below summarizes the compatibility between BAC-HD150 and the Setting Tool versions.

No.	BAC-HD150 version	BAC-HD150 Setting Tool version	Notes
1	1.00	1.0.0.0	
2	1.01	1.0.0.0	
3	1.02	1.0.1.0	
4	2.00	2.0.0.0	Supports a connection of 150 units
5	2.01.00	2.0.0.0	
6	2.10.00	2.1.0.0	Supports the dual set points function*

* Two types of temperature setting modes are used by indoor unit groups. BAC-HD150 Setting Tool versions Ver. 2.1.0.0 and later allow the control and monitoring of indoor units on the dual set point mode.

[Dual set points]....In this mode, the preset temperature for cooling and heating can be set to different temperatures, and the Setback function is supported. However, the Setback function becomes invalid when indoor units do not support the function.

[Single set point]...In this mode, the same temperature settings are used in both Cooling and Heating modes. (Does not support the Setback function)

1.3 System requirements

The computer that runs the Setting Tool must meet the following requirements.

Specifications	Requirements	Notes
CPU	Pentium 300 MHz or faster	
Memory	Minimum 256 MBytes	
HDD space	Minimum 100 MBytes	
Storage device	CD-ROM drive	For program installation
LAN	1 port (100BASE-TX or 10BASE-T)	
OS	Windows® XP Professional Service Pack 2 or later Windows Vista® Business (32 bit) No service pack Windows® 7 Professional (32, 64 bit) Service Pack 1 or later	Does not support Windows® 8
Microsoft .NET Framework	Ver 2.0 or later	(*1)
Pointing device	Mouse	

***Windows®, Windows Vista®, Windows® 7, Windows® 8, and Microsoft .NET Framework are trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries.**

*1: When using Windows® XP to run the Setting Tool, make sure that “Microsoft .NET Framework” is installed. If not, download and install “Microsoft .NET Framework.”

(1) Refer to “Add or Remove Programs” in section 3.2 “Program uninstallation” for how to find out if “Microsoft .NET Framework” is installed.

Note: Use caution not to delete the program.

(2) Download “Microsoft .NET Framework” from Microsoft's web site at http://www.microsoft.com. Use Microsoft .NET Framework Ver. 2.0 or later.

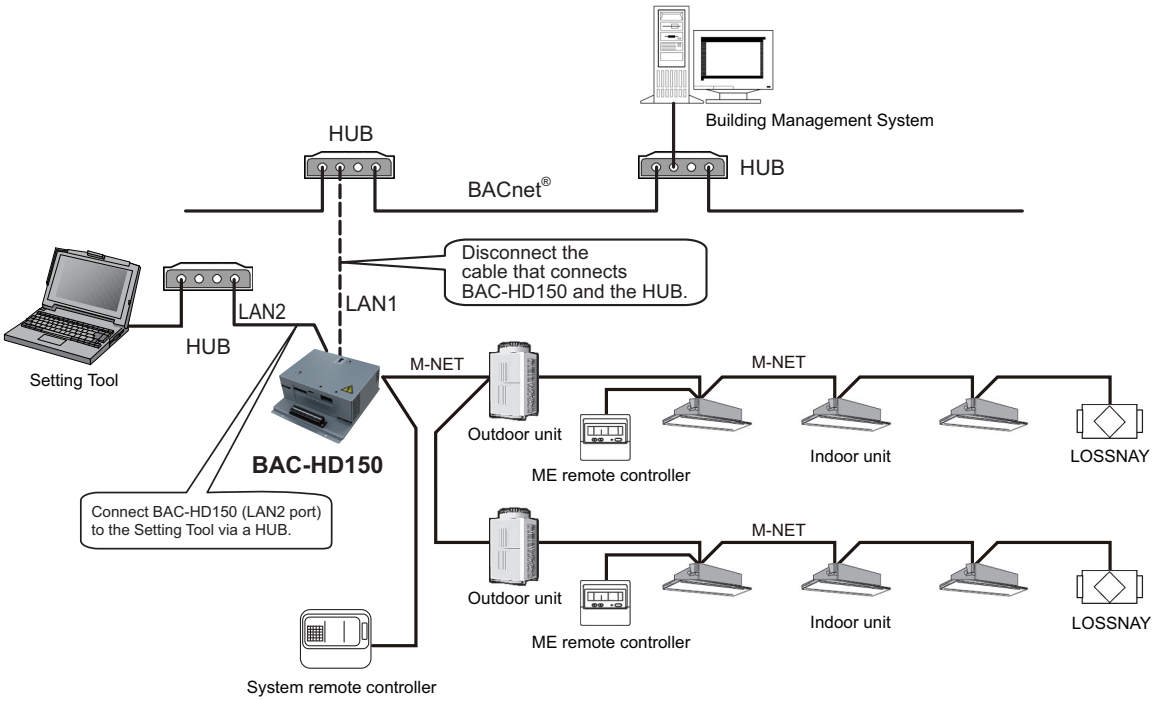
Note: Read the instructions for downloading and installation before proceeding.

1.4 Operating conditions for the Setting Tool

The Setting Tool is connected to the BAC-HD150 via the LAN.

1.4.1 System in which BAC-HD150 is connected to the M-NET line

When 50 or fewer indoor units are connected, connect BAC-HD150 to the M-NET line.



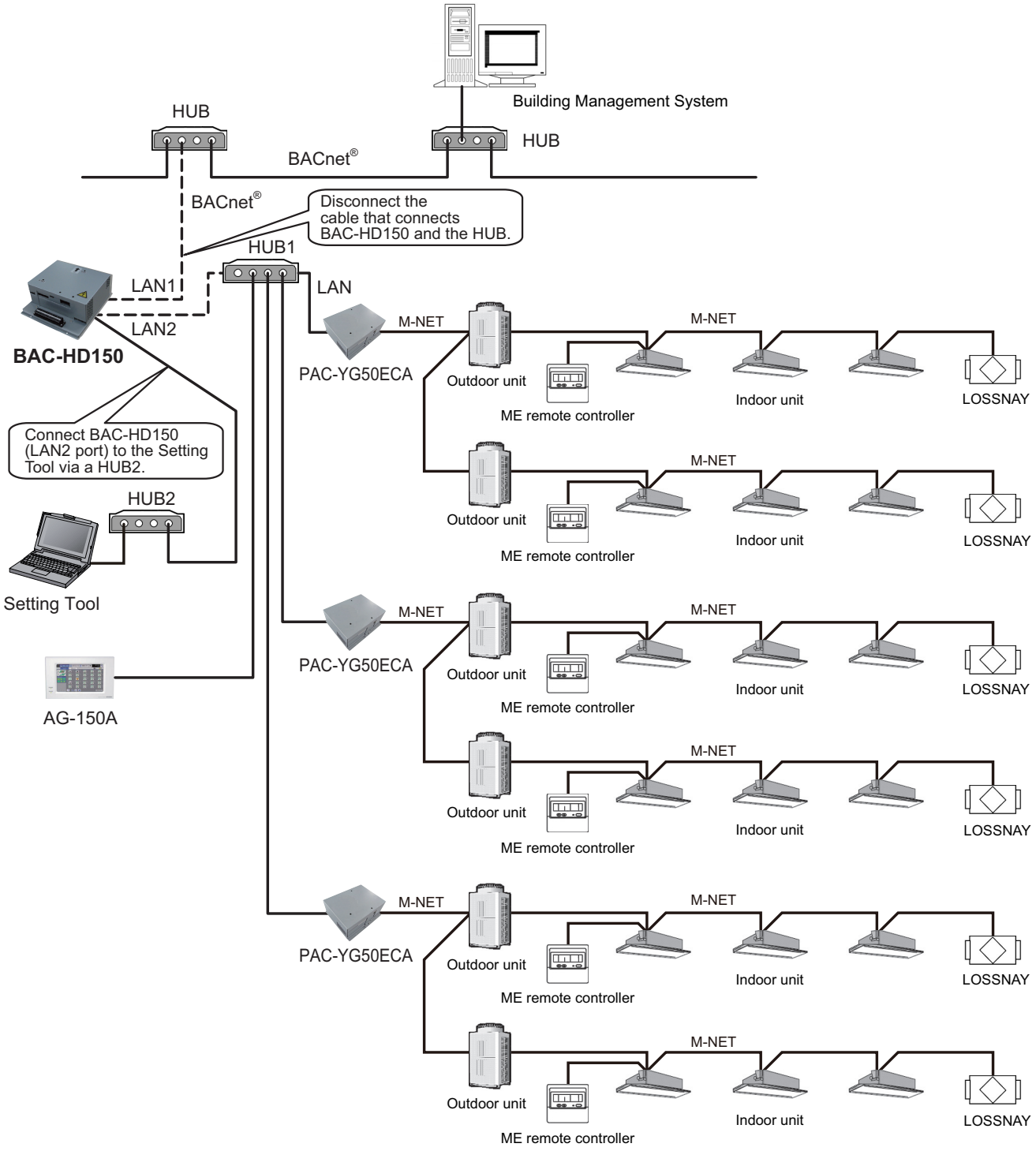
1.4.2 System in which BAC-HD150 is connected to PAC-YG50ECA

To connect more than 50 indoor units, connect a PAC-YG50ECA to BAC-HD150.

The maximum number of PAC-YG50ECAs connectable to each BAC-HD150 is 3, and the maximum number of indoor units connectable to each PAC-YG50ECA is 50.

Up to 150 units can be connected to a system in which three PAC-YG50ECAs are connected to the BAC-HD150 unit.

If one or more PAC-YG50ECAs are connected to BAC-HD150, the BAC-HD150 cannot be directly connected to the M-NET line, but via PAC-YG50ECA.



Note:
When the dual set points are valid in the setting tool, BAC-HD150 can not use PAC-YG50ECA.

2. Computer environment settings

Take the following steps to configure the environment settings to run the Setting Tool.

> Note:
> Unless a computer is used exclusively to run the Setting Tool, write down the current settings so that the computer can be reconfigured back to the original state to be used for other purposes.

2.1 Setting the computer IP address

Take the following steps to set the IP address for the computer to run the Setting Tool.
Connect the cable from the Setting Tool to LAN 2 port of BAC-HD150. Set the IP address for the Setting Tool to an address that meets both of the following criteria: 1) Not occupied by any of the devices that are connected to LAN 2 port of BAC-HD150, and 2) IP address that has the same network address as LAN 2 port.
(Example: An unoccupied IP address 192. 168. 200. 101 has the same network address as LAN 2 port of BAC-HD150 whose network address is 192.168.200.)

*1: Includes devices and controllers

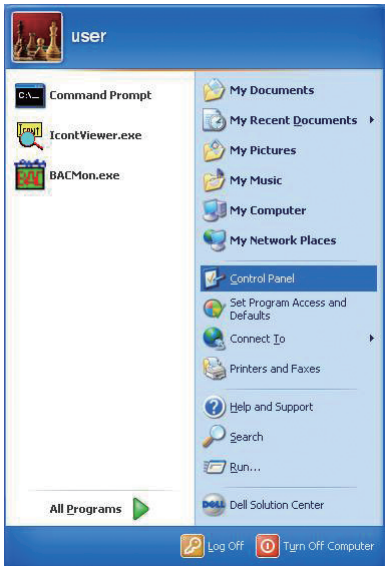
No.	First octet of IP address	Network address
1	1 -126 (10)	1st octet of IP address (*2)
2	128 - 191 (172)	First two octets of IP address (*2)
3	192 - 223 (192)	First three octets of IP address (*2)

Figures in the parentheses indicate private IP addresses.
*2: Octet equals 8 bits.

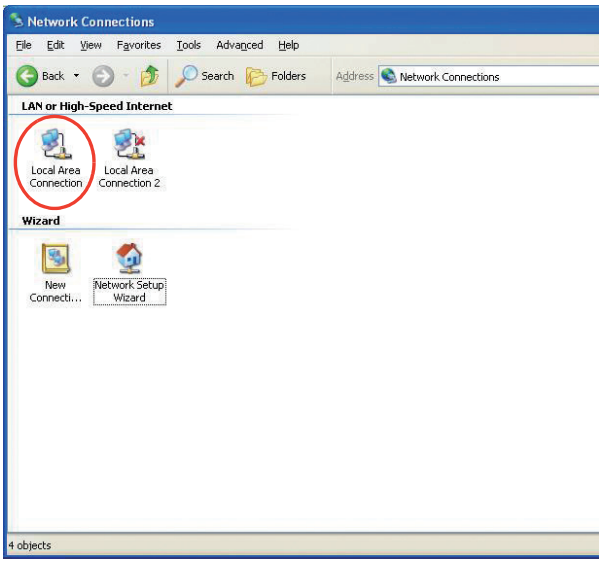
> Note:
> When connecting BAC-HD150 to the Setting Tool to perform the initial settings, disconnect the cable that connects the HUB on the BACnet® system and the BAC-HD150 from LAN 1 port of BAC-HD150. If a given BAC-HD150 (LAN 2 port) is connected to a PAC-YG50ECA (Expansion Controller), disconnect BAC-HD150 (LAN 2 port) from the HUB.
> Set the IP address for the Setting Tool to an address not occupied by PAC-YG50ECA units that are connected to LAN 2 port of BAC-HD150 or by any other devices such as AG-150A. An IP address overlap will interfere with the normal communication between the Setting Tool and its connected devices, such as PAC-YG50ECA and AG-150A, and also between other devices. Check the IP address of all devices connected to LAN 2 port of BAC-HD150 before assigning an IP address to the Setting Tool.

> Note:
> Setting changes that are made after the initial settings have been completed do not require that the BAC-HD150 be disconnected from the BACnet®, PAC-YG50ECA, or AG-150A.

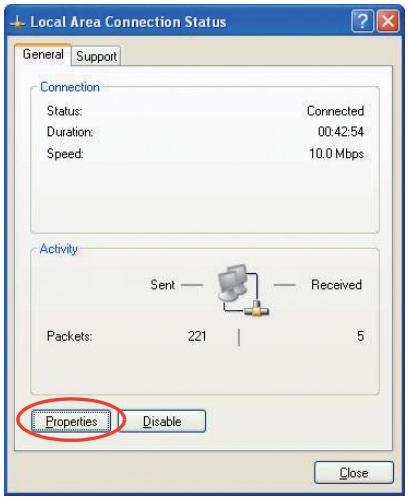
(1) Click [Start]>[Control Panel] to display the [Control Panel] window. Double-click [Network Connections] to display the [Network Connections] window.



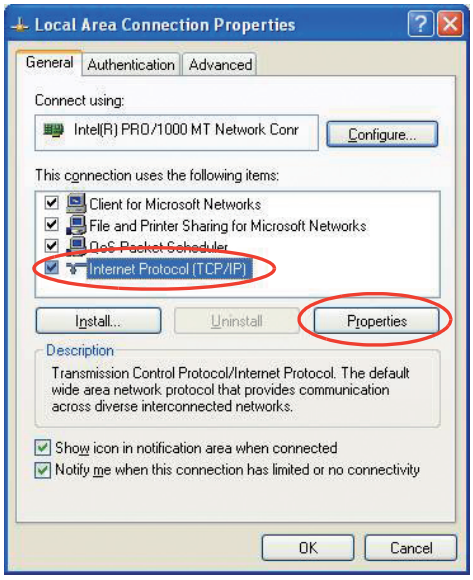
(2) Double-click [Local Area Connection] on the [Network Connections] window to display the [Local Area Connection Status] window.



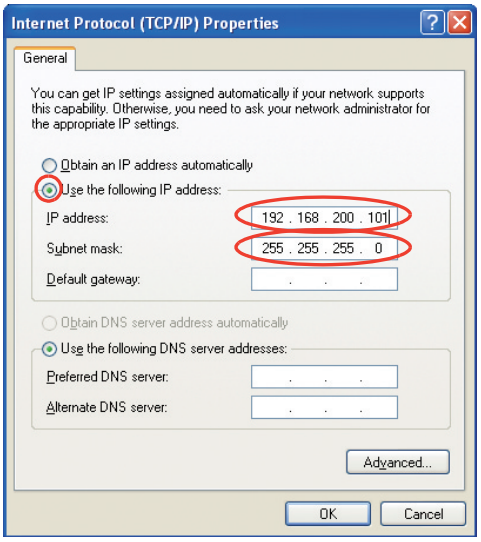
(3) Click [Properties] on the [General] tab to display the [Local Area Connection Properties] window.



(4) Click [Internet Protocol (TCP/IP)] on the [General] tab, and then click [Properties] to display the [Internet Protocol (TCP/IP) Properties] window.
(Check the checkbox next to [Internet Protocol (TCP/IP)] if it is not already checked.)



(5) Check the radio button next to [Use the following IP address], and enter the IP address ([192.168.200.101] etc.) in the IP address field. Enter the subnet mask ([255.255.255.0] etc.) in the [Subnet mask] field. (Consult the network administrator before entering the address.)



No.	1st octet of IP address	Subnet Mask (Example)
1	1 - 126 (10)	255.0.0.0
2	128 - 191 (172)	255.255.0.0
3	192 - 223 (192)	255.255.255.0

Figures in the parentheses indicate private IP addresses.

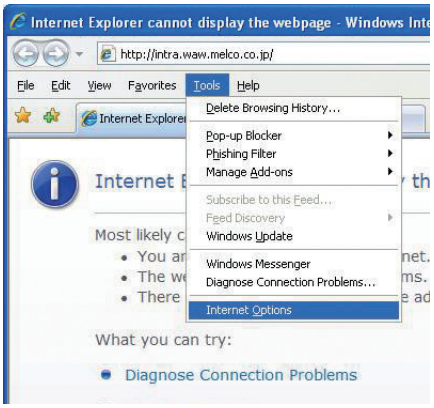
(6) Click [OK] to close the window, and click [OK] or [Exit] on other windows to close them.
This step completes the setup of the computer IP address.

2.2 Configuring the IP connection settings

Take the following steps to configure the IP connection settings.
(Screenshots used below are from Internet Explorer ver. 6.0, and the steps explained here are applicable to Internet Explorer ver. 7.0.)

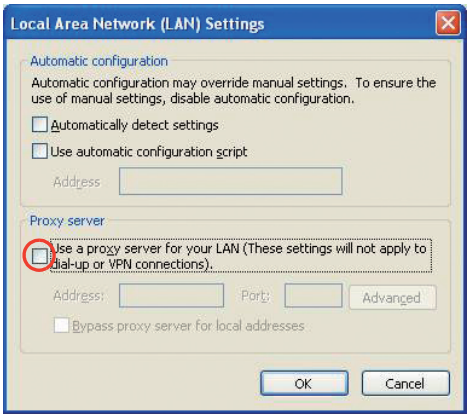
(1) Start the Internet Explorer web browser.

(2) Click [Tool] on the menu bar, and click [Internet Options] from the pulldown menu to display the [Internet Options] window.



(3) Click the [Connections] tab, and click [Never dial a connection] under and to the left of [Dial-up and Virtual Private Network] settings.
Click [LAN Settings] under [Local Area Network (LAN) settings] to display the [Local Area Network (LAN) Settings] window.

(4) Remove the check from the checkbox next to [Use a proxy server] under [Proxy server].



(5) Click [OK] to close the window, and click [OK] on other windows to close them.
This step completes the setup of the IP connection settings.

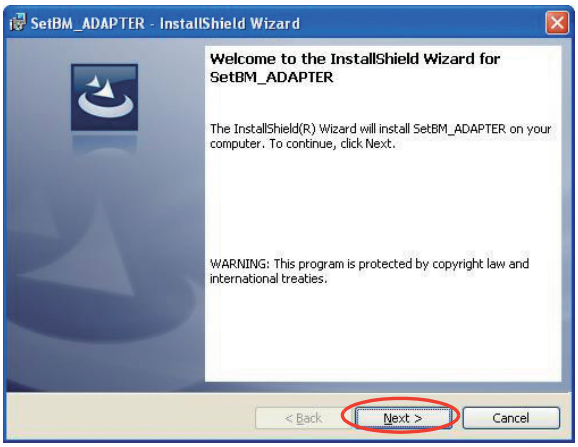
3. Program installation and uninstallation

3.1 Program installation

Take the following steps to install the Setting Tool (SetBM_ADAPTER) program.
Click [Cancel] on the window below to cancel the installation.

(1) Starting the setup program

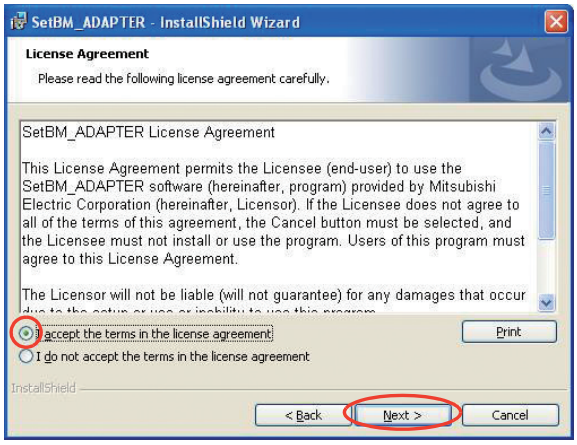
Double-click [setup.exe] in the root folder on the CD-ROM.
Read the displayed information, and click [Next] to proceed.



(2) License Agreement

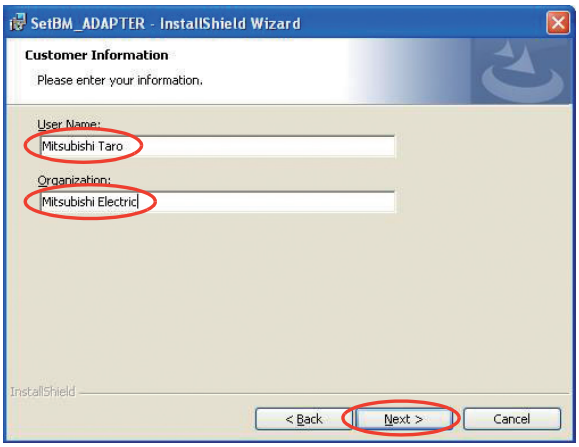
Read the license agreement, click the radio button next to [I accept the terms in the license agreement] to accept the terms, and click [Next].

*If you do not agree to the terms of the license, click [Cancel] to cancel the installation.



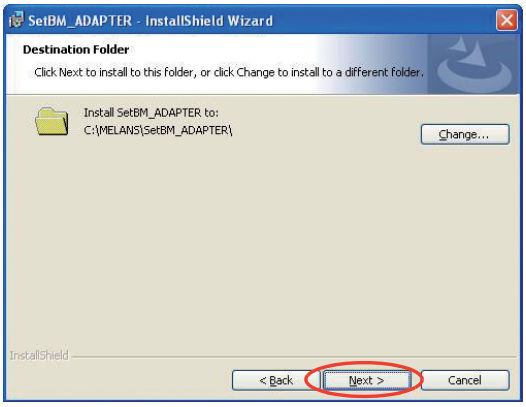
(3) User information

Enter the user name and the company name, and click [Next].



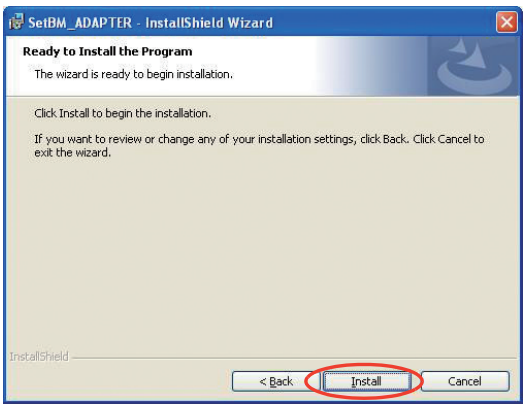
(4) Selecting the installation destination folder

Select the folder in which to install the program.
Click [Change] to select a different installation destination folder.
When done selecting the folder, click [Next] to proceed.
The default installation destination folder location is [C:\MELANS\SetBM_ADAPTER\].



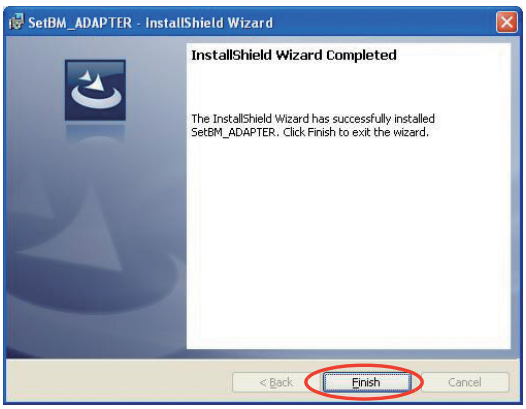
(5) Executing the installation program

Click [Install] to execute the installation program.
Click [Back] to change any of the settings.
Click [Cancel] to cancel the installation.



(6) Confirming completion of installation

Click [Finish] on the window at right to complete the installation process.



Important

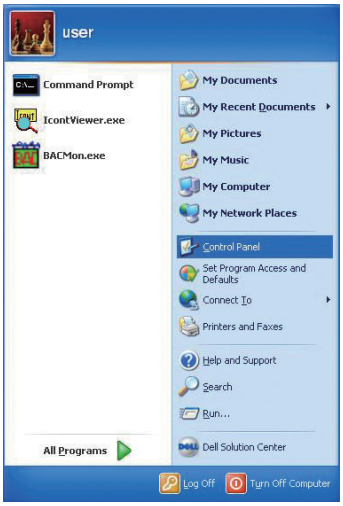
- Keep the CD-ROM for future use.

3.2 Program uninstallation

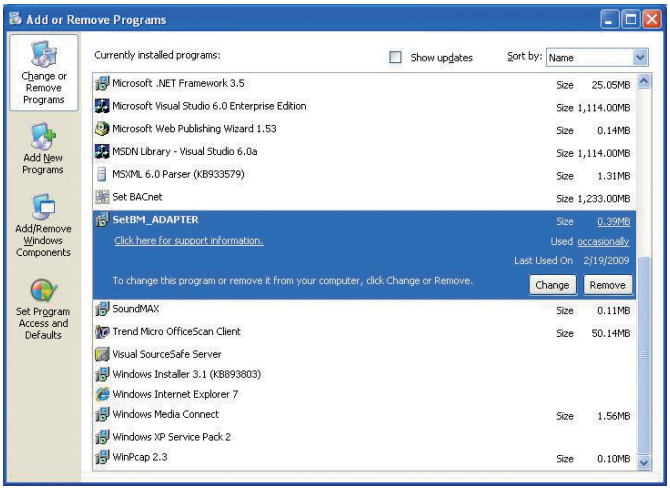
Take the following steps to uninstall the SetBM_ADAPTER program.
(Uninstallation is usually not necessary.)

(1) Make sure that the SetBM_ADAPTER program is not running.
Quit the program if it is.

(2) Click [Start]>[Control Panel] to display the [Control Panel] window, and double-click [Add or Remove Programs] to display the [Add or Remove Programs] window.



(3) Select [SetBM_ADAPTER] by clicking it.
Click [Remove], then [OK] on the confirmation dialog that appears to start the uninstallation process.



Caution:
- Be careful not to accidentally uninstall other programs.
- It is recommended not to delete shared components.

(4) Close all other windows.
This step completes the uninstallation process.

4. Connecting and starting the Setting Tool

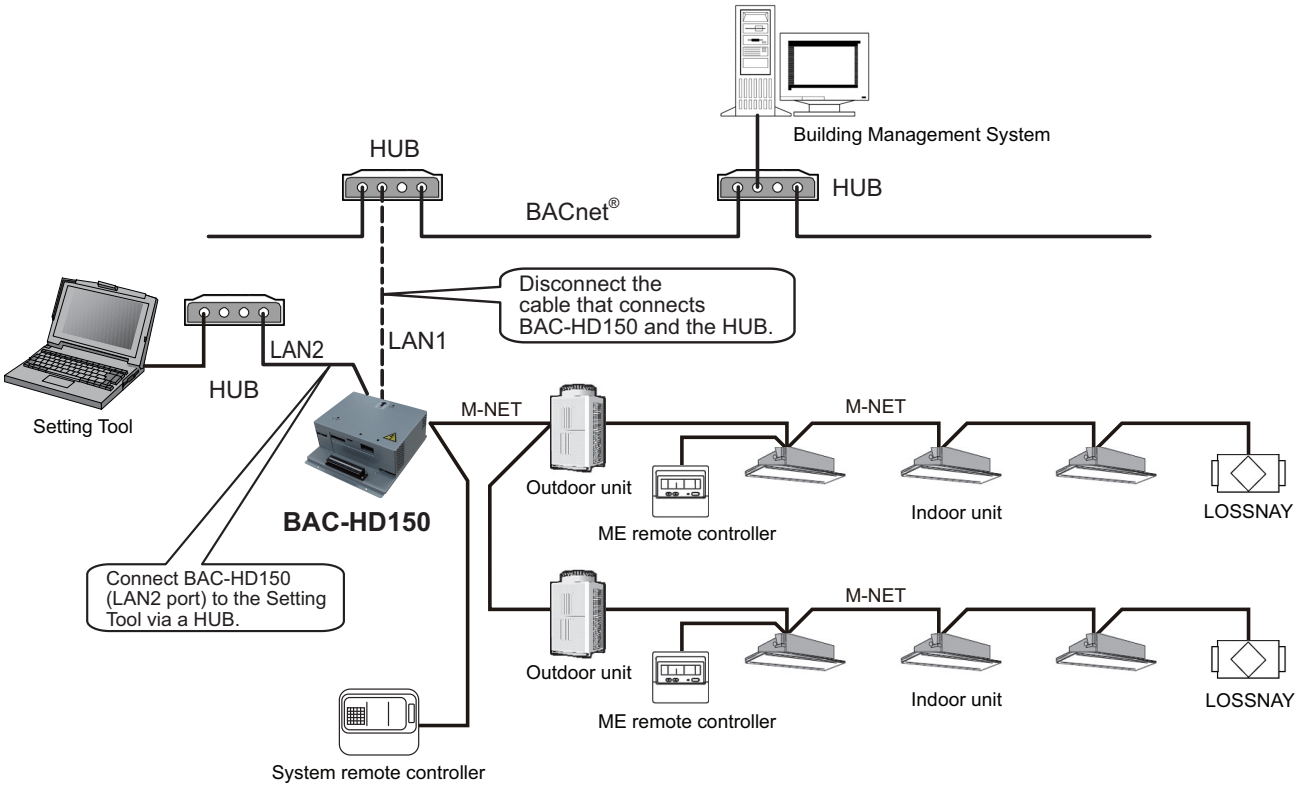
4.1 Connecting the Setting Tool

The Setting Tool is connected to the BAC-HD150 via the LAN.

4.1.1 System in which BAC-HD150 is connected to the M-NET line

Disconnect the cable that connects BAC-HD150 (LAN 1 port) to the BACnet®. Connect the cable that was disconnected in the step above to the HUB that is connected to the Setting Tool.

Restore the original connection after configuration from the Setting Tool is completed.



4.1.2 System in which BAC-HD150 is connected to PAC-YG50ECA

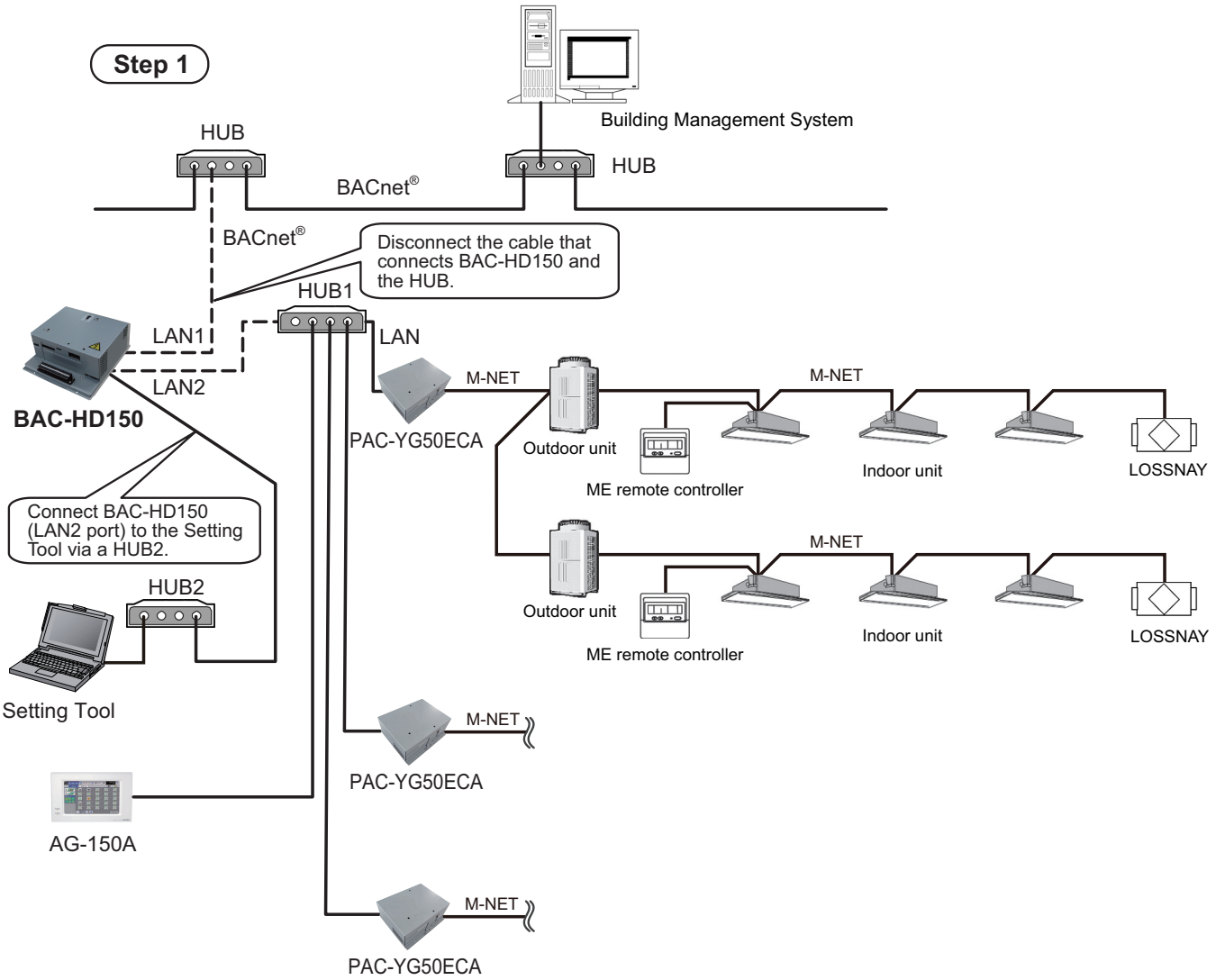
(1) Step1 : Connecting the Setting Tool and performing the initial settings

Before setting up BAC-HD150, make sure that the initial settings for PAC-YG50ECA and AG-150A have been completed and that they are ready to perform communication. Refer to the AG-150A manual for how to verify the AG-150A initial settings. Initial settings for PAC-YG50ECA are made from AG-150A, and its settings are also verified from AG-150A.

Disconnect the cable that connects BAC-HD150 (LAN 1 port) and the HUB on the BACnet. Disconnect the cable connected to LAN 2 port of BAC-HD150 from HUB 1. Connect the disconnected end to the HUB 2 that is connected to the Setting Tool.

After all connections have been made, perform the initial settings from the Setting Tool.

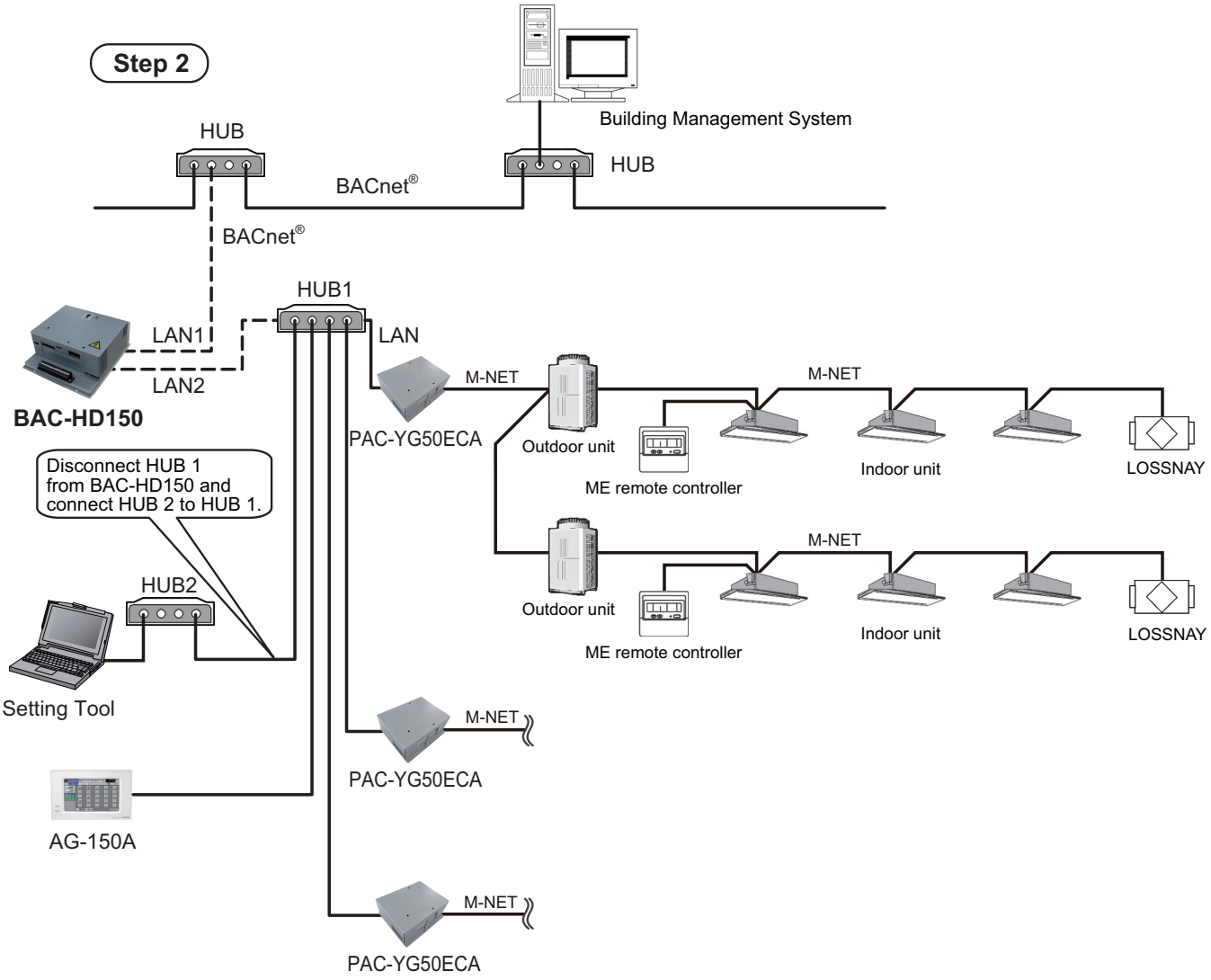
After initial settings have been completed, execute "Put settings" to reflect the settings made on Setting Tool to BAC-HD150.



Note:
Execute "Put Settings" in "Off line" mode.
This system can not be used when the dual set point is valid.

(2) Step2 : Checking for IP address overlaps between LAN 2 port of BAC-HD150 and other devices

After the initial settings have been completed, disconnect HUB 2 from BAC-HD150 (LAN 2 port), and connect HUB 2 to HUB 1. To check for address overlap, send a PING of an IP address that is assigned to LAN 2 port of BAC-HD150, and confirm the absence of a response.

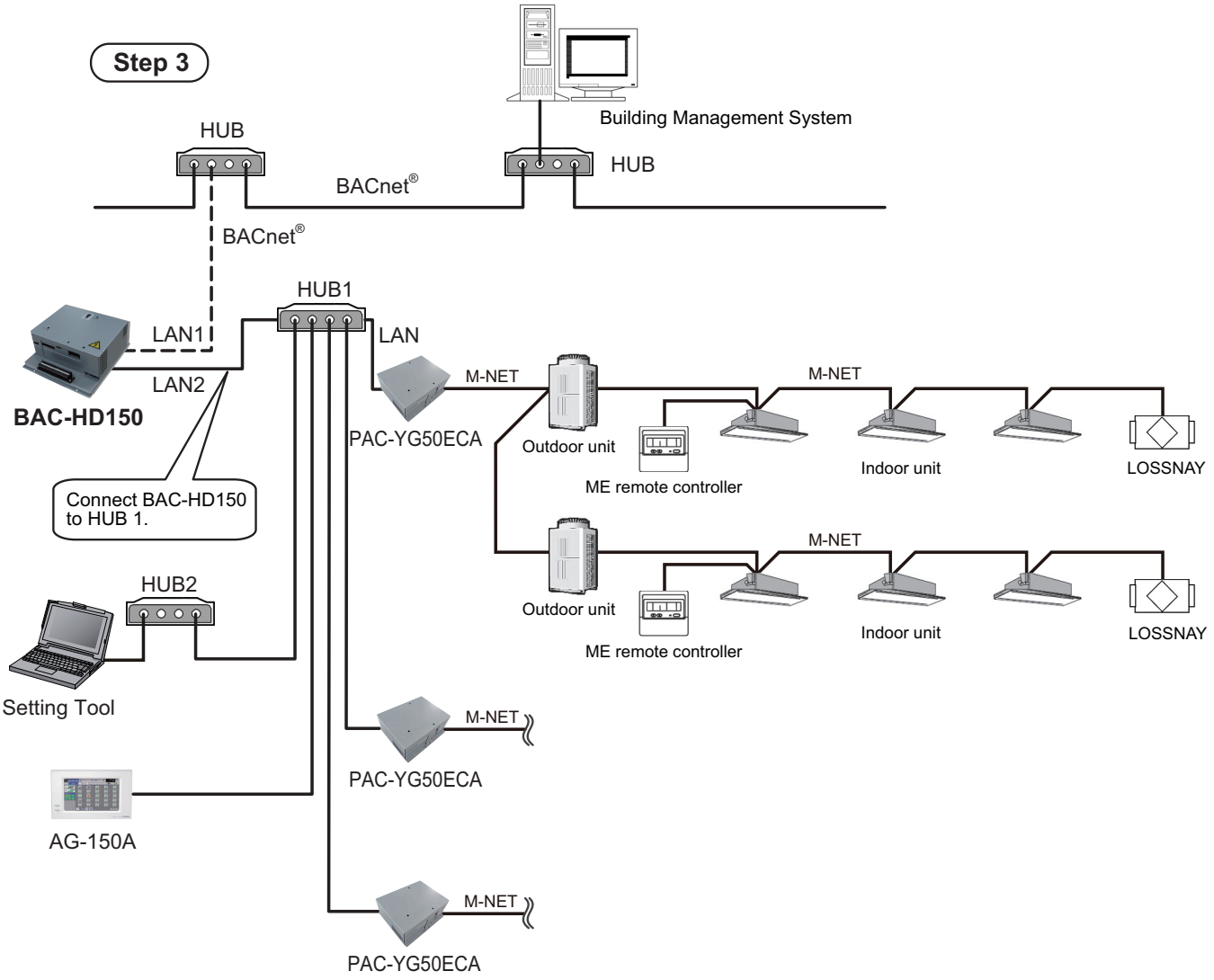


(3) Step3 : Confirming the PAC-YG50ECA settings and restarting BAC-HD150

Connect BAC-HD150 and HUB 1, using LAN 2 port of BAC-HD150.From “BM ADAPTER” on the Menu bar, execute the “Get Settings” command to acquire the settings information about PAC-YG50ECA, and check that the Expansion Controller Settings (see 8.2.3), Group Settings (see 8.3.1), and Interlocked LOSSNAY Settings (see 8.3.2) match the settings that were made from AG-150A.

Refer to section 8.2.3.1 “Acquiring the settings information for the Expansion Controller settings” for how to acquire the settings information of PAC-YG50ECA.

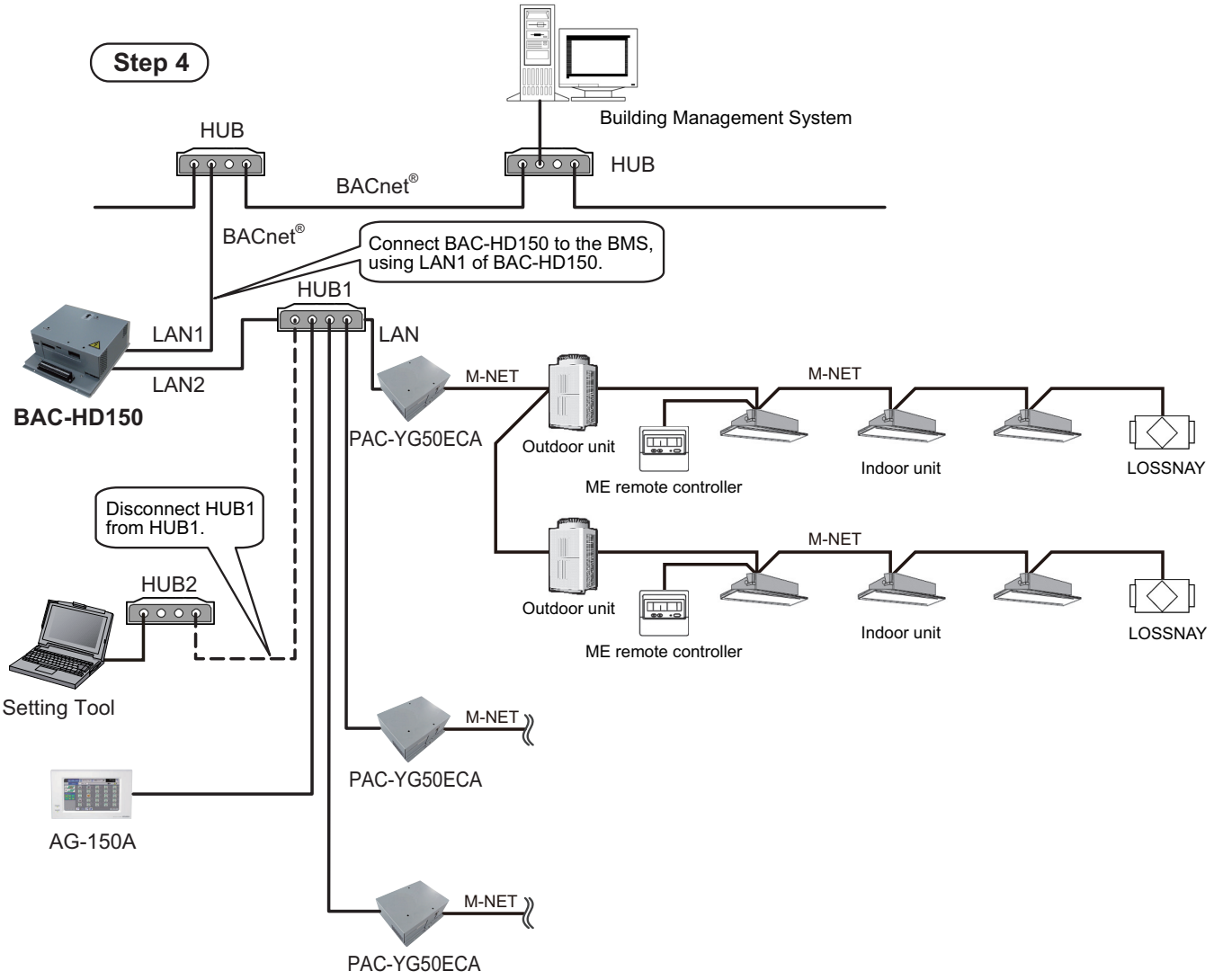
After verifying the settings, change the Mode Setting from “On Line” to “Off Line.” Then, change the setting back from “Off Line” to “On Line,” and restart the BAC-HD150.



Note:
If an attempt to acquire the settings information for PAC-YG50ECA fails, check that the initial settings for PAC-YG50ECA from AG-150A have been complete, that they are ready to communicate, and that they are properly connected to BAC-HD150. Also, check that the PAC-YG50ECA's IP address that is set to BAC-HD150 from the Setting Tool is correct. (Refer to item (2) in section 8.2.3 “Expansion Controller Settings.”)

(4) Step4 : Disconnecting the Setting Tool and connecting BAC-HD150 to HUB on the BACnet®

Disconnect the cable that connects HUB 1 and HUB 2. Connect BAC-HD150 to HUB on the BACnet®, using LAN 1 port of BAC-HD150.



Note:
Setting changes on the Setting Tool after the initial settings have been completed do not require that the BAC-HD150 be disconnected from HUB on the BACnet, PAC-YG50ECA, or AG-150A.

4.2 Starting the Setting Tool

Click [Start]>[All Programs]>[SetBM_ADAPTER]>[SetBM_ADAPTER] to start up the Setting Tool.

4.3 Quitting the Setting Tool

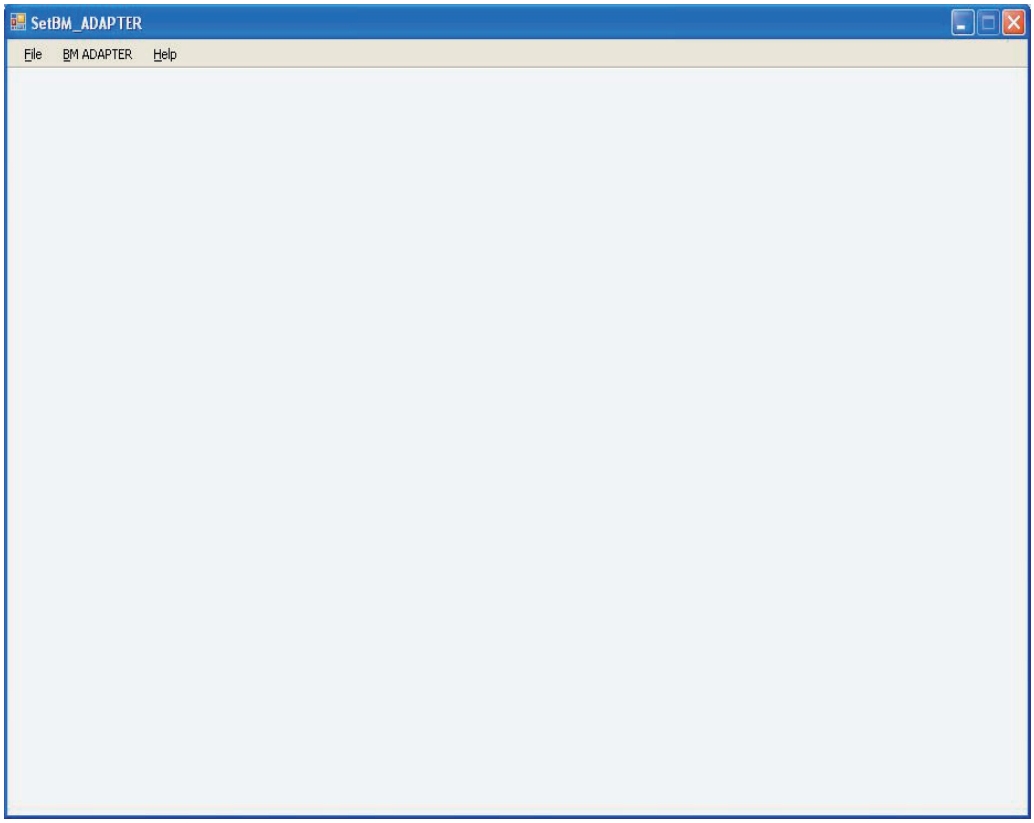
Click the [X] at the top right corner of the Setting Tool window or click [File] on the menu bar and select [Exit] from the pulldown menu to quit the Setting Tool.

5. Setting Tool windows and setting items

5.1 Setting Tool initial settings screen

When the Setting Tool is started up, the initial settings screen below will appear.

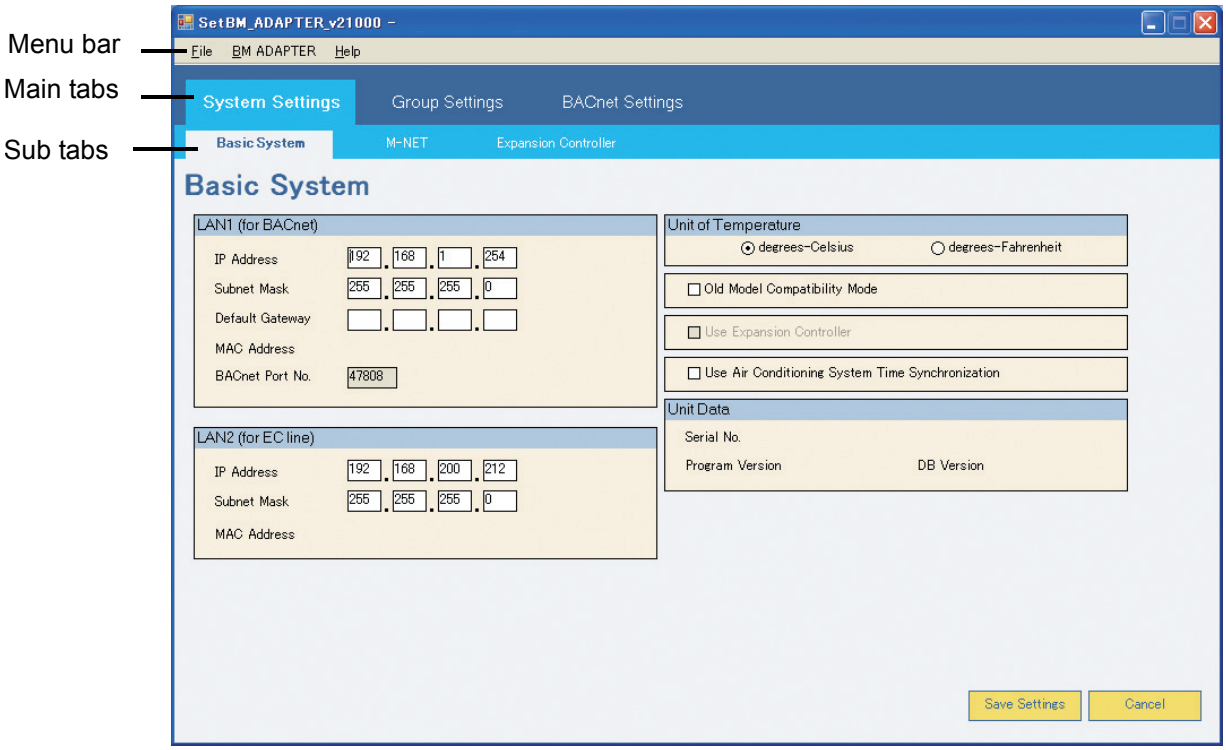
Click [File] from the menu bar and click [New Settings] to bring up the 5.2 Setting screen.



5.2 Setting Tool windows

The Setting Tool window consists of the following elements.

The main and sub tabs are used to switch between different sets of setting items.



5.3 Menu bar and pulldown menu items

The table below summarizes the items available from the menu bar and the pulldown menu.

No.	Menu bar item	Pulldown menu	Function
1	File	New Settings	Click to open a new settings window.
2		Open Settings	Click to open an existing file and reflect the setting data on the Setting Tool.
3		Save Settings	Click to overwrite the existing setting data file (the one opened from the [Open Settings] menu) with the new data. When a file is first created, this item serves as [Save Settings As].
4		Save Settings As	Click to save the setting date of the Setting Tool under a new name and/or in a new folder.
5		Property	Click to set the IP address for the BAC-HD150 with which the Setting Tool communicates with.
6		Exit	Click to exit the Setting Tool program.
7	BM ADAPTER	Get Settings	Click to acquire the setting data from BAC-HD150 .
8		Put Settings	Click to command the Setting Tool to send the setting data to BAC-HD150.
9		Mode Setting	Click to set the BAC-HD150 mode.
10		Date and Time	Click to set the current date and time for BAC-HD150.
11	Help	About SetBM_ADAPTER	Click to see the Setting Tool program version.

5.4 Tab structures and setting items

The following table summarizes the main and sub tab names and the setting items.

No.	Main tab	Sub tab	Setting item
1	System Settings	Basic System	IP-address-related settings and temperature settings for BAC-HD150
2		M-NET	M-NET-related settings
3		Expansion Controller	Expansion Controller (PAC-YG50ECA) Settings
4	Group Settings	Group	Group settings for the air conditioners, remote controllers, and system controllers
5		LOSSNAY	Interlocked LOSSNAY settings
6	BACnet Settings	BACnet	BAC-HD150 function settings
7		Network and Device	BACnet network and device settings
8		COV Notification	COV Notification Settings
9		Event Notification	Event Notification Settings
10		Object	Settings for the objects to be used in the system
11		Other	Settings for the notification destination device at startup and time server device

5.5 Setting procedures

5.5.1 Initial setting procedures for the air conditioning system

5.5.1.1 System in which BAC-HD150 is connected to the M-NET line

Make the initial settings for the air conditioning systems as shown in the table below. (The numbers in the [No.] column indicate the setting sequence.)

No.	Menu/Main tab	Pulldown menu/Sub tab	Setting item
1	Menu: File	Pulldown menu: Property	IP address for communication with BAC-HD150 Setting Tool
2	Menu: BM ADAPTER	Pulldown menu: Date and Time	Current date and time
3	Main tab: System Settings	Sub tab: Basic System	All setting items
4		Sub tab: M-NET	All setting items
5		Sub tab: Expansion Controller	No settings required
6	Main tab: Group Settings	Sub tab: Group	All setting items
7		Sub tab: LOSSNAY	All setting items

5.5.1.2 Setting items that require setting when connecting BAC-HD150 to PAC-YG50ECA

Make the initial settings for the air conditioning systems as shown in the table below. (The numbers in the [No.] column indicate the setting sequence.)

No.	Menu/Main tab	Pulldown menu/Sub tab	Setting item
1	Menu: File	Pulldown menu: Property	IP address for communication with BAC-HD150 Setting Tool
2	Menu: BM ADAPTER	Pulldown menu: Date and Time	Current date and time
3	Main tab: System Settings	Sub tab: Basic System	All setting items
4		Sub tab: M-NET	No settings required
5		Sub tab: Expansion Controller	Access Point Settings
6	Main tab: Group Settings	Sub tab: Group	No settings required
7		Sub tab: LOSSNAY	No settings required

5.5.2 Setting procedures for the BACnet-related initial settings

Make the initial settings for the BAC-HD150-related items as shown in the table below.
(The numbers in the [No.] column indicate the setting sequence.)

No.	Main tab	Sub tab	Setting item
1	Main tab: BACnet Settings	Sub tab: BACnet	All setting items
2		Sub tab: Network and Device	All setting items
3		Sub tab: COV Notification	All setting items
4		Sub tab: Event Notification	All setting items
5		Sub tab: Object	All setting items
6		Sub tab: Other	All setting items

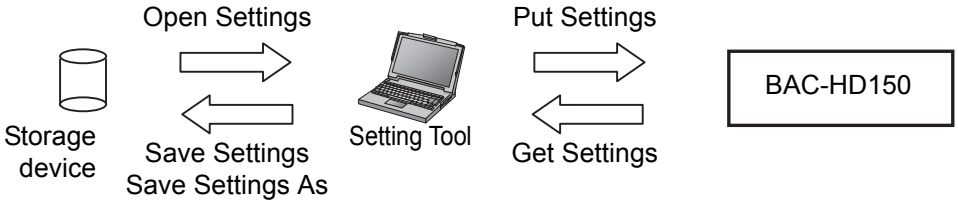
5.5.3 Procedures for changing the settings

To change the settings, follow the procedues shown in sections 5.5.1 and 5.5.2 above.

6. Data flow and storage

6.1 Setting data flow

The figure below shows the flow of data that are set from the Setting Tool.



*Storage devices: Hard disc of the computer that runs the Setting Tool, USB memory, CD-R etc.

6.2 Notes on executing the Put Settings command

(1) Set the BAC-HD150 to the [Offline] mode before executing the [Put Settings] command.
(Executing the [Put Settings] command in the [Online] mode will cause an error message to appear on the Setting Tool, and the command will be cancelled.)

(2) Switch the BAC-HD150 mode by clicking [BM ADAPTER] on the menu bar and clicking [Mode Setting] from the pulldown menu. (See 7.2.3 “Mode Setting” for details.)

(3) To cancel the [Put Settings] command and return to normal operation, switch the BAC-HD150 to the [Online] mode.

(4) When the [Put Settings] command is executed, the BAC-HD150 will perform the initial settings. Initial setting will take approximately five minutes. Once the command is executed, there should be at least five minutes between executions of the [Put Settings] command.

(5) While on the [Offline] mode, BAC-HD150 will not allow BACnet communication.
If the system is configured in the way that the status of the BACnet-connected devices are monitored from the Bulilding Management System, an alarm signal may be output. Consult the system administrator before switching the BAC-HD150 to the [Offline] mode.

6.3 Backing up the setting data

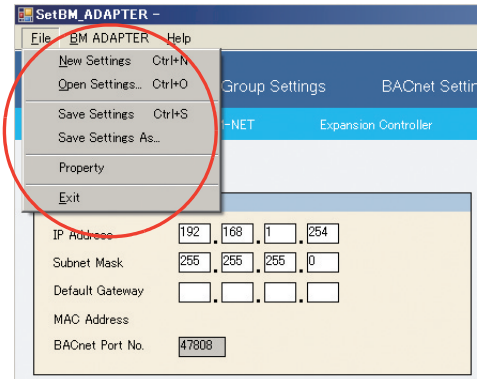
Be sure to save a backup copy of the setting data to be used to recover from a BAC-HD150 problem.
It is recommended that the backup data be also stored on the hard disc of the computer that runs the Setting Tool.

7. Menu bar

The menu bar has [File], [BM ADAPTER], and [Help], each with a pulldown menu.

7.1 File pulldown menu

The items circled in the figure below are available in the [File] pulldown menu, and the function of each item is explained below.

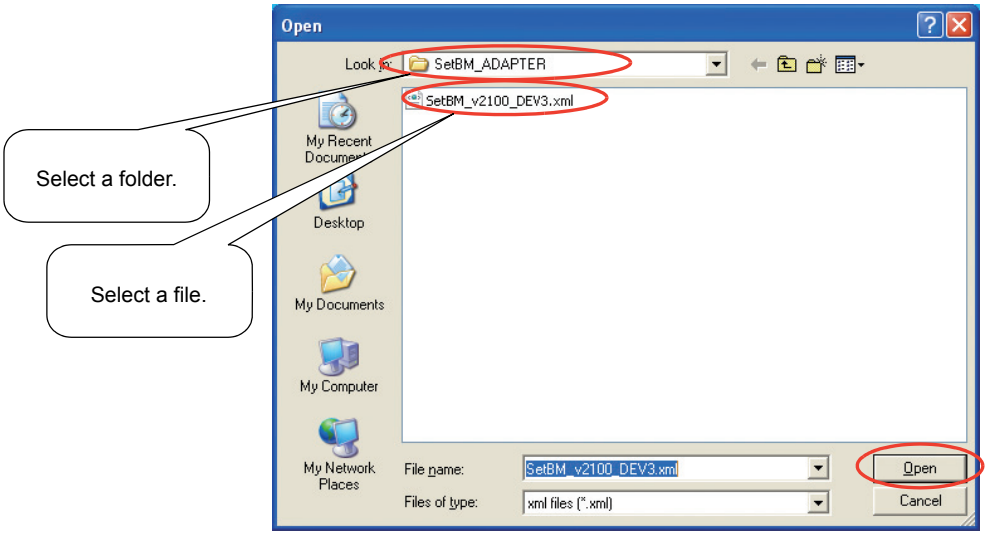


7.1.1 New Settings

Select [New Settings] to open a blank settings window. (Each of the windows shown below shows the default settings.)

7.1.2 Open Settings

Select a folder and a file, and click [Open] to open the file. The settings of the opened file will appear in the settings window.



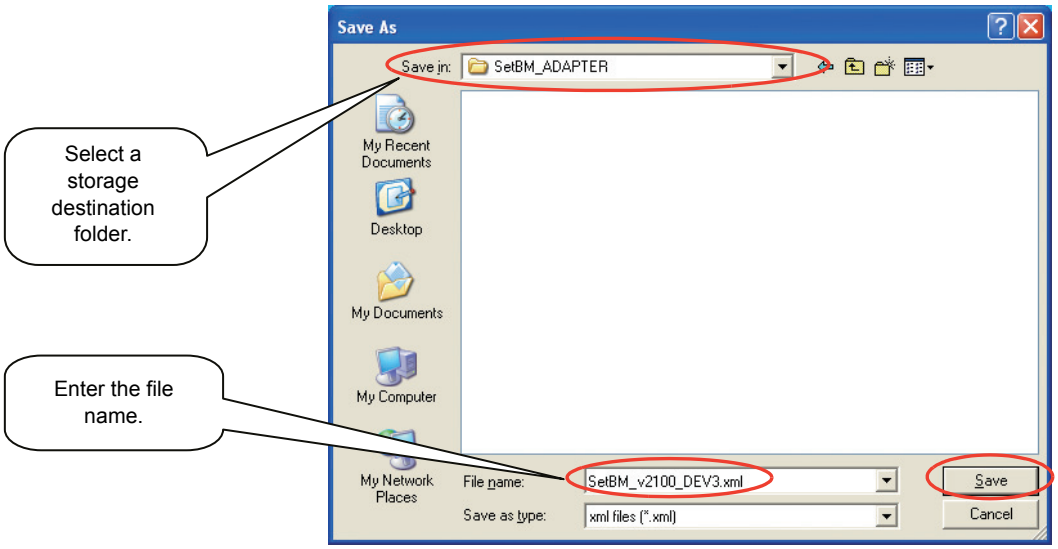
7.1.3 Save Settings

Click [Open Settings] to overwrite the opened file with the settings made from the Setting Tool.

If the settings are saved without opening any file from [Open Settings], the settings will be saved in a new file (same as when saving the settings using [Save Settings As]).

7.1.4 Save Settings As

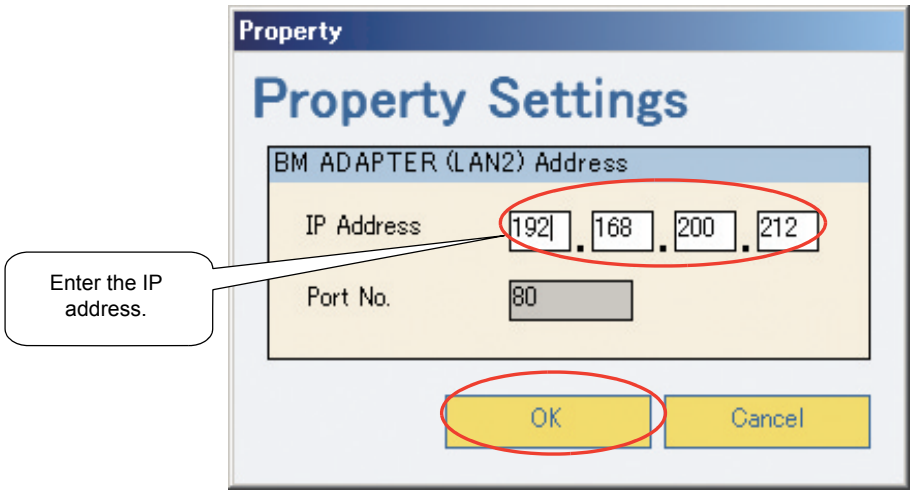
Select a storage destination folder, enter the file name, and click [Save] to save the settings.



7.1.5 Property

Enter the IP address of the BAC-HD150 with which the Setting Tool communicate, and click [OK] to save the setting.

(The factory IP address of BAC-HD150 (LAN 2) is [192.168.200.212]. Change the IP address to [192.168.200.212] before making the initial settings. When restarting the BAC-HD150 after the IP address has been set in section 8.2.1(2) , use this address for the IP address on the Property window.)

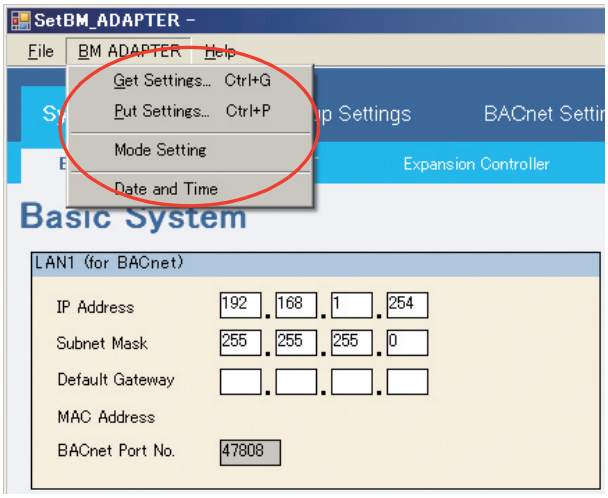


7.1.6 Exit

Click [Exit] to quit the Setting Tool.

7.2 BM ADAPTER pulldown menu

The items circled in the figure below are available in the [BM ADAPTER] pulldown menu, and the function of each item is explained below.



7.2.1 Get Settings

Click [Get Settings] to reflect the BAC-HD150 settings on the Setting Tool and display them.

> If the [Get Settings] command is executed while the settings are being made, these settings will be overwritten by the data acquired from the BAC-HD150. To save the settings that are being made, use the [Save Settings As] command to save them before executing the [Get Settings] command.

7.2.2 Put Settings

Click [Put settings] to reflect the settings made from the Setting Tool to the BAC-HD150.

> If the [Put Settings] command is executed, the BAC-HD150 data will be overwritten by the setting data of the Setting Tool. Make a backup copy of the BAC-HD150 data before executing the [Put Settings] command if no backup exists.
> Backing up the BAC-HD150 data
> (1) Save the settings data made from the Setting Tool (a) using [Save Settings As].
> (2) Acquire the BAC-HD150 settings data (b) using [Get Settings].
> (3) Save the acquired data (b) using [Save Settings As].(Use a different file name as the one used in step (1) above.)
> (4) Reflect the settings data (a) on the Setting Tool using [Open Settings].
> (5) Overwrite the BAC-HD150 data with settings data (a) using [Put Settings].

7.2.3 Mode Setting

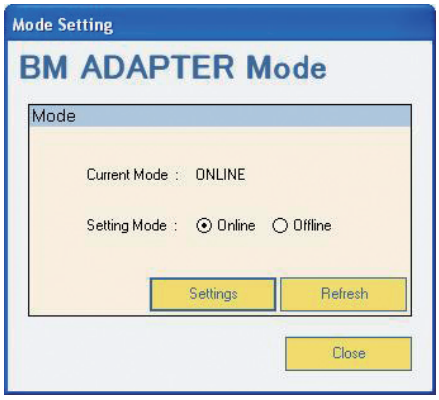
Take the following steps to set the BAC-HD150 mode display setting and other settings.

The current mode of the BAC-HD150 appears next to “Current Mode.” Click [Refresh] to update the display.

Select between “Online” and “Offline” by clicking the radio buttons next to the “Setting Mode.”

Click [Settings] to save the change.

> Note:
> When the Online mode is selected, it takes approximately five minutes before the initial process is completed and communication with the BACnet begins.



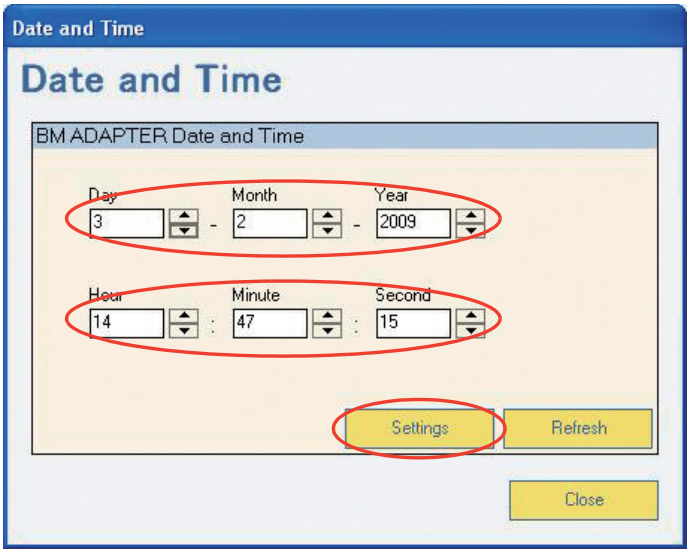
7.2.4 Date and Time

Click [Date and Time] to set the date and time for BAC-HD150.

Click the up and down arrows to set the current date and time, and click [Settings] to save the changes.

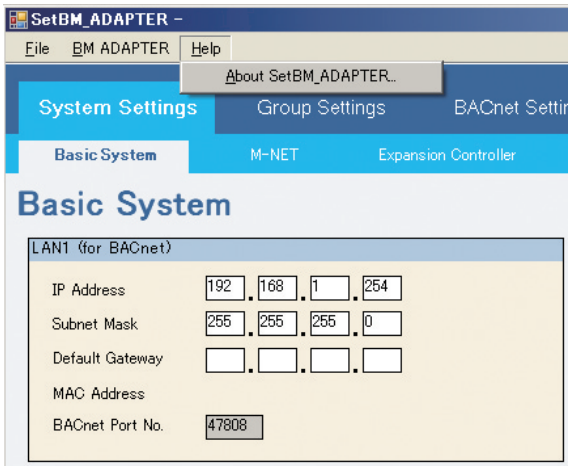
Click [Refresh] to display the current date and time settings of the BAC-HD150.

(If the current time data cannot be acquired, the current time field will be left blank.)



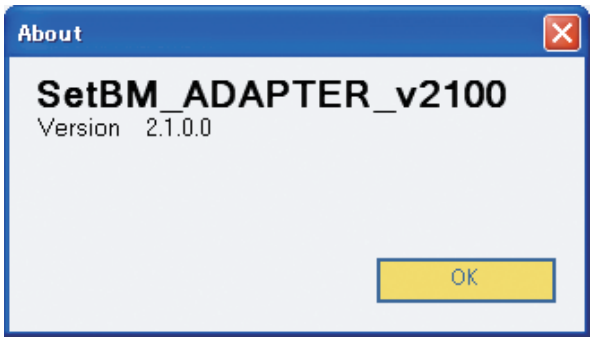
7.3 Help pulldown menu

The [Help] pulldown menu includes [About SetBM_ADAPTER].



7.3.1 About SetBM_ADAPTER.

The Setting Tool program version can be verified on the [About] window.



8. Settings windows

8.1 Button functions

This section explains the functions of each button on the settings windows.

8.1.1 Button functions

(1) The [Save Settings] and [Cancel] buttons on the window that appears when an item from a tab is selected

(a) Save Settings

Click to save the settings that are displayed.

(b) Cancel

Click to cancel the setting changes without saving any changes and to go back to the original setting.

(2) The [OK] and [Cancel] buttons on the popup windows

(a) OK

Click to reflect the settings on the popup window on the originating window (the one that was active immediately before the popup window appeared), and close the popup window.

(b) Cancel

Click to close the popup window without reflecting the changes on the originating window.
(The settings on the originating window are retained as they are.)

(3) The function selection buttons ([Add], [Modify], and [Delete]) on the window that appears when an item from a tab is selected

(a) Add

Click to add settings.

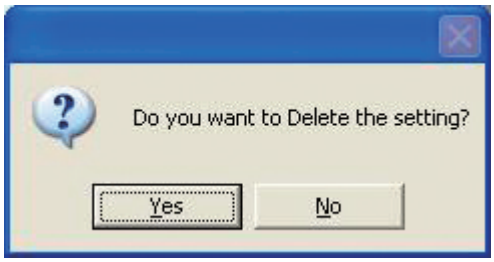
(b) Modify

Click to change the setting for the selected item.

(c) Delete

Click to delete the selected item.

A confirmation popup window shown below will appear when [Delete] is clicked.

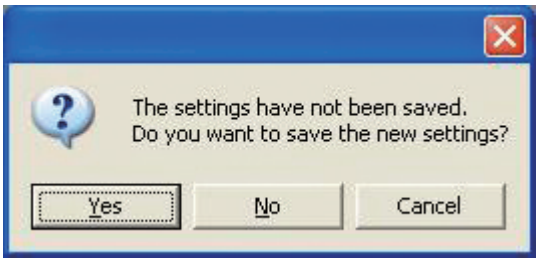


• Click [Yes] to delete the selected item.

• Click [No] to close the window without deleting the item.

8.1.2 Switching to another window

A warning popup window will appear if you try to switch to a different window without clicking [Save Settings] or [Cancel] on the settings window.



(1) Yes

Click to save the displayed settings and switch to the next window.

(2) No

Click to switch to the next window without saving the changes.

(3) Cancel

Click to close the popup window and go back to the originating window.

8.2 System settings

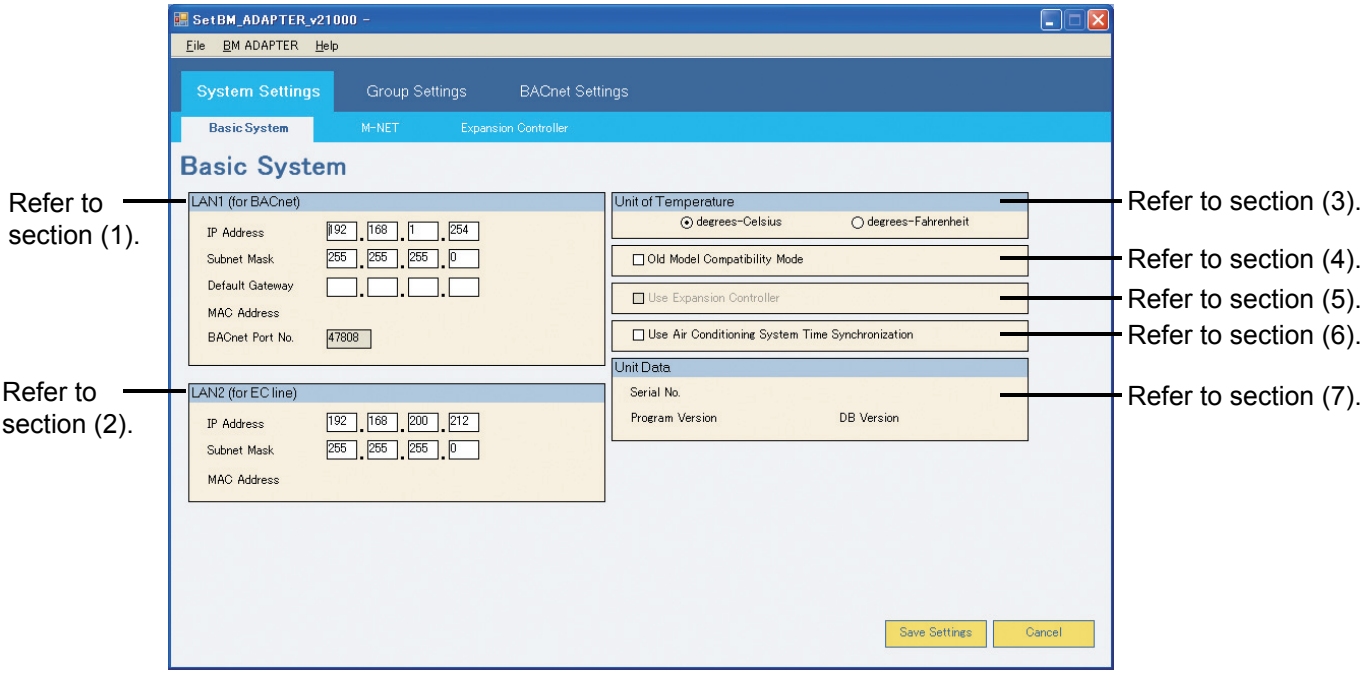
The System Settings tab includes the [Basic System], [M-NET] and [Expansion Controller] sub tabs.

8.2.1 Basic System settings

On the Basic System tab, basic system settings for BAC-HD150 are made.

Click the [Basic System] tab under [System Settings] to display the [Basic System] window.

The default settings are as shown in the figure below.



(1) LAN 1 (for BACnet)

In the LAN 1 screen, settings for the items related to the IP address of LAN 1 port on BAC-HD150 are made. LAN 1 port of BAC-HD150 is used to connect BACnet and BAC-HD150.

(Refer to the figure in section 4.1 “Connecting the Setting Tool.”)

(Some items are only for showing the current settings.)

No.	Setting item	Description	Default
1	IP Address	Enter the IP address for BAC-HD150 (LAN 1).	192.168.1.254
2	Subnet Mask	Enter the network address of the IP address. (*1)	255.255.255.0
3	Default Gateway	Enter the IP address of the IP router if a router is used for BACnet communication. Leave the field blank if no IP router is used.	Blank
4	MAC Address	The MAC address of BAC-HD150 (LAN 1) appears here. (*2)	
5	BACnet Port No.	The port No. that BAC-HD150 (LAN 1) uses for BACnet communication appears here. Normally set to [47808]	47808

*1: Usually, the subnet mask adderss is determined by the first octet of the IP address as shown in the table below.

No.	First octet of IP Address	Subnet Mask
1	1 - 126 (10)	255.0.0.0
2	128 - 191 (172)	255.255.0.0
3	192 - 223 (192)	255.255.255.0

Figures in the parentheses indicate private IP addresses.

*2: To display the MAC address, the “Get Settings” command needs to be executed.

CAUTION

The IP addresses need to be properly set for all the devices connected to the BAC-HD150 to function properly. Before setting the IP address, check that the address is not already used by any other devices.

CAUTION

The same network address cannot be shared by LAN 1 and LAN 2 ports of BAC-HD150. If the same network address is shared by both ports, assign a different network address to one of them.

(2) LAN 2 (for EC line)

In the LAN 2 screen, settings for the items related to the IP address of LAN 2 port on BAC-HD150 are made. (Some items are for display only.)

EC line refers to the network in which BAC-HD150 (LAN2) and PAC-YG50ECA are connected.

LAN 2 port of BAC-HD150 is used to connect BAC-HD150 and PAC-YG50ECA, AG-150A, and the Setting Tool. (Refer to the figure in section 4.1 “Connecting the Setting Tool.”)

The network address settings for both AG-150A and PAC-YG50ECA must be set to match the network address assigned to LAN 2 port of BAC-HD150.

No.	Setting item	Description	Default
1	IP Address	Set the IP address for LAN 2 port of BAC-HD150 under “IP Address.”	192.168.200.212
2	Subnet Mask	Set the network address for the IP address under “Subnet Mask.”)	255.255.255.0
3	MAC Address	Displays the MAC address for LAN 2 port of BAC-HD150.	

(3) Unit of Temperature

Select a desired temperature unit to be used. (Default: degrees-Celsius)

Check the radio button next to [degrees-Celsius] to display the temperatures in °C.

Check the radio button next to [degrees-Fahrenheit] to display the temperatures in °F.

(4) Old Model Compatibility Mode (Default: unchecked)

By enabling this setting, all indoor units that are connected to BAC-HD150 can be operated according to the setting for the single set point temperature. Explained below are the functions that are available when this setting is enabled or disabled.

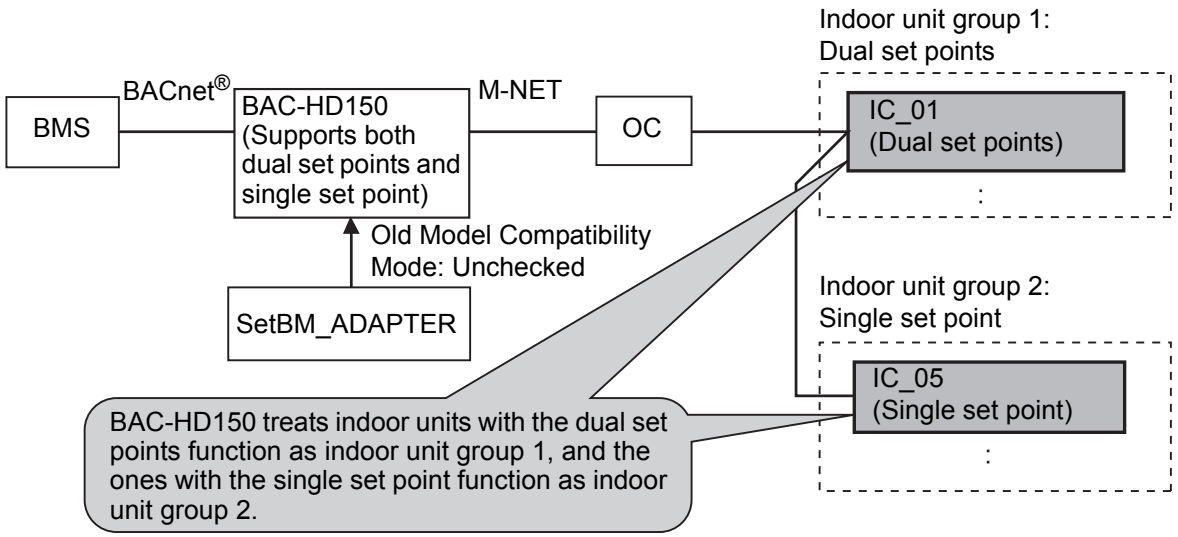
		Function (✓: Selectable –: Not selectable)		
Old Model Compatibility Mode	Setting	Connecting EC	Single set point* (Object) AV_xxxx10	Dual set point* (Object) AV_xxxx24-28
	☐	–	✓	✓
	☑	✓	✓	–

* Refer to 8.4.5 “Configuring Object” for details.

(a) Setting disabled (Unchecked)

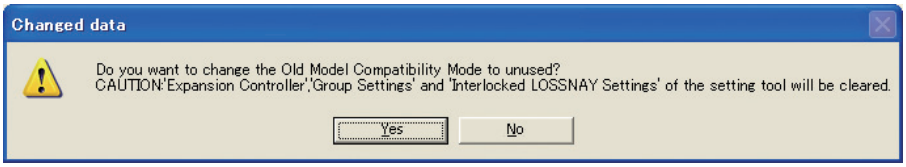
When the setting is disabled, objects for both the dual set points and single set point are available for use.

When the setting is disabled, the values for dual set points are enabled, rendering EC non-connectable and the EC setting screen inaccessible.



[When disabling this item from the enabled state]

When this item is disabled from the enabled state, the message shown below will appear. Selecting “Yes” will remove the checkmark for “Expansion Controller.” Checking the checkbox again will not restore the cleared data.

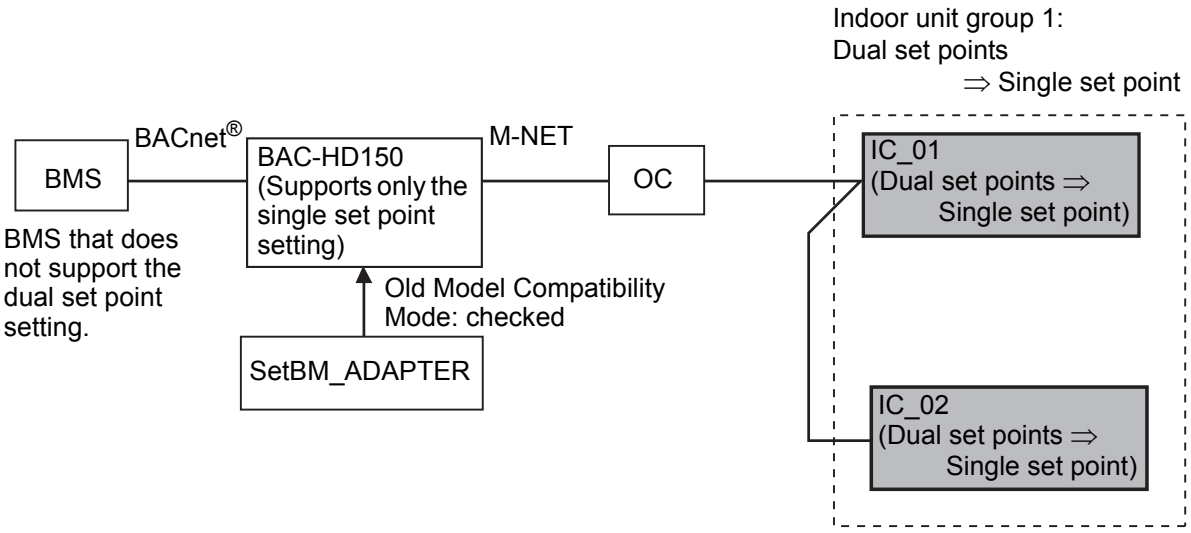


(b) Setting enabled

Enable this setting in the following situations.

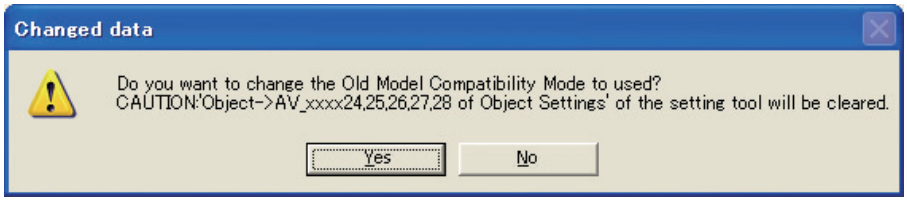
- The BMS that is connected to BAC-HD150 does not support the dual set point function.
- EC is used.

All air conditioning units that are connected to BAC-HD150 will operate on the single set point setting, and only the single set point object AV_xxxx10 is available for use.



[When enabling this item from the disabled state]

When this setting is enabled from the disabled state, the message shown below will appear. Selecting "Yes" will remove the object settings for the dual set points. Refer to "8.4.5 Configuring the Object settings" for details.



(5) Use Expansion Controller (Default: unchecked)

Expansion Controllers do not support dual set point function. This item is selectable only when the checkbox for "Old Model Compatibility Mode" is checked.

If the checkmark for "Old Model Compatibility Mode" is removed, then the checkmark for this item will also be removed.

In the Use Expansion Controller screen, PAC-YG50ECA (Expansion Controller) settings are made.

To connect BAC-HD150 to PAC-YG50ECA : Check the box.

To connect BAC-HD150 to the M-NET line (when PAC-YG50ECA is not connected to the system) : Leave the box unchecked.

Depending on the setting for the item above, the available settings for the following settings will vary.

	BAC-HD150 connected to PAC-YG50ECA	BAC-HD150 connected to the M-NET line
8.2.2 M-NET Settings	–	○
8.2.3 Expansion Controller Settings	○	–
8.3.1 Group Settings	–	○
8.3.2 Interlocked LOSSNAY	–	○

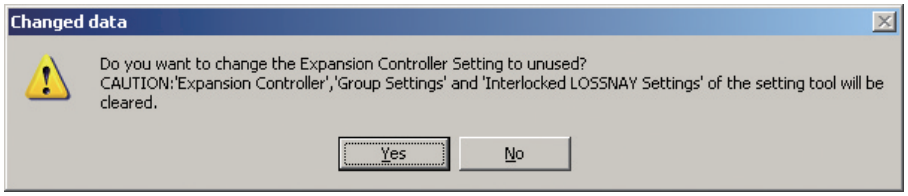
○ : Settable
– : Not settable

When connecting BAC-HD150 to PAC-YG50ECA, the M-NET Settings (see 8.2.2), Group Settings (see 8.3.1), and Interlocked LOSSNAY Settings (see 8.3.2) are made via AG-150A, not from the Setting Tool. It is possible to check these settings on the Setting Tool.
When connecting BAC-HD150 to the M-NET line, the M-NET Settings (see 8.2.2), Group Settings (see 8.3.1), and Interlocked LOSSNAY Settings (see 8.3.2) are made from the Setting Tool. The Expansion Controller settings (see 8.2.3) do not need to be set when BAC-HD150 is not connected to PAC-YG50ECA.
When the setting for “Use Expansion Controller” is changed, the following popup message will appear. Those settings on the Setting Tool that are listed in the message below will be cleared when the setting for “Use Expansion Controller” is changed. Even if the Initial Setting tool settings are accidentally deleted, the current BAC-HD150 and PAC-YG50ECA settings can still be displayed by executing the “Get Setting” command before executing the “Put Setting” command.

(a) Popup confirmation message that appears when “Use Expansion Controller” box is checked

CAUTION
Please note that clicking “Yes” on the popup message above will delete the M-NET Settings, Group Settings, and Interlocked LOSSNAY Settings.

(b) Popup confirmation message that appears when “Use Expansion Controller” box is unchecked



CAUTION
Please note that clicking “Yes” on the popup message above will delete the Expansion Controller Settings, Group Settings, and Interlocked LOSSNAY Settings.

(6) Use Air Conditioning System Time Synchronization (Default: unchecked)
Depending on the setting for this item, the time setting information of the BAC-HD150 is either sent or not sent to the M-NET, AG-150A, and PAC-YG50ECA. Make the time setting for BAC-HD150 from the BMS (Building Management System).
In the Use Air Conditioning System Time Synchronization menu, the settings for synchronizing the internal clocks on the connected devices are made.

(a) Enabling “Air Conditioning System Time Synchronization” (Check the checkbox.)

The time synchronization information on the BMS and BAC-HD150 will be sent to the M-NET and to the connected devices such as PAC-YG50ECA and AG-150A. The time information will be sent to the M-NET line to which PAC-YG50ECA is connected.When making this setting, the Time Master setting for AG-150A must be set to “Sub.”

Time synchronization information signal is sent when the time setting is changed. The signal is also sent out once a day at 4:30:30 a.m.

(b) Disabling “Air Conditioning System Time Synchronization” (Uncheck the checkbox.)

The time synchronization information on the BMS and BAC-HD150 will not be sent to the M-NET or to the connected devices such as PAC-YG50ECA and AG-150A.

Time synchronization information signal received by BAC-HD150 from PAC-YG50ECA or AG-150A will not be used to update the time setting on BAC-HD150.

(7) Unit Data

Displays BAC-HD150 information.

(To display the Serial No. and Program Version, the “Get Settings” command needs to be executed.)

(a) Serial No.

BAC-HD150 serial number

(b) Program Version

BAC-HD150 program version

(c) DB Version

BAC-HD150 DB (Data Base) version

8.2.2 M-NET settings

Setting the M-NET-related items

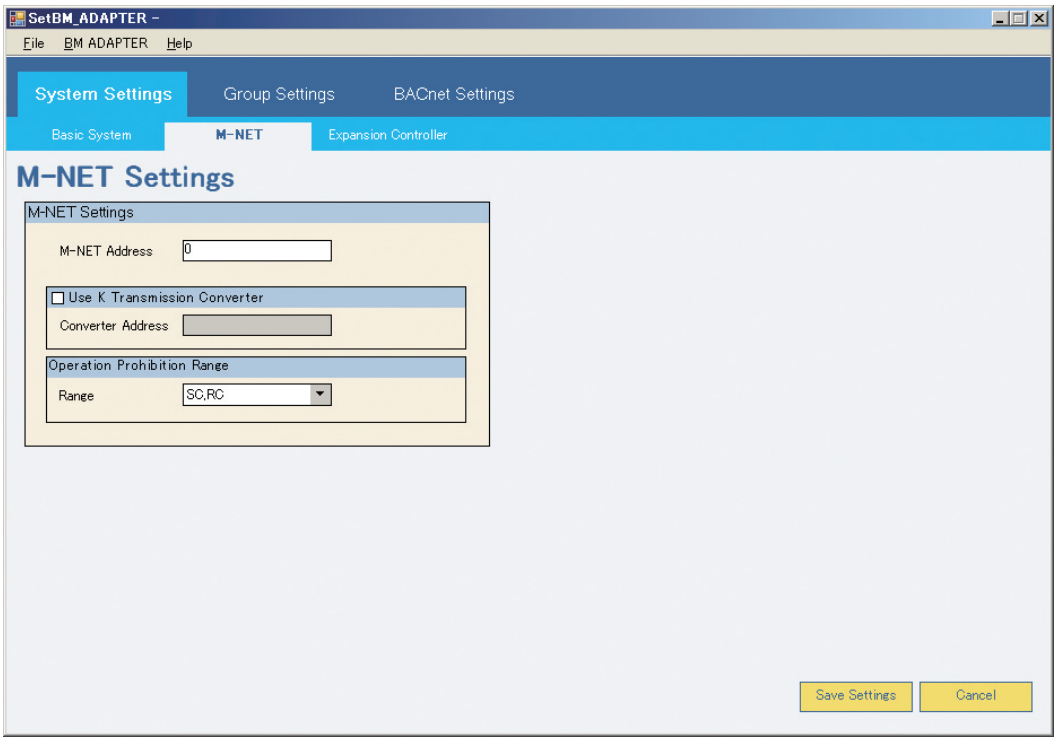
These settings are not settable when “Use Expansion Controller” in 8.2.1(5) is selected.

Click the [M-NET] tab on the [System Settings] tab to display the [M-NET Settings] window.

On this window, the M-NET-related items are configured.

The default settings are as shown in the figure below.

“M-NET settings” need to be made only when connecting BAC-HD150 to the M-NET line.



(1) M-NET Settings

No.	Item	Description	Default
1	M-NET Address	Enter the M-NET address of BAC-HD150. (Setting range: 0, 201 - 250) Normally set to [0] Set this setting to “0” when connecting the K-control model of units.	0
Use K-transmission converter			
2	Checkbox	Check the checkbox to connect K-control air conditioning units.	Unchecked
3	Converter Address	Enter the M-NET address of the K-transmission converter if connecting K-control air conditioners. This field will be grayed out unless the checkbox is checked. (Setting range: 201 - 250)	Blank
Operation prohibition range			
4	Range	From the pulldown menu, select [SC, RC] to prohibit the operation from both the low-level system controllers and remote controllers, or select [RC] to prohibit operation from only the remote controllers when Prohibit local operation is enabled. Normally set to [SC, RC]	SC, RC

8.2.3 Expansion Controller Settings

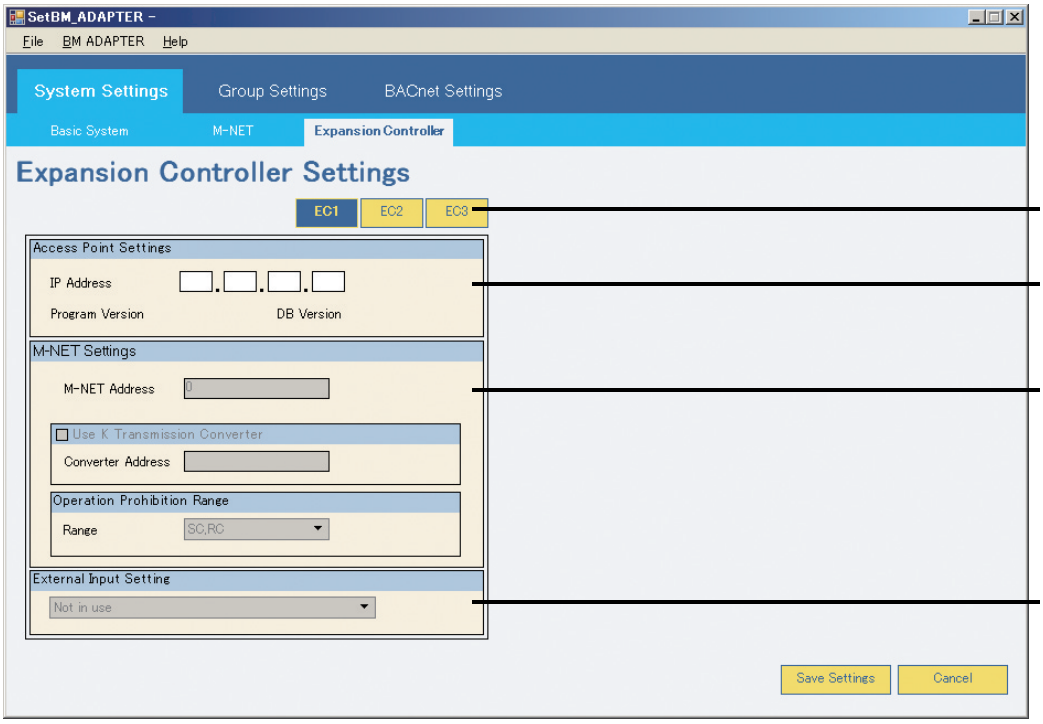
In the Expansion Controller Settings tab, the settings for PAC-YG50ECA (Expansion Controller) can be set or confirmed.

These settings are not settable when “Old Model Compatibility Mode” in 8.2.1(4) is selected.

Clicking the “Expansion Controller” tab on the “System Settings” tab will bring up the “Expansion Controller Settings” screen. On this window, the Expansion Controller-related items are configured.

The default setting are as shown in the figure below.

“Expansion Controller Settings” need to be made only when connecting BAC-HD150 to PAC-YG50ECA.



Note:
When connecting BAC-HD150 to PAC-YG50ECA, set the IP address (see section (2)) only.
The settings for items listed in sections (3) and (4) are PAC-YG50ECA's internal settings and cannot be set from the Setting Tool, although these settings can be displayed on the Setting Tool. (Refer to section 8.2.3.1 “Acquiring the settings information for the Expansion Controller settings” for details.)
Changes to these settings can be set from AG-150A.

(1) Expansion Controller Selection button

Use this button to select a PAC-YG50ECA whose settings are to be set or checked. (EC1-3)

(2) Access Point Settings

This item is used to set the IP address for PAC-YG50ECA and to display the program version and DB version. Refer to section 8.2.3.1 “Acquiring the settings information for the Expansion Controller settings” for how to display the program and DB versions of PAC-YG50ECA.

No.	Item	Description	Default
1	IP Address	Enter the IP address of the Expansion Controller to be connected in the IP address field.	Blank
2	Program Version	The program version of the selected Expansion Controller is displayed under “Program Version.”	Blank
3	DB Version	The DB version of the selected Expansion Controller is displayed under “DB Version.”	Blank

(3) M-NET Settings

In the M-NET Settings fields, the current M-NET settings for the PAC-YG50ECA are displayed. Refer to section 8.2.3.1 “Acquiring the settings information for the Expansion Controller settings” for how to display the settings.

No.	Item	Description
1	M-NET Address	The M-NET address that is assigned to the selected Expansion Controller is displayed under “M-NET Address.”
Use K-transmission converter		
2	Checkbox	Indicates whether K-control units are connected to the Expansion Controller or not. This checkbox will be checked when K-control air conditioning units are connected.
3	Converter Address	Indicates the M-NET address of the K-transmission converter when K-control air conditioning units are connected to the Expansion Controller.
Operation prohibition range		
4	Range	Indicates the types of controllers that are included in the “Prohibit Remote Controller” setting. SC, RC : Both the low-level system controllers and remote controllers are included. RC : Only the remote controllers are included.

(4) External Input Setting

Indicates the external input settings for PAC-YG50ECA. Refer to section 8.2.3.1. “Acquiring the settings information for the Expansion Controller settings” for how to display the settings.

Settings

- Not in use : External input is not used.
- Emergency Stop (Level signal) : Emergency stop mode (level signal input)
- ON/OFF (Level signal) : ON/OFF mode (level signal input)
- ON/OFF/Prohibit/Permit/Pulse signal : ON/OFF/Prohibit/Permit/Pulse signal input

8.2.3.1 Acquiring the settings information for the Expansion Controller settings

To acquire the settings information about PAC-YG50ECA, connect PAC-YG50ECA to LAN 2 port of BAC-HD150, switch on the PAC-YG50ECA, and do the following via the Setting Tool.

Procedures

1) Enter the IP address as described in section 8.2.3(2) “Access Point Settings.” (EC1-3)
2) Select “Mode Setting” from “BM ADAPTER” in the Menu bar, and change the Setting Mode setting to “OffLine Mode.”
3) Execute the “Put Setting” command from “BM ADAPTER” in the Menu bar. (The settings will be sent to BAC-HD150 from the Setting Tool.)
4) Select “Mode Setting” from “BM ADAPTER” in the Menu bar, and change the Setting Mode setting to “OnLine Mode.” (Steps 1 through 4 are required only at the initial setup.)
5) Execute the “Get Setting” command from “BM ADAPTER” in the Menu bar. (The setting data will be acquired from BAC-HD150.)

*After the initial settings have been completed, only step 5 will be required to display the PAC-YG50ECA settings.

Note:
*If the PAC-YG50ECA settings are not displayed after taking the steps above, check that the PAC-YG50ECA units are properly connected and that the IP addresses for the PAC-YG50ECA units are set correctly.

8.3 Group settings

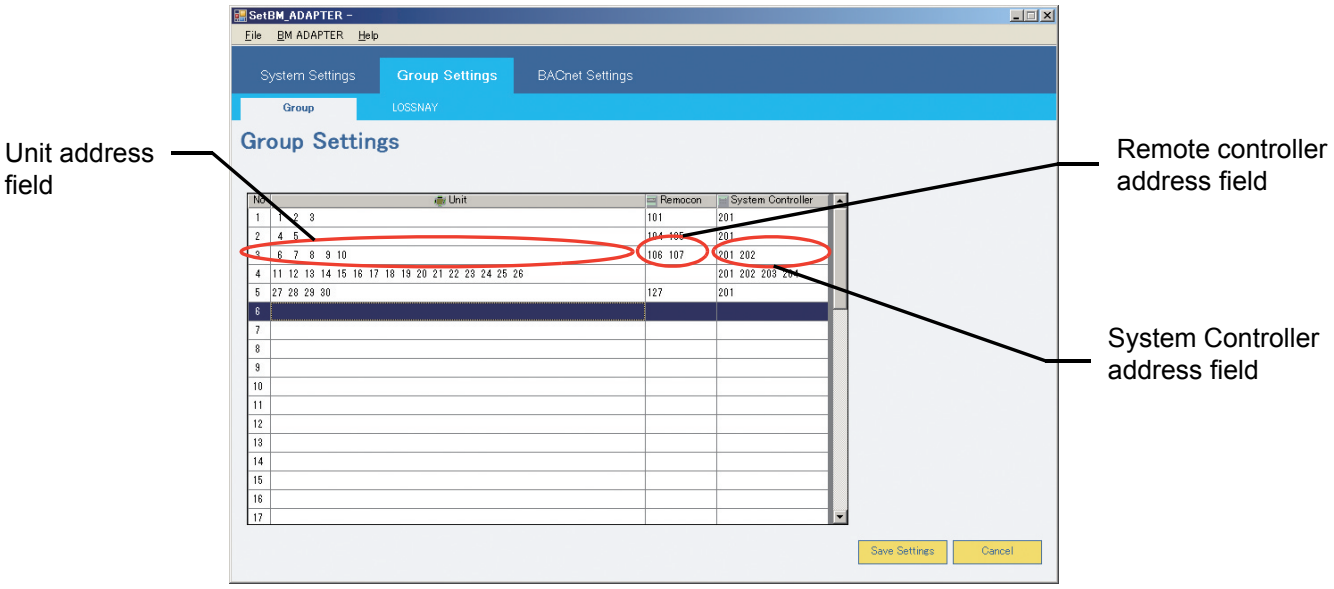
The [Group Settings] tab includes the [Group Settings] and [Interlocked LOSSNAY] sub tabs.

8.3.1 Configuring the Group Settings

Click the [Group] tab under the [Group Settings] tab to display the [Group Settings] window.
Items that appear on the screen and which items can be set depend on whether PAC-YG50ECA (Expansion Controller) units are connected or not.

8.3.1.1 Group Settings (system in which BAC-HD150 is connected to the M-NET line)

Take the following steps to configure the group settings (units, remote controllers, and system controllers for each group).
(The default settings for all items are blank.)



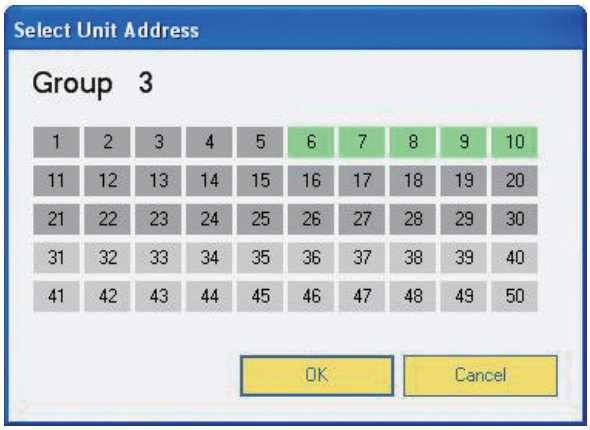
No.	Item	Description	Notes
1	No.	Group number (Group range: 1 - 50)	
2	Unit	Configure the M-NET address of the units (air conditioning units, LOSSNAY etc.) in the group.	*1
3	Remocon	Configure the M-NET address of the remote controllers that operate the group.	*2
4	System controller	Configure the M-NET address of the system controller that operate the group.	*2

*1: The maximum number of units that can be configured into a group is 16.
Each group can be comprised only of the same type of units (e.g., Air conditioning units cannot be grouped together with LOSSNAY units).

*2 The maximum number of remote controllers and system remote controllers that can be configured into a group is four, not including the BAC-HD150 unit. No more than two remote controllers can be included in each group.

(1) Configuring the group setting for the units

Double-click the Unit address field of the group to be set to display the [Select Unit Address] popup window. Select the units to be included in each group on this window.



(a) Unit selection

Click a unit address to select. Click the selected address to deselect.

The unit selection status is indicated in different colors.

Light gray indicates the units that are available for selection, and lime green indicates the addresses that are currently selected.

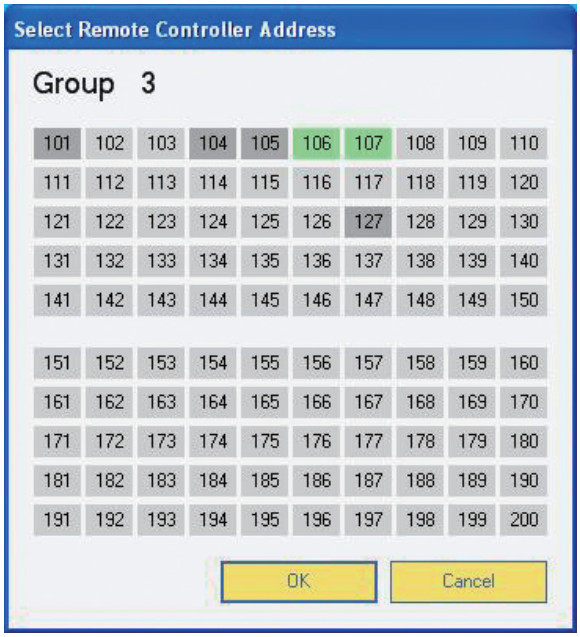
Light gray: Units that do not belong to any group

Lime green: Units that are currently selected

Dark gray: Units that belong to other groups

(2) Configuring the group setting for the remote controllers

Double-click the Remote controller address field to display the [Select Remote Controller Address] popup window. Select the remote controllers to be assigned to each group on this window.



(a) Remote controller selection

Click a remote controller address to select. Click the selected remote controller address to deselect.

The remote controller selection status is indicated in different colors.

Light gray indicates the remote controllers that are available for selection, and lime green indicates the addresses that are currently selected.

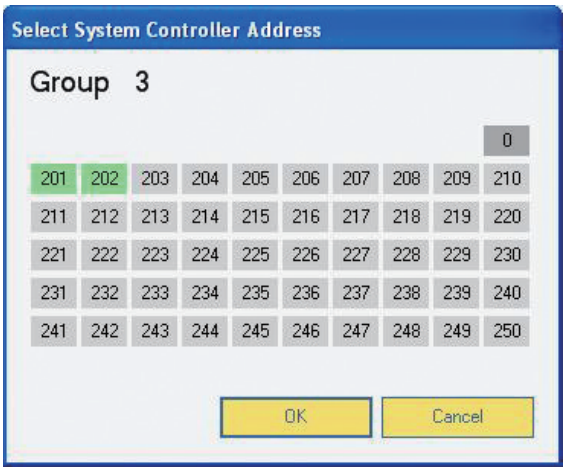
Light gray: Remote controllers that do not belong to any group

Lime green: Remote controllers that are currently selected

Dark gray: Remote controllers that belong to other groups

(3) Configuring the group setting for the system controllers

Double-click the System Controller address field to display the [Select System Controller Address] popup window. Select the system controllers to be assigned to each group on this window.



(a) System controller selection

Click a system controller address to select. Click the selected address to deselect.

The system controller selection status is indicated in different colors.

Light gray indicates the system controllers that are available for selection, and lime green indicates the addresses that are currently selected.

Light gray: System controllers that do not belong to any group

Lime green: System controllers that are currently selected

Dark gray: BAC-HD150 address

8.3.1.2 Group Settings (system in which BAC-HD150 is connected to PAC-YG50ECA)

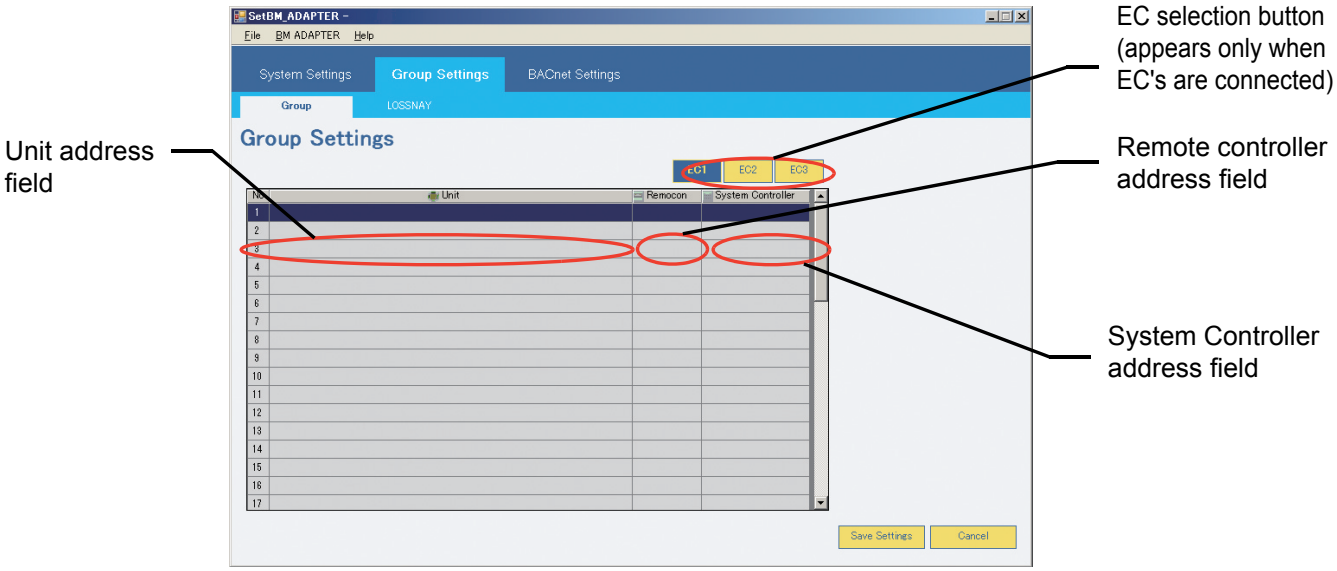
In the “Group Settings” tab, the group settings information that have been stored on PAC-YG50ECA will be displayed.

Use the EC1 through EC3 buttons to select a PAC-YG50ECA unit to see its settings.

Refer to section 8.2.3.1 “Acquiring the settings information for the Expansion Controller settings” to display the PAC-YG50ECA group settings.

If BAC-HD150 is connected to PAC-YG50ECA, changes for the PAC-YG50ECA's group settings cannot be made from the Setting Tool.

Change the group settings from AG-150A if necessary.



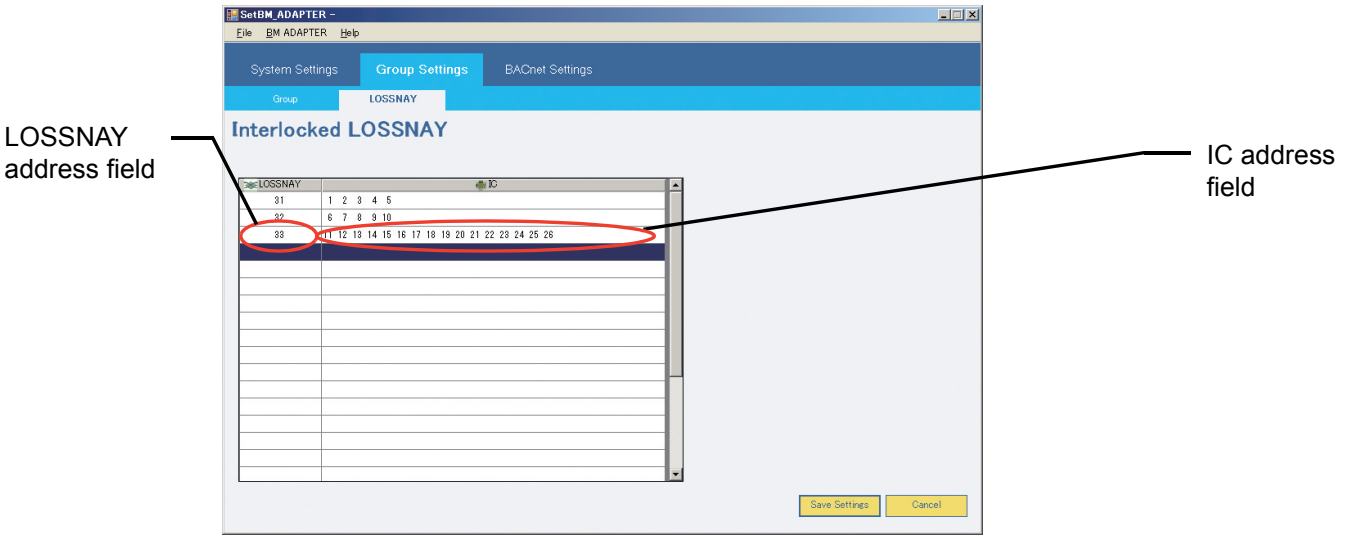
No.	Item	Description	Notes
1	No.	Group number (Group range: 1 - 50)	
2	Unit	M-NET address of the units, such as air conditioning units, LOSSNAY units, in a given group.	
3	Remocon	M-NET address of the remote controller that controls a given group.	
4	System controller	M-NET address of the system controller that controls a given group.	

8.3.2 Configuring the LOSSNAY interlocking settings

Click the [LOSSNAY] tab under the [Group Settings] tab to display the [Interlocked LOSSNAY] window. Items that appear on the screen and which can be set depend on whether PAC-YG50ECA units are connected or not.

8.3.2.1 Interlocked LOSSNAY settings (system in which BAC-HD150 is connected to M-NET line)

To interlock the operation of LOSSNAY and indoor units, enter their addresses in the appropriate fields. (The default settings for all items are blank.)



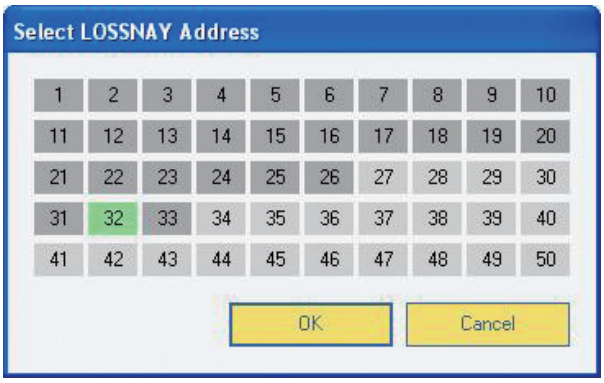
No.	Item	Description	Notes
1	LOSSNAY	Address of the LOSSNAY unit to be interlocked with the indoor units	*1
2	IC	Address of the indoor units to be interlocked with the LOSSNAY unit	*2

*1: Only one LOSSNAY address can be entered in each field.

*2: The maximum number of indoor units that can be interlocked with each LOSSNAY unit is 16. Each indoor unit can be interlocked with only one LOSSNAY unit.

(1) Configuring the interlock settings for the LOSSNAY units

Double-click the LOSSNAY address field to display the [Select LOSSNAY Address] popup window.



(a) Interlocking LOSSNAY address selection

Click the address of the LOSSNAY unit to select. Click the selected address to deselect.

The unit selection status is indicated in different colors.

Light gray indicates the units that are available for selection, and lime green indicates the addresses that are currently selected.

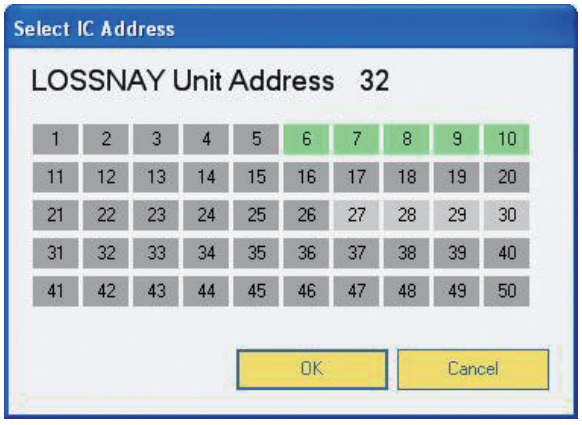
Light gray: Indoor or LOSSNAY units that are not interlocked

Lime green: LOSSNAY units that are currently selected

Dark gray: Indoor or LOSSNAY units that are already interlocked

(2) Configuring the interlock settings for the indoor units

Double-click the IC address field to display the [Select IC Address] popup window.



(a) Indoor unit address selection

Click the address of the indoor unit to select. Click the selected address to deselect.

Light gray: Indoor or LOSSNAY units that are configured into a group, but not interlocked

Lime green: Indoor units that are currently selected

Dark gray: Indoor or LOSSNAY units that are not configured into a group or are interlocked

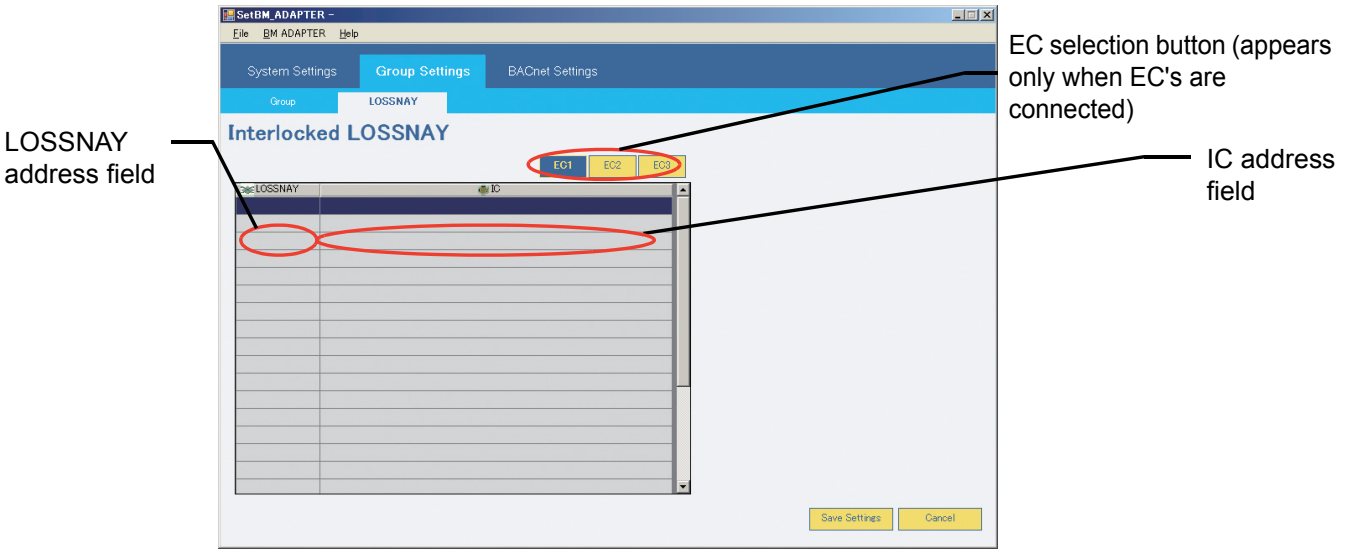
8.3.2.2 Interlocked LOSSNAY settings (system in which BAC-HD150 is connected to PAC-YG50ECA)

In the “LOSSNAY” tab, the Interlocked LOSSNAY settings information that have been registered to PAC-YG50ECA will be displayed. Use the EC1 through EC3 buttons to select a PAC-YG50ECA unit to see its settings.

Refer to section 8.2.3.1 “Acquiring the settings information for the expansion controller settings” for how to acquire the Interlocked LOSSNAY settings information that is stored on PAC-YG50ECA.

If PAC-YG50ECA units are connected, changes for the PAC-YG50ECA's Interlocked LOSSNAY settings cannot be made from the Setting Tool.

Change the Interlocked LOSSNAY settings from AG-150A if necessary.



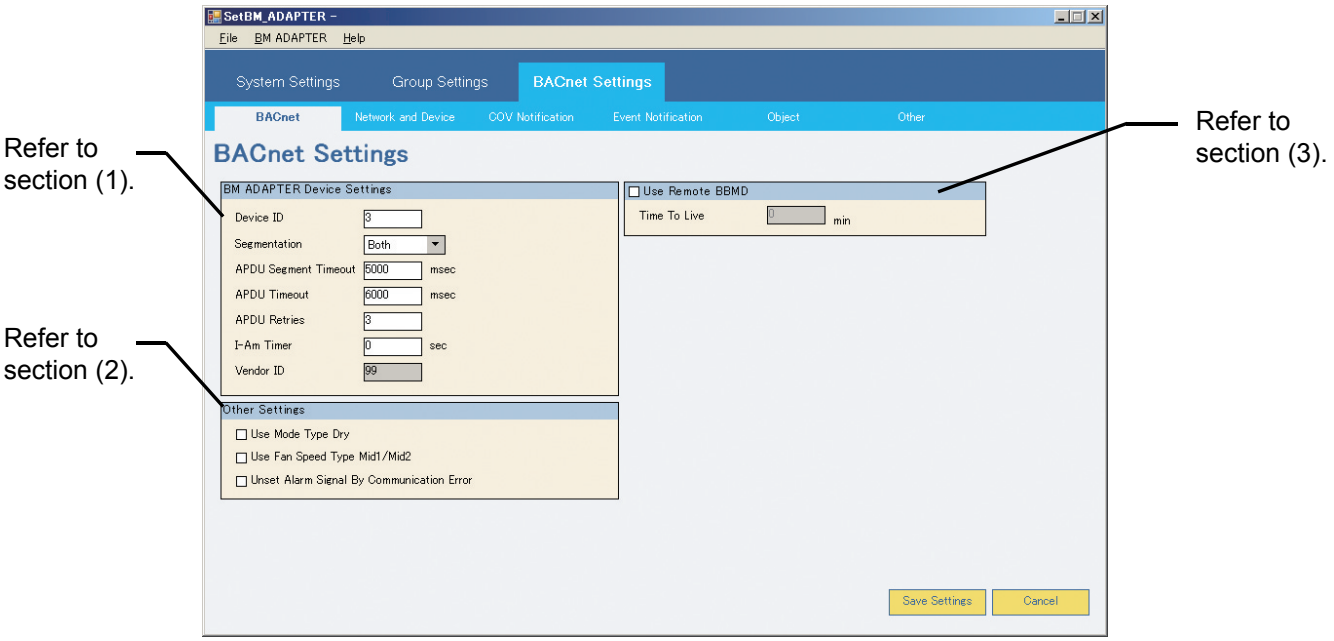
No.	Item	Description	Notes
1	LOSSNAY	Interlocked LOSSNAY unit address	
2	IC	Address of the air conditioning unit that a given LOSSNAY unit is interlocked with	

8.4 BACnet settings

The [BACnet Settings] tab includes the following four sub tabs: [BACnet Settings], [Network and Device Settings], [COV Notification Settings], [Event Notification Settings], [Object Settings], and [Other Settings].

8.4.1 Configuring the settings on the [BACnet Settings] window

Click the [BACnet] tab under the [BACnet Settings] tab to display the [BACnet Settings] window. Enter the BAC-HD150 device information, and make the basic settings and timer settings on this window. The default settings are shown in the figure below.



(1) BM ADAPTER Device Settings

The table below summarizes the BAC-HD150 device settings. (Some items are only for showing the current settings.)

No.	Item	Description	Default
1	Device ID	Enter the Device ID (number) of BAC-HD150. (Setting range: 1 - 4194302)	3
2	Segmentation	Choose whether or not to use segmentation for BACnet communication. From the pulldown menu, select [Both] to use segmentation for both transmission and reception, and [None] to not use segmentation for either.	Both
3	APDU Segment Timeout	Enter the response timeout time (in response to the segment data sent). (Setting range: 0 - 99999 m second) Normally set to [5000]	5000
4	APDU Timeout	Enter the response timeout time (in response to the data sent). (Setting range: 0 - 99999 m second) Normally set to [6000]	6000
5	APDU Retries	Set the number of retries to allow. (Setting range: 0 - 99 times) Normally set to [3]	3
6	I-Am Timer	Set the transmission cycle for the I-Am service that the BAC-HD150 transmits. (Setting range: 0 - 999 seconds) (When set to [0], “I-Am” will not be sent cyclically.)	0
7	Vendor ID	The vender ID of “BAC-HD150” appears here. (Fixed to [99])	99

(2) Other Settings

The table below summarizes the basic BAC-HD150 settings.

No.	Item	Description	Default
1	Use Mode Type Dry	Check the checkbox to use the [Dry] mode.	Unchecked
2	Use Fan Speed Type Mid1/Mid2	Check the checkbox to use the fan speeds [Mid 1 or Mid 2].	Unchecked
3	Unset Alarm Signal By Communication Error	Check the checkbox not to use the communication error alarm signal (BI_xxxx03). Normally left unchecked	Unchecked

BMS: Building Management System

(3) Use Remote BBMD

The table below summarizes how to register the external BAC-HD150 devices.

No.	Item	Description	Default
1	Checkbox	Check the checkbox to register the BAC-HD150 to the BBMD as an external device.	Unchecked
2	Time To Live	Set the time limit for the BAC-HD150 to be registered as an external device to the BBMD (in minute increments). The time setting is valid only if the checkbox is checked. (Setting range: 0 - 1092) If the timeout time is set to [0], there will be no time limit. Normally set to [0]	0

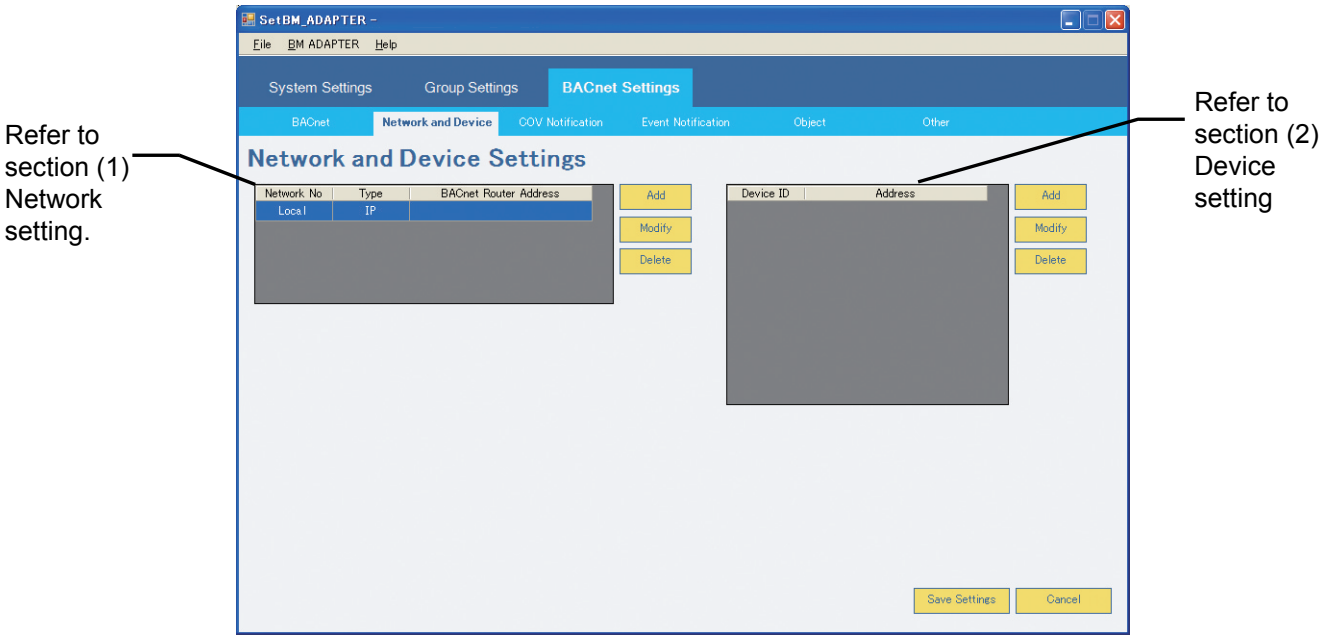
8.4.2 Configuring the settings for the Network and Device Settings

Make the settings for the COV Notification and Event Notification that BAC-HD150 transmits, I-Am service's transmission target network, and device.

Also, make the settings for the Time Server's network and device.

Click the [Network and Device] tab under the [BACnet settings] tab to display [Network and Device Setting] window.

The default settings are as shown in the figure below.

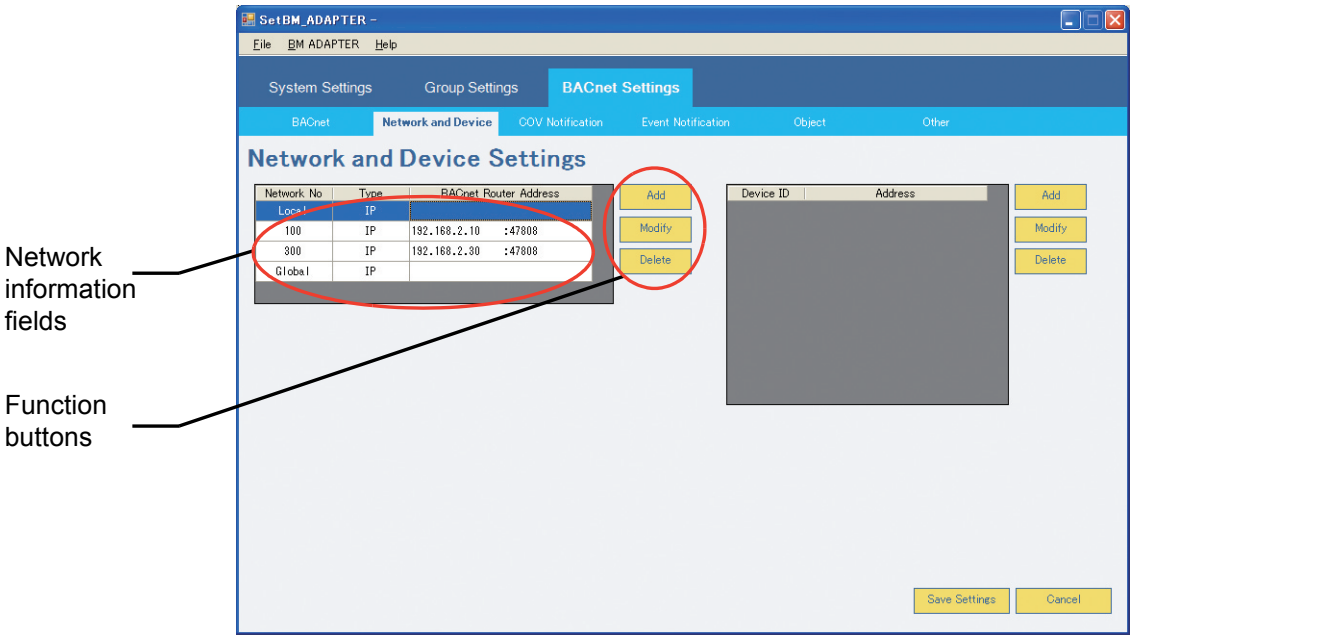


(1) Network setting

Network configuration is required only if a BACnet router is used.

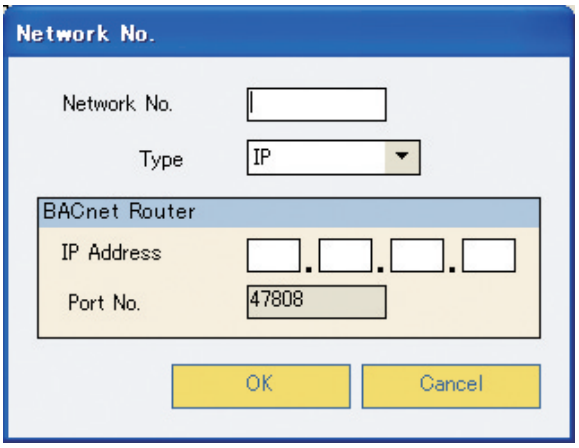
(Only [Local] will appear in the Network No. column if no BACnet router is used.)

The maximum number of network that can be configured is 5.



(a) Network setting

Click [Add] to display the [Network No.] popup window. Enter the network information in the fields.

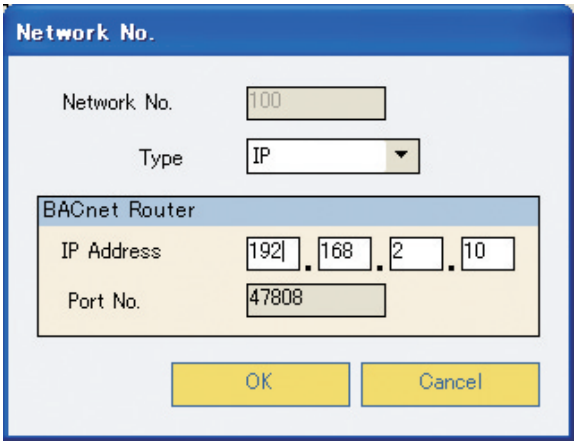


No.	Item	Description	Default
1	Network No.	Enter the network number. (Setting range: 1 - 65534; Global Broad Cast: 65535)	Blank
2	Type	Fixed IP (Only the IP is selectable.)	IP
BACnet Router			
3	IP Address	Enter the IP address of the BACnet router to be connected to the network that was configured in No. 1 above. (The IP address of the BACnet router on the network to which the BAC-HD150 is connected.)	Blank
4	Port No.	The number of the port that the BACnet router uses for BACnet communication appears here. Normally set to [47808]	47808

(b) Changing the network settings

Select the network and click [Modify] to display the [Network No.] popup window.

The only item that can be changed is the IP Address under [BACnet Router].



(c) Deleting the network setting

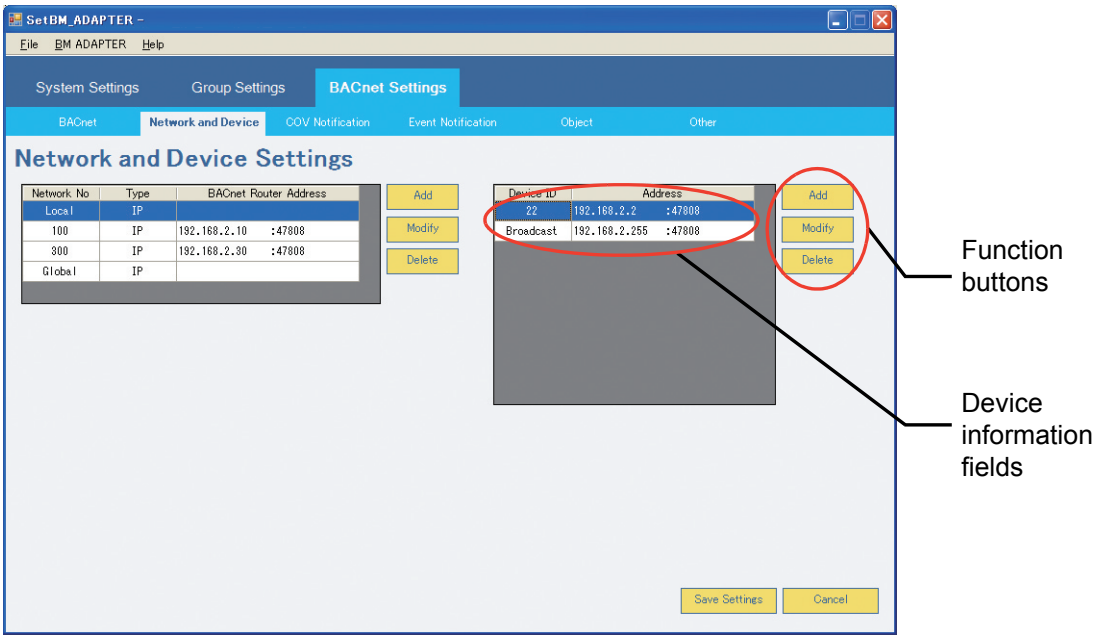
Select the network to be deleted, and click [Delete] to delete the setting.

(The Local network cannot be deleted.)

(2) Device setting

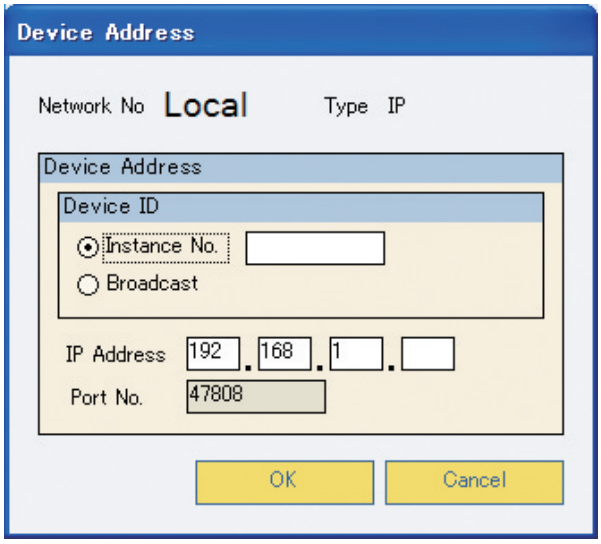
Take the following steps to make the settings for the devices in the network.

The maximum number of devices that can be configured in each network is 10.



(a) Device setting

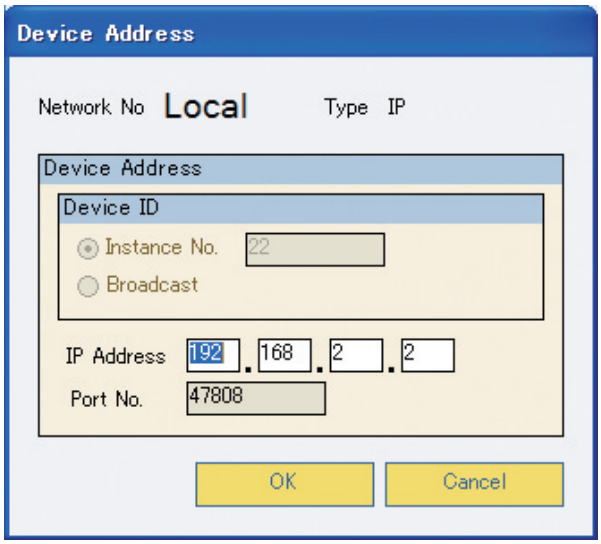
Select the network to configure the devices into, and click [Add] to display the [Device Address] popup window.



No.	Item	Description	Default
1	Instance No. radio button	Check the radio button to set the devices.	Checked
2	Broadcast radio button	Check the radio button to broadcast transmission.	Unchecked
3	Instance No.	Enter the device instance number when Instance No. radio button is checked. (Setting range: 0 - 4194302)	Blank
4	IP Address	Enter the IP address of the device to be configured.	Blank
5	Port No.	The BACnet port number of the device to be configured will appear here. Normally set to [47808]	47808

(b) Changing the device setting

Select the device whose settings are to be changed and click [Modify] to display the [Device Address] popup window. The only item that can be changed is the IP Address.



(c) Deleting the device setting

Select the device to be deleted and click [Delete] to delete the setting.

Note:
When changing the Device ID, reset the Device ID of “COV Notification Settings,” “Event Notification Settings,” and “Other Settings” in the Setting Tool.

(3) BAC-HD150 transmission patterns

The following types of BAC-HD150 transmision are available:

1. Unicast transmission to the devices in the local network and unicast transmission via and IP router if one is used.
2. Broadcast transmission to the devices in the local network and Broadcast transmission via the BBMD if an IP router and BBMD are connected to the system
3. Broadcast transmission via the BBMD if an IP router and remote BBMD are connected to the system
4. Unicast transmission to the devices in the remote network
5. Broadcast transmission to the devices in the remote network
6. Global broadcast transmission

(The options 4 through 6 are available only if a BACnet router is connected.)

No.	Network No.	BACnet Router IP Address	Device ID	IP Address	Notes
1	Local	Not enterable	Target device ID	Target device IP address	
2		Not enterable	Broadcast (*3)	Local Broadcast IP address	
3		Not enterable	Remote BBMD (*4)	Remote BBMD IP address	
4	Remote (*1)	BACnet router IP address	Target device ID	Target device IP address	Requires a BACnet router
5		BACnet router IP address	Broadcast (*3)	Not enterable	Requires a BACnet router
6	Global (*2)	Not enterable	Broadcast (fixed)	Local Broadcast IP address	Requires a BACnet router

*1: Use a value between 1 and 65,534 as the network number.

*2: Use 65,535 as the network number.

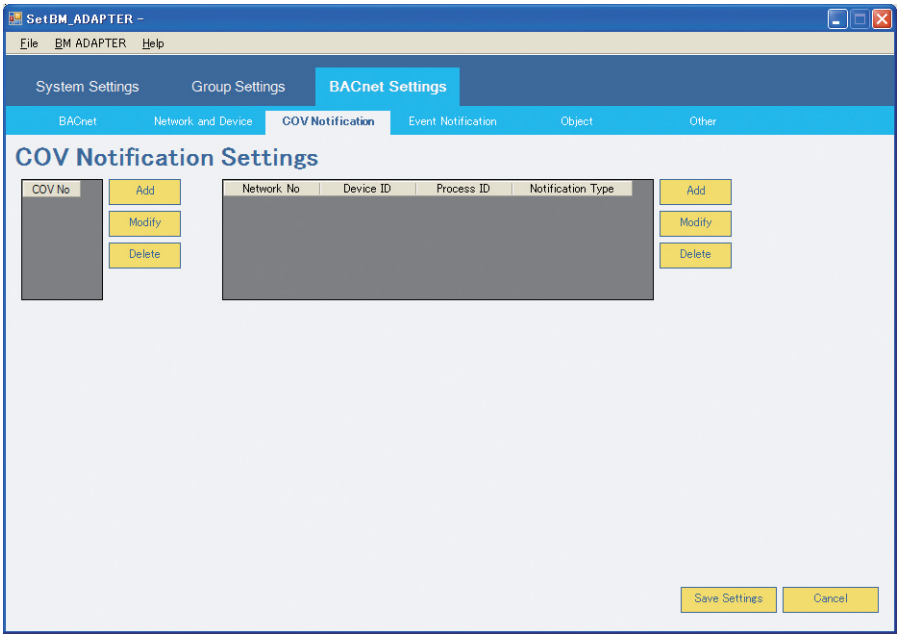
*3 Use Broadcast as the device ID.

*4 The device ID will automatically be entered when the checkbox next to Use Remote BBMD is checked. (See section 8.4.1(3).)

8.4.3 Configuring the COV Notification settings

Click the [COV Notification] tab under the [BACnet Settings] tab to display the [COV Notification Settings] window. Set the COV number and notification destination of the COV Notifications that are sent from BAC-HD150.

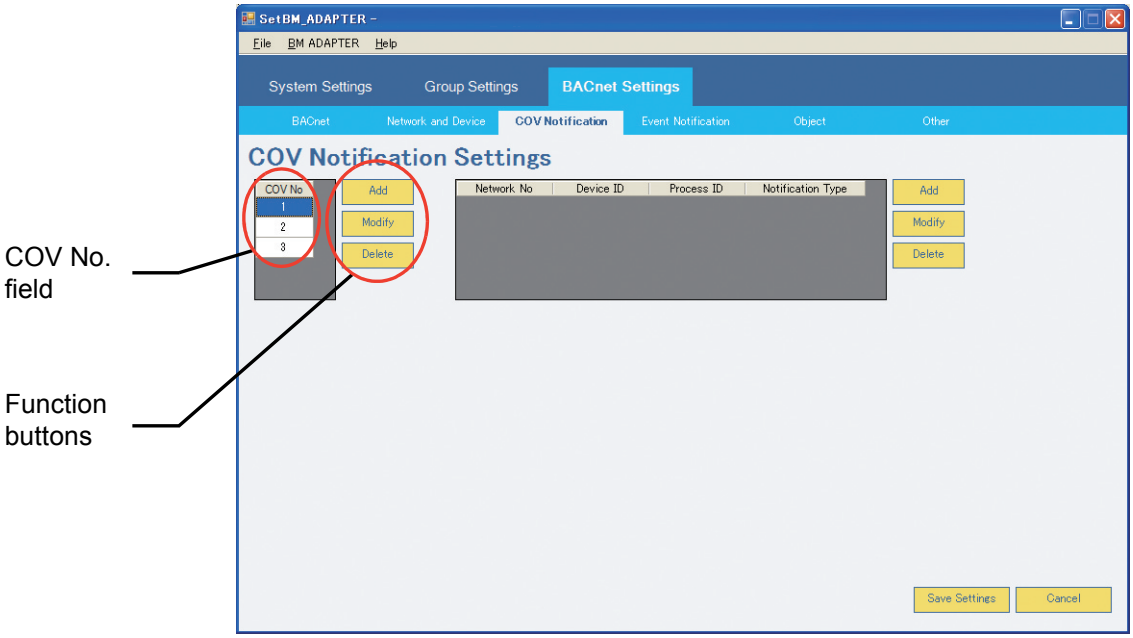
The default settings are as shown in the figure below.



(1) COV number setting

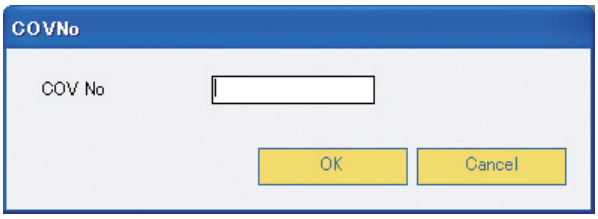
Enter the COV number.

The maximum number of COV numbers that can be entered is 5.



(a) COV number setting

Click [Add] to display the [COV No] popup window. Set the COV number on this window.



No.	Item	Description	Default
1	COV No	Enter the COV number. (Setting range: 1 - 10)	Blank

(b) Changing the COV number

Select the COV number to be changed and click [Modify] to display the [COV No] popup window. Window display content and the setting change method are the same as those described in section (a) “COV number setting.”

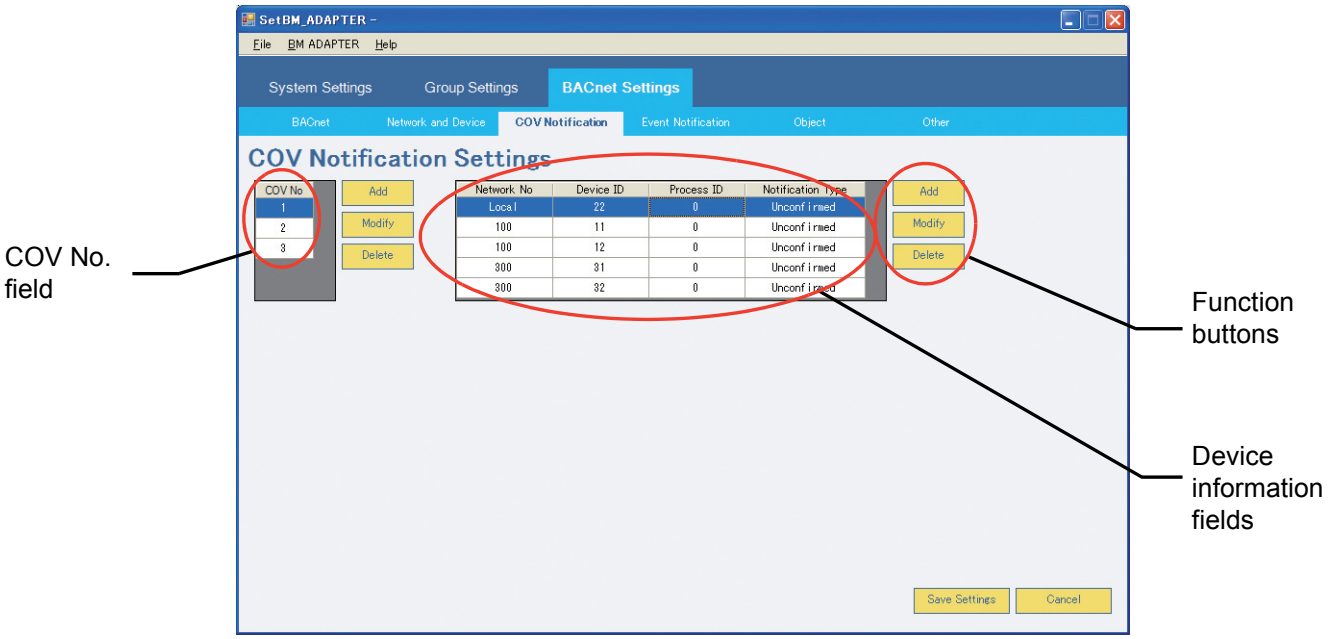
(c) Deleting the COV number

Select the COV number to be deleted and click [Delete] to delete the setting.

(2) COV Notification destination device setting

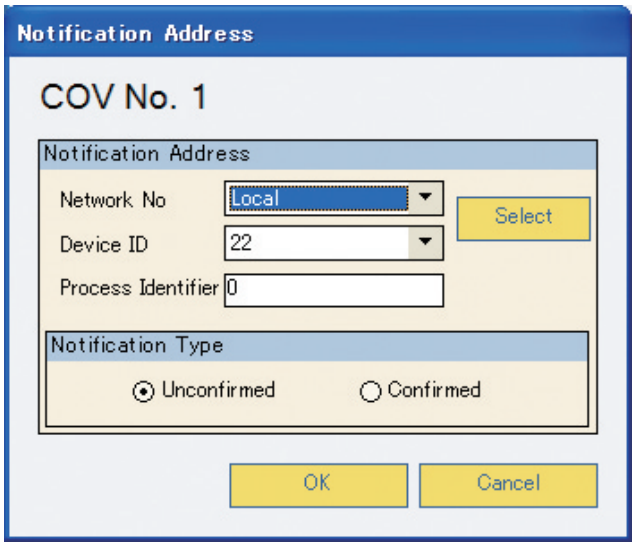
Set the destination device for the COV number in the window shown below.

The maximum number of devices that can be configured into each COV number is 5.



(a) COV Notification destination setting

Select the COV number of the device to be configured and click [Add] to display the [Notification Address] popup window.



No.	Item	Description	Default
Notification Address			
1	Network No.	Select the COV Notification destination device network number. (*1)	
2	Device ID	Select the COV Notification destination device ID. (*1)	
3	Process Identifier	Enter the ID of the process that receives the COV Notification of the notification destination device. (Setting range: 0 - 4294967295) To be set to [0] unless otherwise specified	0
Notification Type			
4	Unconfirmed/ Confirmed	Select between [Unconfirmed] or [confirmed] COV Notification.	Unconfirmed

*1: Select the network number of the COV Notification destination and the device ID either from the pulldown menu or on the [Network and Device Settings-Select BACnet Device] window that appears by clicking [Select].

The devices that were selected in section 8.4.2 “Configuring the Network and Device Settings” will appear in the pulldown menu and on the [Network and Device Settings-Select BACnet Device] window.

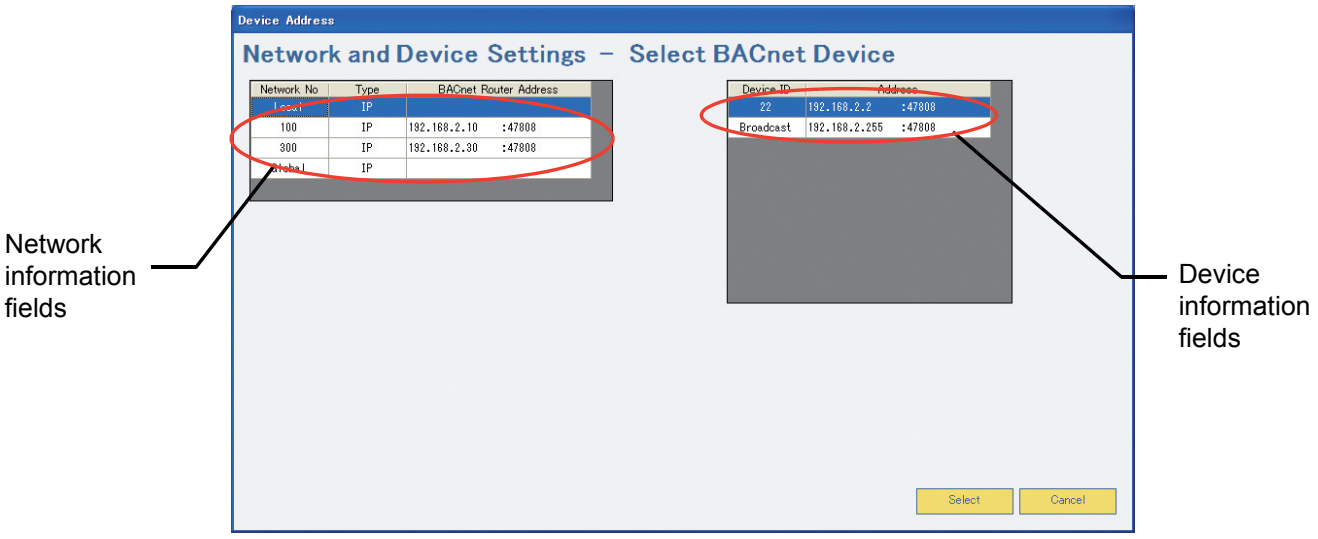
(i) Device selection window

Select a network on the [Network and Device Settings-Select BACnet Device] to display the devices in the selected network.

Select a device to configure from a list of devices displayed.

Select a device and click [Select] to close the window and save the settings for the network number and the selected device on the [Notification Address] popup window.

Click [Cancel] to close the window without saving any changes and display the [Notification Address] popup window. (The original Network No. and Device ID settings are retained.)



(b) Changing the COV Notification destination device

Select the device whose settings are to be changed and click [Modify] to display the [Notification Address] popup window.

Window display content and the setting change method are the same as those described in section (a) “COV Notification destination setting.”

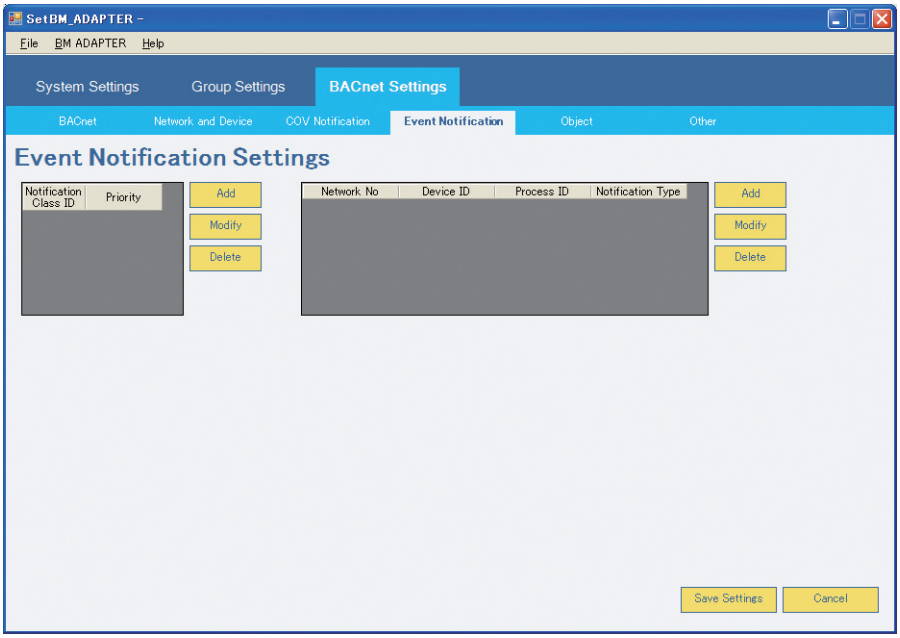
(c) Deleting the COV Notification destination

Select the device to be deleted and click [Delete] to delete the setting.

8.4.4 Configuring the Event Notification settings

Click the [Event Notification] tab under the [BACnet Settings] tab to display the [Event Notification Settings] window. Set the ID and notification destination of the Event Notifications that are sent from BAC-HD150.

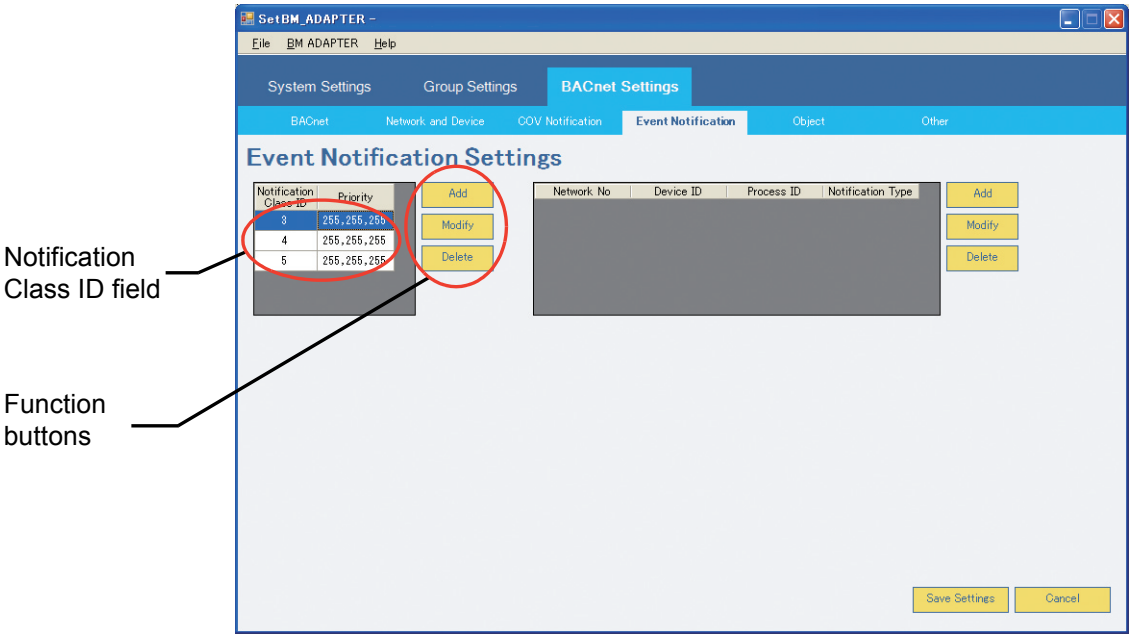
The default settings are as shown in the figure below.



(1) Notification Class ID setting

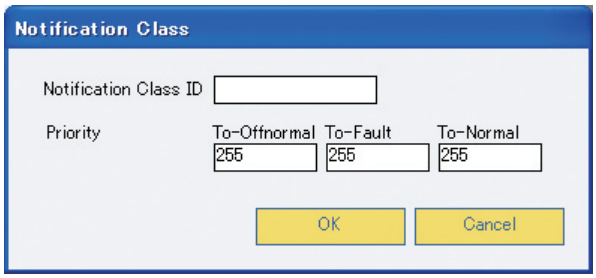
Enter the Event Notification class ID.

The maximum number of notification class IDs that can be entered is 5.



(a) Event Notification Class ID setting

Click [Add] to display the [Notification Class] popup window. Set the Event Notification Class ID on this window.



No.	Item	Description	Default
1	Notification Class ID	Enter the Notification Class ID (Instance number of notification class object) (*1) (Setting range: 0 - 4194302)	Blank
2	Priority	Set the priority for the Event Notification. (Setting range: 0 - 255) (*2) To be set to “255” unless otherwise specified	255

*1: Set this ID to a number 3 or greater unless the instance number of the notification class object is specified.

*2: The smaller the value, the higher the priority.

(b) Changing the Event Notification Class ID

Select the Notification Class ID to be changed and click [Modify] to display the [Notificaiton Class] popup window.

Window display content and the setting change method are the same as those described in section (a) “Event Notification Class ID setting.”

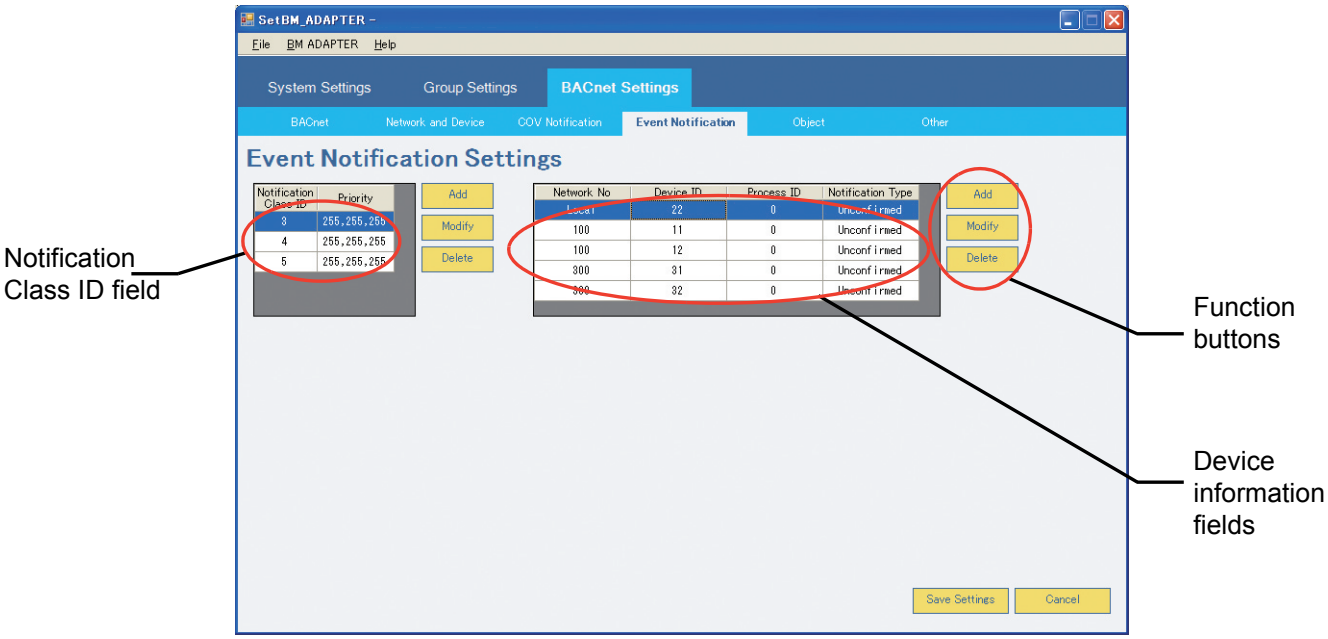
(c) Deleting the Event Notification Class ID

Select the Notification Class ID to be deleted and click [Delete] to delete the setting.

(2) Event Notification destination device setting

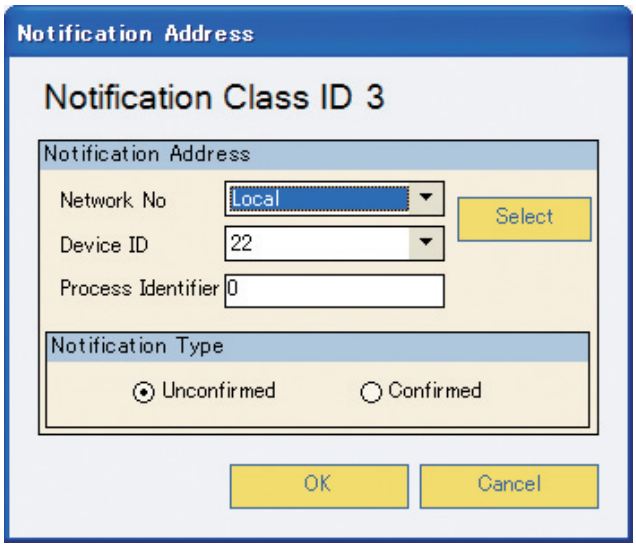
Set the destination device for the Event Notification Class ID in the window shown below.

The maximum number of devices that can be configured for each notification class ID is 5.



(a) Event Notification destination device setting

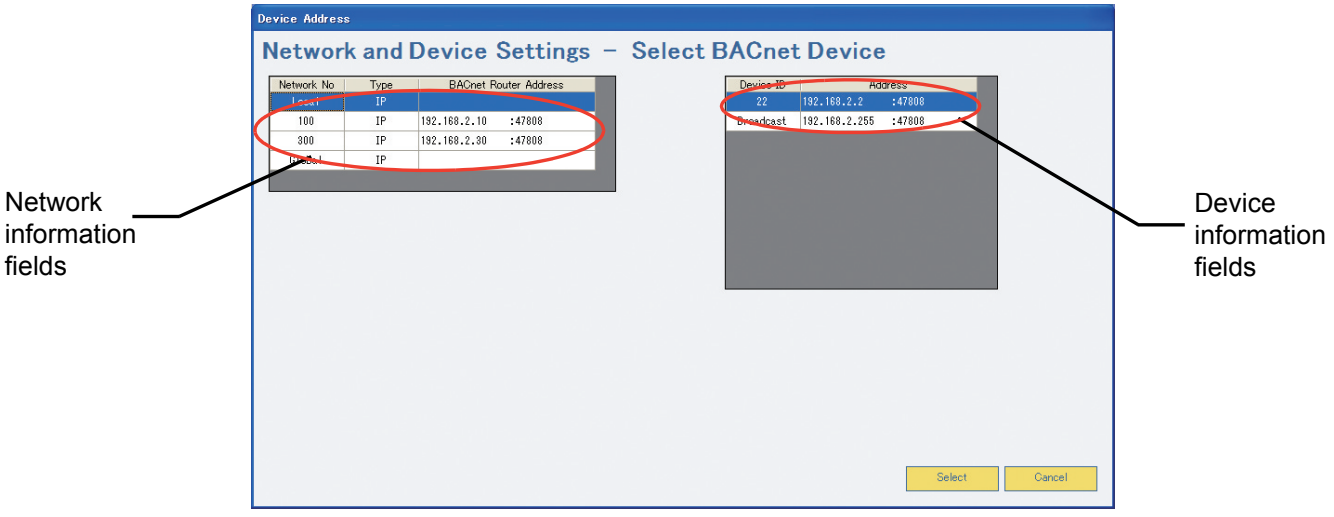
Select the Notification Class ID of the device to be configured and click [Add] to display the [Notification Address] popup window.



No.	Item	Description	Default
Notification Address			
1	Network No.	Select the network number of the Event Notification destination device. (*1)	
2	Device ID	Select the ID of the Event Notification destination device. (*1)	
3	Process Identifier	Enter the ID of the process that receives Event Notification of the notification destination device. (Setting range: 0 - 4294967295) To be set to [0] unless otherwise specified	0
Notification Type			
4	Unconfirmed/ Confirmed	Select between Unconfirmed or confirmed Event Notification.	Unconfirmed

*1: Select the network number of the Event Notification destination and the device ID either from the pulldown menu or on the [Network and Device Settings-Select BACnet Device] window that appears by clicking [Select].
The devices that were selected in section 8.4.2 “Configuring the Network and Device Settings” will appear in the pulldown menu and on the [Network and Device Settings-Select BACnet Device] window.

(i) Device selection window
Select a network on the [Network and Device Settings-Select BACnet Device] to display the devices in the selected network.
Select a device to configure from a list of devices displayed.
Select a device and click [Select] to close the window and save the settings for the network number and the selected device on the [Notification Address] popup window.
Click [Cancel] to close the window without saving any changes and display the [Notification Address] popup window. (The original Network No. and Device ID settings are retained.)



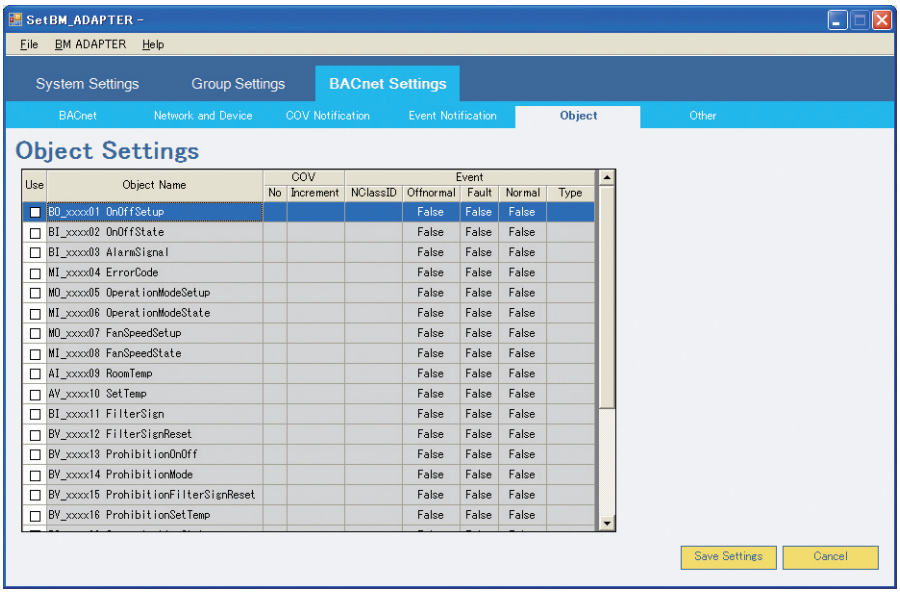
(b) Changing the Event Notification destination device
Select the device and click [Modify] to display the [Notification Address] popup window.
Window display content and the setting change method are the same as those described in section (a) “Event Notification destination device setting.”

(c) Deleting the Event Notification destination device
Select the device to be deleted and click [Delete] to delete the setting.

8.4.5 Configuring the Object settings

Click the [Object] tab under the [BACnet Settings] tab to display the [Object Settings] window. Configure the object to be used by BAC-HD150 on this window.

The default settings are as shown in the figure below.



(1) Selecting the objects to be used

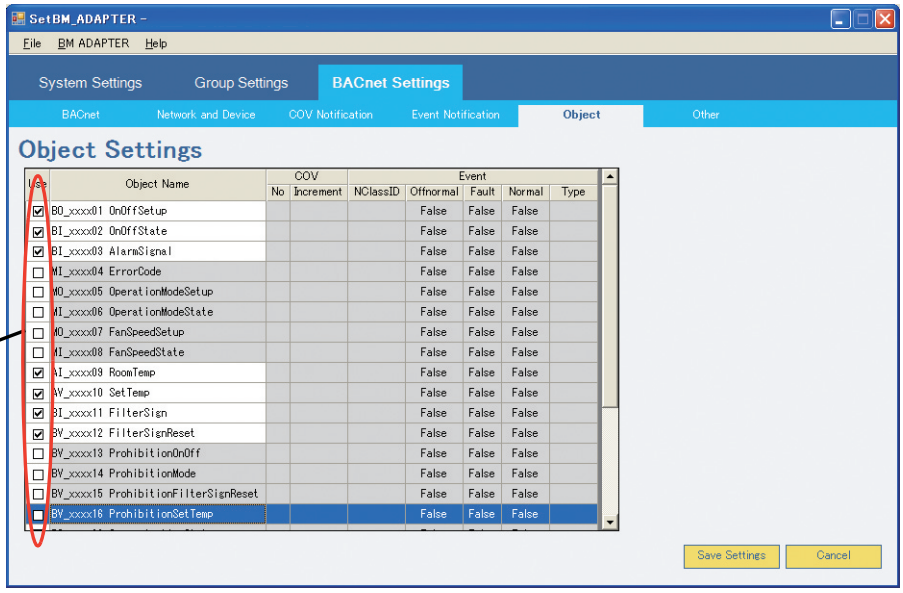
Set the objects to be used by BAC-HD150 on the window shown below.

Check or uncheck the checkbox in the [Use] column to use or not use the object that corresponds to the checkbox.

(Checked: Use the object; Unchecked: Do not use the object)

The object name field of the object whose checkbox is checked will appear in white, and the name of the object whose checkbox is unchecked will appear in gray.

The checkboxes that correspond to objects [DEV_xxxxxx Device] and [CLS_xxxxxx Notification Class] cannot be unchecked.

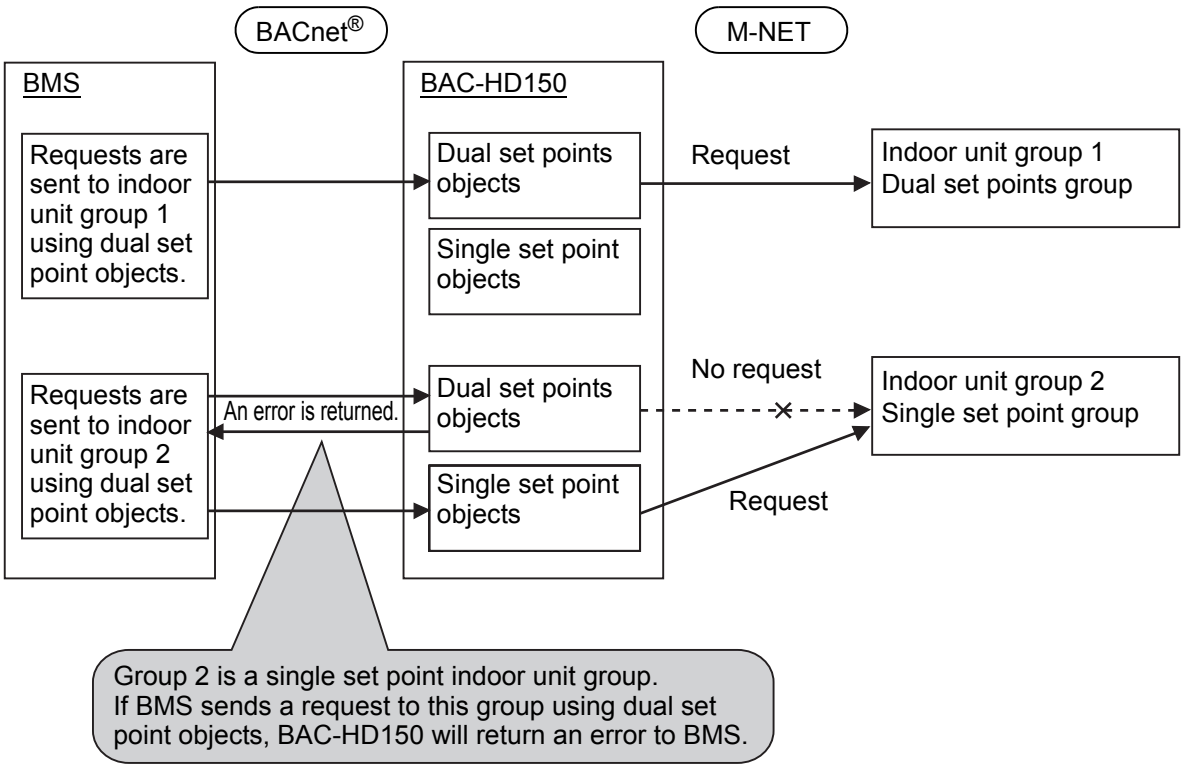


Checkboxes in the [Use] column

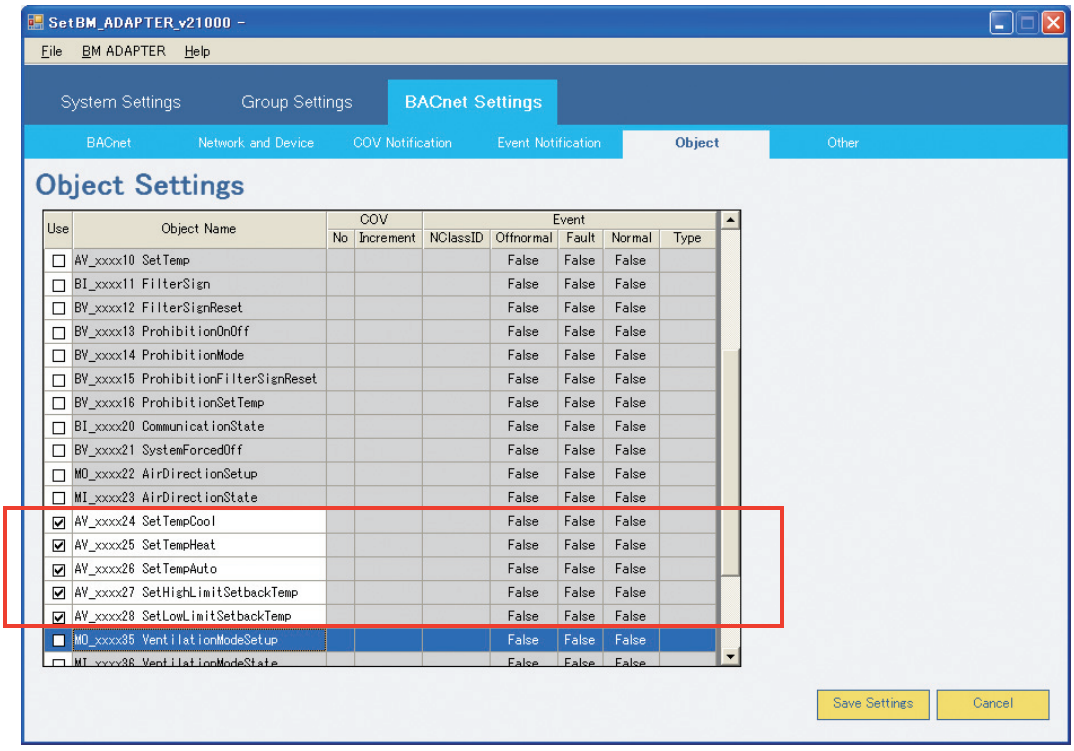
*[Objects that are used to send temperature setting commands from BMS]

When setting the temperature from BMS, use the dual set point objects for the dual set point indoor units, and single set point objects for the single set point indoor units.

If BMS uses the dual set point objects to send commands to single set point indoor units, BAC-HD150 will send an error to BMS.



Use appropriate objects according to indoor unit types (single set point/dual set points).
Dual set point objects (AV_xxxx24~28) are selectable only when the checkbox for “Old Model Compatibility Mode” in section 8.2.1(4) is not checked.
If the checkbox for “Old Model Compatibility Mode” is checked with the objects AV_xxxx24~28 being selected, these objects will become deselected. Once the objects are deselected, the action cannot be undone.



Select the temperature setting objects according to the indoor unit group configuration in a given air conditioning system.

	Indoor unit group configuration in the air conditioning system		
	Indoor unit single set point	Indoor unit dual set points	
		[Auto] mode Dual set points *3	[Auto] mode Single set point *3
AV_xxxx10 Set Temp	✓	–	–
AV_xxxx24 Set TempCool *1	–	✓	✓
AV_xxxx25 Set TempHeat *1	–		
AV_xxxx26 Set TempAuto	–	–	✓
AV_xxxx27 Set High Limit SetbackTemp *2	–	✓*4	✓*4
AV_xxxx28 Set Low Limit SetbackTemp *2	–		

✓ : Available
– : Unavailable

*1, 2: Use (AV_xxxx24, 25) and (AV_xxxx27, 28) in pairs.

*3: Varies depending on the indoor model. Please use remote controller to change Auto mode single/ dual settings. BAC-HD150 does not have function to do so.

*4: Select these items when indoor unit groups support the Setback function.

(2) Notification setting

Make the notification setting (COV Notification and Event Notification) for each object on this window.

(a) COV Notification destination

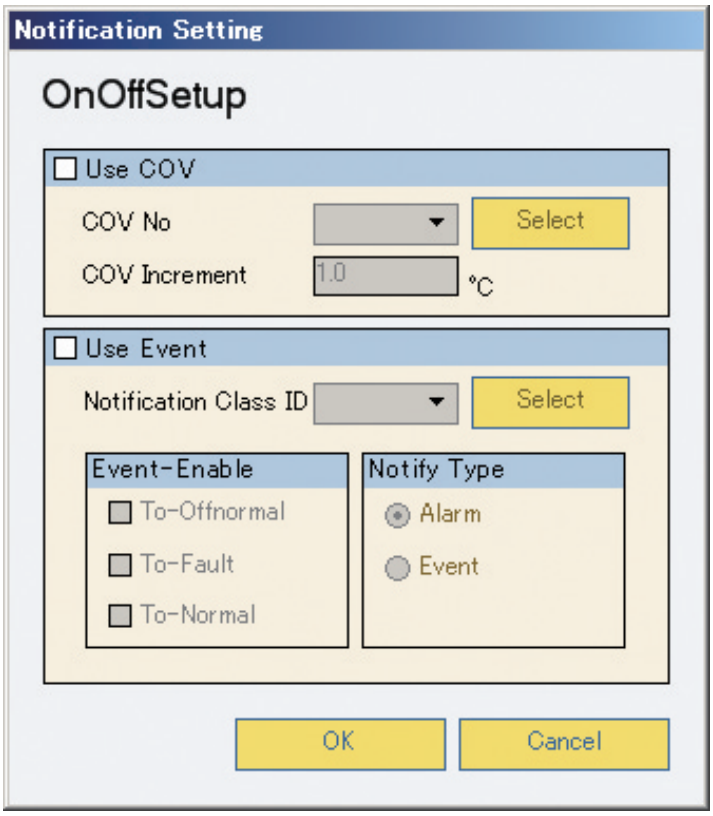
The [COV No.] under [Use COV (Notification destination)] is the COV No. that was set in section 8.4.3 “Configuring the COV Notification settings.”

(b) Event Notification destination

The Event Notification class ID (notification destination) is the [Notification Class ID] that was set in section 8.4.4 “Configuring the Event Notification settings.”

(c) COV Notification and Event Notification settings

Double-click the object to be configured to display the [Notification Setting] popup window.
(No popup window will appear unless the checkbox is checked.)
The default settings are as shown in the figure below.



No.	Item	Description	Default
Use COV			
1	Checkbox	Check the checkbox to use COV Notification.	Unchecked
2	COV No.	Select the COV number (notification destination). (*1)	Blank
3	COV Increment	Set the amount of increment that corresponds to changes in COV Notification. (Settable only for the Room Temp and Set Temp settings) (Setting range: 0.000001 - 99.99999) To be set to [1.0] unless otherwise specified	1.0
Use Event			
	Checkbox	Check the checkbox to use Event Notification.(*2)	Unchecked
	Notification Class ID	Set the Notification Class ID (notification destination) (*3)	Blank
Event-Enable			
	To-Offnormal	Check the checkbox to use Event Notification when the status changes from Normal to Offnormal. (*4)	Unchecked
	To-Fault	Check the checkbox to use Event Notification when the status changes from Normal to Fault.	Unchecked
	To-Normal	Check the checkbox to use Event Notification when the status changes from Offnormal or Fault to Normal. (*5)	Unchecked
Notify Type			
	Alarm	Check the radio button if the Event Notification type is Alarm.	Checked
	Event	Check the radio button if the Event Notification type is Event.	Unchecked

*1: Select the COV Notification No. from the pulldown menu or on the [Select COV No.] popup window that appears by clicking [Select].
In the pulldown menu and in the [Select COV No.] menu, the COV No. that was set in section 8.4.3 “Configuring the COV Notification settings” will appear.

*2: The types of objects for which “Use Event” can be set are AI, BI, and BO only.

*3: Select the Event Notification class ID from the pulldown menu or on the [Select Notification Class ID] popup window that appears by clicking [Select].
In the pulldown menu and in the [Select Notification Class ID] menu, the Notification Class ID that was set in section 8.4.4 “Configuring the Event Notification settings” will appear.

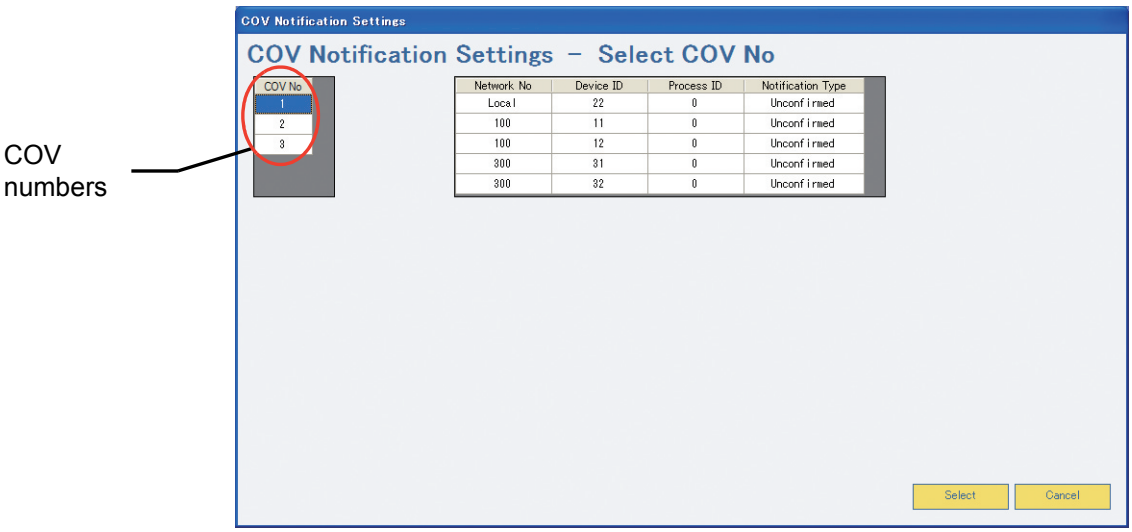
*4: Do not check the checkbox next to [To-Offnormal] of the object [BI_xxxx02] (On Off State).

*5: If the checkbox next to [To-Offnormal] or [To-Fault] is checked, be sure to also check the checkbox next to [To-Normal].

(i) COV No. selection window

Select a COV No. on the [COV Notification Settings-Select COV No.] window. Select a COV No. and click [Select] to close the window and save the COV No. that was selected on the [Notification Setting] popup window.

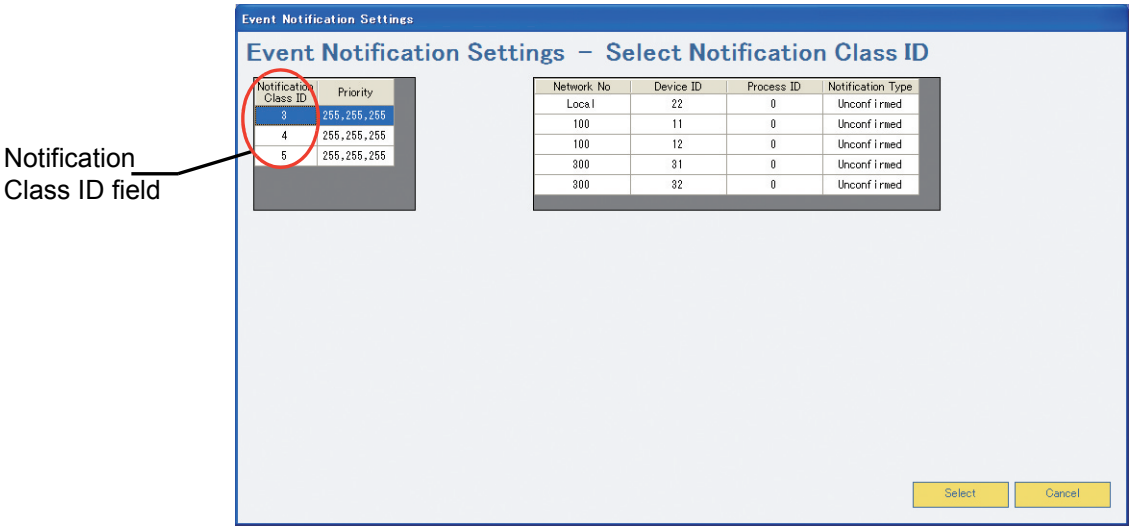
Click [Cancel] to close the [Notification Setting] popup window without saving any changes.



(ii) Notification Class ID selection window

Select a Notification Class ID on the [Event Notification Settings-Select Notification Class ID] window. Select a Notification Class ID and click [Select] to close the window and save the Notification Class ID that was selected on the [Notification Setting] popup window.

Click [Cancel] to close the [Notification Setting] popup window without saving any changes.

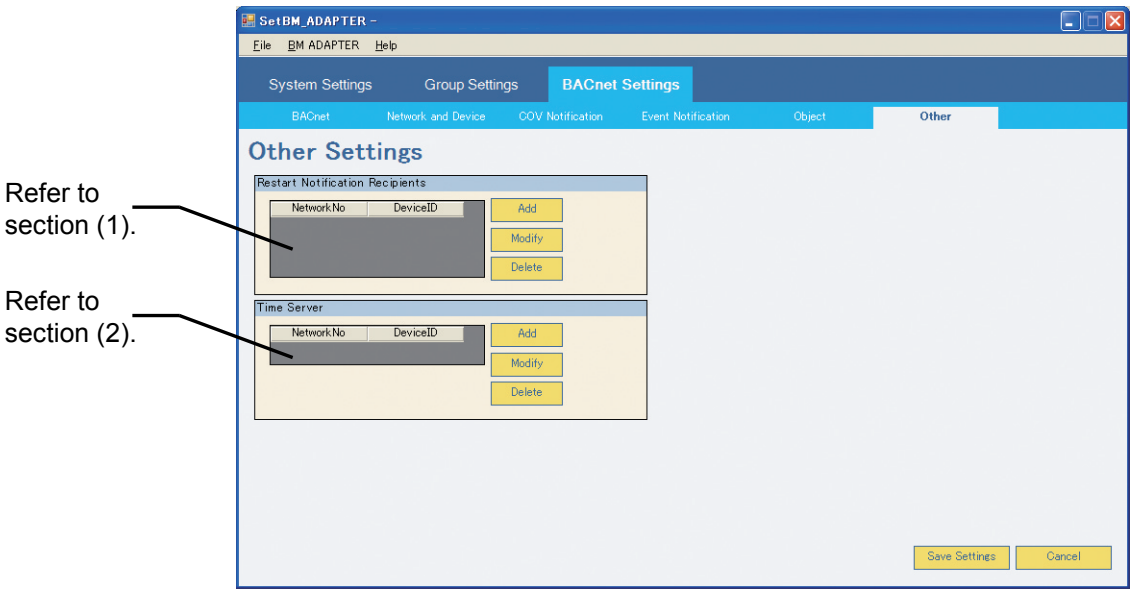


8.4.6 Configuring the items on the Other tab

On the [Other] tab, settings are made for「I-Am」transmission at BAC-HD150 startup and for time server devices.

Click the [Other] tab under the [BACnet® Settings] tab to display the [Other Settings] window.

The default settings are as shown in the figure below.



(1) Selecting the destination device for the「I-Am」transmission at startup

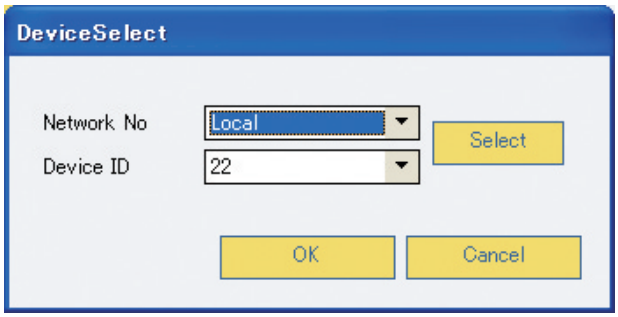
This item does not need to be set if「I-Am」is not transmitted to any device at the time BAC-HD150 starts up.

The maximum number of transmission destination device is two.

(a) Selecting the destination device for the「I-Am」transmission at startup

Click [Add] to display the [Device Select] popup window.

Select the transmission destination device from the pulldown menu or on the [Network and Device Settings-Select BACnet® Device] popup window that appears by clicking [Select].



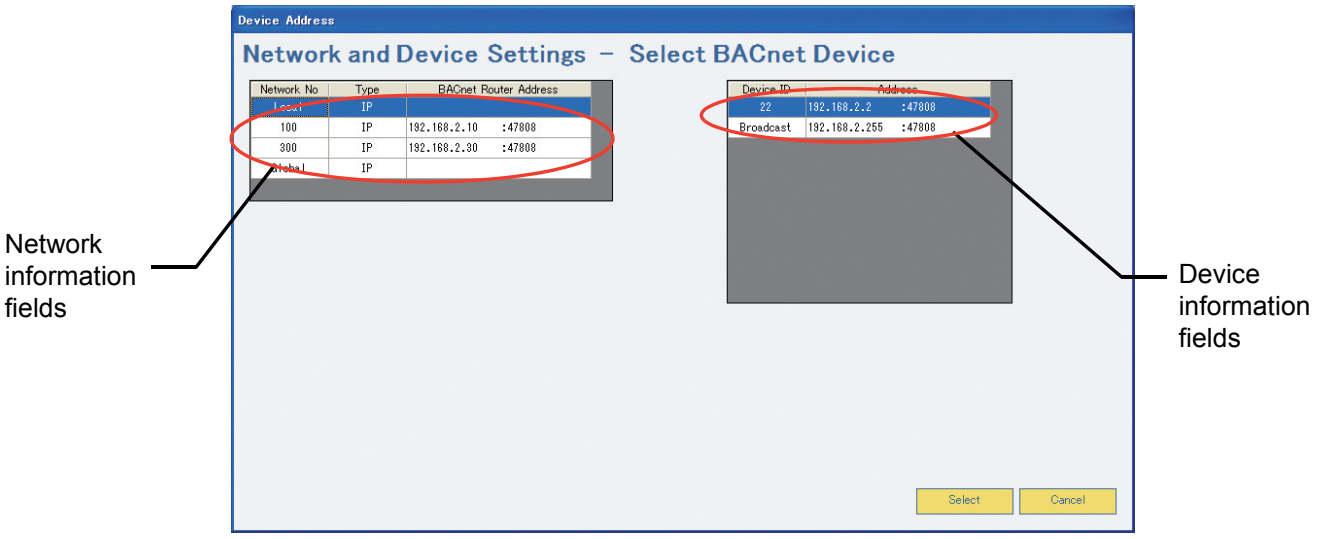
(i) Device selection window

Select a network on the [Network and Device Settings-Select BACnet Device] to display the devices in the selected network.

Select a device to configure from a list of devices displayed.

Select a device and click [Select] to close the window and save the settings for the network number and the selected device on the [Device Select] popup window.

Click [Cancel] to close the window without saving any changes and display the [Device Select] popup window. (The original Network No. and Device ID settings are retained.)



(b) Changing the transmission destination device for the「I-Am」transmission at startup.

Select the device whose settings are to be changed and click [Modify] to display the [Device Select] popup window. Make necessary changes on this window.

Window display content and the setting change method are the same as those described in section (a) “Selecting the destination device for the「I-Am」transmission at startup.”

(c) Deleting the destination device for the「I-Am」transmission at startup

Select the device to be deleted and click [Delete] to delete the setting.

(2) Selecting the timer server

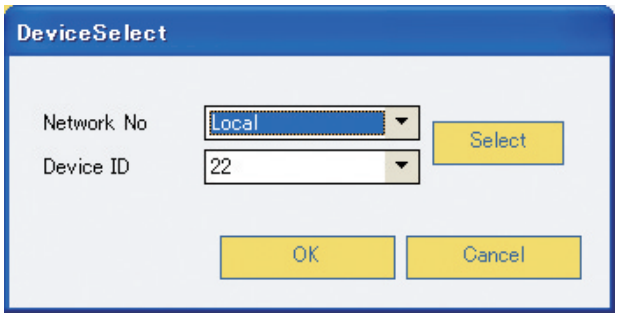
BAC-HD150 corrects its internal clock by receiving clock synchronization signal from the time server. If no time server exists in the system or if there is no need to correct the internal clock on BAC-HD150, this setting does not need to be made.

Only one time server can be selected to send time synchronization signals.

(a) Selecting the timer server

Click [Add] to display the [Device Select] popup window.

Select the transmission destination device either from the pulldown menu or on the [Network and Device Settings-Select BACnet® Device] popup window that appears by clicking [Select].



The display content on the [Network and Device Settings-Select BACnet® Device] window and the setting change method are the same as those described in section (1) “Selecting the destination device for the「I-Am」transmission at startup.”

(b) Changing the time server setting

Click [Modify] to display the [Device Select] popup window.

The display content and the setting change method are the same as those described in section (a) “Time server setting.”

(c) Deleting the time server setting

Click [Delete] to delete the selected device.

Attachment 1 Sample BACnet® network system configuration

BACnet network can be configured in several ways as shown below.

1.1 Types of network

The following types of network configurations are available to configure a BACnet®:

(1) Local network

A system that consists only of a local network and does not use a router.

(2) Networks connected via BACnet® routers

A system in which multiple networks are connected via BACnet® routers.

(3) Networks connected via IP routers

A system in which multiple networks are connected via IP routers.

(4) Networks connected using IP routers and BBMDs

A system in which multiple networks are connected via IP routers (with connection to BBMD for transferring Broadcast messages)

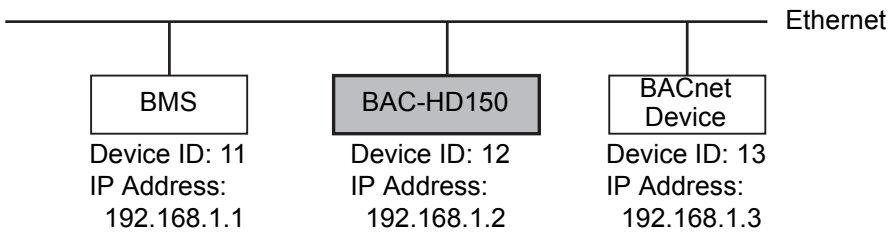
(5) Networks connected using IP routers and remote BBMD

A system in which multiple networks are connected via IP routers (with connection to remote BBMD for transferring Broadcast messages)

> Note:
> ・BAC-HD150 supports only BACnet/IP.
> ・Make the following [Network and Device Settings] only for the networks and devices that communicate with BAC-HD150.

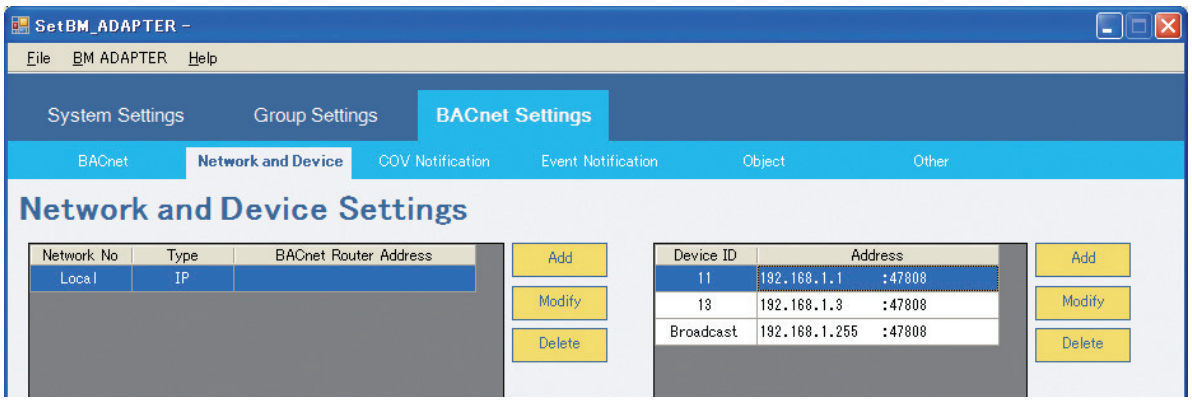
1.2 Local network

(1) Sample local network configuration



(2) Configuring the Network and Device Settings

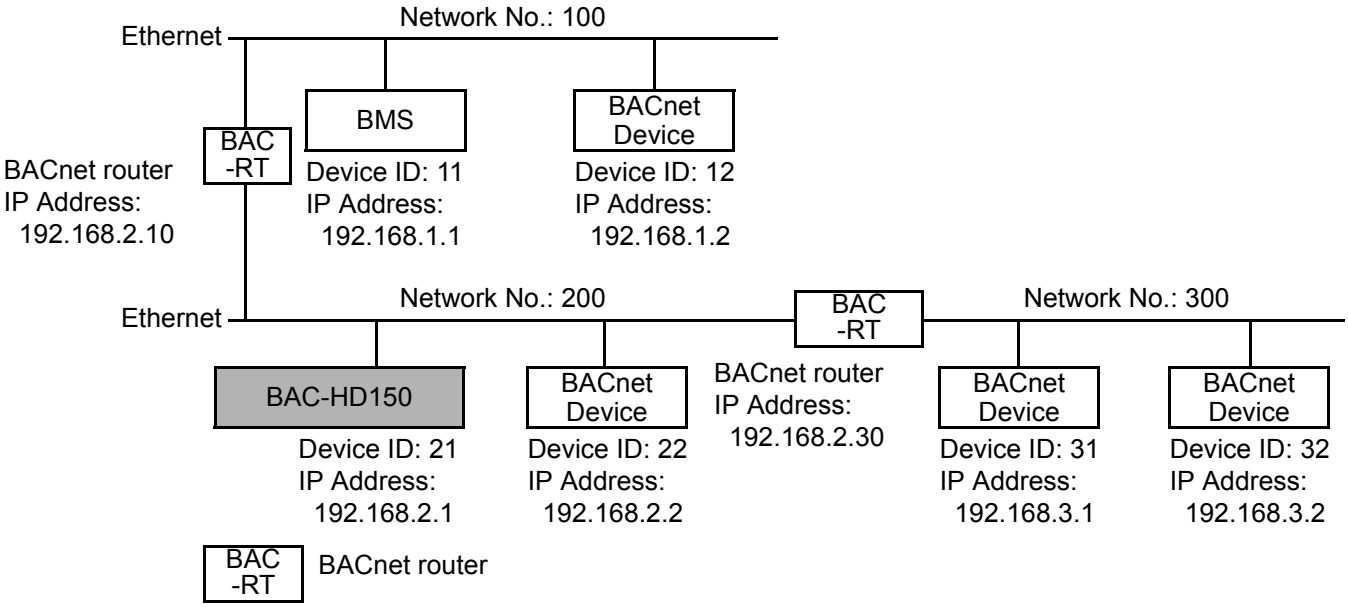
Shown below are how to configure the Network and Device Settings for the sample local network configuration above.



1.3 Networks connected via BACnet routers

One way to connect multiple networks is to connect them via BACnet® routers.

(1) Sample system configuration with the use of BACnet® routers

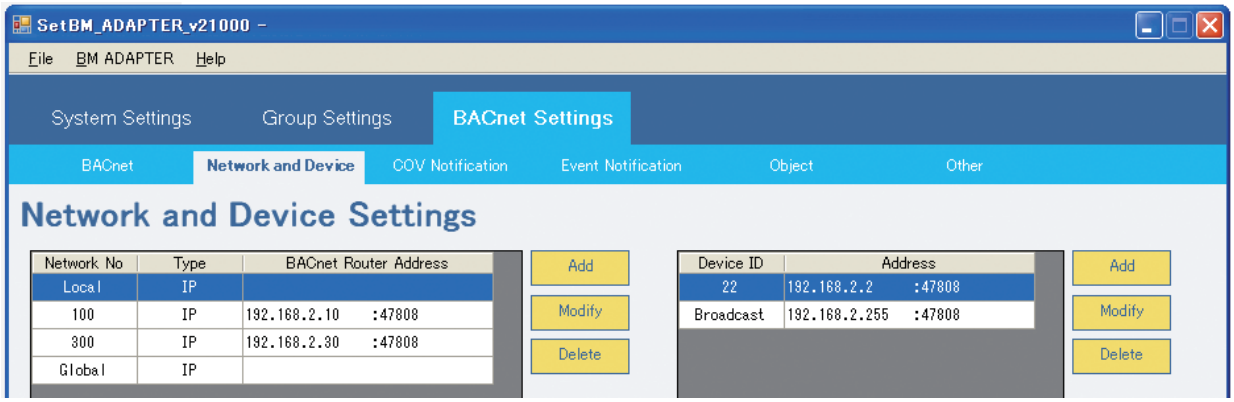


BACnet® router IP address: The IP address of the BACnet® router of the network to which BAC-HD150 is connected.

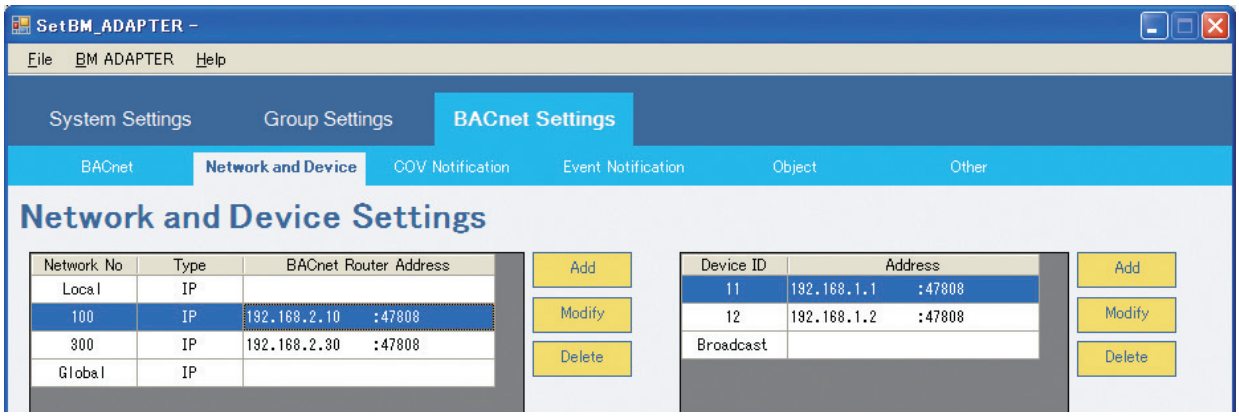
(2) Configuring the Network and Device Settings

Shown below are how to configure the Network and Device Settings for the sample network configuration with the use of BACnet® routers above.

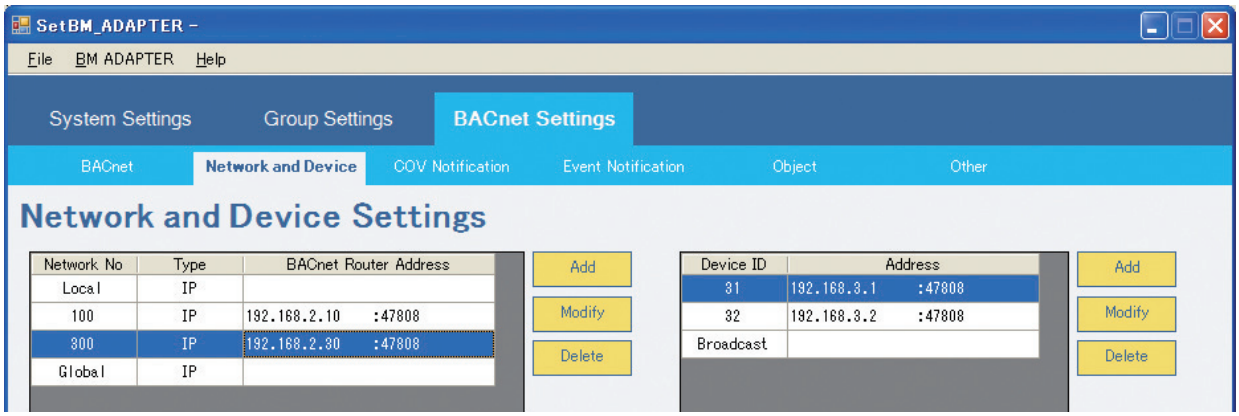
(a) Local (Network No. 200) settings



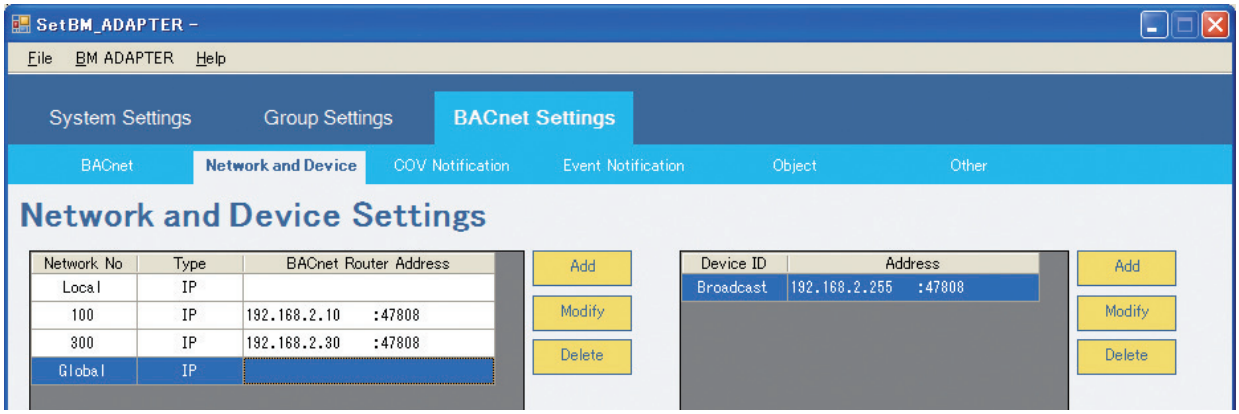
(b) Network No. 100 settings



(c) Network No. 300 settings



(d) Global Broadcast settings



(3) Message transmission across networks

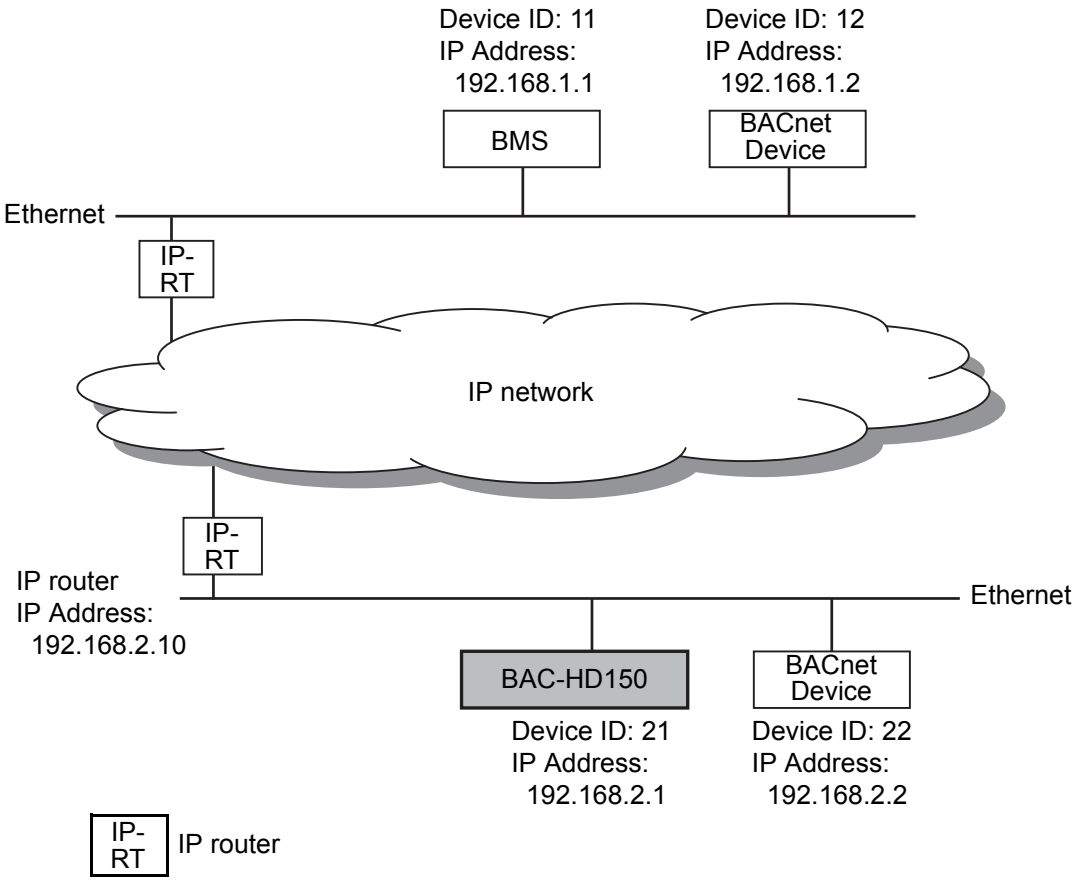
Messages are transmitted across networks through BACnet® routers.

BACnet® routers transfer Unicast and Broadcast messages.

1.4 Network connected via IP routers

Another way to connect multiple networks is to connect them via IP routers.

(1) Sample system using IP rounters



IP router IP address: The IP address of the IP router of the network to which BAC-HD150 is connected.

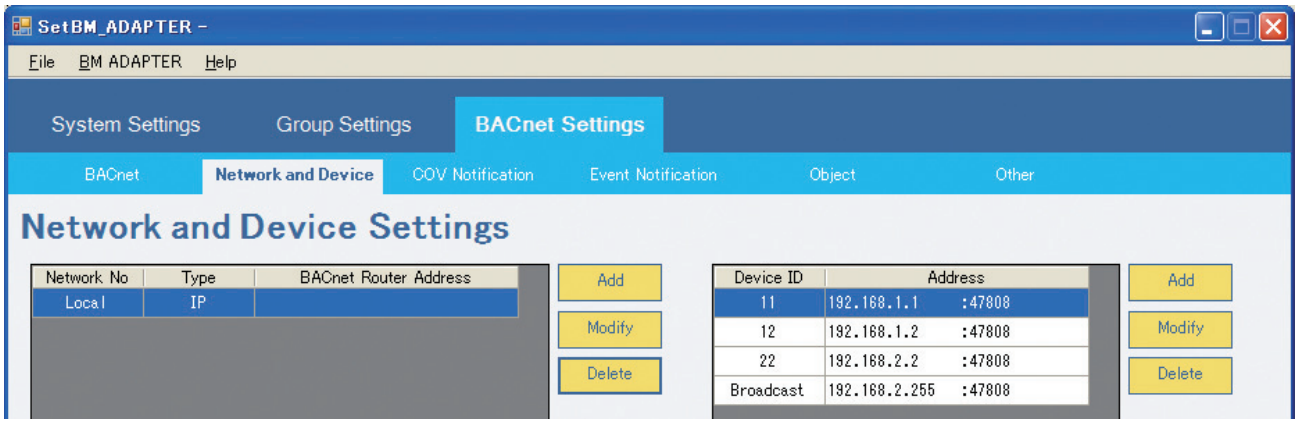
(2) Configuring the Network and Device Settings

Shown below are how to configure the Network and Device settings for the sample system using IP routers.

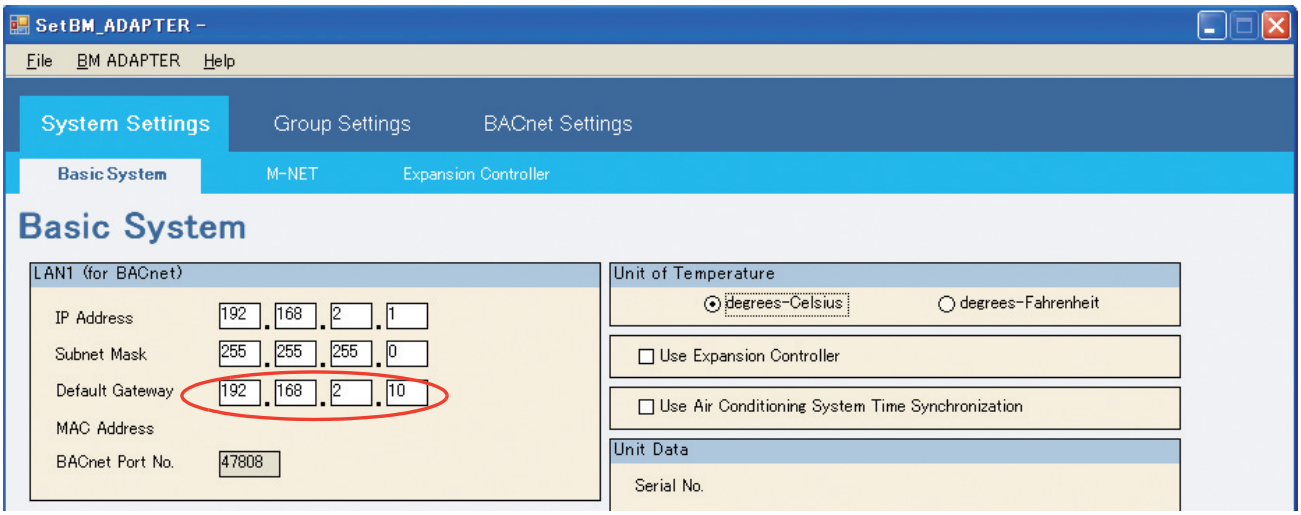
System with IP routers do not have network numbers. Use the Device ID and Address for the Local Network No. setting.

The use of IP routers will require the Default Gateway settings (see 8.2.1 “Basic System settings”) to be configured beforehand.

(a) Local settings



(b) Default Gateway setting

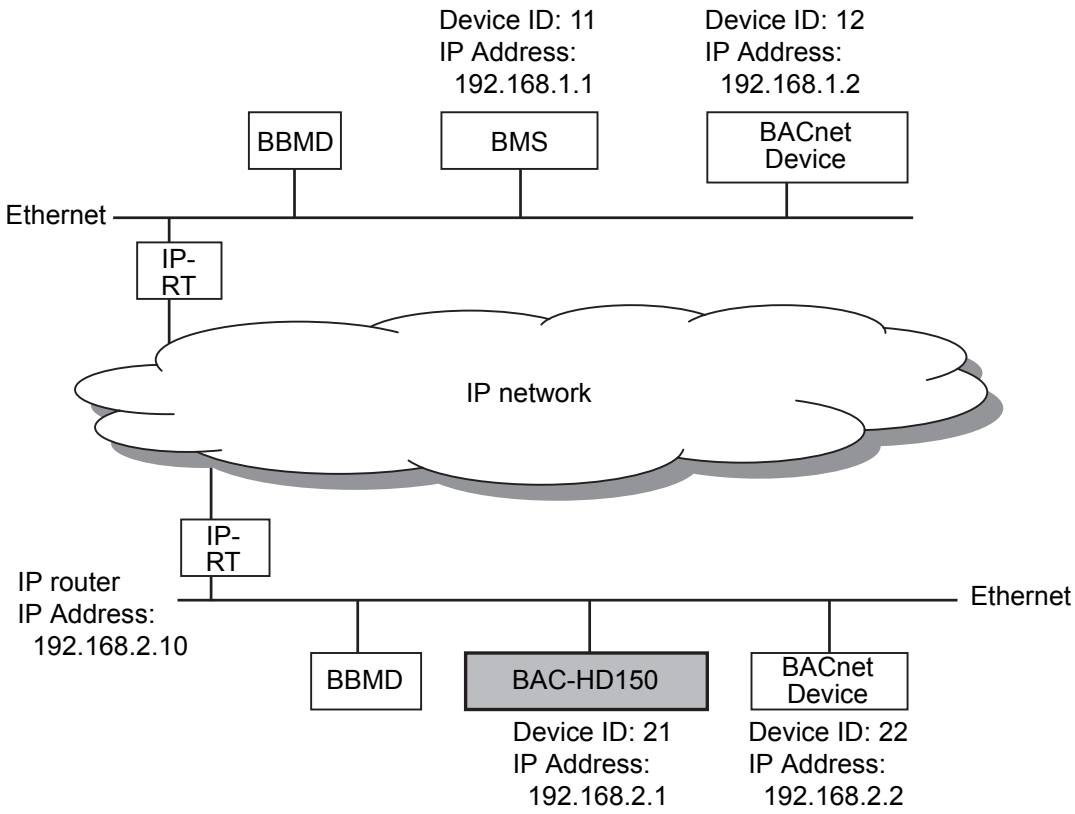


IP routers only transfers “Unicast messages” across networks. They cannot send or receive “Broadcast messages” across networks.

1.5 Networks connected using IP routers and BBMDs

Another way to connect multiple networks is to connect them via IP routers. Broadcast messages across networks are transferred by BBMDs.

(1) Sample system using IP routers and BBMDs



IP-RT IP router

BBMD BBMD (BACnet/IP Broadcast Management Device)

IP router IP address: The IP address of the IP router of the network to which BAC-HD150 is connected.

(2) Configuring the Network and Device settings

Shown above are how to configure the Network and Device settings for the sample system using IP routers.

System with IP routers do not have network numbers. Use the Device ID and Address for the Local Network No. setting.

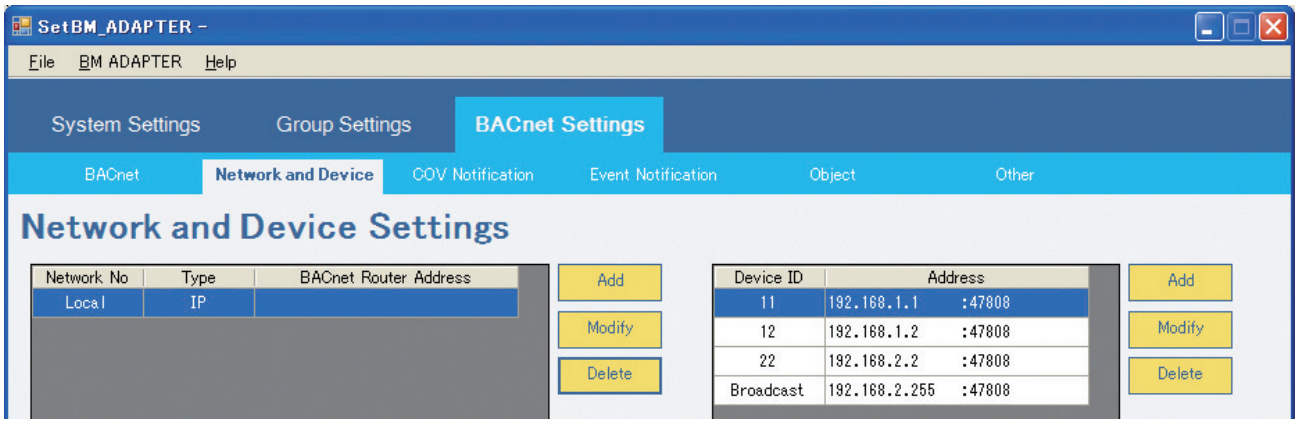
The use of IP routers will require the Default Gateway to be configured beforehand.

(See 8.2.1 “Basic System settings (1) LAN 1 (for BACnet®).”)

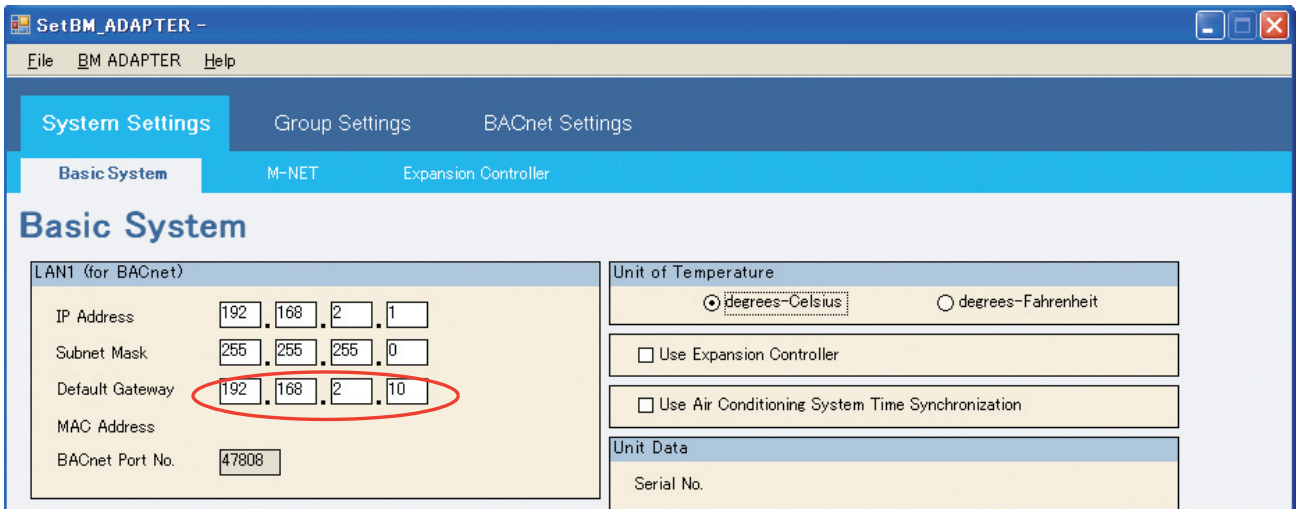
The use of remote BBMDs require the Use Remote BBMD settings to be set beforehand.

(See 8.4.1 “Configuring the settings on the [BACnet Settings] window (3) Use Remote BBMD.”)

(a) Local settings



(b) Default Gateway setting



(3) Message transmission across networks

IP routers transfer unicast messages across networks, but not broadcast messages.

BBMDs are used to transmit broadcast messages across networks.

(BBMD (transmission originator) transforms broadcast messages into BBMD transfer messages, and these messages are sent to the transmission destination BBMD through IP routers.

(Originator BBMD → IP router → IP network → IP router → Destination BBMD)

The transmission destination BBMD transforms the received BBMD transfer messages into broadcast messages and transmit them to the devices on the target network.)

BAC-HD150 sends broadcast messages to the following devices:

• All devices that belong to the same network as the BAC-HD150

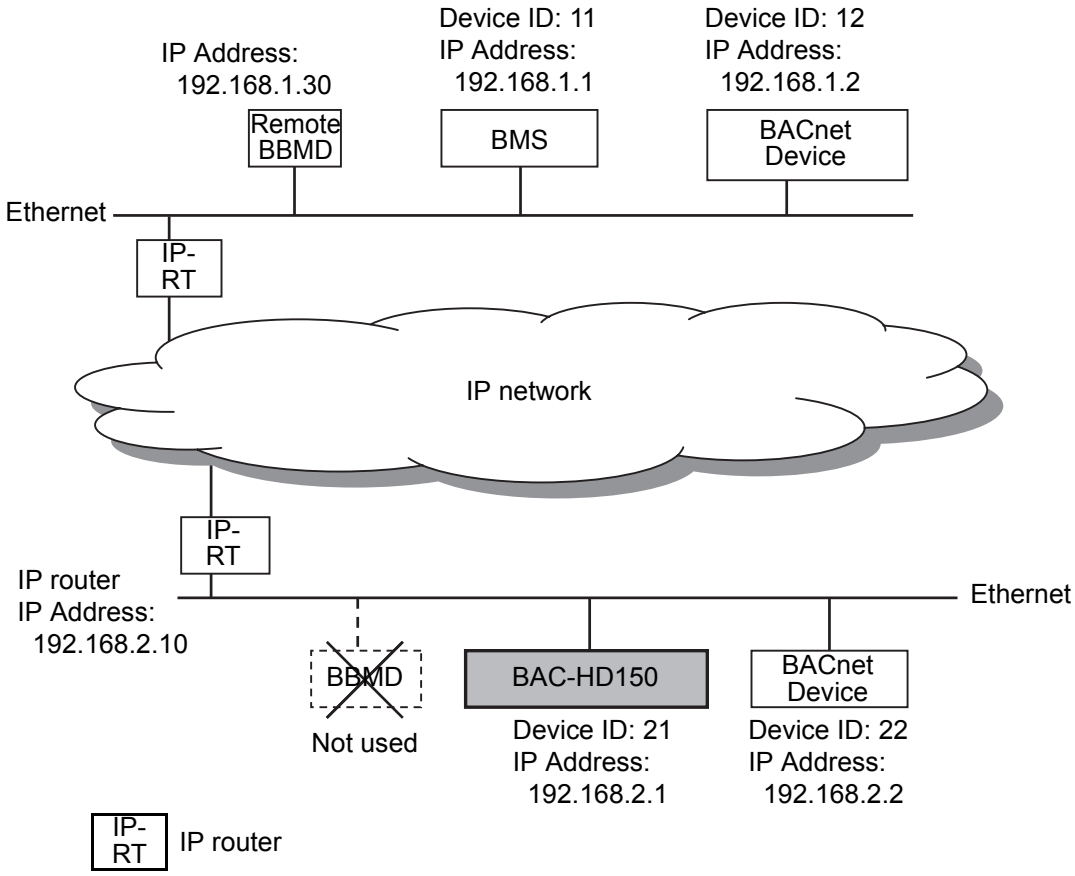
• All devices connected to other networks via the BBMDs

Note:
Transfering messages between BBMDs will require the BDT (Broadcast Distribution Table) settings on the BBMDs to be made. It is assumed here that the BDT settings have already been made.

1.6 Networks connected using IP routers and remote BBMD (without a connection of BBMD to the local network)

Networks can also be connected via IP routers. Broadcast messages are transmitted across networks via remote BBMDs that are connected to other networks.

(1) Sample system with IP routers and BBMDs -1



IP-RT IP router

Remote BBMD Remote BBMD (Remote BACnet/IP Broadcast Management Device)

IP router IP address: The IP address of the IP router of the network to which BAC-HD150 is connected.

(2) Configuring the Network and Device settings

Shown above are how to configure the Network and Device settings for the sample system using IP routers.

System with IP routers will not have network numbers. Use the Device ID and Address for the Local Network No. setting.

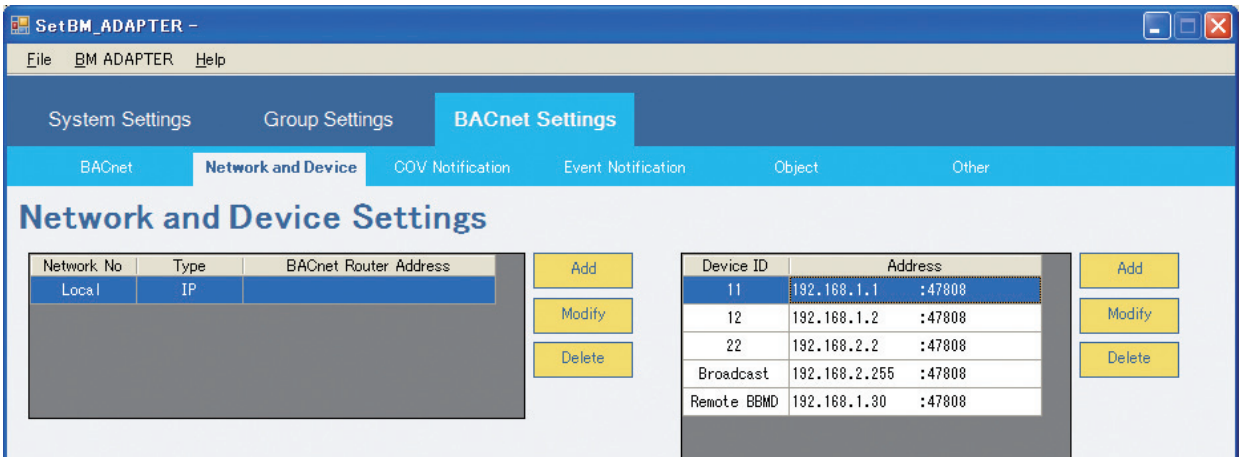
The use of IP routers will require the Default Gateway to be configured beforehand.

(See 8.2.1 “Basic System settings (1) BM ADAPTER Network Settings.”)

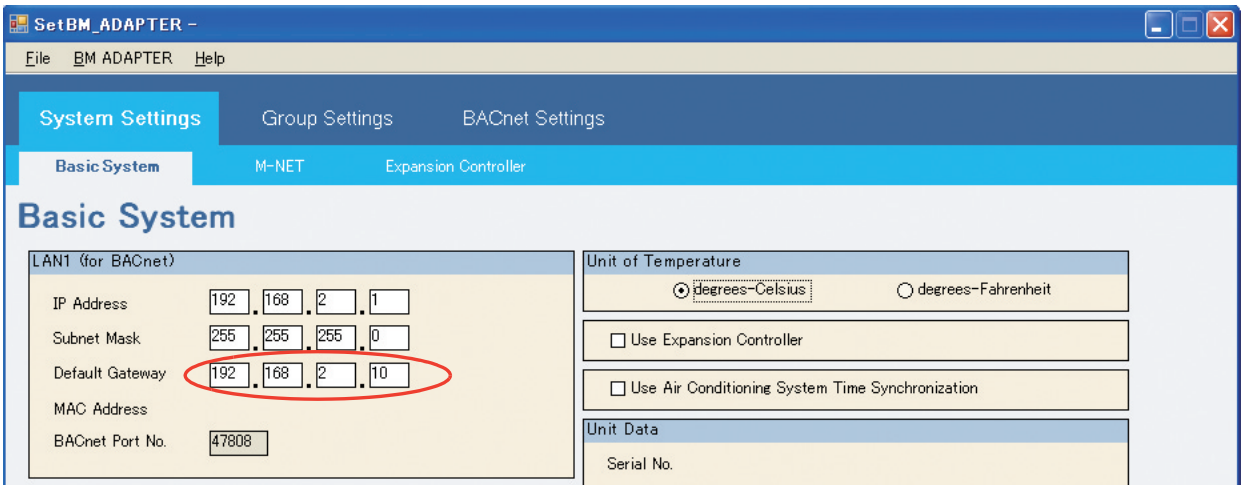
The use of remote BBMDs require the Use Remote BBMD settings to be set beforehand.

(See 8.4.1 “Configuring the settings on the [BACnet Settings] window (3) Use Remote BBMD.”)

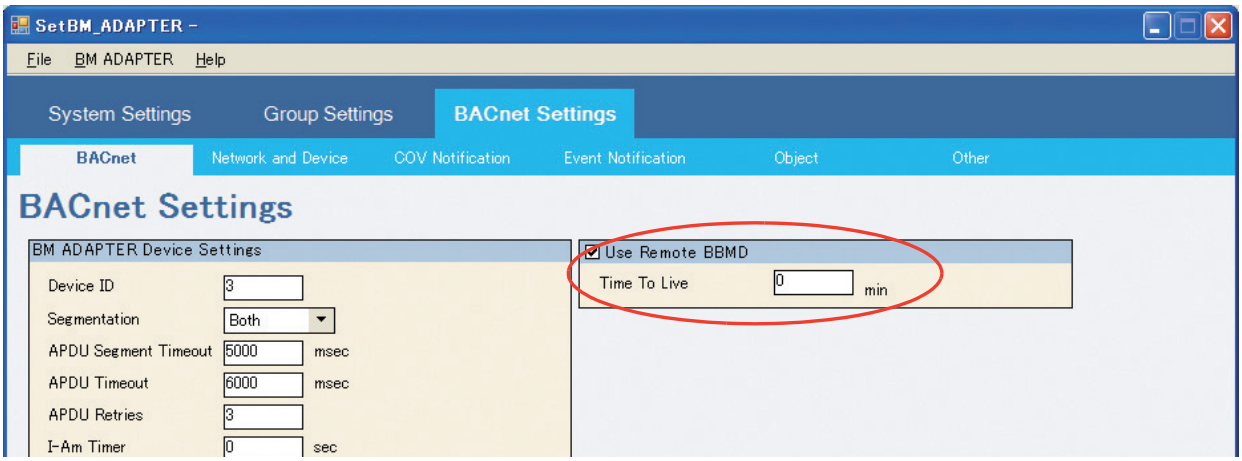
(a) Local settings



(b) Default Gateway settings



(c) Use Remote BBMD settings



(3) Message transmission across networks

IP routers transfer Unicast messages across networks, but not broadcast messages. BBMDs are used to transmit broadcast messages across networks.

If no BBMD is connected to the transmission originator device network, use a remote BBMD (one that is connected to another network).

To use a remote BBMD, register the information of the device to be connected to the remote BBMD as an external device. The IP address of the remote BBMD to be connected will be required.

(A transmission originator device sends a transfer request message to a remote BBMD. The remote BBMD that received the transfer message will transform the message to a BBMD transfer message, and sends it to the destination BBMD via IP routers. (Originator Remote BBMD → IP router → IP network → IP router → Destination BBMD).

The transmission destination BBMD transformes the received BBMD transfer messages into broadcast messages and transmit them to the devices on the target network.)

Broadcast messages from other networks are transferred by the remote BBMD to an external device.

Note:
Transferring messages between BBMDs will require the BDT (Broadcast Distribution Table) settings on the BBMDs to be made. It is assumed here that the BDT settings have already been made.

This product is designed and intended for use in the residential, commercial and light-industrial environment.

The product at hand is based on the following EU regulations:

- Low Voltage Directive 2006/95/EC
- Electromagnetic Compatibility Directive, 2004/108/EC
- Restriction of Hazardous Substances 2011/65/EC

Please be sure to put the contact address/telephone number on this manual before handing it to the customer.

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