MITSUBISHI ELECTRIC

Mitsubishi Electric Air Conditioning Network System Integrated centralized control software TG-2000A Operation Manual (Wide area)

Contents

Before using the TG-2000A, please read this manual carefully to ensure proper operation.

Retain this manual for future reference.

In this manual, Microsoft® Windows® 7 Professional is Called Windows 7, Microsoft® Windows Vista® Business is Called Windows Vista, Microsoft® Windows® XP Professional is called Windows XP and Microsoft® Windows® 2000 Professional is called Windows 2000. In this manual, Microsoft® Excel 2010/2007/2003/XP/2000 is called Excel.

Trademarks

MS, Microsoft, Microsoft logo, and Windows are registered trademarks and trade names of Microsoft Corporation. Adobe Reader is the trademark of the Adobe systems Incorporated.
Each company may use as registered trademarks and trade names the product names used in this manual.

- **About this manual** -

The operation manual consists of three volumes, "Site adjustment", "Management" and "Wide area".
This manual is "Wide area".

Site adjustment:
Contain initial setting procedures for TG-2000A (e.g., setup and system setting) and how to correct charging data and remedy.

Management:
Contain normal operation procedures for TG-2000A (e.g., Monitor/Operation function of air conditioners).

Wide area (this manual):
Contain setting/operation procedures of "Site change tool" and "Mail tool" for using TG-2000A in the wide area mode.
Refer to the manual "Management" for Monitor/Operation function of air conditioners.

These manuals are accessible from the Help menu on TG-2000A.

Adobe® Reader® is required to read these manuals. (Ver. 7.1 or later recommended)

-- **Term description** --

- "Man-machine" Indicate a computer with integrated centralized control software TG-2000A. (Man-machine interface abbreviation)

- "AG-150A" (or "GB-50ADA-J", "GB-50ADA-A") and "G-50A" (or "GB-50A")
In this manual, centralized controllers "GB-50ADA-J" and "GB-50ADA-A" are referred to as "GB-50ADA," "AG-150A" and "GB-50ADA" are referred to as "AG-150A." For the integrated centralized control software TG-2000A, GB-50ADA can be handled the same way as AG-150A without connection to Expansion controllers. Also, centralized controllers "G-50A" and "GB-50A" are referred to as "G-50A."
On the screen of integrated centralized control software TG-2000A, AG-150A (or GB-50ADA) and G-50A (or GB-50A) may appear as AG-150A/G-50A or G-50A.
Unless otherwise specified, read AG-150A/G-50A as G-50A in this manual.
TG-2000A Ver.5.50 or later supports AG-150A connection.
TG-2000A Ver. 6.30 or later supports GB-50ADA connection.

- "Expansion controller" (EC) A controller (PAC-YG50ECA) that is used when the number of units that AG-150A controls, such as indoor units, LOSSNAY and general equipments, exceeds 50.
Each AG-150A unit can control up to a total of 150 units (when used with three expansion controllers).

- "LAN" Short for "Local Area Network", and refers to the local communication network within a site or building.

- "WAN" Short for "Wide Area Network."

- **About screen** -

This instruction manual may use the development version screen in some case.

- **Simple operation manual** -
- The simple operation manual is stored as a pdf file in the "Manual" folder on the TG-2000A Setup CD. Adobe® Reader® (Version 7.1 or higher recommended) is required to view this pdf file.

1. Safety Precautions

- Please read the Safety Precautions section very carefully before using the unit.
- The safety cautions provided here are very important for your safety. Please observe them at all times.
- The degree of danger involved with incorrect operation of the unit are indicated in this manual using the following symbols.

| ⚠ WARNING | Incorrect operation could result in death or severe injury. |
| ⚠ CAUTION | Incorrect operation could result in injury or damage to property. |

- After reading this information, please keep this manual together with the operation manual (site adjustment manual) in a location where the operator can see it. Also, when changing operators give both of these manuals to the new operator.

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

The customer must not do any wiring or electrical work.
Have the dealer or a specialist do any wiring or electrical work. Do not do it yourself. Doing the work yourself may result in improper installation which may cause electric shock or fire.

Do not make any improvements or repairs for any reason.
Making improper improvements or repairs may cause electric shock or fire. For repairs, consult the company from which the unit was purchased.

Stop operation immediately if an error message appears on the computer and the unit stops or is not operating properly.
Failing to do so may result in fire or damage to the unit.
Immediately contact the company from which the unit was purchased.

Do not relocate the unit yourself.
Relocating the unit yourself may result in incorrect installation which may cause electric shock or fire.
To relocate the unit, consult the company from which the unit was purchased.

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.

Read the installation manual and operation manual for the air conditioner controller.
Improper operation could result in fire or damage to the air conditioner controller.

⚠ CAUTION

Do not use the product for any other purpose.
This product is for use with the Mitsubishi Electric Building Air Conditioning Control System. Do not use it with any other air conditioning control system or for any other application. Doing so may cause the unit to malfunction.

Do not use with other applications.
Use the computer that uses this product with this product only.
Using it with other applications may cause faulty operation.

Keep children away from the unit.
Inspections and maintenance can be dangerous. Do not let children near the unit during these times.

Warning to all users (User Agreement)
This document is a contract between the customer and Mitsubishi Electric Corporation. By using this application, you agree to the following conditions and are considered a user.
- Mitsubishi Electric and associated suppliers are not responsible for any collateral, secondary, or special damages, even if notified by the distributor of the possibility of a certain type of damage. Mitsubishi Electric is not responsible for any rights claimed by a third-party.

Safety Guidelines for the Computer Running with the TG-2000A.

(1) Precautions for selecting a computer

Select a desktop computer.
• Depending on the function, it is recommended to use a desktop as opposed to a laptop computer as there is a tendency for heat to build up in a laptop.
• Some laptop computers cannot be run for long hours.

Computer based UPS recommended.
• It is recommended to use a UPS to protect data from momentary power outages or power cuts.
It is particularly recommended to employ a UPS when using charge function (power apportioning).

Use a computer/operating environment with specifications capable of running the TG-2000A function.
• Run the function using the specified OS. There is a possibility that the function cannot be used when running an OS other than specified.
• **Use a business model computer.** There are cases when it is not possible to install or run the application with other applications on a computer or laptop intended for personal use.

(2) Precautions for General usage

Do not place the computer in any of the following locations.
• An error or accident may occur when using in the following environments.

A place where there is: a lot of dust, a likelihood of shock or vibration, instability, a heater or speaker nearby, direct exposure to sunlight, a likelihood of dropping, a possibility that the computer may be exposed to moisture or high temperature, or where it may be exposed to sudden temperature fluctuations or heat.

Ensure to read the computer / peripheral instruction manual.
• A fire or accident may occur due to improper use of the equipment.

Avoid covering the computer or AC adapter with a cloth or blanket, or locating them on or near a heater.
• There is a possibility of internal temperature build-up, fire or burning under the above situations.

Cut the power or disconnect the power cable immediately if smoke, or an abnormal smell or noise emanates from the computer.
• Using the computer in the above circumstances may result in fire, burning, or electric shock. Please consult the maker of the equipment/computer.

Do not close the lid when using a laptop.
• There is a possibility of an internal temperature build-up, fire or burning. Use in an area with sufficient ventilation.
• The system may start Stand By or Hibernate function and stop functions of TG-2000A by closing the lid.

Do not touch the computer air vent.
• The air emitted by the ventilator is hot and may result in burning if exposed to the skin.

Do not tamper with the computer fan.
• Tampering with the computer fan may result in a temperature build-up, fire, or accident.

Use the hard disk, floppy disk, or CD media as indicated.
• Do not expose the hard disk, floppy disk, or CD to shock or vibration during use.
• Do not cut the power or reboot the computer while the hard disk, floppy disk, or CD is in use.
• Always turn OFF the power when moving the computer.

(3) Other precautions

Precautions relating to the computer and peripheral equipment
• Please consult the maker regarding damage to the computer or peripheral equipment. We will not be held responsible for damage occurring at the user's site.

Protecting the computer from virus attacks
• Take appropriate measures to avoid computer virus infections when saving or copying data via network connection or external media such as USB memory. Mitsubishi Electric shall not be held responsible for any damages that may result from computer virus infections.

Safety Guideline for LAN connection of AG-150A/G-50A

Connect AG-150A/G-50A to a private network.
• AG-150A/G-50A are designed to be used with TG-2000A on a private network.
• Use a security device such as a VPN (Virtual Private Network) router when connecting to the Internet.

2. About This Manual

The instruction manual consists of three volumes, "Site adjustment", "Management" and "Wide area". These manuals are accessible from the Help menu on the TG-2000A. Adobe® Reader® is required to read these manuals (7.1 or later recommended). This is "Wide area". This manual explains setting and operation of "Site change tool" and "Mail tool" of wide area mode.

Refer to "Management" manual for monitor/operation of air conditioners, and "Site adjustment" manual for initial settings.
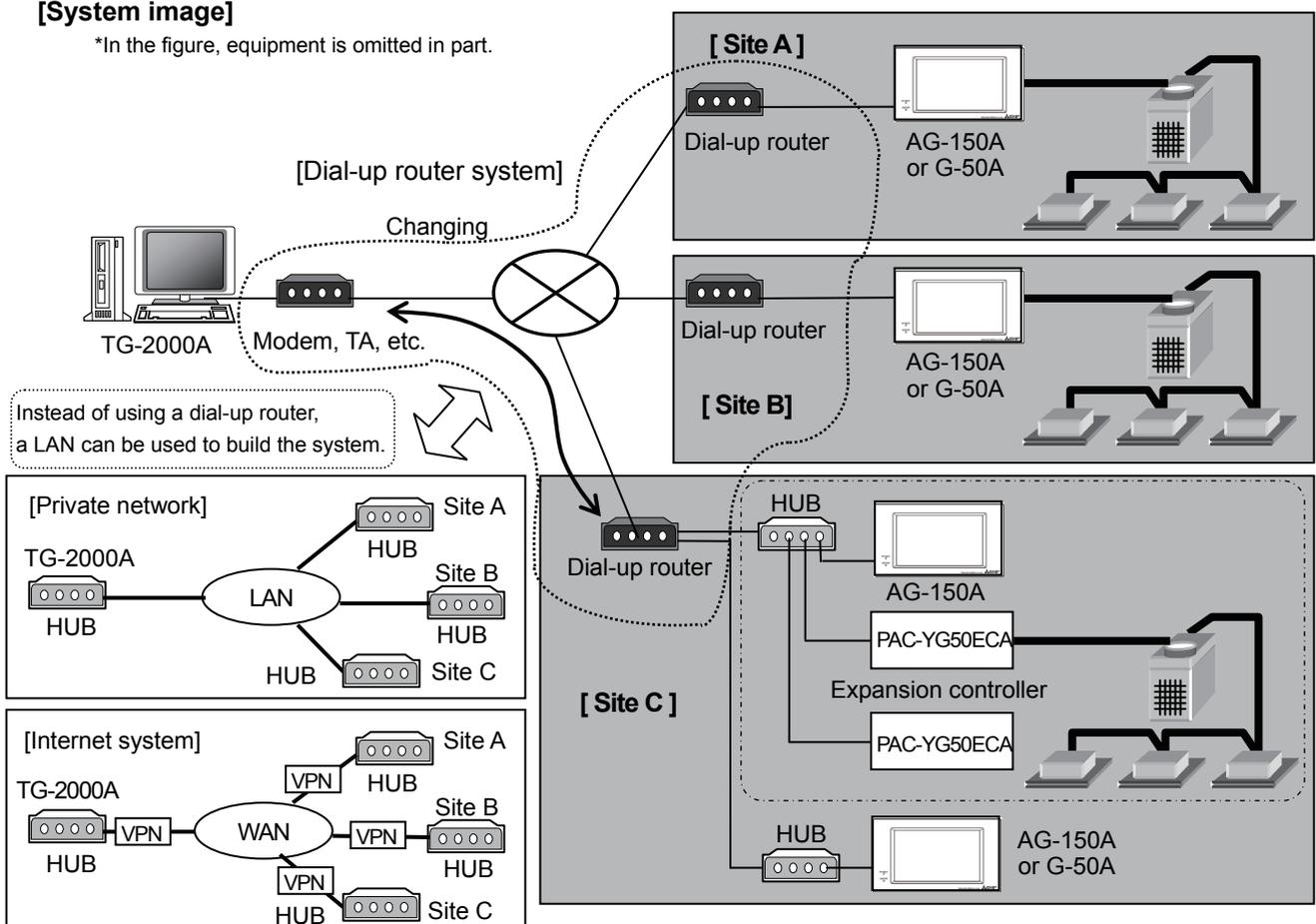
Integrated centralized control software, TG-2000A wide area mode can change AG-150A/G-50A system of two or more sites and can carry out monitor/operation of air conditioner group operation. (Not all functions will be available. Refer to 7.2.(1).) "Mail tool" can receive error or recovery mails from AG-150A/G-50A.

> **Note:**
> - For other functions than "Site change tool" and "Error mail receiving", refer to "Site adjustment" and "Management".
> - Launch TG-2000A in the "Wide area" mode from the "Site change tool." Refer to section 4 in this manual.
> - To use the Mail Tool function, it is necessary to make settings for the error notification mail function on the AG-150A/G-50A side (e.g., upper and lower limit temperature and humidity as necessary).
> - This version does not support AG-150A to which up to 150 units can be controlled in connection with expansion controller (PAC-YG50ECA).

[System image]

*In the figure, equipment is omitted in part.

> **Caution:**
> - Connect AG-150A/G-50A to a private network. (Only use on the private network.)
> - Use a security device such as a VPN (Virtual Private Network) router when connecting to the Internet.
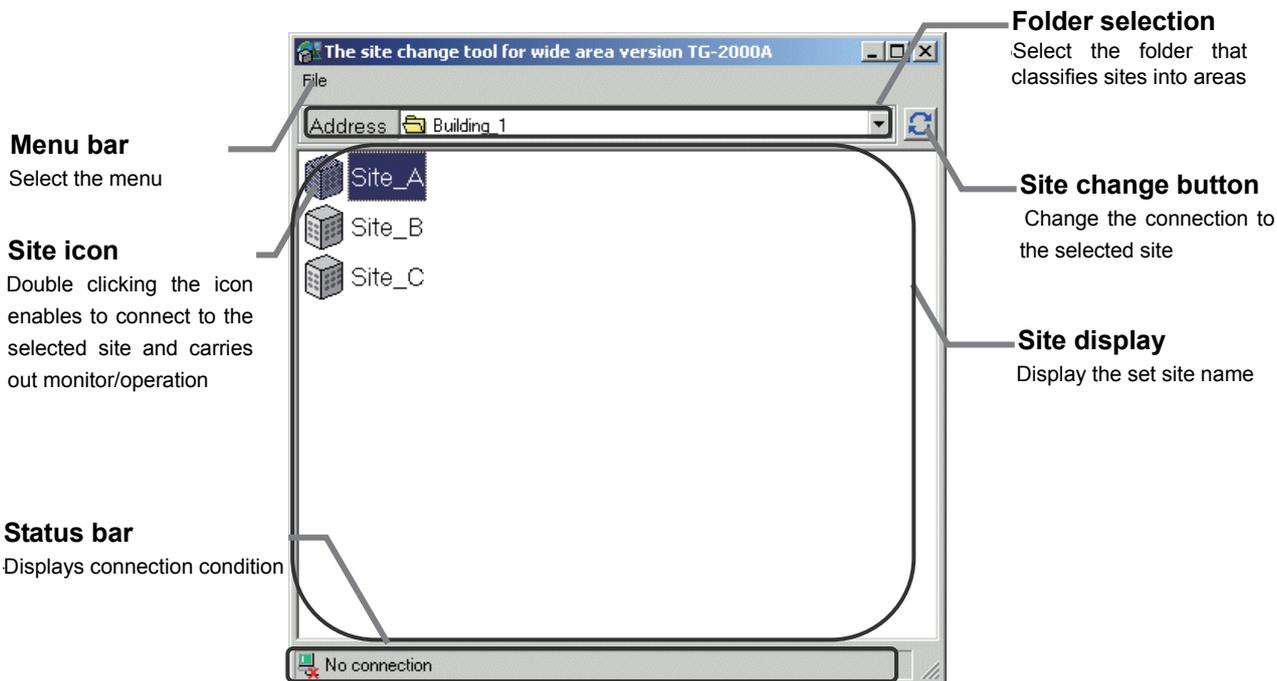
> **Note:**
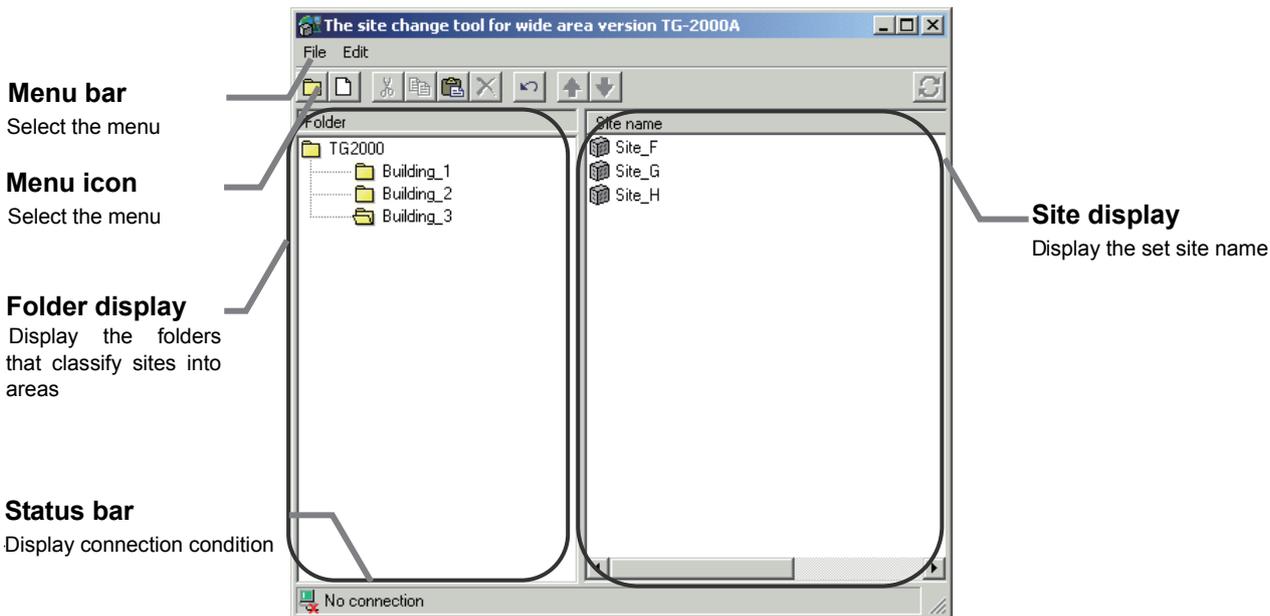> - Simultaneous access to more than one site is not possible. Only one site can be accessed at a time by switching sites.

3. Names and Functions of Each Part

3. 1   Screen Configuration
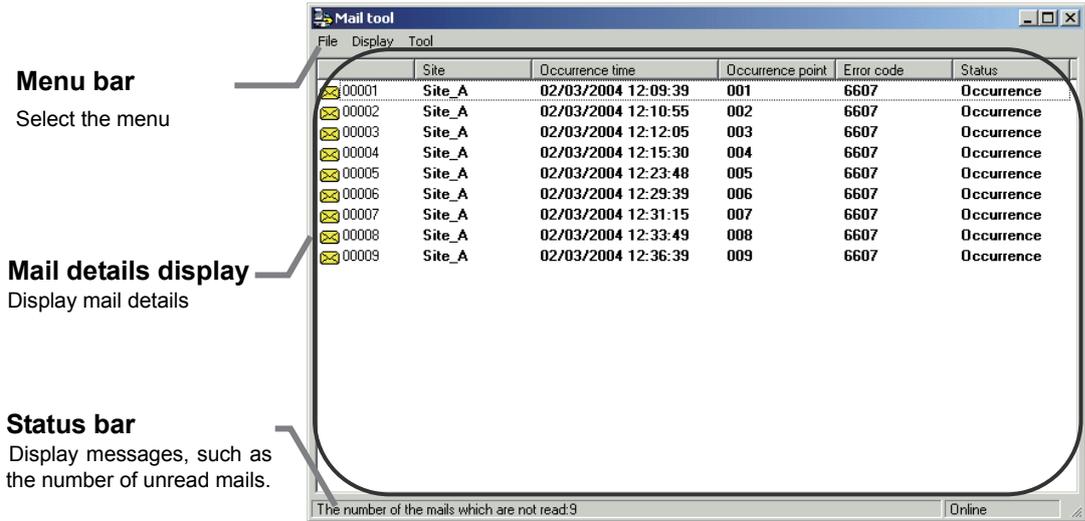The site change tool screen consists of the following parts:

Folder selection
Select the folder that classifies sites into areas

Menu bar
Select the menu

Site icon
Double clicking the icon enables to connect to the selected site and carries out monitor/operation

Site change button
Change the connection to the selected site

Site display
Display the set site name

Status bar
Displays connection condition

Management screen

Menu bar
Select the menu

Menu icon
Select the menu

Folder display
Display the folders that classify sites into areas

Status bar
Display connection condition

Site display
Display the set site name

Site registration screen for system administrators

Item	Details
Site icon	Display the site names and double clicking the icon enables to select or change the site.
Folder selection	Display the folder that classifies sites into areas and selecting the folder enables to display sites on the site display screen.
Folder display	Display the folders that classify sites into areas.
Site display	Display the sites that are in the selected folder.
Status bar	Display connection condition.
Menu bar	Choose the usable functions.

The mail tool screen consists of the following parts:

Menu bar
Select the menu

Mail details display
Display mail details

Status bar
Display messages, such as the number of unread mails.

Mail tool display screen

Item	Details
Mail details display	Display received mail details, such as site, occurence time, occurrence point, error code and status.
Status bar	Display messages, such as the number of unread mails.
Menu bar	Choose the usable functions.

3.2   Operations

Mouse operation

The following description assumes that a mouse is used as the pointing device. When using another pointing device, read the description for that device.
Operation on the screen is the same.
The keyboard can also be used to input characters and figures.

Move the mouse while viewing the arrow (mouse pointer) on the screen.
Use the left mouse button only.

The following describes the operations:

Item	Details
Click	Pressing and releasing the mouse button once is called "click". This operation is used when selecting a button.
Double click	Pressing and releasing the mouse button twice in rapid succession is called "double click".
Drag	The mouse pointer is moved to an icon and the left mouse button is held down. When the mouse is moved in this state, the icon moves as if it were being dragged. This operation is called "drag". The icon can be left at the new position by releasing the left mouse button.
Keyboard	Primarily used when entering password, characters, or figures.

3.3 Function list

Integrated centralized control software, TG-2000A that is described in this manual has two functions.
   1) Change sites and carry out monitor/operation.
   2) Receive and display AG-150A/G-50A error or recovery mails.

Name	Function	Section
Site change tool	Enable to change sites from two or more sites where monitor/operation is carried out and enables to register sites and classify sites into folders.	4
Mail tool	Display errors or recovery messages from AG-150A/G-50A, and out-of-limit alarm mail details from the AI controller. Monitors the mail server regularly to check new errors, recovery messages or out-of-limit alarm mails.	5

* Some functions cannot be used depending on setting.

For the functions shown below, refer to "Site adjustment" and "Management".
   3) Carry out monitor/operation of air conditioners (including ventilation units) and general equipment.
   4) Default and perform maintenance of this system.

In wide area mode, not all functions will be available. Please refer to Chapter 7 "Notes for Operation".

Note:
- The maximum number of AG-150A/G-50A that can be used per site is 40.
  When AG-150A is connected to the expansion controllers (PAC-YG50ECA), the number of AG-150A/G-50A is the same as the number of the expansion controllers.
- The number of sites that can be registered depends on the size of available hard disk space.
  Refer to "System Requirements" in the operation manual for "Site adjustment."

4. The Usage of the Site Change Tool

4-1. Starting the site change tool

Start the site change tool.

The necessary procedures for starting site change tool are shown below.

［Procedure］
1) Double click the icon "Wide area TG-2000A"
   After double clicking "Wide area TG-2000A"on the desktop,
   the site change tool will start.
   For the first time, it will start on the Management screen.

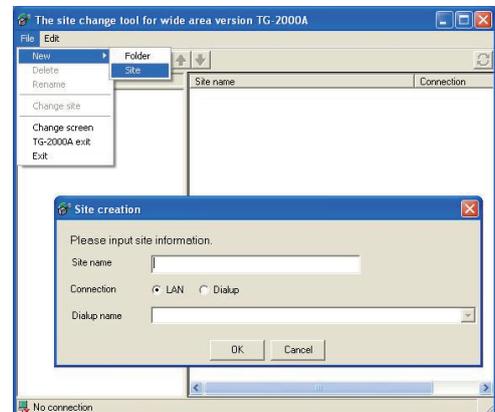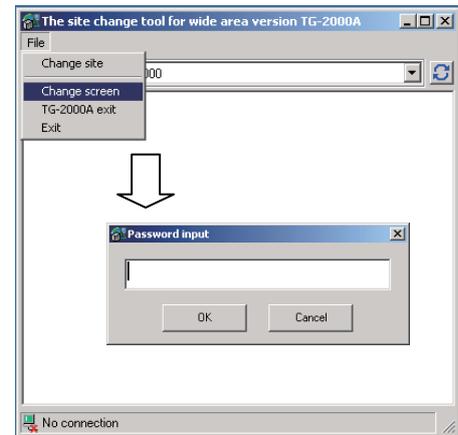## 4-2. Default

Default (site registration) the site change tool.

［Procedure］
1) Select "Change screen".
   After selecting [File]-[Change screen] from the menu bar,
   Password screen will appear.
2) Input "SYSTEM".
   After inputting the password on the password screen,
   Site registration screen for system administrators will
   appear.
       * This password is fixed.
3) Select "Site".
   After selecting [File]-[New]-[Site] from the menu bar,
   "Site creation" screen will appear.
4) Input site information.
    Select the site name and the connection method.
    When selecting "Dialup" connection method, select
    "Dialup name".
    * "Dialup name" must be created beforehand.
    Creation procedure varies depending on Windows(OS).
    Refer to the instruction manual for your Windows(OS).

Note:

• "Dialup name" should be within 30 letters.

5) Select "Change screen".
   After selecting [File]-[Change screen] from the menu bar,
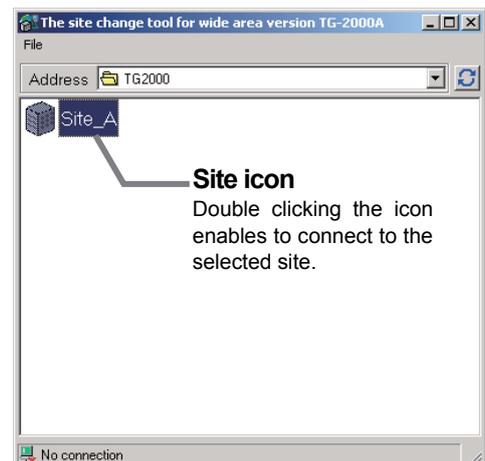   The Management screen will appear.

4-3. Connection to site

Connect to the site.

［Procedure］
1) Double click the site icon.
   After double clicking the site icon, TG-2000A will
   automatically start and will start accessing to the site.
   If other sites are already being accessed, TG-2000A
   will stop accessing the site and automatically end and
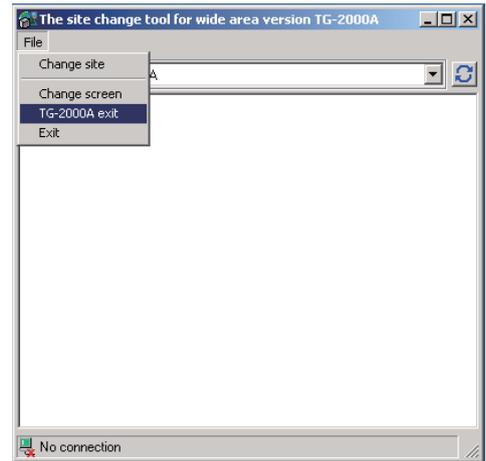   then restart.

Site icon
Double clicking the icon
enables to connect to the
selected site.

4-4. Ending

End TG-2000A.

  The necessary procedures for ending TG-2000A are
  shown below.

  ［Procedure］
  1) Select "TG-2000A exit"
     After clicking [File]-[TG-2000A exit] in the menu bar,
     The confirmation message will appear.
  2) Select "Yes"
     Select "Yes" to automatically quit TG-2000A.
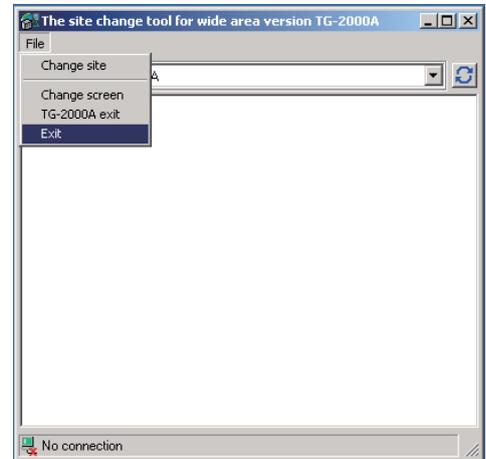   Select "No" to cancel end processing.

End the site change tool.

  The necessary procedures for ending the site change tool
  are shown below.

  ［Procedure］
  1) Select "Exit"
     After clicking [File]-[Exit] in the menu bar, the confirmation
     message will appear.
  2) Select "Yes"
     Select "Yes" to quit the site change tool.
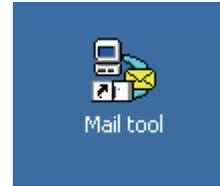   Select "No" to cancel end processing.

5. The Usage of the Mail Tool

5-1. Starting the Mail tool

Start the Mail tool.

The necessary procedures for starting the Mail tool are shown below.

[Procedure]
1) Double click the icon "Mail tool".
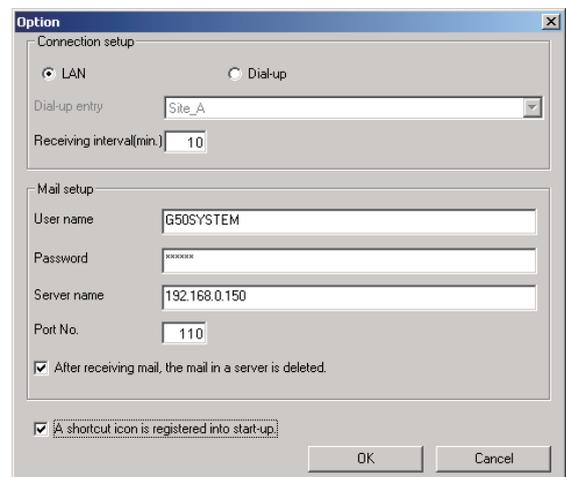   After double clicking "Mail tool" on the desktop,
   the Mail tool will start.

5-2. Default

Default the Mail tool (Mail server setting).

[Procedure]
1) Select "Option".
   After selecting [Tool]-[Option] from the menu bar,
   Option screen will appear.
2) Input connection information.
   Set the connection method to the mail server and
   Receiving interval.
   When selecting "Dialup" connection method, select
   "Dialup entry".
3) Input mail server information.
   Set the User name, Password, Mail server name
   (IP address), Port number to access the mail server.
   When enabling the checkbox, "After receiving mail,
   the mail in a service is deleted.", received mails will
   be deleted from the mail server.

Note:
   * When enabling the check box, "A shortcut icon is registered into start-up.", the Mail tool will be
     registered in the Start-up of the Start menu. Even if Windows is restarted, the Mail tool starts
     automatically.

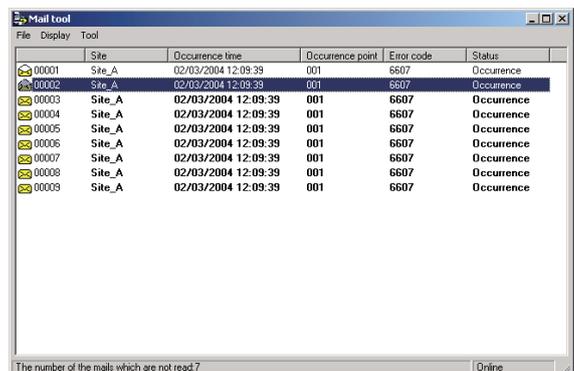## 5-3. Operation of the Mail tool

Operate the Mail tool.

[Procedure]
1) Select "Online".
   Select [File]-[Online] from the menu bar.
   The mail server will be accessed automatically
   every "Receiving interval" that is set in 5-2 above.

   * When Online is unchecked, the mail server is not
   accessed automatically.

   After receiving new mails, the Mail tool will be
   displayed in front and error mail details will be
   shown.

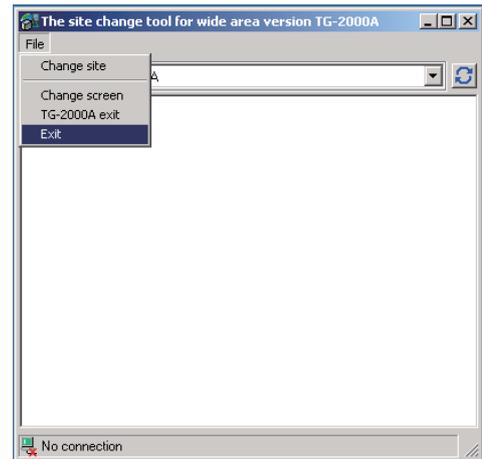**Online/Offline display**
Displays the Mail tool condition.

9

5-4. Ending the Mail tool

End the mail tool.

The necessary procedures for ending the Mail tool are shown below.

［Procedure］

1) Select "Exit".
   After clicking [File]-[Exit] in the menu bar, the confirmation message will appear.
2) Select "OK".
   Select "OK" to quit the Mail tool.
   Select "Cancel" to cancel end processing.

6. TG-2000A Operation

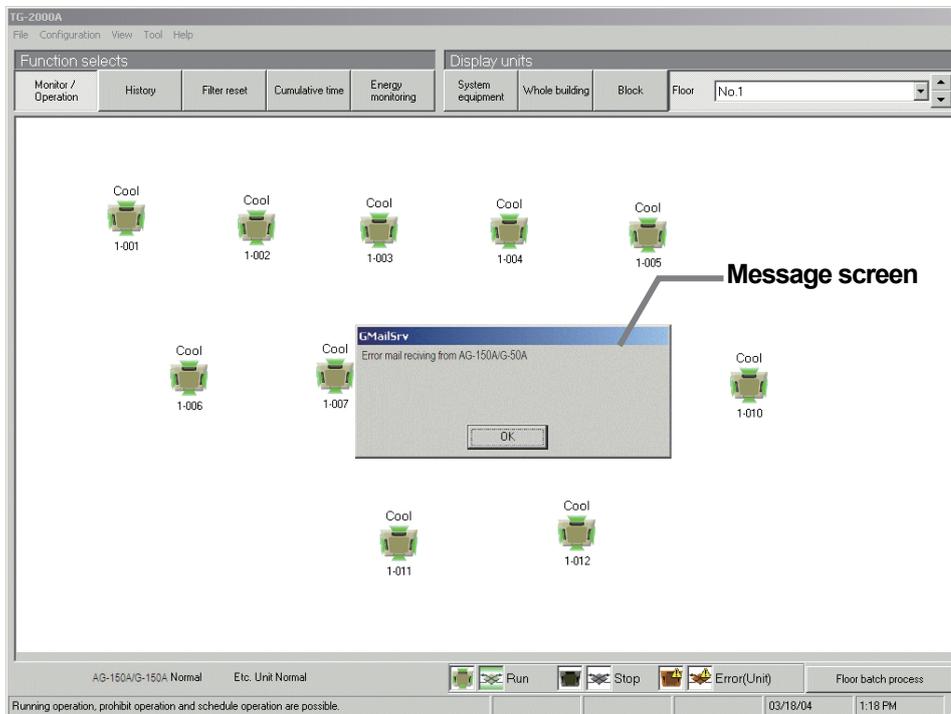For TG-2000A operation, refer to the "Management" manual.
The following manuals are accessible from the Help menu. Adobe® Reader® is required to read these manuals (7.1 or later recommended)

Manuals PDF	System Screen	Management Screen
Management	V	V
Site Adjustment	V	
Wide Area	V	V

V : Viewable

If error or recovery mails are received while the Mail tool is being used, Message screen with error mail receiving message will be displayed on TG-2000A screen.
To display the Mail tool screen, click OK button on the message screen.

7. Notes for Operation

Be sure to read the following notes for operation before use.
（Refer to the "Management" manual, as well.）

7.1   Usage Right

Mitsubishi Electric Corporation and its suppliers are not responsible for incidental, secondary, or special damage to the user even if notified of the possibility of that type of damage by the seller. Mitsubishi Electric is not responsible for any rights claimed by a third-party.

7.2   Wide area mode
(1) Function limit
- In wide area mode, trend function, automatic output function, charge function that is connected all the time, energy saving condition history function and daylight saving time are not available.

(2) Time setting
- In wide area mode, the time of AG-150A/G-50A site is monitored and is changed to the time of the computer. The time of the computer does not change after ending TG-2000A.
- We recommend that time be adjusted regularly.（Adjust time between the local time 8:00 and 21:45）We recommend that time be adjusted once a month especially when the charge function is used.
- When daylight saving time starts or ends, time needs to be set by hand.

(3) Notes in use
- When the system of on-site site is changed, apply the change to TG-2000A of wide area. If system information does not match, screens may be displayed improperly.
- When operating the air conditioner of the site, operate it properly depending on the site condition.
- The database of Site set up by standard mode cannot be used as database of wide area mode. Please set up it for wide area mode.

7.3   Mail tool
(1) Before starting operation
- Confirm that error mails can be received.

(2) The number of receiving mails
- Up to 10,000 errors or recovery receiving mails can be kept. Delete unnecessary mails regularly.

(3) Others
- This Mail tool is only for receiving, not for sending.
- "Dialup name" for Windows(OS) should be within 30 letters.

7.4   Others
(1) Operation processing
- When multiple processes and control overlap, operation may be delayed.
- The air-conditioner's operation is periodically monitored. There may be a time lag until the monitored details are reflected on this man-machine.

(2) Function
- The functions and specifications may be partially changed without notice for improvement.
- Use "TG-2000A for AG-150A/G-50A" Ver.6.10 or later when the EC-compatible AG-150A (max. 150 units controllable per AG-150A) is connected to the system.

MEMO

WT04333X1Í