MITSUBISHI

Building Air Conditioning Control System
Maintenance Tools for MN converter & G-50A

- Advanced -

Operating Manual

Contents

Before using Maintenance Tools, read this manual thoroughly to ensure correct operation.

WT03939X09

1	**Foreword**

1.1 Introduction of Maintenance Tools

The Maintenance Tools are comprised of the **On-Line Monitor** and the **Off-Line Monitor**.
The following two connection methods are available in the Online Monitoring.
(1) Monitoring by connecting the maintenance tool to MN converter (CMS-MNF) via RS-232C.
(2) Monitoring through the central controller (G-50) by connecting the maintenance tool to LAN.
A brief explanation of each of their function is provided here.

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* To use the maintenance tool via G-50 (Network), license registration for the G-50 to be used is necessary. Purchasing the license No. for each G-50 to be used, conduct the license registration through the Web browser (http://[IP address of the G-50A]/ administrator.html). After selecting "Maintenance tool" of the optional function on the Web Browser Screen displayed, enter the purchased license No..
For the detail of the license registration, see Chapter 4 [Registering a License for Optional Functions] of Central Controller Model: G-50A Web Browser Operation Manual (For manager).

1.1.1 On-Line Monitor(via MN converter)

The **On-Line Monitor** is connected to the unit by a MN Converter (**CMS-MNF**) and can monitor such areas as system data, unit data and operating data.

(1) In case for local connection

Connecting PC installed with the maintenance tool to M-NET transmission line via MN Converter allows conducting various monitoring and setting from the maintenance tool.
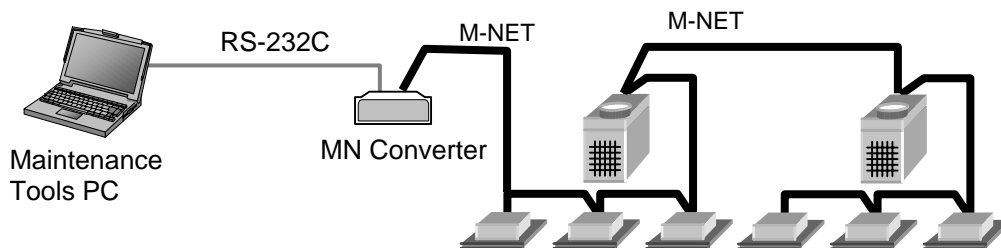
(2) In case for remote connection

Using a modem and remotely connecting PC installed with the maintenance tool to MN Converter via public telephone circuit allow conducting various monitoring and setting as same in the case of local connection.

*For the remote connection utilizing MN Converter, an isolator is required to be inserted between the modem and MN Converter.
For detail, please see Installation Manual-annexing of MN Converter (CMS-MNF).

1.1.2 On-Line Monitor(via G-50)

The **On-Line Monitor** is connected to the unit by the central controller(G-50A) and can monitor such areas as system data, unit data and operating data.
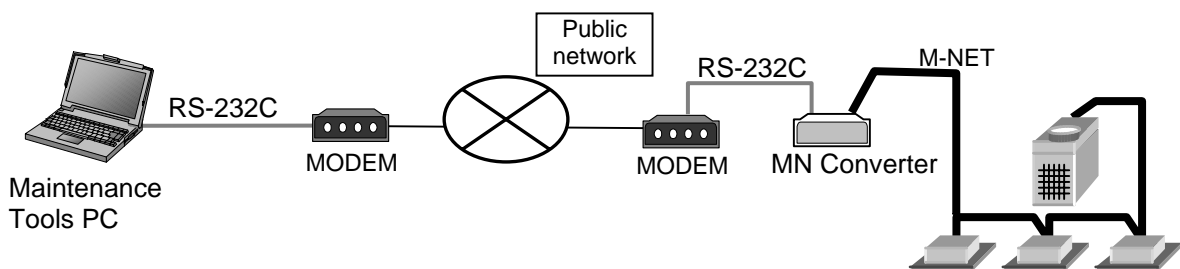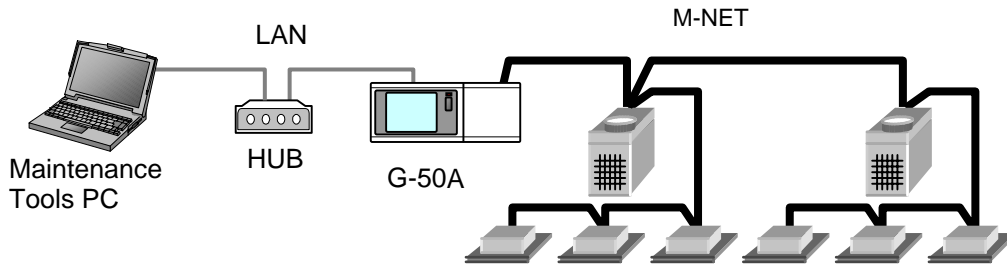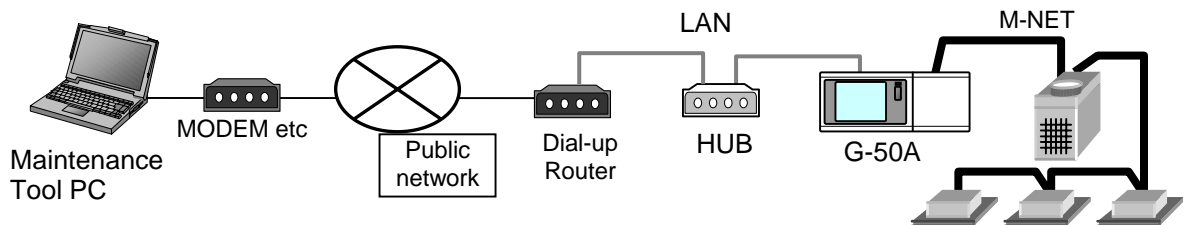
(1) In case for local connection

By directly connecting the PC installed with Maintenance Tools and G-50A through LAN, various monitoring/setting can be performed from the Maintenance Tools.
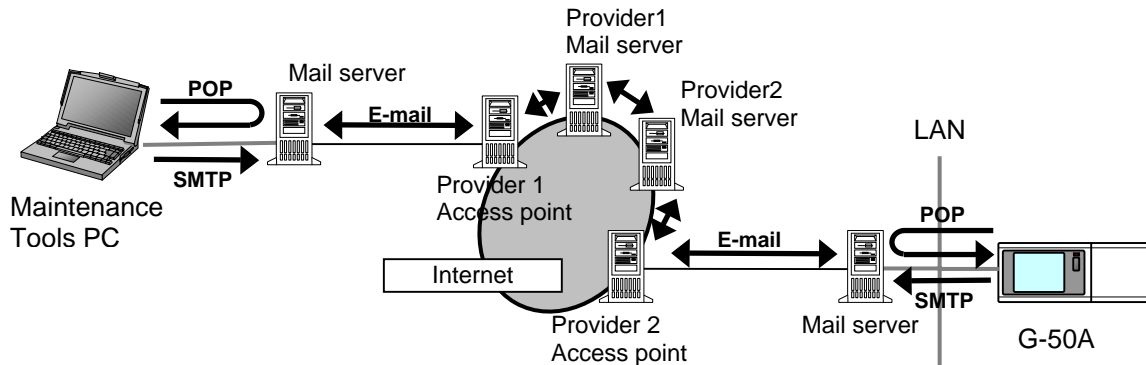

(2)-1 In case for remote connection (Dialup connection mode)

By connecting the PC installed with Maintenance Tools and G-50A through public network remotely, various monitoring/setting can be performed from the Maintenance Tools.

(2)-2 In case for remote connection (E-mail connection mode)

Under E-mail connection mode, communication can be executed with G-50A through E-mail transmission via mail server. All communication with G-50A is converted into E-mail in this case.

Notice
- To use the E-mail connection mode, the version of G-50 should be above 2.60.
- When using E-mail connection mode, the local G-50A is required to be initially set with Maintenance Tool and the mail address by the G-50A initial setting tool.
  - For each mail address, it is required to obtain and set an exclusive one. To transmit mail via an internet provider, obtain the mail address from the provider. When a mail server is existing on the LAN, obtain the mail address from the LAN administrator.
  - Set the [Pop receive interval] within 3 minutes. However to monitor operating status [Operation Monitor], set it within 1 minute.
  - Setting of initial information to G-50A can not be executed from Maintenance Tool. Make sure to set it from the G-50A initial setting tool locally. If dialup connection environment is available, it can be set from a remote position.
  (For detail, please refer to 6-1 Mail Basic Setting in the instruction manual of the G-50A initial setting tool.)
- The communication speed under E-mail connection mode largely depends on the transfer rate of each mail server. Under the circumstance, the action of Maintenance Tool may take a lot of time under some internet environments or routing mail servers.

1.1.3 Off-Line Monitor

The **Off-Line Monitor** can display, print information obtained by the On-Line Monitor.

In the case of connection monitoring utilizing G-50, the operation monitor data collected by G-50A will be transmitted to remote mail servers periodically if the [Operation monitor - mail communication mode] of online mode is adapted.

Using this function allows to collect and monitor the operation monitor data without continually connecting the maintenance tool.

*For the setting of the [Operation monitor - mail communication mode], refer to 3.7.1 and 4.3.3 description.

*Image of the [Operation monitor - mail communication mode]
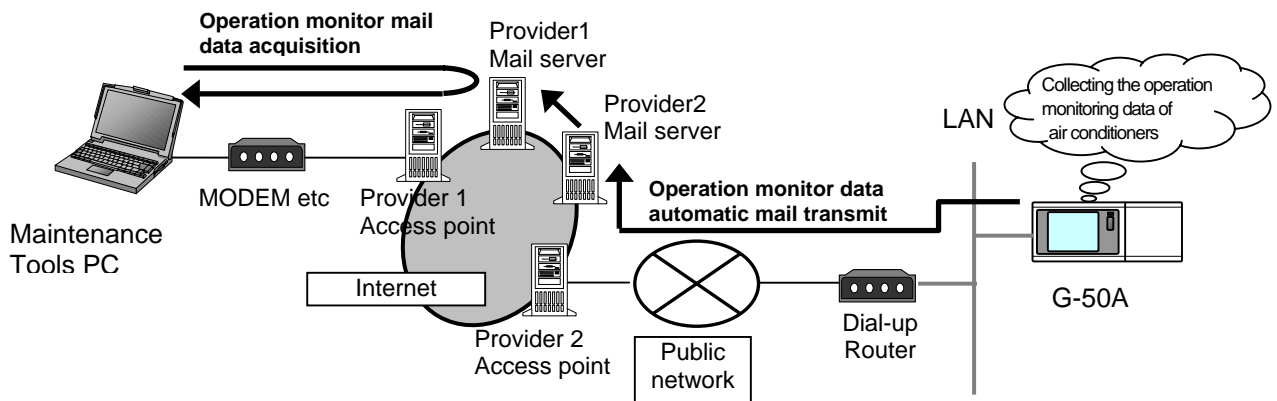
Notice
- This differs from the E-mail connection mode of (2)-2 in 1.1.2 On-Line Monitor (via G-50).

1.1.4 Wide area access mode

The "**Wide area access mode**" has been located starting from **Ver4.06(D)**.

Under the "Wide area access mode," the access method for remote connection can be registered to the database of each customer enabling easy online connection with the air conditioning system of the customer desired to be accessed.

[Remote access method]
- **LAN** : Accessing by directly connecting Maintenance Tool PC and G-50A with LAN (WAN).
- **Dialup** : Accessing by dialup connection to G-50A via public network.
- **E-mail** : Accessing by E-mail communication to G-50A via mail server.
- **Modem** (MN Converter) : Accessing by connecting Modem to MN Converter via public telephone circuit.

After the online connection performed by any of the above methods, you may use the similar function as that obtainable in the normal online connection.

While under the offline mode, customer information will be provided to the monitored data enabling only to select a specified customer for display.

1.2 Required Operating Environment

This manual refers to Windows® 2000 as Windows 2000, and Windows® XP as Windows XP.

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1.2.1 Hardware Requirements

The computer must be IBM compatible on DOS/V and capable of satisfying the following requirements.

- **OS** .... **Windows2000 or WindowsXP (Recommended English version *1)**
- **CPU** .... **PentiumIII 500 MHz (Recommended 1GHz or more)**
- **RAM** .... **Minimum 128 MB (Recommended 256MB or more)**
- **HDD** .... **Available space 5 GB or more *2**
- **LCD** .... **Display resolution:XGA(1024x768) or more**

Unit should be equipped with a pointing device, such as a mouse pointer or track ball.

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*1 About OS
Fundamentally, it corresponds to OS of each country. However, separators of time and date differ in each language. This separator may affect a maintenance tool.
It recommends using it by English OS and Regional options setup, changing into English area form.
Or it recommends using it, changing date separator into [/] and time separator into [:].

*2 About Hard Disk Space
The hard disk space recommended above is only the amount required for installing the maintenance application. Additional space will be required if the operating data is also to be stored on the hard disk. Accordingly, there may not be enough memory to store operating data if the maintenance system is installed in a computer with limited hard disk memory.

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* NOTE
TG-2000A and Maintenance Tool cannot operate with the same personal computer.

1.2.2 Required Materials

The following materials are needed for operating the Maintenance Tools :

(1) In case of routing via MN converter
MN Converter (CMS-MNF), Personal Computer, RS-232 (cross), and modem in the case of remote connection, are required. RS-232 C is to be straight cable in this case.
For detail, please see Installation Manual-annexing of MN Converter (CMS-MNF).

(2) In case of routing via G-50
G-50, personal computer, LAN cable (Straight) and HUB.
A dial-up router is required for remote communication. For the dial-up router to be used, employ that allowing data communication by receiving external telephone transmission.

1.3 Installation

There are two Maintenance Tool setup methods:
    Method 1) New setup.(See Section 1.3.1)
    Method 2) Upgrading with existing setup.(See Section 1.3.2)

> **Caution**
> Please refer to also 1.3.4 RE: Change of computer name on PC.

1.3.1 Setting Up the Maintenance Tools (New setup)

To set up Maintenance Tools, follow the 3 steps below.
    Step 1) Setting up of MSDE   : After finishing Step 1, PC restarts automatically.
    Step 2) Setting up of database   (Restarting PC is essential before going to Step 2.)
    Step 3) Setting up of Maintenance Tools

> Request
> - **For setting up, be sure to practice 3 steps in order.** Otherwise, Maintenance Tools will not operate normally.
> - Before setting up, be sure to log in with the log-in name authorized as administrator.

Step 1) Setting up the MSDE

> Notice
> - **Before Setting up the MSDE, restart your computer and Ending software for application program and Anti-Virus**.

Execute **"SETUP.exe"** located in <u>SetUp ¥1_MSDE4VS</u> in the folder of CD-ROM.
Double clicking on **"SETUP.exe"** with the explorer displays the MSDE setup screen as shown right.
PC is reset automatically after completing installation of MSDE. After closing other application software, click [**OK**] and start installation.
* To stop setting up, click on [**Cancel**] button.
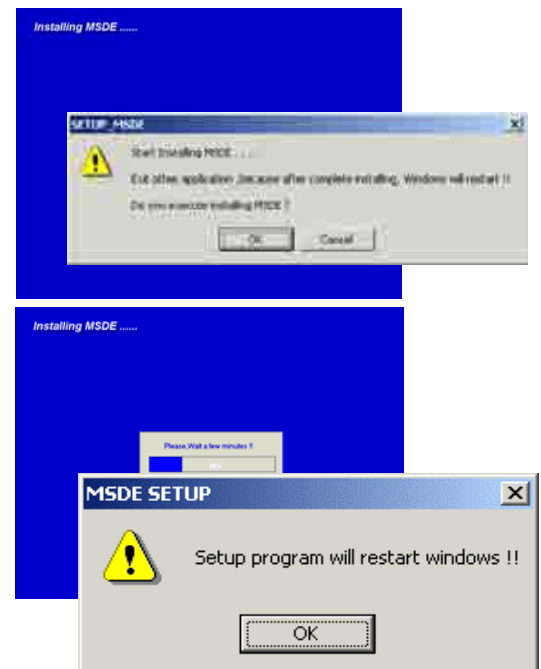
The setting up processing requires for **about 2-3minutes**.

If processing progresses to 100%, the screen in the right will be displayed. Clicking on [**OK**] resets PC automatically. Please carry out STEP2 after PC's starting.

> Notice
> After setting up MSDE, PC is designed to automatically reset. However, if this setting up is executed without finishing other application software, PC may not be reset automatically. In this case, reset PC manually. After restarting, go to Step 2. Without restarting PC, Maintenance Tool can not be set up unless replacing OS itself.
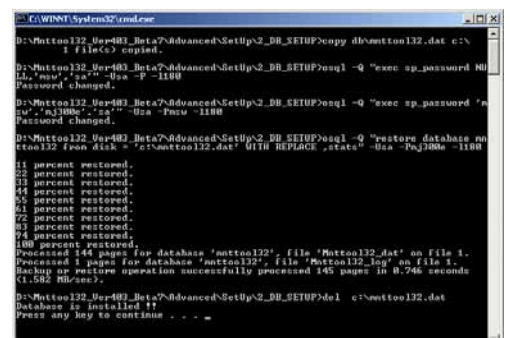
Step 2) Setting up the database

Execute **"Setup.bat"** located in the folder of
<u>SetUp ¥2_DB_SETUP</u>" of CD-ROM.
Double clicking on "Setup.bat" with the explorer displays the command prompt screen.
The setting up processing ends within **about 10 seconds - 3 minutes**.

After ending of the setting up, **"Press any key to continue …"** is displayed. Pressing any key closes the command prompt screen.

Step 3) Setting up the Maintenance Tools

Set up the application of this Maintenance Tools. Please read the guide shown on the screen carefully to proceed the setting up.

(1) Starting the setup program
  1) Start setup.exe.
    Execute **"setup.exe"** located in
    SetUp ¥3_MNTTOOL folder of CD-ROM.
    Double clicking on **"setup.exe"** with the explorer displays "Welcome" screen. Please confirm the caution shown on the screen before setting up.
  2) Confirm the display contents, and select [**Next**] button.
    If no problem was found on the content, click [**Next**] button.
    * To stop setting up, click on [**Cancel**] button.

(2) Confirming the Installation folder
  1) Confirm the installation folder and select [**Next**] button.
    Confirm the folder on which this program should be installed. To change the installation folder (C drive only), Use [**Previous**] button. After confirming the installation folder, click on [**Next**] button.
    * Clicking on [**Cancel**] button stops installation procedure.

(3) Confirming the installation start
  1) Confirm the starting and select [**Next**] button.
    Clicking on [**Next**] button starts installation.
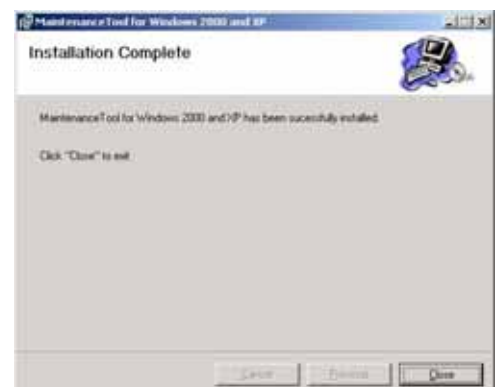   * Clicking on [**Cancel**] button stops installation.

(4) Confirming the completion of Maintenance Tools setup
  1) Select [**Close**] button.
    Click on [**Close**] button on the Installation Complete screen.

    After completing installation, restart your computer.

    Keep the CD-ROM used with you carefully.

Request
  • After installing Maintenance Tools, be sure to restart your computer.

6

1.3.2 Running Maintenance Tool Upgrade

The following describes how to upgrade the Maintenance Tool.
Step 1) Ending the Maintenance Tool
Step 2) Uninstalling the Maintenance Tool   :Restart your computer after completing the STEP 2.
Step 3) Upgrade the Database
Step 4) Upgrade the Maintenance Tool   :Restart your computer after completing the STEP 4.

Request
  •**For setting up, be sure to practice 4 steps in order.** Otherwise, Maintenance Tools will not operate normally.

Step 1) Ending the Maintenance Tool
End the Maintenance Tool program.
*Refer to 1.4.5 Ending the Maintenance Tool

Step 2) Uninstalling the Maintenance Tool
Uninstall the Maintenance Tool program.
* Refer to 1.3.3 Uninstalling the Maintenance Tool

Request
  • After uninstalling Maintenance Tool program, be sure to restart your computer.

Step 3) Upgrade the Database
Execute **"Setup.bat"** located in VerUp ¥1_DB_UPDATE folder of CD-ROM.
Double clicking on **"Setup.bat"** with the explorer displays the command prompt screen.
The setting up processing ends within **about 10 seconds** and the screen closes.
When the set up processing is completed, [Press any key to continue …] will be displayed at the bottom
of the screen.   Please wait for this display.
About 10 seconds - 3 minutes are required to complete the set up processing.
The screen will be closed by pressing any button after completing the processing with the display of
[Press any key to continue …].

Notice
  During database setting, the process may be observed as stopped for a while. However, it is still under
  operation internally. Wait for some time until "Press any key to continue - - - -" appears without doing
  anything.
  *Do not stop the set up procedure by pressing ⊠ at the upper right of the screen.

Step 4) Upgrade the Maintenance Tool
Execute **"setup.exe"** located in VerUp ¥2_MNTTOOL_UPDATE folder of CD-ROM.
Double clicking on **"setup.exe"**.
 *The Maintenance Tool program version upgrading procedure is the same as new setup.
  Refer to 1.3.1 Step 3) Setting up the Maintenance Tool.

Request
  • After installing Maintenance Tool program, be sure to restart your computer.

1.3.3 Uninstalling the Maintenance Tools
The method to uninstall the application of the [Maintenance Tools] once installed is given below.

(1) Uninstalling the Maintenance Tools
1) Confirm the ending of Maintenance Tools.
Confirm that Maintenance Tools program has been ended.
If not, end the program.
*For the ending method, refer to Chapter 1.4.5.

2) Start [Add/Remove Programs].
Click on [Add/Remove Programs] from [Control panel] to start.

3) Select [Maintenance Tool for windows 2000 and XP]
and press [Change & Remove] button.
Select [Maintenance Tool for windows 2000 and XP] from the application, and click on [Remove] button.
The deletion of Maintenance Tools application starts.

> Notice
> • Recommend not to delete the common components.
> • There are folders and files that can not be deleted with this uninstalling.
>   (Example:C:¥Program files¥Mnttool32)

4) Ending the [Add/Remove Programs].
After ending the deletion of application, end [Add/Remove Programs].

1.3.4 RE: Change of computer name on PC

Do not change the computer name after the Maintenance tool has been setup.
Maintenance tool will not run properly if changed, and may require the OS to be installed again.

1.4 Starting and Ending the Application

1.4.1 Starting the Maintenance Tool

(1) Connect the computer and G-50A(MN Converter) and
air conditioner.

(2) Click on "**Start**", and then click on "**Programs**".

(3) Click on "**Maintenance Tool for Windows2000 & XP**" in
the "**Maintenance Tool**" folder.
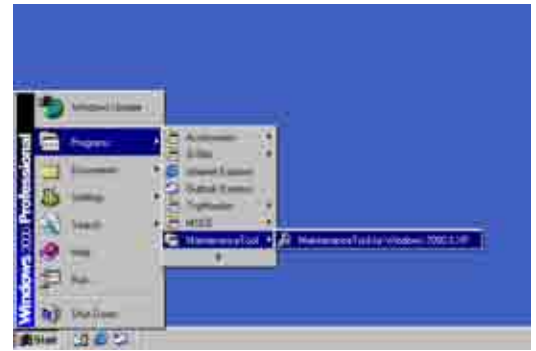
(4) The **Title Screen** will soon appear.

In addition, the message of [**This unit can be changed
into °F and pounds/inch^2. Do you change them?**] is
displayed, and the temperature is set into **°F if** [Yes] is
clicked on, while into **°C if** [No] is clicked on.
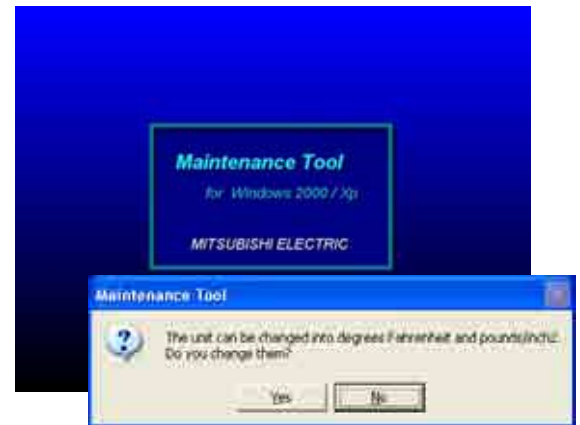
*After upgrade, if a maintenance tool is started for the first
time, conversion processing of a database may be
performed. In this case, "Now, Converting database! "
and a progress state are displayed.

*The capacity to store the data obtained by the maintenance
tool counts for 2G-bite maximum.
When the remaining storage capacity is insufficient at
starting, Warning Screen will appear.
In this case, move to OFF- Line Screen to delete
unnecessary data.

(5) Thereafter, the selection screen of Monitor mode is
displayed. Selecting the mode to be adapted.
Normal mode
 a) ON LINE MODE
  - MN CONVERTER
  When on-line monitoring is adapted to air conditioning
  system by connecting MN Converter [Refer to 1.4.2.1.]
  Further select Remote connection to conduct remote
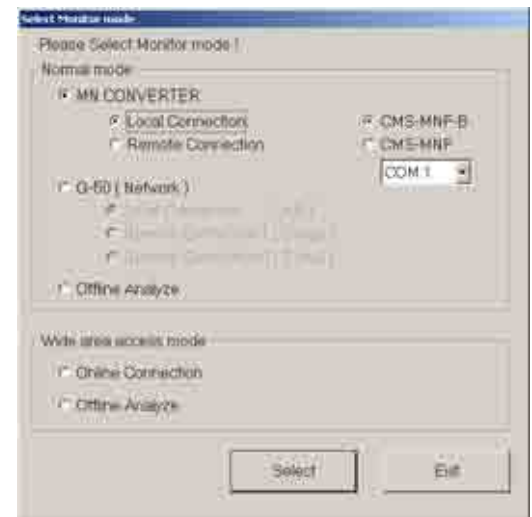 connection. [Refer to 1.4.2.2.]
  - G50(LAN)
  When on-line monitoring is adapted to air conditioning
  system via G-50 by connecting the maintenance tool to
  LAN. [Refer to 1.4.3.1.] For remote connection, select
  either "Dialup connection mode" or "E-mail connection
  mode". [Refer to 1.4.3.2., 1.4.3.3.]
 b) OFF LINE MODE
  - Offline analysis
  When offline analysis is adapted to the data collected under ON-LINE MODE [Refer to 1.4.4.]
Wide area access mode
 The detail is described in the item 1.4.5.

9

1.4.2 Starting the On-Line Monitor(MN Converter connection)
1.4.2.1 In case for local connection

This will be used when online monitoring is adapted to air conditioning system by connecting the maintenance tool and MN Converter locally. The maintenance tool, MN Converter and air conditioning system should be connected beforehand.

(1) Clicking "MN CONVERTER" on the selection screen of Monitor mode selects "Local connection" simultaneously. Select the model name of the connected MN Converter and the COM port No. of the connected RS-232C. Last click [Select] .

1.4.2.2 In case for remote connection

This will be used when online monitoring is adapted to air conditioning system by using a modem, and connecting the maintenance tool and MN Converter with public telephone circuit remotely. The setting up of the modem for Windows (modem at the remote site side) and the initial setting up (modem connecting MN Converter at the local side. For detail, refer to (3).) are previously required. The connection of the modem, public telephone circuit and local MN Converter is necessary.
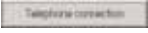
* For a description of the on-site air conditioner system connection method, refer to the MN Converter Operation Manual.
* If communication does not have for 10 minutes in remote connection, "Timeout occurred!" will be displayed, if O.K. is pushed, a telephone circuit will be cut automatically and the Maintenance tool will be ended.
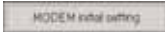
(1) After clicking "MN CONVERTER" on the selection screen of Monitor mode, and click "REMOTE CONNECTION." For MN Converter, "CMS-MNF-B" will automatically be selected. Then select COM port No. of RS-232C connected with equipment (like a modem) for connection to public telephone line.Last click [Select] .

   *MN Converter to be locally installed should be "CMS-MNF-B." Remote connection can not be performed with "CMS-MNF."
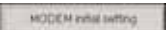
(2) Next the screen to set remote connection will appear. In order to conduct the initial setting (AT command setting) of the modem to be used, click [MODEM initial setting] , and to initiate remote connection, click [Telephone connection] .

  *Insert an isolator between the local MN Converter and modem for insulation. Inserting the isolator reduces the number of lines used by the internal wiring of RS-323C. For this reason, it is required to select [MODEM initial setting] before the remote connection to change the setting information on the modem to be installed at the local side.
  For detail, see Installation Manual-annexing of MN Converter (CMS-MNF).

(3) Initial setting of modem
For the modem to be installed at the local side (MN Converter side), initial setting should be applied before connecting remotely. To apply the initial setting of the modem, click [MODEM initial setting] on the remote setting screen.
The **Connection Modem Initial Setting Screen** will appear. A modem that is already initialized does not have to be re-initialized.
The explanation of the operation only is described here. For the detail of the setting content, see Installation Manual-annexing of MN Converter (CMS-MNF).

(a) Explanation of screen
-Select a registered modem setup file at the **Select Initial Settings File Box**. The contents of the selected file will be listed below the selection box. ———

-Click on [Transmission] and the modem will be set up according to the contents selected at the selection box.
(AT commands are sent to the modem.)
Check if transfer with the modem is normal at the **Transfer with Modem Status Screen**.

- Click on [New settings] to initialize another modem. Send the initialize command and register the transfer contents for the modem at the **AT Command Transmit Screen**. [Refer to (b)]

- Click on [Delete] to delete the selected modem settings from the registered settings. When the number of registrations limit is exceeded, delete the unwanted contents. [Refer to (b)]

- Click on [Return] to return to the **Connection Setting Screen**.
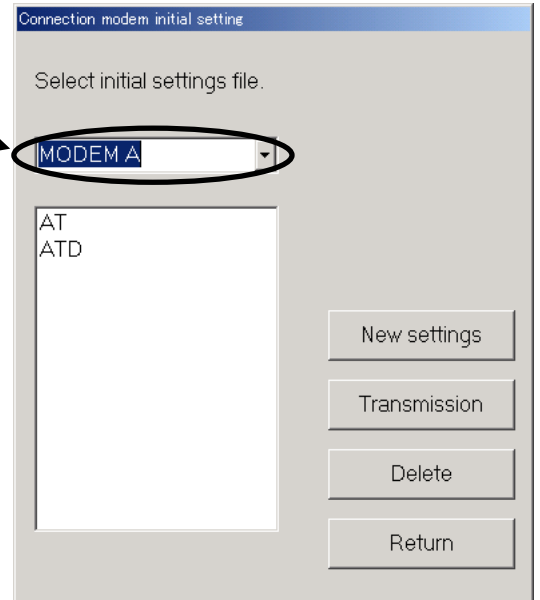
(b) Perform new modem setup.
- Enter the command (you want to set) you want to send
to the modem at the AT command input text.
Then click on [Transmission] to send the entered AT command to the modem. The response from the modem will appear below the entered AT command. Check the contents.

- After transmission to the modem is complete, click on [Register] . The contents sent to the modem will be registered as an initialize file. (Registered in the setup file list of the **Connection Modem Initial Setting Screen**.)   At this time, do not forget to enter the registration name. Up to ten items can be registered. If ten items are already registered, new items cannot be registered. Delete unwanted items using the **Connection Modem Initial Setting Screen**.

- Click on [Return] to return to the **Connection Modem Initial Setting Screen**.
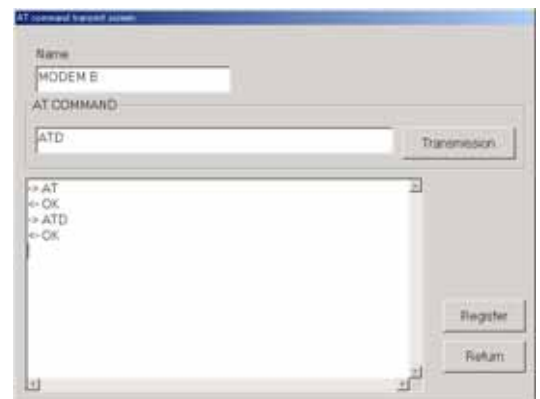
(4) Initiating the remote connection
   To initiate the remote connection, click [Telephone connection]
   on the remote setting screen.
   The **Customer Selection Screen** will appear. This screen
   connects to the on-site remote modem.

 (a) When the addressee has already been registered, select
     the customer name to be connected in "Select customer
     name box" and then click [Connect] to initiate
     connection.

   In the case of initial connection or to change to a new addressee, click [New registration].
   Then the Customer Information Registration Screen will appear.

 (b) Enter Customer name of the field addressee, enter the type of the telephone circuit to be used and the
     telephone number of the addressee, and click [Register]. The set content will be registered.

        * The contents transmitted to the modem vary in the
          chosen Line type.
          Pay attention to the following.
          When PB is chosen, "ATDT" is added before the
          telephone number.
          For example, when a telephone number is
          0123456789,
          "ATDT0123456789" is transmitted to the modem.
          It becomes the following when "DP", "NONE" are
          chosen in the same way.
             DP   --- ATDP0123456789
             NONE --- ATD0123456789
          When a circuit connection is impossible in the case
          of above three which as well, "ELSE" is used.
          When "ELSE" is chosen, nothing is added to before the telephone number.
          Input a command for the circuit connection from the beginning.
          For example, "ATD0,0123456789" is transmitted to the modem when "ATD0,0123456789" is
          inputted in the telephone number column.
          When the one except for the "ELSE" is chosen, only a number can be inputted in the telephone
          number column.

        The information for up to 100 customers can be registered. When the information for 100
        customers has been registered, new customer information cannot be registered. Delete the
        unwanted customer information using the customer selection screen.

 (c) Check the contents, then click on [Connect].
     The **Connection Status Indication Screen** will appear.
     Connect the line. When you want to disconnect the line,
     click on [Stop].
     The line will be disconnected.

12

1.4.3 Starting the On-Line Monitor(G-50 connection)

* To use the maintenance tool via G-50 (Network), license registration for the G-50 to be used is necessary. Purchasing the license No. for each G-50 to be used, conduct the license registration through the Web browser (http://[IP address of the G-50A]/ administrator.html). After selecting "Maintenance tool" of the optional function on the Web Browser Screen displayed, enter the purchased license No..
For the detail of the license registration, see Chapter 4 [Registering a License for Optional Functions] of Central Controller Model: G-50A Web Browser Operation Manual (For manager).

* To use the maintenance tool via G-50 (Only for LAN mode and Dialup connection mode), please check a setup of Internet Connection Firewall of PC. If the FIREWALL function is used, communication will be normally impossible with G-50A, and normal data will not be displayed.
For detail, please refer to **[6. How to change setting of Firewall] on Page 57.**
In the case of permanently installing an anti-virus software and always started under this environment, the fire wall function of this software may be activated sometimes. In such case, The normal communication with G-50 will be hindered not displaying data normally. When operating Maintenance Tool, finish the anti-virus software once or remove the fire wall function.
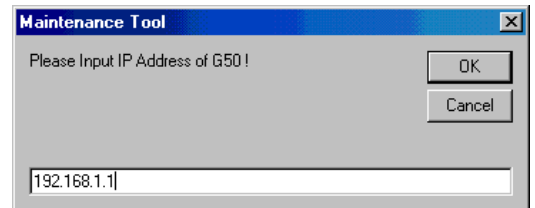
1.4.3.1 In case for local connection

In the case when on line monitoring is applied to air conditioning system via G-50 by connecting the maintenance tool to LAN locally.

(1) Clicking "G-50(Network)" on the selection screen of Monitor mode selects "Local connection" simultaneously. Last click " Select ."

(2) Next IP address input screen is displayed. Here,input IP address of G-50A connected to the air conditioning system of which operating information is desired to monitor, and click on OK .

Request
It is required to set to the IP address in the same system with G-50 to be connected to Maintenance Tool PC from [Control Panel].

1.4.3.2 In case for remote connection (Dialup)

In the case when on line monitoring is applied to local air conditioning system (with G-50 installed) from the maintenance tool in the remote place via public telephone circuit.

* When utilizing Remote connection (Dialup),please prepare MODEM and DIAL-UP ROUTER (of a type allowing data communication by receiving external telephone transmission) for the connection with the public circuit in addition to the components used by Local connection (LAN).
For the system composition, please refer to the system diagram of (2)-1 in 1.1.2.
To use Remote connection (Dialup), it is previously required to register MODEM onto Windows and set the information on the receiver (the dial-up router at G-50A in the field) of the telephone transmission onto the dial-up connection screen.
* If communication does not have for 10 minutes in remote connection, "Timeout occurred!" will be displayed, if O.K. is pushed, a telephone circuit will be cut automatically and the Maintenance tool will be ended.

(1) After clicking "G-50(Network)" on the selection screen of Monitor mode, and click "REMOTE CONNECTION(Dialup)." Last click " Select ."
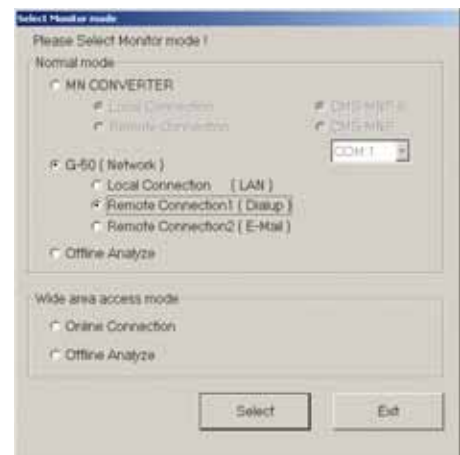
(2) Next **Remote Monitor screen** is displayed.
Here select the connection name of the dial-up router at G-50A in the field desired to be remotely connected.
It is being set previously on the dial-up connection screen. Then input Dial-up user name and Dial-up password to connect with the dial-up router,and click on Connect .

After connecting to the telephone circuit, on-line monitoring can be performed as same as the case when connected with LAN.

1.4.3.3 In case for remote connection (E-mail)

In the case when on line monitoring is applied to local air conditioning system (with G-50 installed) from the maintenance tool in the remote place via mail server.
All communication to G-50 is converted in E-mail in this case.

Notice
- To use the E-mail connection mode, the version of G-50 should be above 2.60.
- When using E-mail connection mode, the local G-50A is required to be initially set with Maintenance Tool and the mail address by the G-50A initial setting tool.
  - For each mail address, it is required to obtain and set an exclusive one. To transmit mail via an internet provider, obtain the mail address from the provider. When a mail server is existing on the LAN, obtain the mail address from the LAN administrator.
  - Set the [Pop receive interval] within 3 minutes. However to monitor operating status [Operation Monitor], set it within 1 minute.
  - Setting of initial information to G-50A can not be executed from Maintenance Tool. Make sure to set it from the G-50A initial setting tool locally. If dialup connection environment is available, it can be set from a remote position.
    (For detail, please refer to 6-1 Mail Basic Setting in the instruction manual of the G-50A initial setting tool.)
- The communication speed under E-mail connection mode largely depends on the transfer rate of each mail server. Under the circumstance, the action of Maintenance Tool may take a lot of time under some internet environments or routing mail servers.
- For the system composition, please refer to the system diagram of (2)-2 in 1.1.2.

---

(1) After clicking "G-50(Network)" on the selection screen of Monitor mode, and click "REMOTE CONNECTION(E-mail)." Last click " Select ."
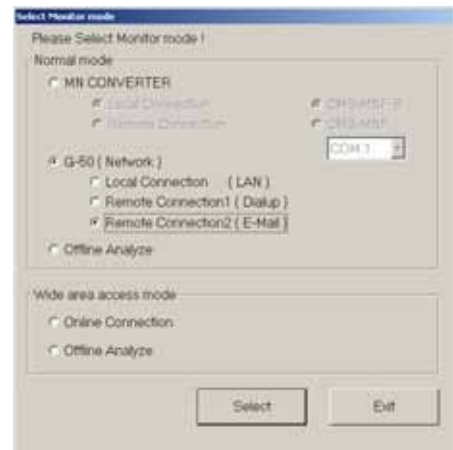
(2) The mail connection setting screen is displayed.
Here, set the mail information on G-50A to be connected, and that on the Maintenance Tool.

Notice
For each mail address, it is required to obtain and set an exclusive one. To transmit mail via an internet provider, obtain the mail address from the provider. When a mail server is existing on the LAN, obtain the mail address from the LAN administrator.

(a)Setting of the mail information on G-50A
1) To assign the G-50A connected in the past
After assigning "Customer name" from the pull down menu, select G-50 name."
2) To connect to new G-50A

Click 📗 to open the address book, and register and select the mail address of G-50A.

*The 10 Customer names in the past are displayed on the pull down menu. To assign earlier G-50A, open the address book to select.

(b) Address book

The mail address of G-50A for each project can be registered.
As shown in the sample examples, register the name and mail address of G-50A after preparing the
[Customer name] folder.

[Entering order]

   1) Preparing the Customer folder

Pressing ☐ displays the input screen of customer name,

and then enter the name.
The setting can also be made from the file menu or
the sub-menu displayed by right-clicking.

Further deletion processing can be made with ✗ or

Del-key, and rename processing with ▥ button.
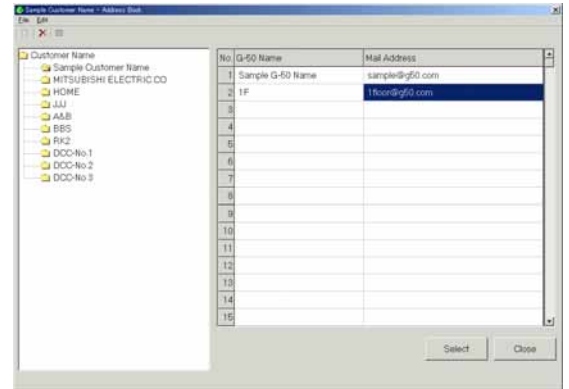
  2) Name and address setting of G-50A
Double-clicking at a position desired to enter provides the
input mode.
Set the name and address accordingly.
*Be sure to set the name of G-50A also.
The deleting processing can be executed with the ☐ ,

Del-key, or Edit menu. It can also be performed by the Delete
setting of the sub menu displayed by right-clicking.

[Selection order]
 -Selection of G-50A to be connected with Click the customer name folder desired to connect to open
  the address book of the project.
  After fitting the cursor to the name of address of G-50A, click [SELECT] button.

(c)Advanced setting screen

Clicking **[Open Advanced]** opens Advanced screen where the mail information about Maintenance Tool may be
set.
When the mail information about Maintenance Tool has not been set, Advanced screen is displayed always under
opened state.

 - Setting of mail information on Maintenance Tool
    1) POP server (Receiving)
     - POP server address
      Set the IP address of the receiving mail server (POP3)
      of Maintenance Tool or domain name.
     - POP account
      Set the POP account (user ID) for mail receiving.
     - POP password
      Set the user password for mail receiving.
     - POP receive interval
      Select the mail receiving interval.
      The default value represents 5sec.
      It can be selected within a range of 5 ~180sec.
      Extend the interval when the server is crowded.

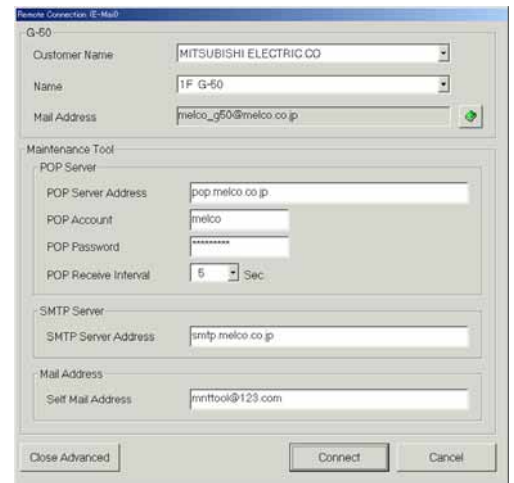   2) SMTP server (Transmitting)
    - SMTP server address
     Set the IP address of transmitting mail server of
     Maintenance Tool.

   3) Mail address
    - Set the mail address of Maintenance Tool.
     Clicking [Close Advanced] closes Advanced screen.

(3) After setting the mail information about the G-50 connected and that about Maintenance Tool, click **[CONNECT]**.

1.4.4 Starting the Off-Line Monitor

When offline analysis is adapted to the data collected under ONLINE MODE.

(1) Clicking "Offline Analyze" on the selection screen of Monitor mode. Last click " Select ."

1.4.5 Using the Wide area access mode

Under the "Wide area access mode," the access method for remote connection can be registered to the database of each customer enabling easy online connection with the air conditioning system of the customer desired to be accessed.

[Remote access method]
- **LAN** : Accessing by directly connecting Maintenance Tool PC and G-50A with LAN (WAN).
- **Dialup** : Accessing by dialup connection to G-50A via public network.
- **E-mail** : Accessing by E-mail communication to G-50A via mail server.
- **Modem** (MN Converter) : Accessing by connecting Modem to MN Converter via public telephone circuit.

After the online connection performed by any of the above methods, you may use the similar function as that obtainable in the normal online connection.
While under the offline mode, customer information will be provided to the monitored data enabling only to select a specified customer for display.

Note :
Even when connecting under the wide area access mode, cautions will be applied as same as under the normal connection mode. You are kindly requested to observe the cautions described in the connection method under normal mode as well. (1.4.1 - 1.4.3)

1.4.5.1 Online Connection

(1) Clicking "Online Connection (Wide area access mode)"on the section screen of Monitor mode.
Last click " Select ."

(2) The customer registration screen will be displayed. Register customer information in the order of [1] -> [2] -> [3] hierarchically.

    [1] <u>Area name</u>
       └──→ [2] <u>Customer name</u>
            └──→ [3] <u>Air conditioning system name</u>
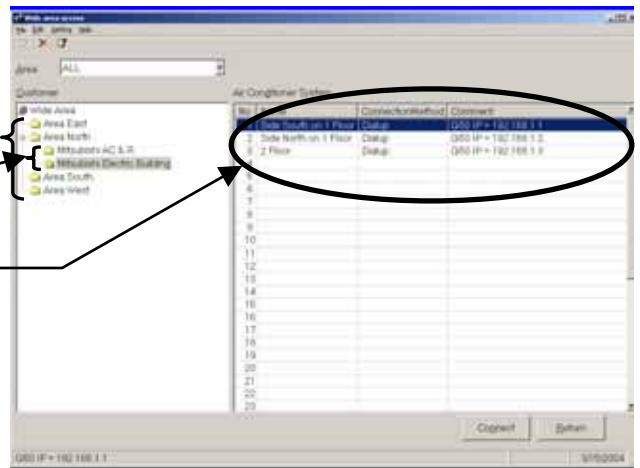   <u>& connection method</u>

(a) Creating the [Area name] folder
1) When [Wide Area] is being focussed, the sub-menu will be displayed by right-clicking.
2) Select [Create Area …].
3) As the screen to enter the AREA name appears, set a proper Area name and press [OK] to create the Area folder.

(b) Creating the [Customer name] folder
1) Right-clicking the [Area name folder] to be registered displays the sub-menu.
2) Select [Create Custormer …].
3) As the screen to enter the Customer name appears, set a proper customer name.

  * In addition to the above mouse operation, the creation of [AREA name] and [Customer name] can be set from the **menu bar (File)** or **tool bar (Figure).**
    By applying the same operation procedure(right-clicking, menu bar, tool bar), each folder can be deleted. Also the name of each folder can be changed.

Caution :
  If a folder is deleted, all information (customer name, air conditioning system name, etc.) will be deleted similarly.

(c) Setting the [Air conditioning system name]

1) Under the state when the [Customer name folder] desired to be set on the air conditioning system is focussed, the sub-menu will be displayed by right-clicking the air conditioning system list at the right screen.
2) Selecting [Create ...] displays [Setting screen of air conditioning system].
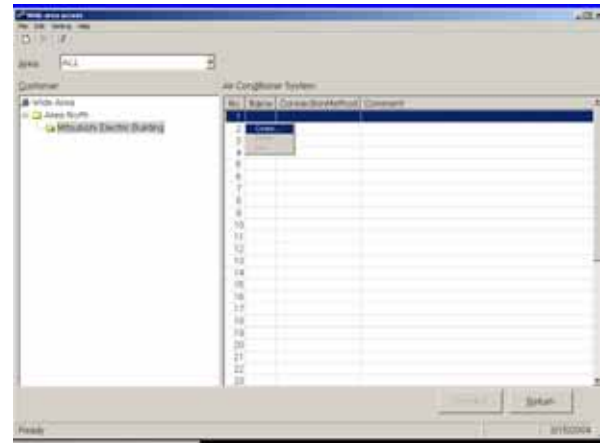

[Setting screen of air conditioning system]

1) Set the system name.
2) Select the method to connect with the system.
   - To connect by using **LAN (WAN)**, enter the IP address of G-50 to be connected. (Same as 1.4.3.1)
   - To connect by using **Dial-up**, select the [Connection name] of dialup router of the local G-50 being previously set on the dialup connection screen of Windows. And enter [User name] and [Password] for the connection with the dialup router, and lastly enter the IP address of G-50. (Same as1.4.3.2)
   - To connect under **E-mail mode**, enter the E-mail address of G-50 to be connected.(Refer to1.4.3.3.)
   - To connect remotely with **MN Converter and Modem**, select [Modem(MN Converter)].
3) Enter special notes if any on the comment column.

After entering and selecting the above, press [OK].

Set various information as required by repeating the items **(a)-(c) above**.
Using the area selecting section allows you to extract the only area desired to display.
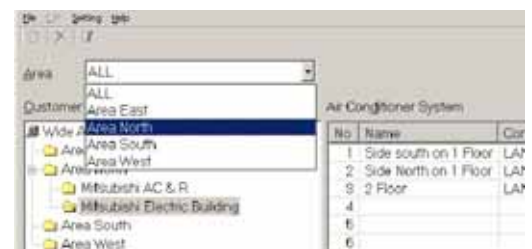
(d) Other setting

You may select the mail address of maintenance tool PC itself and the Com port to be used.
* To use the E-mail mode, mail setting is essentially required.

[Mail setting of maintenance tool PC]

1) POP server (Receiving)
   - POP server address
     Set the IP address of the receiving mail server(POP3)
     of Maintenance Tool or domain name.
   - POP account
     Set the POP account (user ID) for mail receiving.
   - POP password
     Set the user password for mail receiving.
   - POP receive interval
     Select the mail receiving interval.
     The default value represents 5sec.
     It can be selected within a range of 5 ~180sec.
     Extend the interval when the server is crowded.
2) SMTP server (Transmitting)
   - SMTP server address
     Set the IP address of transmitting mail server of
     Maintenance Tool.
3) Mail address
   - Set the mail address of Maintenance Tool.
     Clicking [Close Advanced] closes Advanced screen.

[Setting of Com port]

To connect Mode, select the Com port to be used.

---

(3) Focussing on the air conditioning system desired to be
connected and pressing [Connect] will start the
procedure for connection. After completing the normal
connection, the screen moves to the online main screen
allowing normal online operation.
However when the connection method uses
[Modem(MN Converter)], the screen of the Modem
remote connection will appear. In this case, select the
Modem to be connected and proceed the connection
procedure.(Refer to 1.4.2.2.)
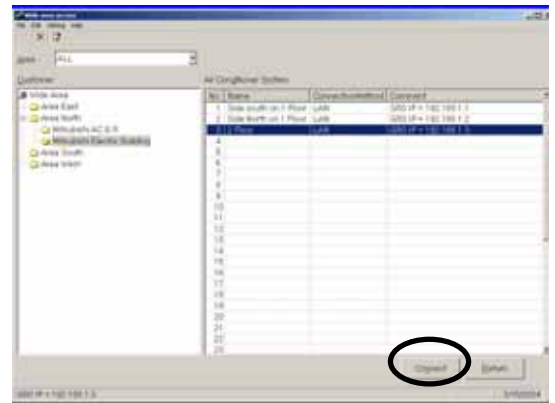
1.4.5.2 Offline Analyze

(1) Clicking "Offline Analyze (Wide area access mode)"on the
section screen of Monitor mode.
Last click " [Select] ."

20

1.4.6 Ending the Maintenance Tool
1.4.6.1 Ending the On-Line Monitor

(1) Open the **Main Screen**.

(2) Click on [**File**] on the menu bar.

(3) Click on [**Return**] in the sub-menu.

(4) The message "**Are you sure you want to finish maintenance tool?**" will appear.
Click on [OK] .
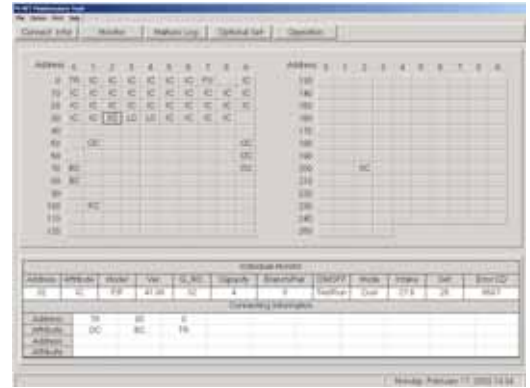
The On-Line Monitor will end and the Windows screen will appear.

*At ending of Maintenance Tools, the telephone circuit will automatically be disconnected.

* Clicking [Mode Select] returns to the [selection screen of Monitor mode].
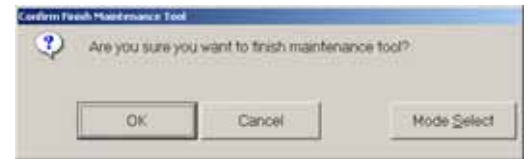
1.4.6.2 Ending the Off-Line Monitor

(1) Open the **Off-line Analyze Screen**.

(2) Click on [Exit] .

(3) The message "**Are you sure you want to finish maintenance tool?**" will appear.
Click on [OK] .

* When finishing Offline Screen immediately after deleting data, a message of "Finishing Maintenance Tool !!" may sometime be displayed. The internal data is now under arrangement. Offline Screen will automatically be finished after completing this process. Please wait a while.
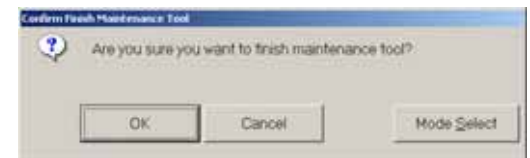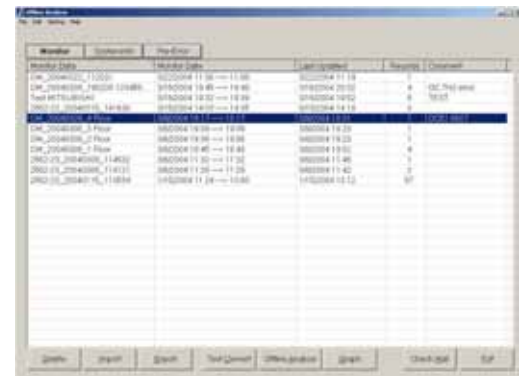
* Clicking [Mode Select] returns to the [selection screen of Monitor mode].

2.1 Design of Screen

The design of the screen is shown below.

Title Bar

Menu Bar

Function Display /
Operating Section
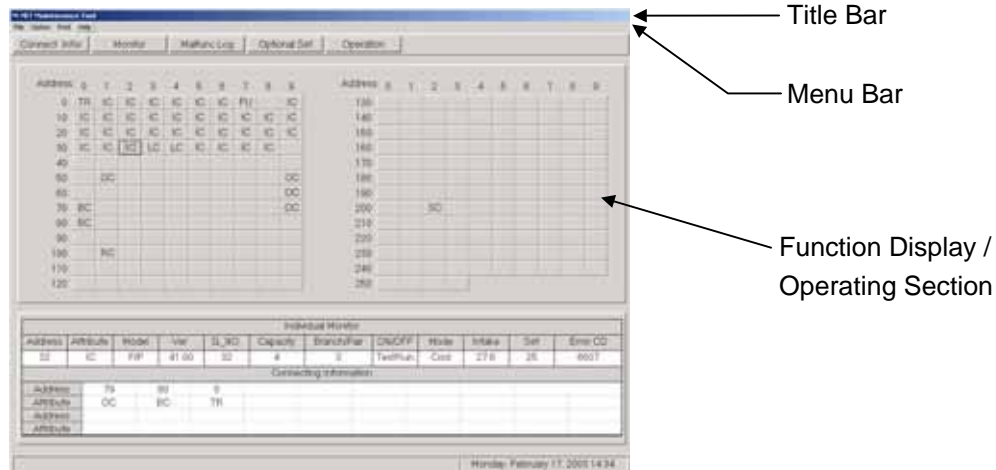
- Title Bar
Displays the title of the screen.

- Menu Bar
Displays the functions that can be performed using the current screen.
Click on an item and a sub-menu or message screen will appear, as shown in the illustration.

If a sub-menu appears, further function selections can be made.

(Example of what the screen looks like when option is clicked.)

- Function Display / Operating Section
Displays the contents of the screen and the operation to be performed.

2.2 Operating Method

The following operations are performed by mouse.

(1) Click
Align the mouse pointer with the desired button and press the left button on the mouse. This is known as a click.
In general, all maintenance tool operations are performed with click operations.

(2) Drag
A drag is when the mouse pointer is moved while the left button is held down.
If you desired to check the bottom screen when two or more screens are being displayed on top of each other, align the mouse pointer with the title bar of the top screen and drag it. The bottom screen can now be seen.

3 | On-Line Monitor Operating Method

3.1 On-Line Monitor Screen Transfer

Title Screen

Main Screen
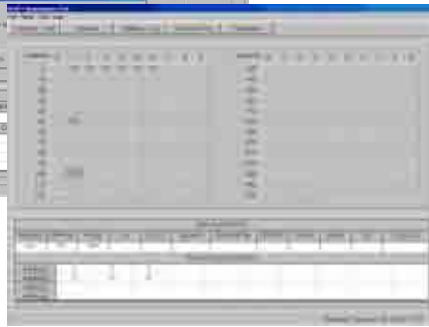
Optional Setting
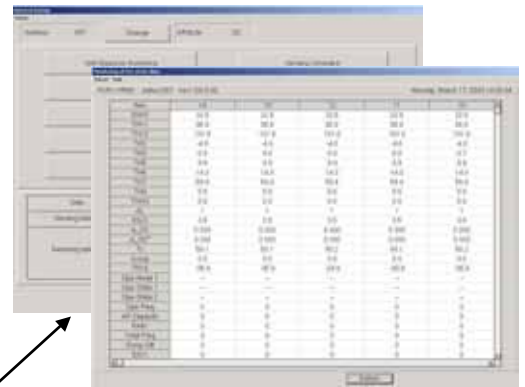
Optional Set

Connecting Information
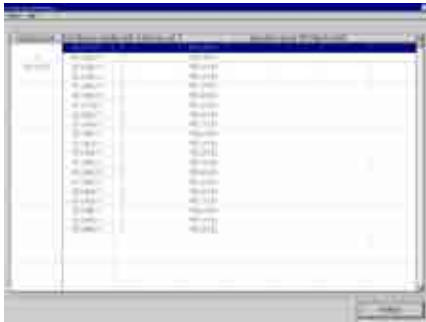
Con...

Operation Monitor

M...

Malfunction Log

Ma...

Operation Control

Op...
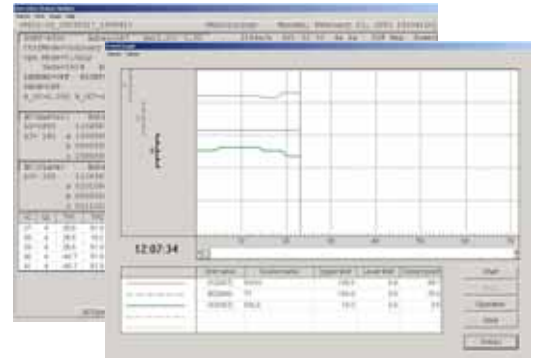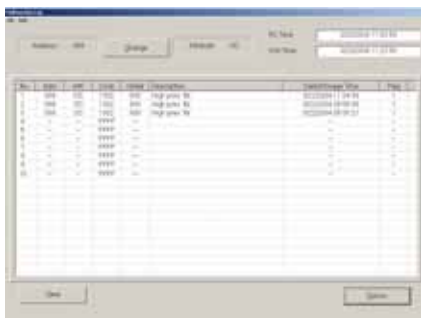
3.2 Function Chart

Connecting Information ----------------------- [Refer to 3.6]
    This allows monitoring of the indoor units connected to the outdoor unit and of the interlock units and the operation group SC connected to indoor units.

Operation Monitor -------------------------------- [Refer to 3.7]
    This allows monitoring of the operating condition of the unit and operating data. The operation data obtained will be shown in the form of a graph.
    Utilizing the mail communication mode in addition, the operation monitoring data collected by G-50A can periodically be transmitted to remote mail servers, and it can be referred as the off-line data later.
    *The Mail communication mode can not be used with MN Converter connected.

Malfunction Log ---------------------------------- [Refer to 3.8]
    This allows monitoring of the ten most recent errors of the unit.

Optional Setting ---------------------------------- [Refer to 3.9]
    This allows monitoring of self-diagnosis function, operation control and pre-error data monitoring.
   This also allows to monitor the response to any M-NET command transmitted to the unit. Time setting.

Operation Control --------------------------------   [Refer to 3.10]
    This allows the same operation as with the remote controller.

3.3 Address Search Method

3.3.1 Address Search Method Selection
(1) Start the M-NET Maintenance Tools and the **Select The Address Searching Method Screen** will appear after the **Title Screen**.

(2) Click on either [Auto] or [Manual] to select the address search method.

* **Automatic Search**
    The Maintenance Tools automatically searches for
    and displays information about units connected to
    the M-Net transmission line.

* **Manual Search**
    The user optionally searches for the units connect to the
    M-Net transmission line.
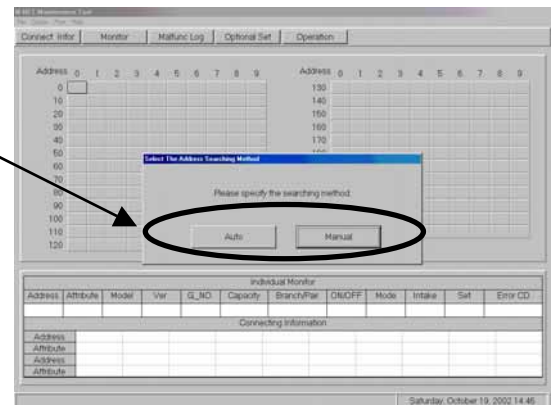
3.3.2 Automatic Searching

(1) Click on [Auto] and the **Automatic Address Searching Screen** will appear.
   - The time required to complete the automatic search will depend on the PC.
   - The address currently being searched for is displayed as [**Address**]. Up to 250 addresses can be searched for.
   - Click on [Cancel] to end automatic search.
      The **Main Screen** will appear.
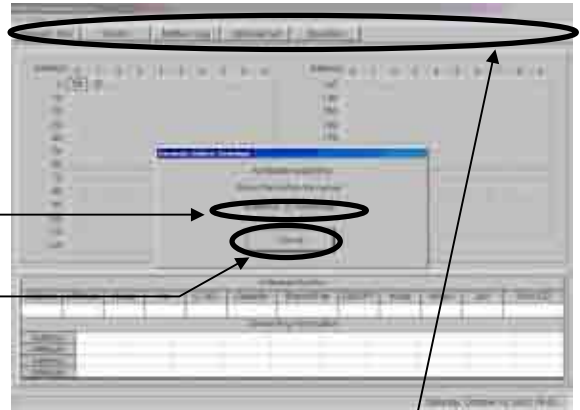
(2) When automatic search has ended, the **Main Screen** will appear.
      Returning to the **Main Screen** enables the [**Function Buttons**].

3.3.3 Manual Searching

(1) Click on [Manual] and the **Main Screen** will appear.

(2) Click on the [**Button**] of the address desired and searching will begin.

---
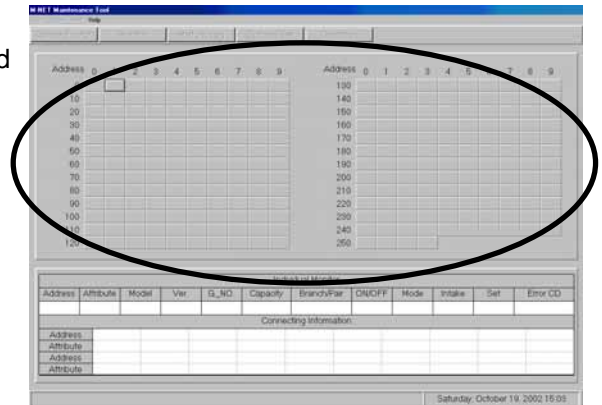
*Note
   When a system is changed, please search an address after re-starting a Maintenance tool and G-50.

3.4 Main Screen

The operations in **3.3 Address Search Method** have made information about the units known.
The [**Unit Attributes**] are displayed on top of the address buttons.
The **Function Buttons** are now enabled at this time.

(1) Click on an address [**Button**] displaying attributes
and information about that unit will be displayed in
the [**Unit Information Display Columns**].

(2) The menu bar will display [**File**], [**Option**] ,[**Print**] and [**Help**].

- Click on [**File**] and "**Save System Information**" and "**Return**" sub-menu can be selected.
  Click on "**Save System Information**" and the message "**Are you sure you want to save the System Information?**" will appear.
  Clicking [OK] displays the screen to save data. Change the data name as required and save it.
  You may enter your comment also.
  Click on [Cancel] to return to the **Main Screen**.
   [Refer to **5.1 System Information Data.**]

  Click on "**Return**" to end the operation of the On-line monitor.
   [Refer to **1.4.5.1 Ending the On-Line Monitor**]

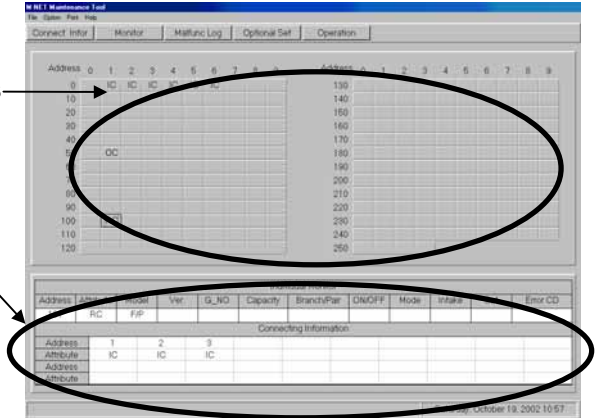- Click on [**Option**] and "**Automatic searching**" and the "**Stop mail communication**" sub-menus can be selected. * At the connection of MN Converter, "**Stop mail communication**" is not displayed.
  Click on "**Automatic searching** " and the message "**Start the automatic searching. Is it OK?**" will appear.
  Click on [OK] to perform automatic searching or click on [Cancel] to return to the **Main Screen**.

  For more information about automatic searching, refer to [**3.3 Address Search Method 3.3.2 Automatic Searching**].

  Click on "**Stop mail communication**" ,and the **Stop mail communication Screen** will appear.
  Clicking on [Yes] stops the mail transfer processing of operation
  monotor data to remote mail servers.
  After a while, the setting completion message appears. Clicking on
  [OK]   returns to the main screen.
 Clicking on [No] returns to the main screen directly.

- Clicking on [**Print**] prints out the display currently shown on the screen.

- Click on [**Help**] and "**Explanation of Terminology**" and "**Operation Method**" sub-menus can be selected.
   [Refer to **3.6 Connecting Information 3.6.2 (2) "Menu Bar"**]

3.5 Function Selection Operations

(1) First, click on the desired [**Function Selection Button**].

(2) Next, click on the **Unit to Operate**.

(3) The screen will move to the various operation screens.

(4) If the wrong function selection button is clicked, click on that button once again and the other function selection buttons will be enabled.
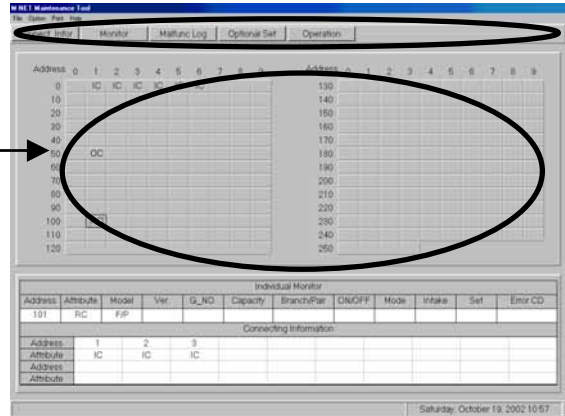
3.6 Connecting Information Connect Infor

* **Items Performed Here**
 - Indoor units connected to outdoor units, interlock units and the operation group SC (such as system controller and remote controller) connected to indoor units can be monitored here.
 - Select and double-click the interlock units and operation group SC (remote controller only), the **Connecting Information Screen** will display as a pop-up menu.
   The screen displays addresses and attributes of the units connected to the select unit.

3.6.1 Screen Transfer Operation
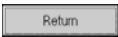
(1) Click on Connect Infor on the **Main Screen**.

(2) Click on the OC for the outdoor unit to be monitored.
 - Only outdoor units can be selected.

(3) Momentarily, the message "**Monitoring! Please wait for a moment.**" will appear.
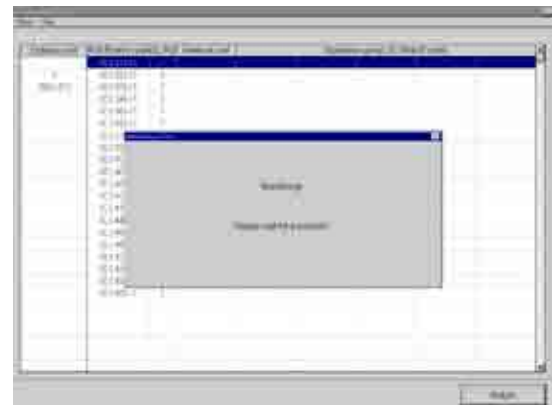
* NOTE
Even with the direct expansion type, when units other than outdoor units are selected by (2), the screen returns to the **Main Screen** (where it waits for function selection input).

(4) Momentarily, the **Connecting Information Screen**
will appear.

(5) Click on [Return] to end the **Connecting
Information Screen**.

(6) The message "**Finish the Connecting Information**"
will appear.
Click on [ok] to end or click on [Cancel] to
continue.
Click on [ok] and the **Main Screen** appears.

(5)
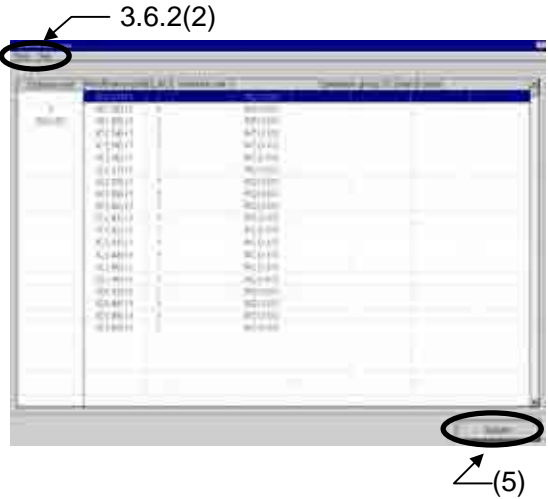
3.6.2 Screen Functions and Operation

(1) Double-click on the interlock unit and operation
group SC (remote controller), the **Operation
System SC Connecting Information Screen** (in
case operation group SC) will appear as a pop-up
menu.
The screen displays addresses and attributes of each connected unit.

---

* **NOTE**
The **BC controller(BC),Subsidiary outdoor unit(OS)** are indicated in the outdoor unit column.

---

(2) "**Menu Bar**"
[**Return**] and [**Help**] appear in the menu bar.

Click on [**Return**] to end the **Connecting Information Screen** and return to the **Main Screen**.

Click on [**Help**] and the **Help Screen** appear.

- Click on "**Contents**" and the index for the **Help Screen**
appear.
- Click on "**Back**" and the unit returns to its previous
operating state.
- Click on "**Print**" and the currently displayed screen is
printed. (Caution: Do not print while on-line. There is a
chance that it could interfere with operation.)
- Click on "**Term**" and **Explanation of Terminology
Screen** appear.
Abbreviations, codes and other terms are explained on
the explanation of terminology screen.
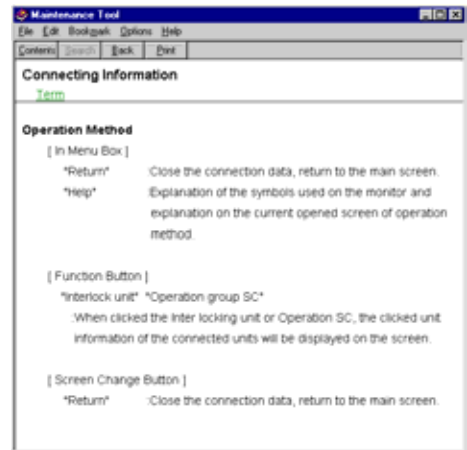
3.7 Operation Monitor

* Items Performed Here
  - Monitors the operating condition and operating data of the current units every minute.
    This information can be displayed and saved.

> * When an excessively large number of the objective unit for monitoring exists, the monitoring interval may exceed 1 minute (70s, 80s, ---).
> * The capacity to store the data obtained by the maintenance tool counts for 2G-bite maximum.When the remaining storage capacity is getting insufficient during Operation Monitoring, Warning Screen will appear. **In this case, suspend the Operation Monitoring, move to Offline screen and delete unnecessary data to keep a proper capacity.**

3.7.1 Screen Transfer Operation

(1) Click on   on the **Main Screen**.

(2) Click on the unit to be monitored.
   If only outdoor unit is OC selected here, the operating data for the units connected to the outdoor unit will be automatically monitored.
   The maximum number which can carry out a monitor changes with selected models.
   An **error message** will appear if the limited number of units is exceeded.

   The standard of the number which can carry out a monitor.
   * When only **Outdoor Unit** is selected.
     - **One (1) Outdoor Unit + 50 Indoor Units.**
     - **One (1) Outdoor Unit + Three (3) OC Sub Controller (BC,BS,OS…) + 50 Indoor Units.**
   * When only **Indoor Units** are selected, **50 Units.**

(3) After the units to be monitored have been selected, click on   Defined   .

(4) The message "**Monitoring! Please wait for a moment.**" will appear.
   After a while, the screen to select monitor method appears.

> When it is judged that monitoring with one minute cycle may not be performed because of many units to be monitored, a message of **[The monitoring cycle will be [* *] seconds due to too many IC units for monitoring. ---]** will be displayed automatically. To continue the monitoring, click [YES], while to suspend it once to reduce the quantity of units for monitoring, click [NO]. Reduction of one IC can minimize the cycle time by about one second.

   * In "MN converter connection", it shifts to (7).

(5) When desiring to observe the operation data immediately, select [**Realtime Monitor Mode**] and then click on   OK   .
   Select [**Mail communication Mode**] to observe the operation data by the off-line monitor later, after mail-transmitting the operation data beforehand by using the mail transmission function.
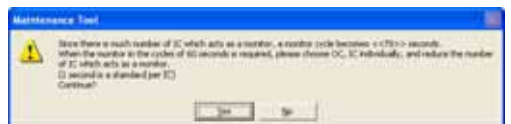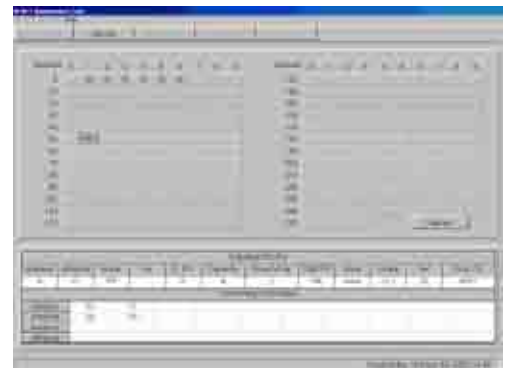
When [**Mail communication Mode**] is selected, the setting items of mail communication will be displayed.
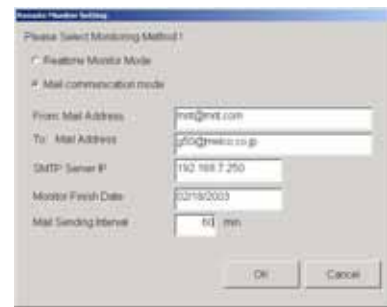
- From: Mail Address
  Set the mail address of the G-50A in the [From: Mail Address] field. When sending mail via an ISP, set the mail address allocated by the ISP. When the mail server resides on the LAN, obtain the mail address from the LAN administrator.
  * When sending mail via an ISP, a user contract with the ISP is required.

- To: Mail Address
  Set the mail addresses of the recipients to which mail is sent.
  * The mail address of recipient (To:) acquires and sets up the address only for maintenance tools.

- SMTP Server IP
  Set the mail server IP address in the Mail Server Information [SMTP Server IP] field. When sending mail via an ISP, set the ISP address of the ISP mail server. When the mail server resides on the LAN, obtain the IP address from the LAN administrator.
  * If the only information available on the ISP mail server is a domain name, use a PC to connect to the Internet, open a DOS prompt and type "ping *domain name*". Set the IP address that is displayed as the ping response.

- Monitor Finish Data
  Set the date of monitor data transmit period.

- Mail Sending Interval
  Set the transmit interval of monitor data (**max 240 min**).

Then click on ⬜ OK .

After a while, it returns to the main screen, but the mail transmission to remote receivers will be performed by G-50A automatically.
  * At the connection of MN Converter **"the screen to select monitor method"** is not displayed. Real-time Monitor Mode is always commenced not allowing to use [**Mail communication Mode**].

(6) In the case of real time monitoring, the message "**Monitoring. Please wait for a moment.**" will appear again.

(7) Momentarily, the **Operation Status Monitor Screen** will appear.

3.7.2(1)

30
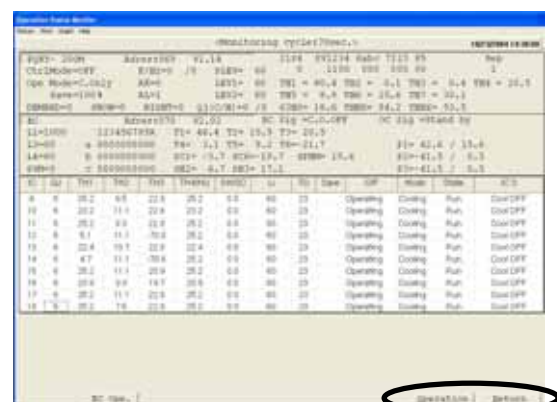
(8) Click on ⬚ Return ⬚ to end the **Operating Status Monitor Screen**.
   The message "**Finish the operation status monitor**" will appear.
   Click on ⬚ Yes ⬚ to end or click on ⬚ No ⬚ to not end.
   Clicking ⬚ Yes ⬚ displays the screen to save data.
   Change the data name as required and save it. You
   may enter your comment also.
   Clicking ⬚ Not Save ⬚ does not allow the data to be saved.
   Returning to the main screen.

3.7.2 Screen Functions and Operations

   - The operating condition and operating data are displayed every minute.
   - The [**Current Time**] is displayed. The [**Monitor ID**] is displayed when saving data.
     [Refer to **5.2 Operation Status Monitor Data**]

(1) "**Operation Buttons**"

   ⬚ Operation ⬚ allows operation in the same manner as a remote controller.
   [Refer to **3. 10 Operation Control**]

   Click on ⬚ R____ ⬚ to end the operation status monitor and return to the **Main Screen**.
   [Refer to **3.7.1(8)**]

(2) "**Menu Bar**"
   [**Return**], [**Print**], [**Graph**] and [**Help**] are displayed on the menu bar.

   - Click on [**Return**] to end the Operation Status Monitor
     and return to the **Main Screen**.

   - Click on [**Print**] and then select "**Print screen**" from
     the **sub-menu**.
     The hard copy of the screen will be printed from the
     connected printer.

   - Clicking [Graph] displays a message of "Make the
     graph to data ?".
     To graphing, click ⬚ Yes ⬚ , while to return to the
     operation monitor screen without graphing,
     Click ⬚ No ⬚ .
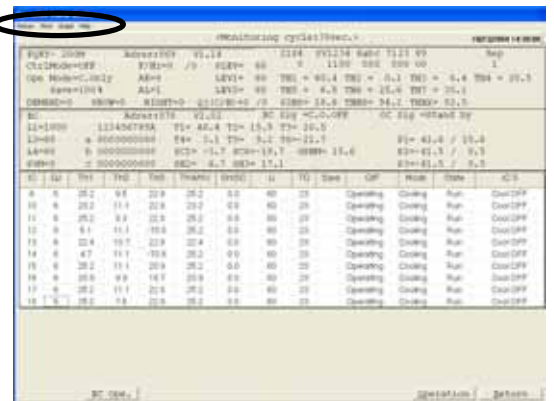
   - Click on [**Help**] and an explanation about "**Terminology**" and "**Operation Method**" will be displayed.
     [Refer to **3.6 Connecting Information   3.6.2 (2)"Menu Bar"**]

* **About LM ADAPTER**

Operation Monitor

Item Performed Here
Operation status of LM ADAPTER, current values of network variable and configration property,setting status of switch or the like.
[**Refer to 3.7 Operation Monitor**]

1 Screen Transfer Operation

To move to the screen monitoring LM ADAPTER operation, select LM ADAPTER SC from the main screen.
(LM ADAPTER is expressed by SC)
When LM ADAPTER is selected,you may not monitor other units.
Same operation procedure as that of other units is applicable to other main screens.
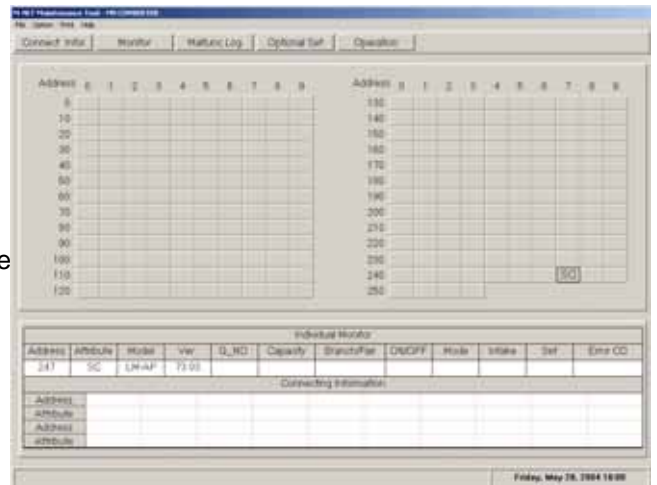
2 Screen Functions and Operations

- The operating condition and operating data are displayed every minute.
- [Current time] will be displayed.During a time when saving data,[Monitor ID] will also be displayed.
  [**Refer to 5.2 Operation Status Monitor Data**.]

Menu Bar
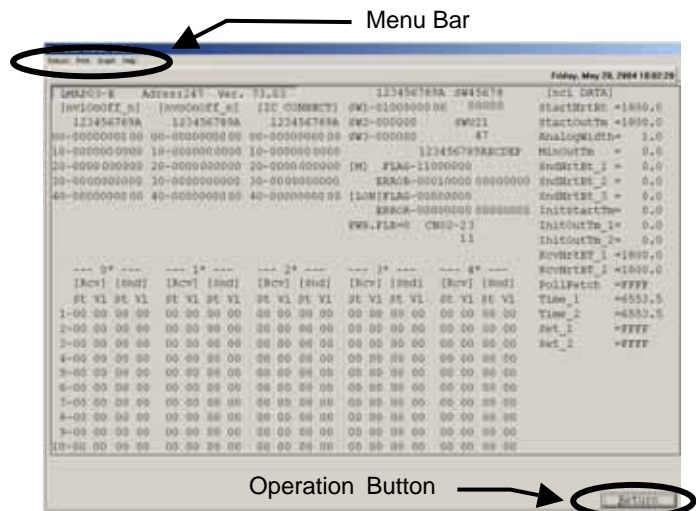
Operation Button

(1)[**Operation Button**]
  [**Operation control**] will not be displayed.
  Click on [**Return**] to end the operation status monitor and return to the Main Screen.[**Refer to 3.7.1(8)**]

(2)[**Menu Bar**]
  [**Return**] , [**Print**] , [**Graph**] and [**Help**] are displayed on the menu bar.
  Neither [**Graph**] nor [**Ref.**] may be used. Other menus are same as that of other units.

3 Introduction to the screen

Display	Contents

123456789A
SW1-0100000000
SW2-000000
SW3-000000
	<Function set switch>
	  Set status of function selector switch
	    0:OFF setting 1:ON setting

SW45678
  00000
	<Extension switch>
	  Set status of extension function selector switch
	    0:OFF setting 1:ON setting

SWU21
  49
	<M-NET address switch>
	  Set status of M-NET address switch on LM ADAPTER
	    SWU1:The units digit SWU2:The tens digit

123456789ABCDEF
[M] FLAG-11000000
    ERROR-0011000000000000
[LON]FLAG-00000000
    ERROR-0000000000000000
	<Control flag>
	  Internal processing status of LM ADAPTER
	      FLAG:Control flag status
	      ERROR:Error flag status
	    [M]:M-NET communication processing flag
	    [LON]:LonWorks communication processing flag
	    0:Reset 1:Set

CNO2-23
    11
	<General input>
	  General input status of LM ADAPTER
	    0:Normal 1:Detecting

PWR.FLR=0	<Power failure flag>
	  Indicating power failure detecting status of LM ADAPTER
	    0:Powering 1:Interrupting

[nviOnOff_n]
  123456789A ← Unit address (Unit digit)
00-0000000000
10-0000000000
↑ Unit address(Tens digit)
	<Binding status : nvoOnOff_n>
	  Binding information on operation command input
	    0:No binding
	    1:Binding

Display	Contents

[nvoOnOff_n]
   123456789A ← Unit address (Unit digit)
00-0000000000
10-0000000000
↑ Unit address(Tens digit)
	\<Binding status : nvoOnOff_n>
	  Binding information on operation status output
	    0:No binding
	     1:Binding

[IC CONNECT]
   123456789A ← Unit address (Unit digit)
00-0000000000
10-0000000000
↑ Unit address(Tens digit)
	\<IC connection status>
	  Connection status of air conditioner(indoor unit)
	    0:Not connected
	    1:Connected

--- 0* --- ← Unit address (Tens digit)
 [Rcv] [Snd]
 St Vl St Vl
1-00 00 00 00
2-00 00 00 00
↑ Unit address(Unit digit)
	\<nv Transmitting/receiving data>
	  Latest value of network variables
	  [Rcv] Received value of operation command input
	  [Snd] Output value of operation status
	  St : state field data
	  V1 : value field data

[nci DATA] StartHrtBt =1800.0 StartOutTm =1800.0 AnalogWidth= 1.0	\<nci set value> Set value of configuration property

Display example

	[Rcv]		[Snd]	
	St	Vl	St	Vl
stopping	00	00	00	00
Operating	01	C8	01	C8

3.7.3 Trend graph

Clicking [Yes] at 3.7.2 (2) [GRAPH] displays Trend Graph Screen.
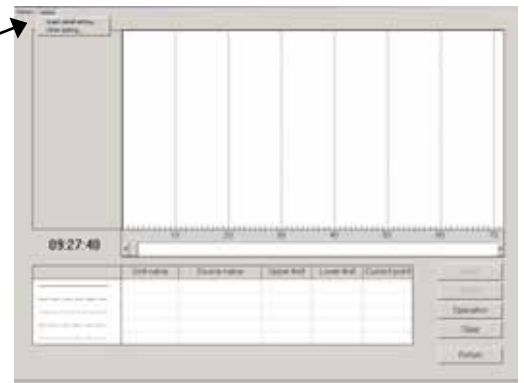
(1) Procedure for graphing

  (a)Click [Option] on the menu bar.

  (b)The sub-menu of "Graph detail setting" and "Other setting"
     will be displayed. Click "Graph detail setting" to set each
     item of the graph.

    *Note
      Without setting of each item on "Graph detail setting,"
      no graph can be displayed.
       (The graph detail setting is explained in (c) and other setting is in (d).)

(c) Graph Detail Setting Screen will be displayed.
    1) Click your desired number (from Graph 1 ~ 5) for
      graphing.
       *Note
        The number of the graph selected represents
        the ordinate.
    2) Select [Unit] desired to be graphed.
    3) Select [Source] (Data item) desired to be graphed.
    4) Set [Upper limit, Lower limit] of data. You may also
      set to [Auto-scale].
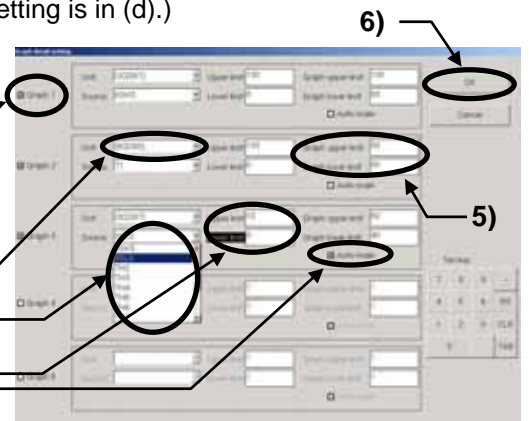
     - When the data exceeds the high limit value or low limit value being set under [Auto-scale] setting,
      the above value is replaced by the exceeded value in the setting. When the high limit value and low
      limit value are set before entering, 10 will be set to the high limit value and 0 will be to the low limit
      value automatically.
    5) [Graph upper limit, Graph lower limit] (Ordinate display
      position/range) may be acceptable as it is. Setting is
      required when the display position/range is desired to
      change.
      (To display over the entire screen, enter 100 to the
      graph high limit position, while 0 to the low limit position.)

      *Note
       The input of the upper limit value/lower limit value and
       graph upper limit position/lower limit position can be
       entered by the ten keys for numerical input besides the
       entering by the key board.
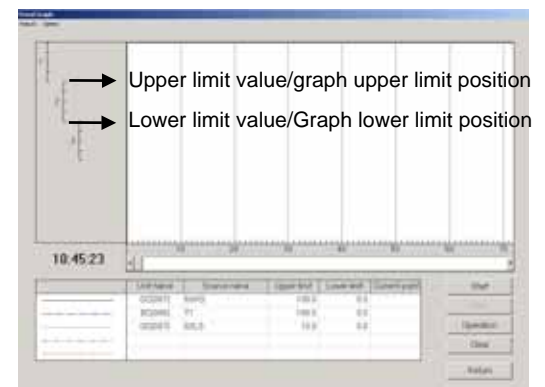
    6) Click [OK] after completing all setting to return to Trend Graph Screen.

(d) Conducting the "Other setting"
    With "Other setting," the optional function to facilitate graph
    observation can be set.
    Click [Option] on the menu bar. Click "Other setting."
    Other Setting Screen will be displayed.
    1) Moving [Scroll bar] by dragging or clicking ◄ ► changes
      the value of the horizontal grid line from 0 to 4. The horizontal grid line will be displayed on the
      graph in a number of the value above.
      *The sampling time can not be set by on-line.

2) Clicking [ox] returns to Trend Graph Screen
   displaying the horizontal grid line in the number being
   set to the graph.
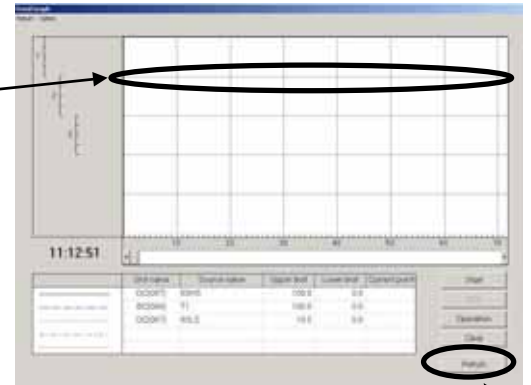
(e) Starting the graph

Clicking [Start] initiates monitoring to graph the data for
each one minute. The sampling time to allow graphing by
online system is limited to 500 minutes maximum. If 500
minutes are exceeded, the data of old time is eliminated by
the excess time.

(3)

(2) Screen function and operation

- The current monitor data is displayed on [Lower column].

- Clicking [Graph number] makes the graph line bold.

- [Current time] is displayed.

- Clicking [Stop] suspends the monitoring.
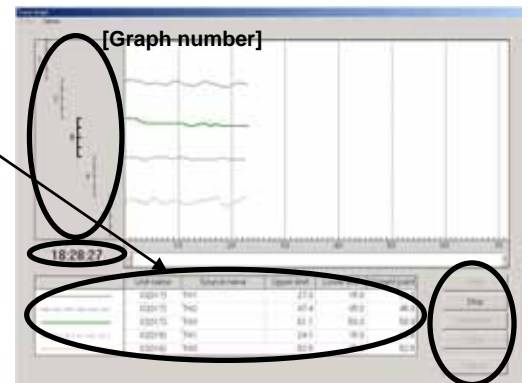
At suspension, [Scaler] will be displayed on the graph.
Dragging the scaler displays the data on the scaler at the
current value column and [Time] at the under part of the graph
number.

- Moving [Scroll bar] by dragging or clicking ◄ ► moves the
display range of the graph.

[Op____] can be operated as same as the local remote
controller.
[Refer to 3.10 Operation control.]
* Here, BC operation cannot be carried out.

- Clicking [Clear] clears the graph being displayed. The set values of the graph setting items and other
  setting items will remain unchanged.

(3) Ending the graph

To finish Trend Graph Screen and return to Operation Status Monitor Screen, click [Return] on the
menu bar or click [Return] . A message of [Finish the trend graph and return to the monitor?] will be
displayed. For returning, click [ox] , while not returning, click [Cancel] . Clicking [ox] returns to
Operation Status Monitor Screen.

3.8 Malfunction Log   Mal⬛

* **Items Performed Here**
   - The malfunction log of the most recent 10 cases (except operation group SC)

3.8.1 Screen Transfer Operation

(1) Click on   Mal⬛   from the function selection buttons on the **Main Screen**.

(2) Click on the units to be monitored (except operation group SC).

(3) The message "**Monitoring. Please wait for a moment.**" will appear.

(4) Momentarily, the **Malfunction Log Screen** will appear.
   If the number of incidents in the malfunction log is
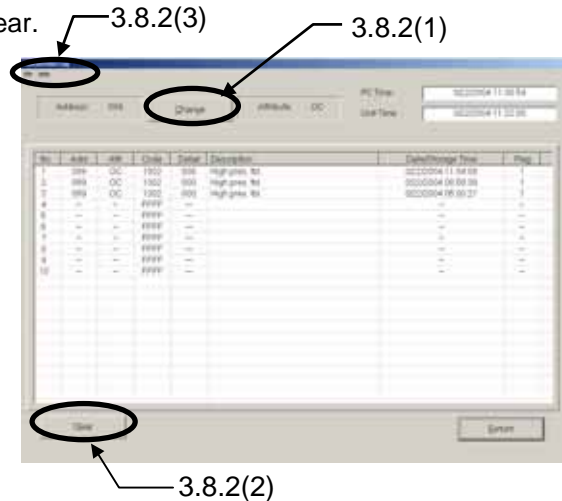   less than ten, **[--]** will appear in the attribute column
   and **[FFFF]** will appear in the code column.

   * Error detailed No.
   Error detailed No. may be displayed on the right of
   an error code by the model which carries out
   a monitor.
   Refer to the service handbook for the implications of
   detailed No.

   * When the monitor of the unit with a simple clock
   function is carried out, the time which malfunction
   generated, or the time when it was integrated to
   unusual generating is displayed.

   - When the unit has received a setup of time: The time which malfunction generated is displayed.
   - When the unit has not received the setup of time: The addition time from a power supply injection
     when malfunction occur is displayed.

Note : While the power supply of a unit turns off, time does not count the simple clock function of a unit.
   Therefore, the display of the time which malfunction generated, and addition time will be a mere
   rough standard.

---

   * About a flag display
   - When a flag is "1" : The state which the power supply does not turn off after receiving a setup of time.
   - When a flag is "0" : A setup of time is not received. Or the state which the power failure generated
     after receiving a setup of time.

   * About PC Time/Unit Time
   - PC Time : The present time set as the maintenance tool PC.
   - Unit Time : The present time which carried out the monitor from the unit with a simple clock function.

Note : When the system controller which transmits a setup of time to a unit periodically is not
   connected, a year and moon data are not updated. In this case, the date column of unit time
   maybe counted up till the 9999th.

---

(5) Click on [Return] to end the **Malfuncion Log Screen**.
The message "**Close the malfunction log display?** " will be displayed.
Click on [Yes] to end or click on [No] to not end.
[Yes] is clicked, the **Main Screen** is returned.
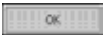
Note: When G-50A is connected to the system, the malfunction log of OC is eliminated.
Please check the malfunction log in G-50 to check the malfunction log of OC.

3.8.2 Screen Functions and Operations

(1) Click on [Change] and the **Address Change Screen** appear.

Click on [▲][▼] to change the address.
The unit attributes are displayed at this time.
(If there is no unit at the address given, the attributes are not given.)
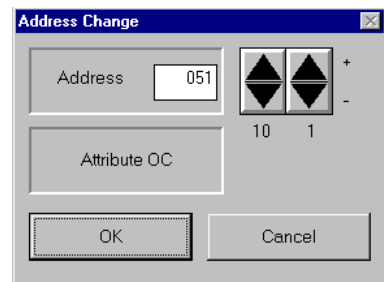
Once the address has been set, click on [OK] .
The units are changed.
If there is no unit at the address given, the message "**Unit doesn't exist in this address. Retry again.**" will appear.
Click on [OK] to return to the **Address Change Screen**.

(2) Click on [Clear] and the message "**Clear the malfunction log. Is it OK?**" will appear.
Click on [OK] to clear or click on [Cancel] to not clear.

(3) "**Menu Bar**"
The menu bar displays [**File**] and [**Help**].
- By clicking [**File**] and then selecting "**Save as …**" from the sub-menu, the Malfunction Log data will be output and saved in the CSV format. This data can not be viewed on the offline screen.

- Click on [**File**]   and then select "**Return**" from the sub-menu to end the **Malfunction Log Screen** and return to the **Main Screen**.

- Click on **[Help]** and an explanation about "**Terminology**" and "**Operation Method**" will be appear.
[Refer to **3.6 Connecting Information 3.6.2 (2)"Menu Bar"**]

* The error history being memorized by G-50 can also be monitor-displayed.
(Display can not be performed when connecting with MN Converter.)
The system controllers other than G-50 can not provide the monitoring of error history.

3.9 Optional Setting   Optional Set

* **Items Performed Here**
  - **Self-Diagnosis Monitoring** : The self-diagnosis function (LED for service monitor) to be performed
    with Dip-SW on the circuit board of the outdoor unit can be monitored.
  - **Operation Control** : Controlling of unit operation can be performed in the same manner as a
    remote controller.
  - **Sending Command** : Allows to monitor the response for any M-NET command transmitted
    to the unit.
  - **Monitoring of Pre-error Data** : The operation status of the unit (OC/OS) until generating an error can
    be monitored in a unit of minute.
  - **Date / Time Setting** : A setup of the present time can be performed to outdoor unit.
    (It is used for the time when abnormalities occurred.)

(1) Click on   Optional Set   from the function selection buttons on the **Main Screen**.

(2) Click on the units to be monitored or operated.

(3) The **Optional Setting Screen** will be appear.
Click on **[Item]** to be monitored or operated.

  - Click on   Change   and the **Address Change Screen**
    appears.
    [Refer to **3.8 Malfunction Log   3.8.2 (1)**]
  - The sending/receiving data are displayed on the
    [**Lower Column**].
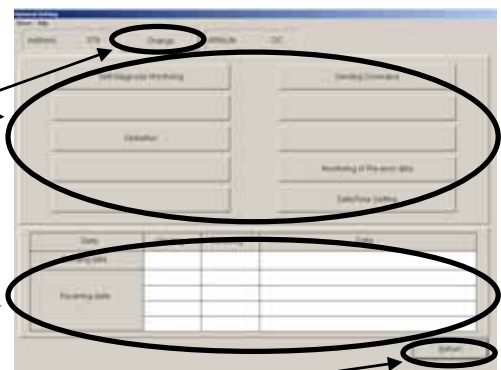
(4) Click on   Return   to end the **Optional Setting Screen**
and return to the **Main Screen**.

3.9.1 Self-Diagnosis Monitoring
(1) Click on   Self-Diagnosis Monitoring   and the **Self-Diagnosis
Monitoring Screen** will appear.

(2) Set the self-diagnosis SW value with ▲▼ .
For the set value, use the **No. on the List of LED monitor
display of the Service Handbook** for each unit.

(3) After setting the set value, click on   Sending   .
The self-diagnosis LED display will be shown with flag or
numerial value.
If the unit other than the outdoor unit or the set value being not
corresponded is sended, the characters "**Not corresponded**"
and "**Attribute and Version**" are displayed.
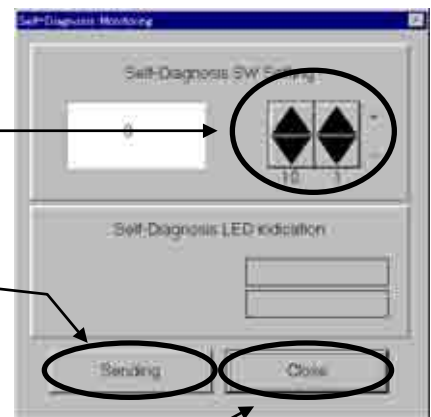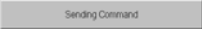
(4) Click on   Close   to end the **Self-Diagnosis Monitoring Screen** and return to the **Optional
Setting Screen**.

3.9.2 Operation Control
[Refer to **3.10 Operation Control**]

39

3.9.3 Sending Command
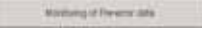
(1) Click on [Sending Command] and the **Sending Command Screen** will appear.

(2) Input M-NET command desired to transmit by clicking on the button.
Direct input from the keyboard is also possible.

(3) After inputting command, click on [Sending]. Response command is displayed on [**Answer**] column.

(4) Click on [Close] to end the **Sending Command Screen** and return to the **Optional Setting Screen**.

> * **NOTE**
> Use this function after obtaining the knowledge of **M-NET** command.

3.9.4 Monitoring of Pre-error Data

(1) Click on [Monitoring of Pre-error data] and the **Pre-error Data Screen** will appear.

- When it chooses except the outdoor unit or constant speed unit (OS), the message of "**This model doesn't have the function of Monitoring of Pre-error.**" is displayed not allowing operation.

(2) As the screen opens, the monitoring of the data of the selected unit before error occurred will automatically be started.

(3) After ending the monitoring, the data of the selected unit before error occurred is displayed in a unit of minute on **Pre-error Data Screen.**
Each figure on the upper column indicates a number of minute before generating an error respectively.
The change of the display content is performed with Up/down, left/right scroll bar.

The number of displayed items and that of the stored data (per minute) differ depending on the selected item.

(4) "**Menu Bar**"
The menu bar displays [**Return**] and [**Help**].
- Click on [**Return**] to end the **Pre-error Data Screen** and return to the **Optional Setting Screen**.
As the screen to save data will appear, change the data name as required and save it. You may enter your comment also.
After saving, return to the Optional Setting Screen.
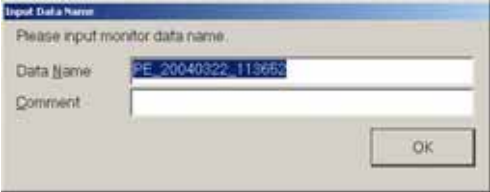
- Click on [**Help**] and an explanation about "**Terminology**" and "**Operation Method**" will be displayed.
[Refer to **3.6 Connecting Information 3.6.2 (2)"Menu Bar"**]

3.9.5 Date / Time Setting

(1) Click on [Date/Time Setting] . The **Date / Time Setting Screen** opens and the present time of PC is displayed.
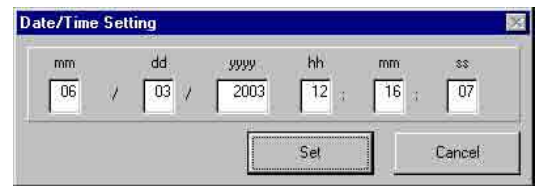
> * When the unit which does not correspond to a setup of time is chosen, the message of "This function is not available" is displayed, and it cannot set up.

Date/Time Setting

mm		dd		yyyy	hh		mm		ss
06	/	03	/	2003	12	:	16	:	07

[Set]   [Cancel]

(2) A click of [Set] sets the time currently displayed to a unit.
> * The time to set up can also be changed on a screen. Cursor is united with a change point and a numerical value is inputted.

(3) Click on [Cancel] to end the **Date / Time Setting Screen** and return to the **Main Screen**.

3.10 Operation Control

* **Items Performed Here**
  - ON / OFF of the unit, the operation mode and setting the temperature can be performed in the same manner as a remote controller.

3.10.1 Screen Transfer Operation

(1) Click on [Op] from the function selection buttons on the **Main Screen**.
(2) Click on the unit to be controled.
(3) The **Operation Control Screen** will be appear. This display shows the current conditions.

3.10.2 Screen Functions and Operation (Indoor unit, LOSSNAY unit)

(1) Set each desired [**Item**].

(2) After setting the operation item, click on [Transmission] .
  * The item will not be transmitted if a "check" is removed. Please remove a check if needed.
  * Click on [Filter reset] and the command which resets a filter sign will transmit.

  * If " [All] " is chosen,
    operation can do the whole system in a package.
    (Only four items of ON/OFF,Mode,Temp.Set,and Fan.)
    However, [Operation(ON)] cannot be operated.
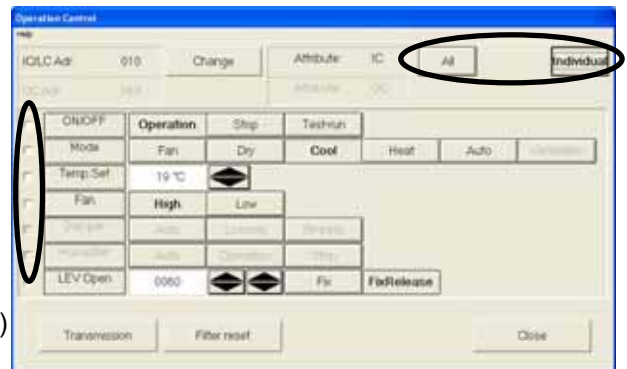
(3) Click on [Change] and the
    Address Change Screen will appear.
    Refer to [**3.8 Malfunction Log   3.8.2 (1)**]

(4) "**Menu Bar**"
    [**Help**] appears in the menu bar.
    Click on [**Help**] and an explanation of the "**Operation Method**" will appear.
    [Refer to **3.6 Connecting Information   3.6.2 (2)"Menu bar"**]

(5) Click on [Close] to end the **Operation Control Screen**.The **Main Screen** will return.

Notice :
When LEV OPENING is changed, to prevent failure to release the LEV opening after test run, close the operation control screen. This release the LEV opening on this screen automatically.
However when moving to the operation control screen from the operation monitor screen, the LEV opening will be retained even by closing this screen.
At a timing when finishing the operation monitor screen, the LEV opening can be released.

3.10.3 Screen Functions [Op____] and Operation(BC Controller)

(1) Click on the button corresponding to the valve number you want to change.
"0" represents "close" and "1" represents "open".
To change the valve setting, perform
"Fix Release" --> "Fix"
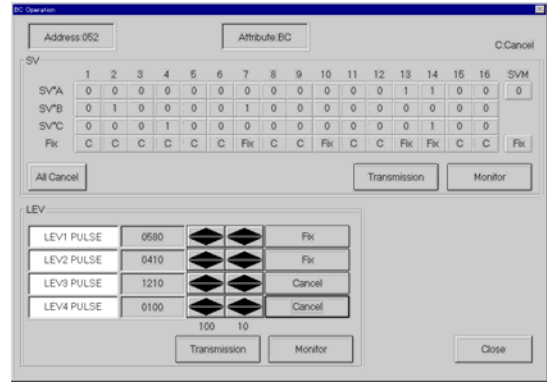
(2) After setting, click on [Transmission] .

(3) Click on [Monitor] to check the current conditions.

(4) Change the LEV opening with [◆] . Set to the LEV opening. Click on [Transmission] to send the setup contents.

BC Operation

Address:052						Attribute:BC								C.Cancel		
SV	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	SVM
SV"A	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0
SV"B	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
SV"C	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	
Fix	C	C	C	C	C	C	Fix	C	C	Fix	C	C	Fix	Fix	C	C	Fix

All Cancel   Transmission   Monitor

LEV
LEV1 PULSE   0580 ◆ ◆   Fix
LEV2 PULSE   0410 ◆ ◆   Fix
LEV3 PULSE   1210 ◆ ◆   Cancel
LEV4 PULSE   0100 ◆ ◆   Cancel
                100 10
Transmission   Monitor   Close

(5) After adjustment by solenoid valve and LEV opening change is complete, click on [Close] .
The **Main Screen** will return. At this time, the contents set at this screen become invalid.

Notice

To prevent failure to release the status set after test run, close the operation control screen of BC/BS controller.
This releases all the content set on this screen automatically.
However when moving to the operation control screen of BC/BS controller from the operation monitor screen,
the set content will be retained even by closing this screen.

At a timing when finishing the operation monitor screen, the set content can be released.

43

3.11 Free contact of indoor unit

* **Items Performed Here**
  - When utilizing the [Indoor unit free contact mode] which uses the external input/output of Free Plan indoor unit (Building-Multi) together with G-50 and TG 2000, the contact action of the indoor unit can be tested with this function.

3.11.1 Starting of this function

(1) Screen moving operation and its method

    a) Clicking [Option] of the menu bar on the main screen and then clicking **[IC free contact …]** of the sub-menu will display the screen for the free contact of indoor unit.

>   * **NOTE**
>   [IC free contact …] can be chosen only when G-50 is Ver.2.60 or more.

    In the case when connected via G-50, the screen shown right will appear once.
    Now the necessary information is under collecting from G-50.
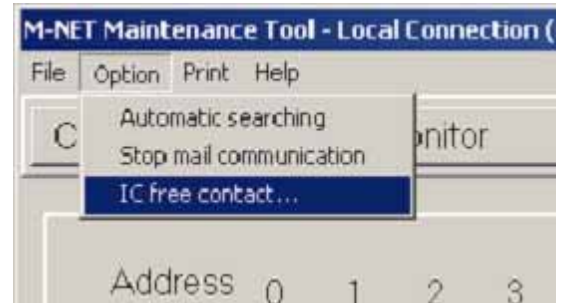
3.11.2 Monitoring of contact status

(1) Manual monitoring
    To manually check the contact status of indoor units at each address, select the [Manual monitor] mode.

    a) Click the **[Manual monitor]** button on the mode selection section.
    b) Click the **[Address button]** of the unit desired to be monitored. The contact status will be monitored from the unit for display.

  [Attribute]
    The unit attribute will be displayed.
  [Indoor unit contact mode]
    The contact mode being set will be monitored, and a check mark will be affixed on the applied mode.
  [Input contact (monitor)]
    The ON/OFF status of each input contact will be monitored for display.
  [Output contact (monitor/operation)]
    The ON/OFF status of each output contact will be monitored for display.
    In the case of output contacts, the status shown with **bold letter** represents the present status.

    *In the case of non-objective attribute, and when the contact mode is under normal control, the above monitor display will be [-].

(2) Automatic monitoring
   To automatically monitor the contact status of indoor
   units of No.1 ~ 50 repeatedly,
   select the [Auto monitor] mode.

   a) Click the **[Auto monitor]** button on the mode
      selection section.
      The contact status of indoor units of No.1 ~ 50 will
      automatically be monitored, and this operation will
      be repeated.

      The display for [Attribute], [Indoor unit contact
      mode], [Input contact (monitor)] and [Output
      contact (monitor/operation)] are identical to that in
      the manual monitoring.
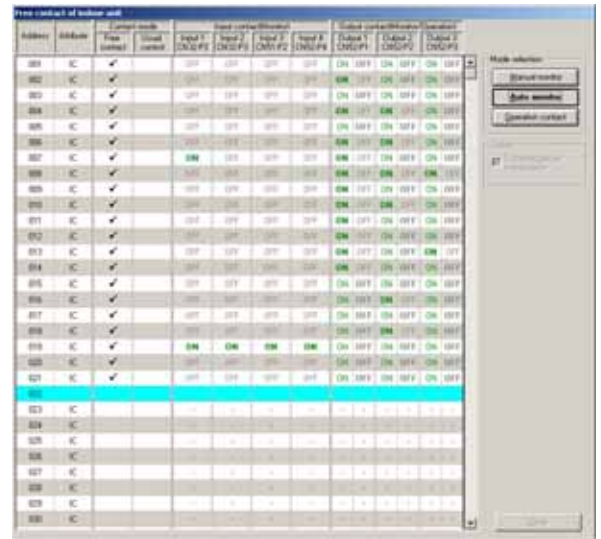
   * In the case to terminate the auto mode, selecting other mode will stop the monitoring.

3.11.3 Operation of output contact
   (1) Contact operation
      To operate for the ON/OFF selection of the output
      contact of indoor units, select the [Operation contact]
      mode.

      a) Click the **[Operation contact]** button on the mode
         selection section.
      b) Click the **[Output contact (ON/OFF)]** button of the
         unit for which the ON/OFF of the output contact
         is desired to be selected for change.
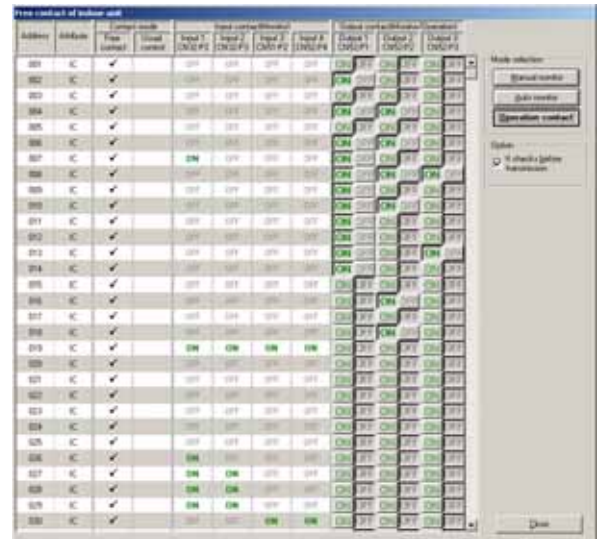
    *__The state where the button is being depressed__
     __(with bold letter)__ displays the present output status.

      [Option] function
      Affixing a check mark to **[It checks before
      transmission]** displays the warning screen as
      shown right before transmitting actual transmission
      command at the operation of output contact.
      To continue the transmission, click **[Yes]**.

      When a check mark is not affixed, the transmission
      command will be transmitted at the clicking of the
      [Output contact (ON/OFF)] button simultaneously.

3.11.4 Termination of this function
   (1) Clicking the [Close] button will close this screen and return to the main screen display.

4 Off-Line Monitor Operating Method

4.1 Off-Line Monitor Screen Transfer

Title Screen
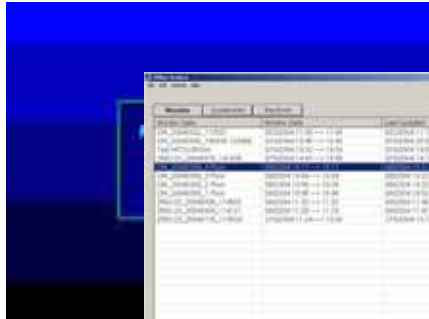
Operation Monitor
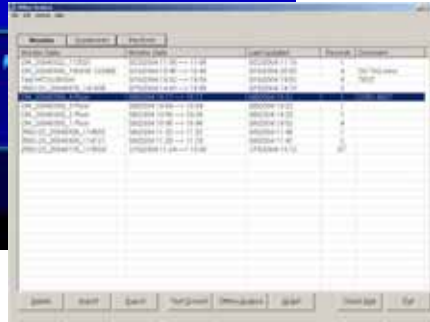
(Operation status monitor screen)

(Operation monitor Data list screen)

(Trend graph screen)

System Information

(System info. Data list screen)

Monitoring of Pre-error Data
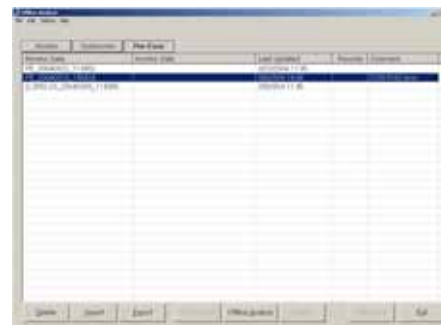
(Pre-error Data list screen)
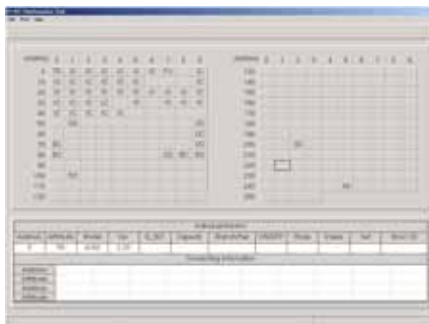
(System information screen)

(Pre-error data screen)

4.2 Function Chart

4.2.1 Operation Monitor

Off-Line Analizing --------------------[Refer to 4.3.1]
Monitors and prints about unit data saved in On-Line "**3.7 Operation Monitor**".

Graph -------------------- [Refer to 4.3.2]
The operation data obtained can be graphed for display.

Check Mail ------------------------------ [Refer to 4.3.3]
Extracts the operation monitoring data being mail-transferred by the remote monitor mode from the mail server.

4.2.2 System Information Monitor

Off-Line Analyzing -------------------- [Refer to 4.4.1]
Monitors and prints about unit data saved in On-Line "**3.4 Main Screen**".

4.2.3 Monitoring of Pre-error Data

Off-Line Analizing --------------------[Refer to 4.5.1]
Monitors and prints about unit data saved in On-Line "**3.9.4 Monitoring of Pre-error data**".

4.2.4 Function common for each screen (Filing operation)

Delete Data ------------------------------ [Refer to 4.6.1]
The offline data selected can be deleted.

Export -------------------------------------- [Refer to 4.6.2]
Allows to output the off-line data selected on the screen as a separate file from the database.

Import -------------------------------------- [Refer to 4.6.3]
Allows to take the off-line data being output as a file by Export into the database.

Text Convert ---------------------------- [Refer to 4.6.4]
Allows to output the off-line data being displayed on the screen as a file in Text format from the database.
The system information data can not be converted. The Pre-error data can be converted in text on Offline Analysis Screen.

- **Changing the name of monitor data**
    You may change the monitor data name on the screen of the data list.
- **Right-clicking menu**
    Clicking the right button of the mouse on the [Monitor data] desired to be operated displays
    the pop-up menu. Using the pop-up menu facilitates your operation.
- The offline mode includes 2 types, the [**normal mode**] and [**wide area access mode**].
  Although the functions of both modes are almost same, however, under the [**wide area access mode**],
  the following functions are provided additionally.
  1) Display of monitored name objective for data collection
    The [AREA name], [Customer] and [Air conditioning system name] are shown for each data obtained.
  2) Display of extracted data
   By selecting [AREA name] and [Customer name], the relevant data only can be displayed.
  Notice: Both the data obtained by online under normal mode and that under wide area access mode can
            be displayed commonly under both offline modes.

4.3 Operation Monitor

* **Items Performed Here**
  - Monitors and prints about the System Information and the Operating Data of units saved using the on-line monitor.

4.3.1 Off-Line Analyzing

(1) Click on [Monitor] to display the data list screen of Operation Monitor.

(2) Click on [**Monitor Data**] desired to be monitored.

(3) Click on [Offline Analyze] .

> Notice: This covers the operation with the menu of the right-clicking of the mouse.
> (Refer to 4.6.6 Right-clicking menu.)

(b)
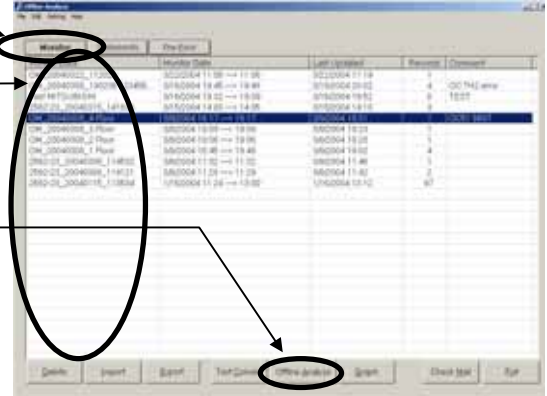
(4) **Operation Status Monitor Screen**

(a) Click on the [〈 〉] buttons to display data from one minute before or one minute after.

(b) "**Menu Bar**"
The menu bar displays [**Return**], [**Print**], [**Time-Searching**], [**Help**].

- Click on [**Return**] to end the **Operation Status Monitor Screen**.
[Refer to (c)]

- Click on [**Print**] and then select "**Print screen**" from the **sub-menu**.
The hard copy of the screen will be printed from the connected printer.

.
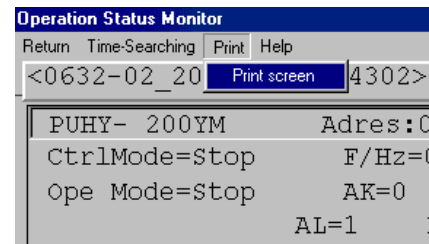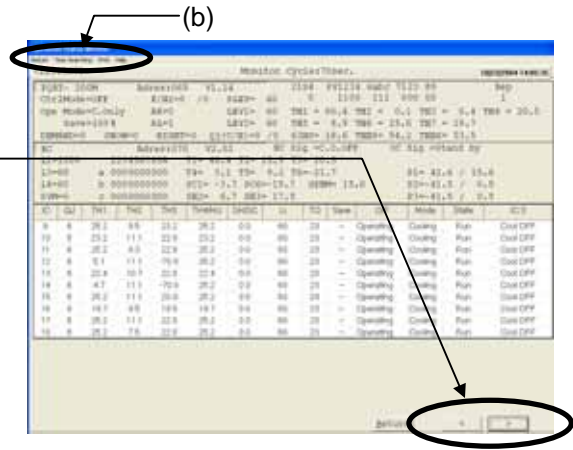
- Click on [**Time-Searching**] and the **Time Searching Screen** will appear.
Enter the [**Date**] and [**Time**].
(When entering the time, refer to the monitor data time.)

Once the time has been entered, click on [Time Searching] .
The entered data will appear.
If no time data has been entered, data for the nearest time will appear.
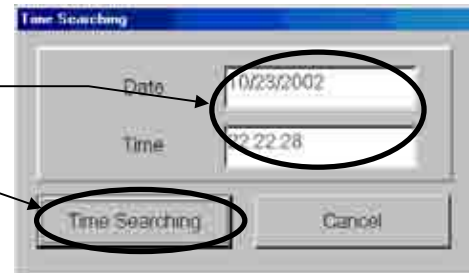
> Notice: Set the data/time to be entered to the time presented within the monitor data.
> Setting to the time outside of the monitor time may cause to disable the search function.

- Click on [**Help**] and "**Explanation of Terminology**" and "**Operation Method**" sub-menus can be selected.
  [Refer to **3.6 Connecting Information 3.6.2 (2)** "**Menu Bar**"]

(c) Click on [**Return**] on the menu bar to end the **Operation Status Monitor Screen**.
  The screen returns to the data list screen of Operation Monitor.

4.3.2 Graph

(1) Click on [Monitor] to display the data list screen of Operation Monitor.

(2) Click on [**Monitor Data**] desired to be monitored.

(3) Click on [Graph].
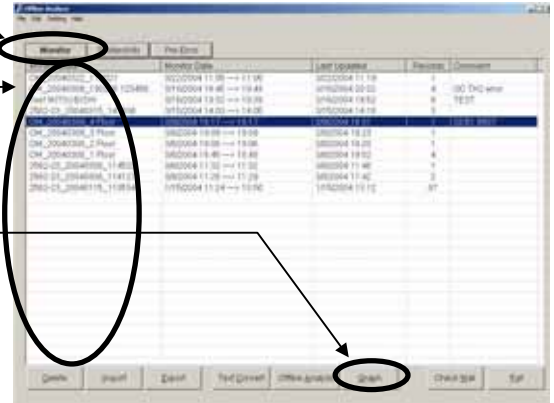
(4) Trend Graph Screen

   *For the Procedure for graphing, please refer to [3.7.3 (1) Procedure for graphing].

   (a) The menu bar
   [Return], [Print] and [Option] are displayed on the menu bar.
   1) [Return] is to be clicked when finishing Trend Graph. [Refer to (c).]

   2) Clicking [Print] allows selecting the sub-menu of "Hard Copy."
   Clicking "Hard Copy" displays a message of [Print the data?]. Clicking [Yes] prints out the screen presently displayed as it is.

   3) Clicking [Option] allows selecting the sub-menu of "Graph detail setting ---", "Time search ---" and "Sampling setting ---."
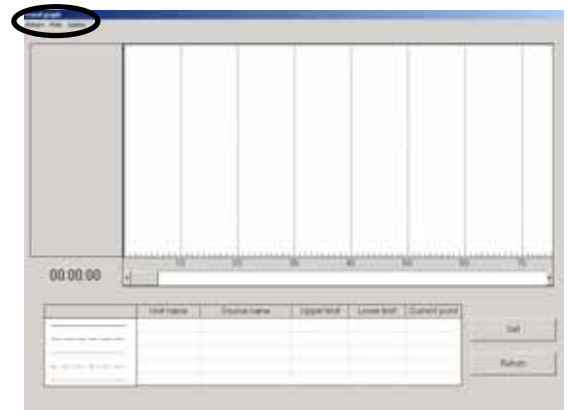
   - Clicking "Graph detail setting ---" displays Graph Detail Setting Screen.
     For the setting method, please refer to [3.7 Operation Monitor 3.7.3 (1) Procedure for graphing].

     Clicking [OK] after completing the setting on Graph Detail Setting Screen displays a message of [Please wait for a moment.] and then displays a message of [x-records data read !!].
     Click [OK] to display Trend Graph Screen.

     *The sampling time to allow graphing by offline system is limited to 1515 minutes (records) maximum. If 1515 minutes (records) are exceeded, the data after it is not displayed on graph.

   - Clicking "Time search ---" displays Time Search Screen.
     For the operation method, please refer to [4.3.1 (4)(b) MENU BAR [Time searching]].

     * When the sampling interval is not set up in 1 minute, it does not search, even if it performs a time search function.

49

- Clicking "Sampling setting ---" displays Sampling
  Setting Screen.
  Set the sampling time (interval) by moving [Scroll bar]
  or input through the keyboard.
  For the sampling interval, set the time interval of the
  abscissas axis with 1 ~10 minutes.
  For the horizontal grid line, refer to [3.7.3 (1) Procedure for graphing].

(b) Screen function and operation
  1) Clicking [Graph number] makes the graph line bold.

  2) Moving [Scaler] by dragging displays [Data] on the
     scaler at the current value column, and [Date/Time]
     at the lower part of the graph number.

  3) Moving [Scroll bar] by dragging or clicking ◄ ►
     moves the range of the graph being displayed.

---
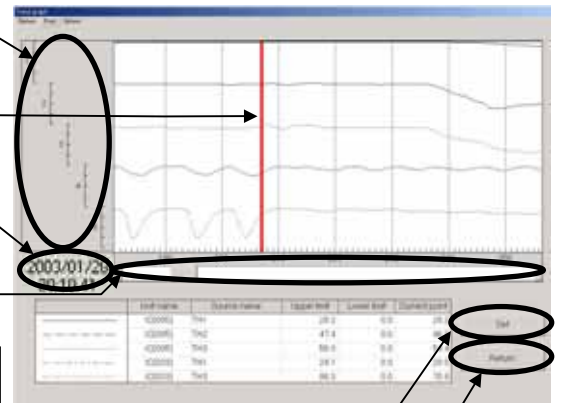
* NOTE
  When a scroll bar or ◄ ► is clicked, a scroll button
  may sometimes move continuously.
  In this case, it clicks again and please let me move to
  the position which wants to see graph.

---

  4) Clicking [Set] displays Graph Detail Setting Screen.
     For the setting method, refer to [3.7.3 (1) Procedure for graphing].

  5) [Return] is to be clicked when finishing Trend Graph.

(c) To finish Trend Graph, click [Return] of [MENU BAR] or [Return] . Then a message of [Finish the
    trend graph?] will be displayed.
    Click [Yes] to finish while click [No] not to finish.
    Clicking [Yes] returns to Operation Monitor Data list screen.

50

4.3.3 Check mail

*   **Mail Server Setting**

    In order to provide mail checking to the operation data mail-messaged from G-50 by utilizing Mail communication mode under online mode, the setting is required relating to the connection of the objective mail server.

    (a) Clicking on the sub-menu "**Mail server setting**" of "**Setting**" on the menu bar displays **Mail server setting screen**.

    (b) For lan connection, click on "**LAN**," set the items relating to mail servers, and click on [Set].

    Items to be set
    -   Pop server   :Ip address of mail servers for receiving
    -   User name   :User name for mail receiving
    -   Password   :Password for mail receiving

    (c) For diaplup connection, click on "**Dialup Network**," set the items relating to dialup and mail servers,and click on [Set].

    Items to be set
    -   Connection name:dialup connection name (requires to set the information on the provider to be connected by [dialup connection] from [control panel])
    -   Dialup user name:user name for dialup connection
    -   Dialup password :password for dialup connection
    -   POP Server   :IP address of mail servers for receiving
    -   User Name   :User name for mail receiving
    -   Password   :Password for mail receiving

    * When there are many amounts of data, this several hours case is in update of monitor data. We recommend you to set up so that interval time may be inputted into "POP Receive Interval" of "Mail Server Setting" and a mail check may be carried out periodically. (A mail check is automatically performed at the set-up interval.)

(1) Click on [Monitor] to display the data list screen of Operation Monitor.

(2) Click on [Check Mail].
    Initiates the checking of the operation monitor data mail for the mail server, and storing of the acquired data. During the data transfering and storing, the progress rate will be displayed.

(3) After completing of data tranffer and storing, the numbers of received mail will be displayed.
    (The numbers of the received mail counted here have no relation with the numbers displayed on the monitor data.)
    Clicking on [OK] returns to the data list screen of Operation Monitor.
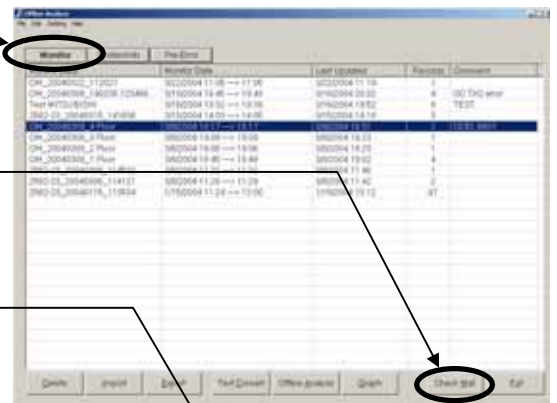
*The capacity to store the data obtained by the maintenance tool counts for 2G-bite maximum. When the remaining storage capacity is getting insufficient during data reception by mail, Warning Screen will appear. In this case, suspend the mail checking, and delete unnecessary data on Offline Screen to keep a proper capacity.

4.4 System Information

4.4.1 Off-Line Analyzing

(1) Click on [SystemInfo] to display the data list screen of System Information.

(2) Click on [**Monitor Data**] desired to monitor.

(3) Click on [Offline Analyze] .
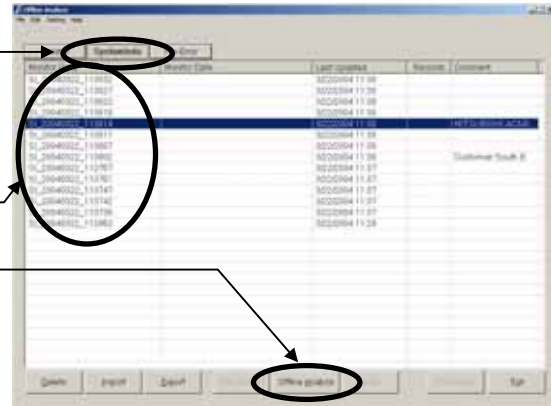
    - The System Information Screen of Off-Line displays all connection information memorized by the connected G-50.

> Notice: This covers the operation with the menu of the right-clicking of the mouse.
> (Refer to 4.6.6 Right-clicking menu.)

(4) Click on the address [**Button**] of the attributes to be displayed and the [**Unit Information Display Column**] is shown in the same way as when on-line. The [**Function Selection Buttons**] cannot be used.

(5) "**Menu Bar**"
[**Return**], [**Print**] and [**Help**] are displayed on the menu bar.
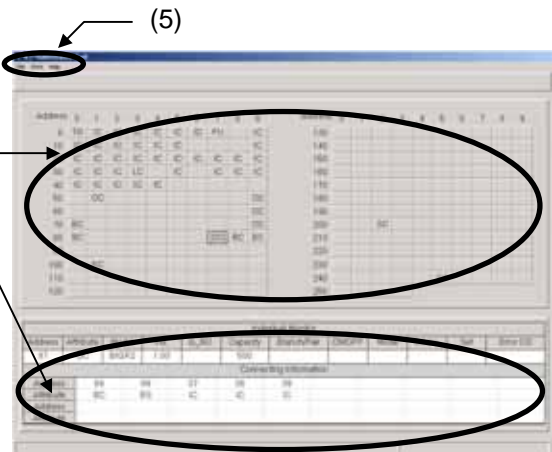
    - Click on [**Return**] to end the system information. [Refer to (6)]

    - Click on [**Print**] and then select "**Hard Copy**" from the sub-menu.
    The hard copy of the screen will be printed out from the connected printer.

    - Click on [**Help**] and an explanation "**Terminology**" and "**Operation Method**" will be displayed.
    [Refer to **3.6 Connecting Information 3.6.2 (2)"Menu Bar"**]

(6) Click on [**Return**] on the menu bar to end system information.

4.5 Monitoring of Pre-error Data

4.5.1 Off-Line Analyzing

(1) Click on [**Pre-Error**] to display the data list screen of Pre-error.

(2) Click on [**Monitor Data**] desired to monitor.

(3) Click on [Offline Analyze] .

> Notice: This covers the operation with the menu of the
> right-clicking of the mouse.
> (Refer to 4.6.6 Right-clicking menu.)

(5)
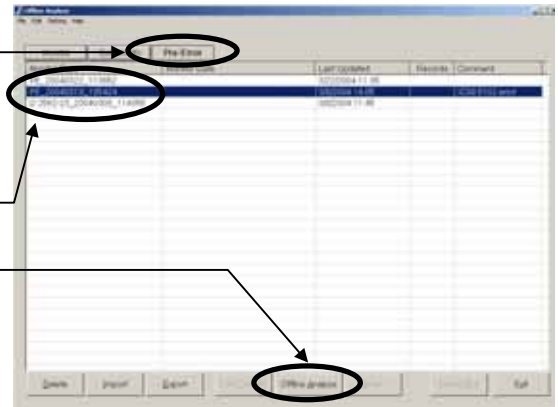
(4) On the Pre-error Data screen, the operation status data immediately before generating error will be displayed in a unit of minute.
Each figure on the upper column indicates a number of minute before generating an error respectively.

The change of the display content is performed with Up/down, left/right scroll bar.

The number of displayed items and that of the stored data (per minute) differ depending on the selected item.
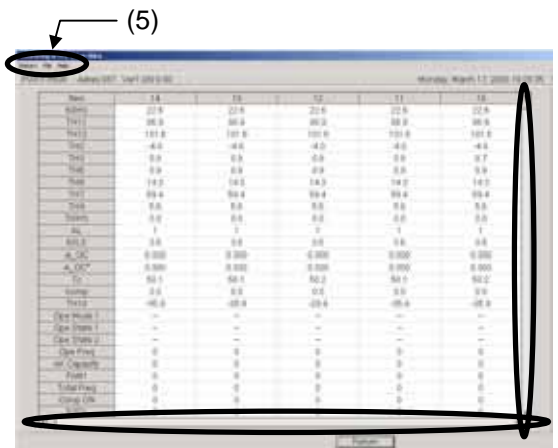
(5) "**Menu Bar**"
[**Return**], **[Text convert] of [file]** and [**Help**] are displayed on the menu bar.

- Click on [**Return**] to end the Monitor before error occurred screen.[Refer to (6)]

- Clicking **[Text convert] of [file]** prepares a text file of the Before error occurred data being displayed.

- Click on [**Help**] and an explanation "**Terminology**" and "**Operation Method**" will be displayed.
  [Refer to **3.6 Connecting Information 3.6.2 (2)"Menu Bar"**]

(6) Click on [**Return**] on the menu bar to end the data list screen of **Pre-error Data**.

4.6 Function common for each screen (Filing operation)

* Clicking the button of "Monitor Data", "Monitor Date", "Last Updated" and "Others" at the upper column allows to sort the displayed data.
* The right-clicking operation of the mouse covers the operation of each file also. For detail, refer to the item 4.6.5 Right-click menu.

4.6.1 Delete Data

(1) Clicking either [Monitor] , [SystemInfo] or [Pre-Error] to display Data list screen containing the file desired to edit.

(2) Click on [**Monitor Data**] desired to delete.

(3) Click on [Delete].
Then the screen to confirm the selected monitor data will appear.
Clicking on [Yes] deletes the data.
Clicking on [No] returns to Data list screen.
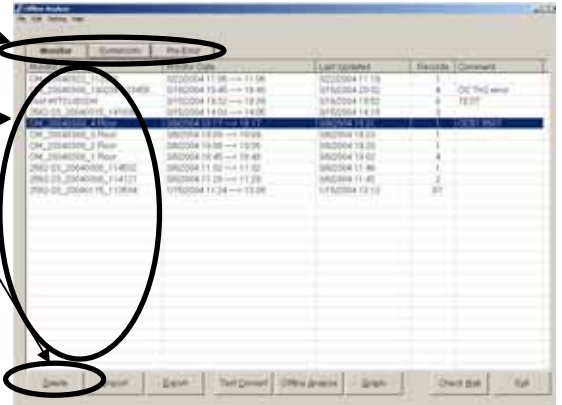
> Selecting monitor data collectively enables to execute batch deletion.
> This operation may be performed in the similar way of the file selection of Windows explorer (shift,ctrl).

4.6.2 Export

(1) Clicking either [Monitor] , [SystemInfo] or [Pre-Error] to display Data list screen containing the file desired to edit.

(2) Click on [**Monitor Data**] desired to output.

(3) Click on [Export].
The screen to store a file wiil be displayed.
Set the storing folder, input the file name and click on [Save] .
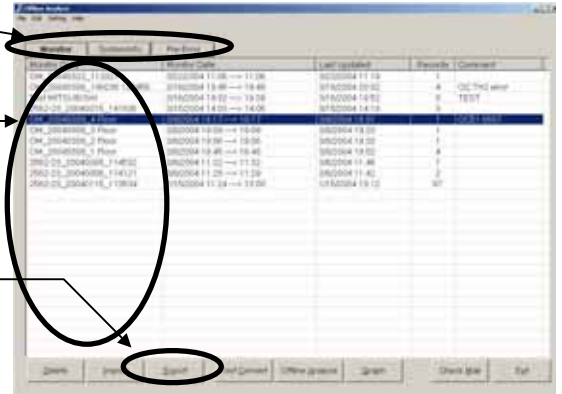
*During processing operation, the progress ratio will be displayed.

4.6.3 Import

(1) Clicking either [Monitor] , [SystemInfo] or [Pre-Error] to display Data list screen containing the file desired to edit.

(2) Click on [Import].
The screen to read a file will be displayed.
Set the reading folder, input the file name and click on [Open] .
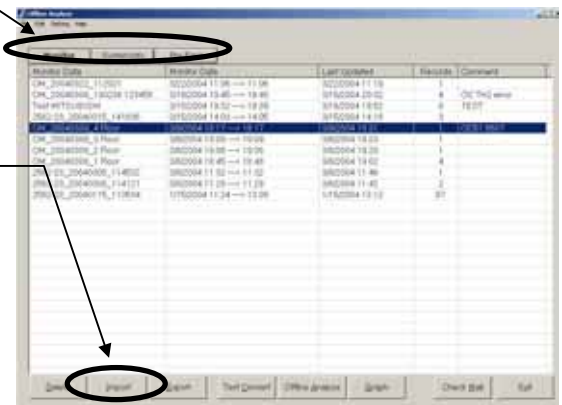
*During processing operation, the progress ratio will be displayed.

> Notice:
> The operation monitor data (*.MTD) obtained by Win3.1/95/98 versions (Ver.3.**) can also be imported.
> (The reverse operation is not allowed.)

4.6.4 Text Convert

(1) Clicking [Monitor] to display Data list screen
containing the file desired to edit.
(Text conversion can also be adapted to the Pre-error
data. For the converting method, refer to 4.5.1(5).)

(2) Click on [**Monitor Data**] desired to convert into text
format.

(3) Click on [Text Convert] .
The screen to confirm the selected monitor data.
Clicking on [Yes] provides text conversion
processing and then a file name will be displayed.
[Refer to **5.4 Text Convert Data**]
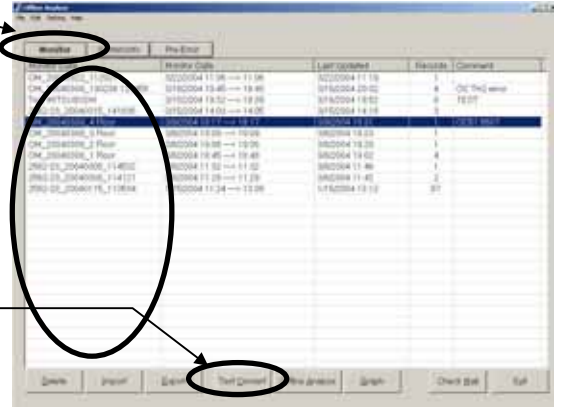
In the case of Operation Monitor, clicking [Yes] displays Data Transfer Screen prompting you to
select the object and method of the conversion.

(a) Click on [**units**].
Set the [**Sampling Time**] between 1-min and 10-min.

(b) Click on [Trans] .
"Converting! Please wait for a moment." will be appeared,
then a file name will be displayed.

[Refer to **5.4 Text Convert Data**]

(c) Click on [All Trans] to transfer the data of all units.

(d) Click on [Return] to end the **Data Transfer Screen**.
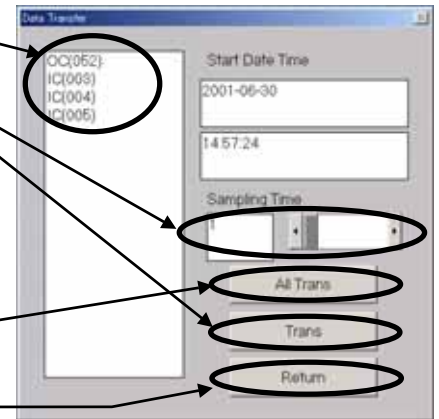
* During processing operation, the progress ratio will be displayed.

4.6.5 Monitor Data information convert

- Changing the name of monitor data
Clicking the Edit of the menu bar while focussing the
monitor data name on the Monitor Data of which name is
desired to be changed on the Screen listing each data will
display the editing screen.
On this screen, the name of Monitor Data or other relevant
information can be edited.

55
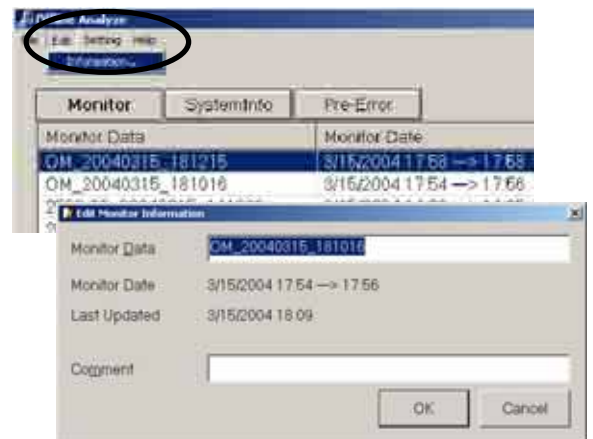
4.6.6 Right-clicking menu

- Right-clicking menu

Clicking the right button of the mouse on [Monitor data] displays the pop-up menu as shown on the right screen. The items that can be set are same as that of the function button on the screen listing each data.

(Some function is unable to operate partially.)

Use them in accordance with your applications.
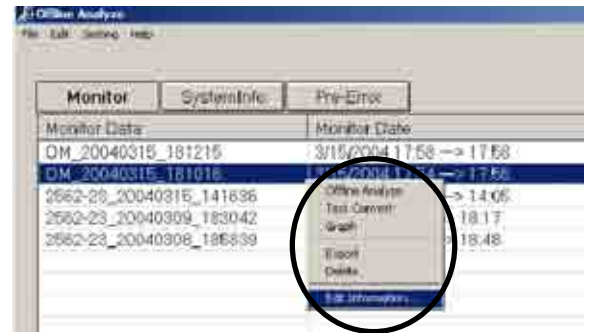
4.7 Offline Analyze on Wide area access mode

The function of the offline mode is mostly equals that of the normal mode, however, the following function is provided additionally.

1) Display of monitored name objective for data collection.
   - The [AREA name], [Customer name] and [Air conditioning system name] are shown for each data obtained.
   - Setting the cursor to the data provides the pop-up display of the [AREA name], [Customer name] and [Air conditioning system name] of the data.

   In order not to show the POP-UP display, click the View of the menu bar and remove the check mark of the [Show Wide Area Info.] on the sub-menu.
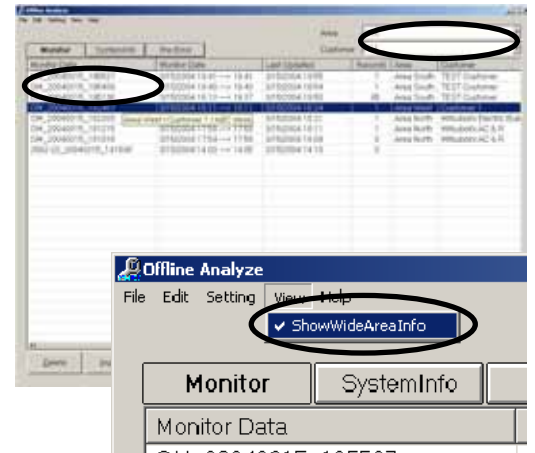
2) Display of extracted data.
   - By selecting [AREA name] and [Customer name], the relevant data only can be displayed.
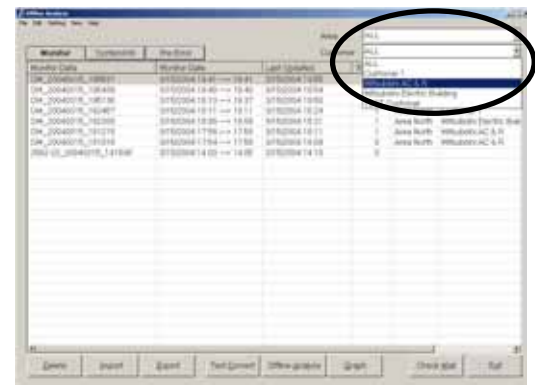
As the other function and operation are same as that under the normal mode, please refer to Chapters 4.3 - 4.6.

Notice:
 Both the data obtained by online under normal mode and that under wide area access mode can be displayed commonly under both offline modes.

5	**File Names**

5.1 System Information Data

The data saved in Section "**3.4 Main Screen (2)**" is stored in **c:¥ProgramFiles¥mnttool32¥DATA**
- The following is an explanation of the file name

SI_20040315_181026.MTDX

→ Extension
→ Monitor Time*1 Default
→ Fixed (SI) (Changeable to any desired name.)
*The data obtained before Ver4.04 is represented by
S_***_***_***.MTDX.
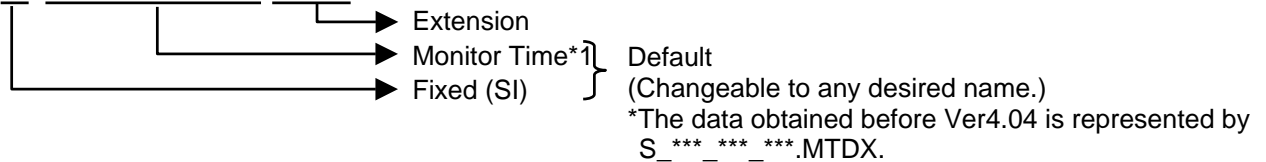
5.2 Operating Status Monitor Data

The data saved in Section "**3. 7 Operation Monitor**" is stored in **c:¥ProgramFiles¥mnttool32¥DATA**
- The following is an explanation of the file name(Operating Status Monitor Data has been automatically stored at the on-line monitoring.)

OM_20040315_181026.MTDX

→ Extension
→ Monitor Time*1 Default
→ Fixed (OM) (Changeable to any desired name.)
*The data obtained before Ver4.04 is represented by
M_***_***_***.MTDX.
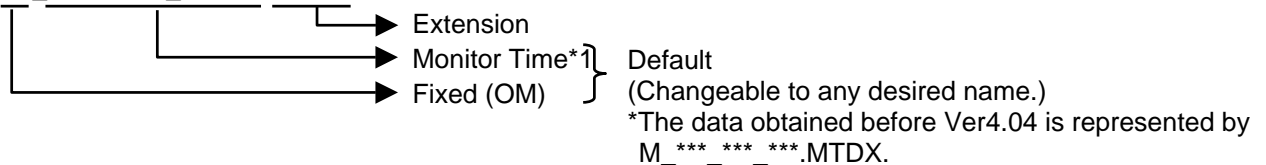
5.3 Pre-error Data

The data saved in Section "**3.9.4 Monitoring of Pre-error Data**" is stored in
c:¥ProgramFiles¥mnttool32¥DATA
- The following is an explanation of the file name(**Pre-error Data** has been automatically stored at the on-line monitoring.)

PE_20040315_181026.MTDX

→ Extension
→ Monitor Time*1 Default
→ Fixed (PE) (Changeable to any desired name.)
*The data obtained before Ver4.04 is represented by
E_***_***_***.MTDX.
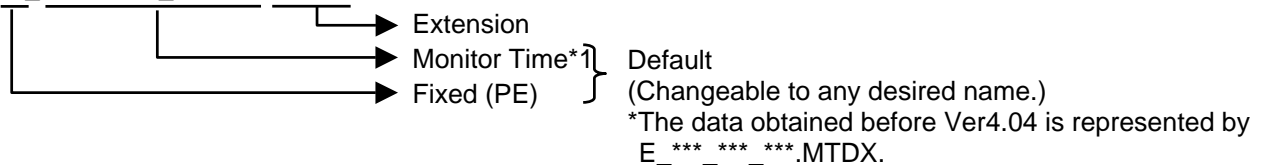
5.4 Text Convert Data

The data saved in Section "**4.6.4 Text Convert** " is stored in
c:¥ProgramFiles¥mnttool32¥DATA
- The following is an explanation of the file name

OM_20040315_181026_(001).CSV

→ Extension
→ Serial No. (001-999)
→ Monitor Time*1 Default
→ Fixed (OM) or (PE) or (ML) (Able to set at Text Convert freely.)
*The data obtained before Ver4.04 is
represented by M(E)_***_***_***.CSV.
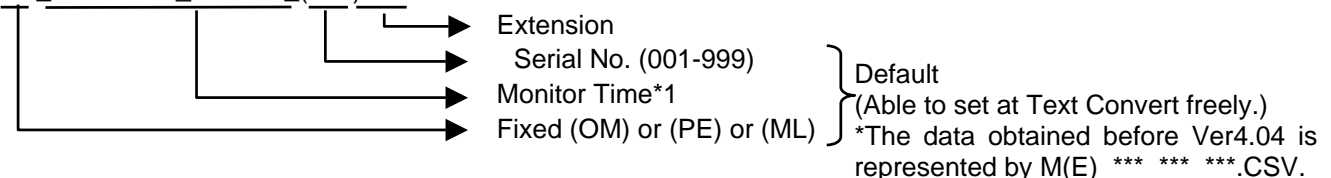
*1 **Monitor Time**
Monitor starting time : YYYYMMDD_HHMMSS format
* For the data obtained before Ver4.04 via MN Converter, "MN"-"PC host name" will be displayed at the former part of the data.

How to Change Setting of Firewall for Windows XP

1. Introduction

When connecting Maintenance Tool through G-50A, normal communication may not be performed if Firewall, the security function of Windows XP, has wholly been validated.

(* In E-Mail mode and MN converter connection, it is not related)

Therefore, the setting of Firewall should partially be changed following the procedure indicated in Chapter **3 How to change the setting of Firewall**.

2. Applicable case

(1) Should the following symptoms occur at the Address Searching of OC (051~100), it may be possible that the communication from G-50A can not be received normally as the communication port to use has been blocked by Firewall.

- Requiring a lot of time for searching
- Not displaying the connecting relation (as shown in the right figure)

In such case, terminate Maintenance Tool once, and change the setting of Firewall.
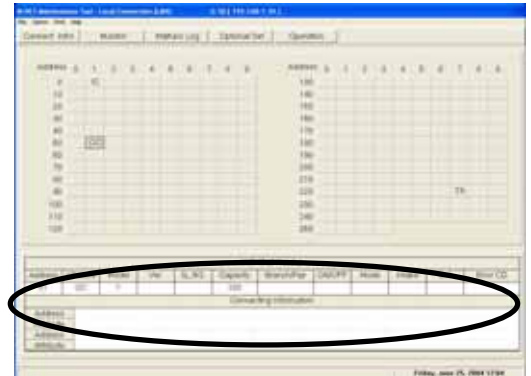
3. How to change the setting of Firewall

The method to change the setting differs depending on the Service Pack loaded as explained below.

- 3-1 [For WINDOWS XP Service Pack 1]
    - I) In the case of G-50 (Network) - Local connection (LAN)
    - II) In the case of G-50 (Network) - Remote connection 1(Dialup)
- 3-2 [For WINDOWS XP Service Pack 2]

3-1 [For Windows XP Service Pack 1]

I) In the case of G-50 (Network) - Local connection (LAN)

(1) Select [Control Panel] from Start menu.

(2) Click [Switch to Classic View] to switch the [Control Panel] screen to Classic View.

(3) Double-click [Network Connection].

[Classic View]

(4) The [Network Connection] screen will be displayed.

(5) Right-click on the characters of [Local Area Connection] to display the sub menu.

(6) Select [Properties] from the sub menu, and then click it.

59
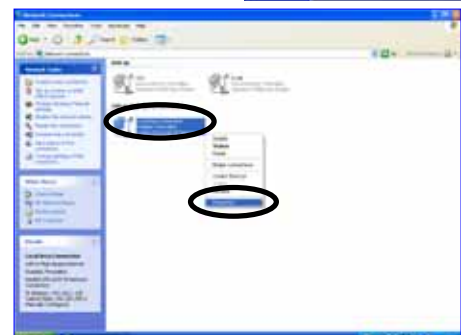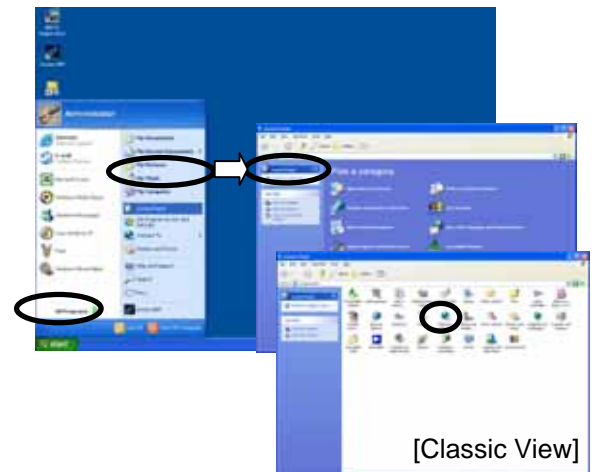
(7) The [Local Area Connection Properties] screen will be displayed.

(8) Select the [Advanced] tab.

(9) Confirm that the checking column of [Internet Connection Firewall] has been affixed with a check mark.
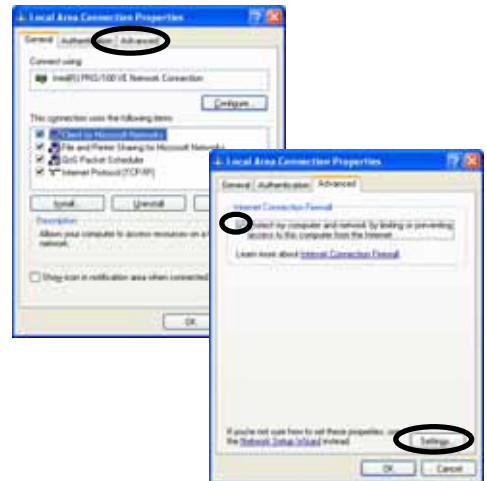
(10) Click the [Settings - - -] button.

(11) The [Advanced Settings] screen will be displayed.

(12) Click the checking column of [Internet Mail Server [SMTP]] within the [Service] tab to affix a check mark.
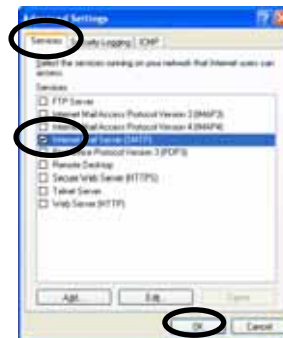
(13) Click the [OK] button to close the [Advanced Settings] screen.

II)   In the case of G-50 (Network) - Remote Connection (Dialup)

The procedure for the items of (1) ~ (3) is same as that of G-50 (Network) - Local Connection (LAN).

(4)   Open the [Network Connection] screen.

(5) Select the Dialup name used for G-50 (Network) - Remote Connection1 (Dialup), and right-click to display the sub menu.

(6)   Select [Properties] from the sub menu displayed.

(7)   [Properties of (Dialup name)] will be displayed.

(8)   Double-click the [Advanced] tab.

(9) Confirm that the checking column of [Internet Connection Firewall] has been affixed with a check mark.

(10) Click the [Settings - - -] button.
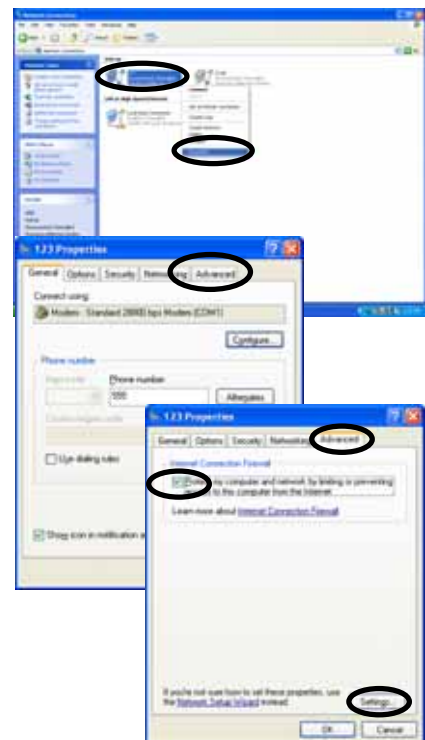
(11)   [Advanced Settings] will be displayed.

(12)   Click the checking column of [Internet Mail Server [SMTP]] within the [Service] tab to affix a check mark.

(13)   Click the [OK] button to close the [Advanced Settings] screen.
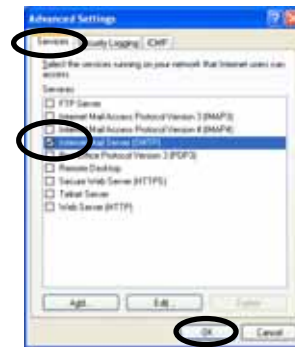
Now the setting of Firewall has completed.   Close all screens and start Maintenance Tool.

Caution: For security protection while connecting with Internet and the like, it is recommended to restore the settings of Firewall to the original one after terminating Maintenance Tool.
(Remove the check mark of [Internet Mail Server [SMTP]] to restore its original status.)

3-2 [In the case of Windows XP Service Pack 2]

With Windows XP Service Pack 2, the [Windows Security Alert] screen will be displayed at the initial starting (G-50-Network) of Maintenance Tool.
(No display in the case of Service Pack 1)

Selecting the [Unblock] button on this screen **completes all settings of** Firewall.

Supplement: For Windows XP ServicePack2, it may be set whether the receiving port of the network is to be blocked or not per application. Selecting [Unblock] realizes normal communication by opening minimum receiving ports required during the operation of the relevant application program.   After the termination of the application, the receiving ports not used will automatically be blocked for further security.

On the [Windows Security Alert] screen, if [Keep Blocking] or [Ask Me Later] has been selected, the settings of Firewall should be changed manually.
The method of change is given below.

(1) Select [Control Panel] from the Start menu.
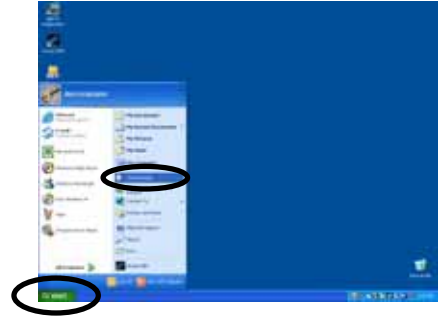
(2) The [Control Panel] screen will be displayed.

(3) Click [Network and Internet Connections].

(4) Click [Network Connections].

(5) The [Network Connections] screen will be displayed.

(6) Right-click on the characters of [Local Area Connection] to display the sub menu.

(7) Select [Properties] from the sub menu, and then click it.

(8) The [Local Area Connection Properties] screen will be displayed.

(9) Select the [Advanced] tab.
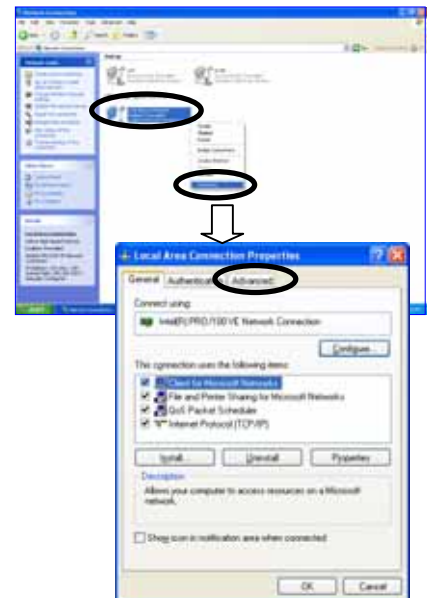
(10) Click the [Settings - - -] button.

(11) The [Windows Firewall] screen will be displayed.
      Confirm that Firewall is being set to [On [recommended]].
      Do not affix a check mark to [Don't allow exceptions].

(12) Click the [Exceptions] tab.

(13) Click the checking column of [MntTool32(Maintenance Tool)] to affix
      a check mark.
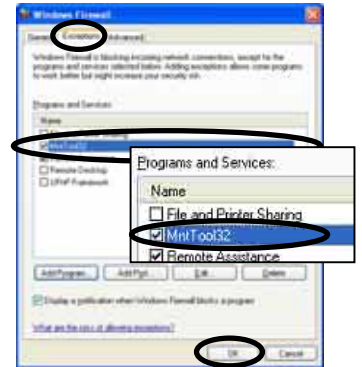
   ∗ When Maintenance Tool is not displayed on the program list, click the
     [Add Program - - -] to add Maintenance Tool.

     (a) Clicking the [Add program - - -] button displays the screen to add a
          program.

     (b) Clicking the [Browse - - -] button on the [Add a Program] screen
          displays the [Browse] screen.

     (c) After selecting the Programs
          [**C:¥Program Files¥MntTool32¥MntTool32.exe**] (Default folder)
          of Maintenance Tool from the [Browse] screen, click the [Open]
          button.
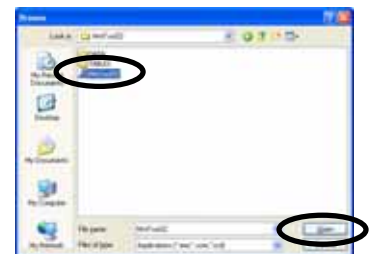
     (d) Select MntTool32 from Programs: on the [Add a Program] screen,
          and click the [OK] button.

     (e) Here, MntTool32 has been registered to the Programs and
          Services: on the [Exceptions] tab screen of Windows firewall.
          [Refer to (13).]

     (f) Click the checking column of MntTool32 to affix a check mark.

(14) Click the [OK] button to close the [Windows Firewall] screen.

**Now the manual setting of Firewall has completed. The same status as that when [Unblock] of
[Windows Security Alert] was selected will be presented.
Close all screens and start Maintenance Tool.**

7	**Troubleshooting?**

Trouble When Installing or Starting

Trouble	Cause	Repair
Cannot install.	Install CD-ROM not properly positioned.	Properly position Install CD-ROM.
Cannot start application.	Insufficient memory.	End other applications.
	OS is not an English version.	Regional options setup, changing into English area form. Or after changing date separator into [/], time separator into [:], and a decimal point mark is changed into [.], it tries. (Refer to 1.2.1 *1)
The message of "Can't Connect to G50" is displayed at on-line starting.	The IP address of G-50A or PC is incorrect.	Input the correct address.
	LAN cable is not connected.	Connect securely LAN cable between G-50A/HUB/PC.
The message of "Maintenance Tool can't connect to old version G50! Use G-50 upper version2.40." is displayed at the on-line starting.	The S/W version of G-50A is older than Ver2.40.	The maintenance tools can not be connected to the older version of G-50A than Ver2.40. Use the new version G-50A. (**Recommended Ver2.50** or more) To use the E-mail connection mode, the version of G-50 should be above 2.60.
The message "M-Net interface board not connected" appears.	-RS-232C cable and MN converter are not connected. -A straight type RS-232C cable is being used.	A cross type RS-232C cable is being used. Make sure MN converter and PC are properly connected. (Refer to Operator's Manual for the MN converter.)
	MN converter is not turned on.	Connect the MN converter and the air conditioning unit to the M-Net transmission line. (Refer to the Operator's Manual for the MN Converter)
A message of " Monitor data size is very large!! Please, delete old monitor data!!" is displayed at starting.	The memory capacity to store data is insufficient.	Move to Offline Screen, and delete unnecessary data.
A message of " Maintenance Tool can't connect to this G-50! Because, this G-50 is not licensed!!" is displayed at starting under the online mode.	The license registration has not been done for G-50.	Purchase the license No., and register the license for G-50.
A message of " The term of validity of the installed version went out.!!" is displayed at starting. Maintenance tool does not start.	The term of validity of the installed version went out.	It upgrades. Please upgrade periodically

Trouble with Main Screen

Trouble	Cause	Repair
Cannot select function selection buttons.	Collecting data about individual units using manual search. (Unit is communicating.)	Can be used when communication with all the units selected by manual search have completed communication.
A[**]appears in the unit address button for an existing unit.	-No response from that unit. -Attributes cannot be known due to communication error.	Wait a moment and then click on the address button for the same unit again.

64

Trouble	Cause	Repair
A[**]appears in the unit address button for a unit that does not exist.	Interference caused an non-existing unit to appear.	Wait a moment and then click on the address button for the same unit again. The[**] display will disappear.
A[??]appears in the address button.	There is a unit that is not compatible with the maintenance tools.	Refer to the explanation on terminology in help. If there is no explanation, the unit is not a compatible type.
Address searching takes 3 minutes or more per set. (G-50 connection)	The port required for communication is being protected by the Firewall checking function of Windows or anti-virus software.	In this case, the communication transmitted from G-50 may not partially be received. Please remove the check mark on the Firewall function of the necessary port. (For detail, please refer to Page 57.) (If the version of G-50 is more than 2.50, only [IC] can be searched, even if it uses FIREWALL. However, [OC] reference cannot be performed. Moreover, since other functions cannot operate normally, please be sure to remove a check.)
	When a maintenance tool is not ended normally, G-50 will be in a data resending state, and LAN communication will increase.	In this case, please perform "Stop mail communication" of 3.4 (2), and start a maintenance tool again after waiting about 15 minutes.
	The version of G-50 is old.	A recommendation version is 2.50 or more.

Connecting information Trouble

Trouble	Cause	Repair
Cannot switch to connection information screen.	A unit other than an outdoor unit (OC) has been selected.	Refer to 3.6.1
The connection data display does not appear when the operating system SC is clicked.	An operating SC other than remote control has been clicked.	Click on remote control. Monitoring of connection data cannot be done from operating SC other than remote control.

Operation Monitor Trouble

Trouble	Cause	Repair
The monitor display screen on the operation monitor has red characters.	Because of the increased re-transmission process work due to abundant communication noise, data may not be monitored fully within the rated cycle.	Please take a countermeasure against the communication noise source in this case.
All of the characters on the monitor display for some units are red.	There is no answer from the unit.(Cannot communicate with the unit.)	Error with unit. Refer to the service handbook for that unit.
The message of " G50 can't Connect to SMTP Server ! or G-50 Date Setting is wrong !! Continue ?" is displayed at remote monitor setting.	The dial-up router is not connected. Or connected but incorrectly.	By referring to Instruction Manual of Dial-up router, connect or set correctly.
	The default gateway of G-50A is not set.	Set correctly by using the G-50A initial setting tool. (Refer to Instruction Manual of G-50A initial setting tool.)
	The incorrect display of the receiver address is pointed out by SMTP.	Set the correct mailing address.
	The Monitor Finish Date is older than the current date/time of G-50A.	Set the monitor finish date correctly. (However when connecting to G-50A in a region with a time differential, set it by considering the time in that place.)
A message of " Monitor data size is very	The memory capacity to store data is	Move to Offline Screen, and delete

large!! Please, delete old monitor data!!" is displayed during collecting data.	insufficient.	unnecessary data.
Data becomes a red display and the "-" display.	Since data cannot receive normally. - There is too much number of a monitor. - Data transforms itself by a noise.	- Reduce the number of a monitor. - Cope with noise generating origin. * Also when returning from a graph screen to an operation screen, it may become a red display and the "-" display, but it is normal.

Malfunction Log Trouble

Trouble	Cause	Repair
Cannot clear malfunction log	The unit is not compatible with malfunction log clear.	The malfunction log cannot be cleared.
There is an error code, but the contents of the error are not displayed	This is a newly added error code and is not compatible with the maintenance tools.	Refer to the service handbook for that unit.

Operation Monitor Mail Communication Mode Trouble

Trouble	Cause	Repair
Operation monitor mail cannot receive normally.	A mail address and SMTP server information were made a mistake in and set up by mail communication setup.	Please set up the right information again after performing "Stop mail communication" of 3.4 (2).
	The mail address a contract of is not made with a provider was set as [FROM: Mail Address]. (When using dialup)	Please set the regular mail address a contract of is made with the provider to [FROM: Mail Address].
	The mail address of recipient (To:) is not an address only for maintenance tools. (The mail address used usually is set up. In this case, once other mail software receives mail, operation data mail will be deleted from a mail server.)	The mail address of recipient (To:) acquires and sets up the address only for maintenance tools.
The analysis screen of the operation monitor data (which carried out mail acquisition by OFFLINE) is not displayed.	The system configuration information acquired from G-50 immediately after a mail communication setup was not acquired normally.	Please delete the corresponding data. Text conversion can be carried out and data can be outputted.
	Mail communication mode was set up from the maintenance tool of a remote place, and the mail address of recipient (To:) was set as another addressing to a maintenance tool of a remote place. (System configuration information mail is transmitted from G-50 immediately after a mail communication setup. However, the maintenance tool by the side of a setup is using dial-up service, and mail transmission cannot be performed. Consequently, since the maintenance tool with which mail is transmitted cannot acquire system configuration information mail, even if it receives after that operation monitor data mail, it does not indicate by normal.	When mail communication mode is set up from the maintenance tool of a remote place, mail acquisition of operation data can be performed only with the maintenance tool which set up. Please make a set the mail address of a maintenance tool which set mail communication mode to the mail address of recipient (To:).

Specific troubles induced by E-mail connection mode

Trouble	Cause	Repair
The message of " Not connectable to mail server." or "Not connectable to G-50." Is displayed.	The initial information is not being set to G-50. (The mail address of Maintenance Tool is not being registered previously.) The mail address normally obtained is not being set. The version of G-50 is not exceeding 2.60. The setting of the mail server address is not correct. The setting of environments like for LAN cable connection is not correct.	Execute the initial setting of Maintenance Tool or G-50A mail address on the local G-50A by using the G-50A initial setting tool. Verify the set contents of the mail server/mail address. Obtain and use the mail address individually for each Maintenance Tool PC. Set the connection environment correctly.
The message of "Network possibly disconnected finishing Maintenance Tool." is displayed.	Displays when the normal communication with G-50 was not performed.	Maintenance Tool is finished forcibly. Restart Maintenance Tool after a while.
The message of "? operation status mails at mail server. After receiving mail under offline mode, start E-mail mode again. Returning to mode selection screen?" is displayed.	Displays when the operation monitor mail is remained at the mail server. The action of Maintenance Tool will be delayed caused by a time required by the search processing of remaining mail.	After removing the operation monitor mail under Off-line mode, execute E-mail connection mode.
The operation monitor screen is not displayed normally.	The POP receiving interval of Maintenance Tool is being set to over 2 minutes. [Operation control screen] is being opened for over 20 minutes on the operation monitor screen	Set the POP receiving interval within 1 minute. Do not open [Operation control screen] for over 20 minutes on the operation monitor screen.

Free contact of indoor unit Trouble

Trouble	Cause	Repair
A menu cannot be chosen and cannot be started.	The version of G-50 is old.	A recommendation version is 2.60 or more.

Off-Line Monitor Trouble(1)

Trouble	Cause	Repair
The message of "Timeout Can't connect to Mailserver." Is displayed.	The setting of IP address of POP server is incorrect.	Set the correct IP address with Mail Server Setting.
	The setting of the IP address of PC is incorrect.	Set the IP address of PC correctly.
The message of "Invalid Parameter!" is displayed.	The POP server is not set yet.	Set POP server.
The message of "Can't Connect to mail sever!" is displayed.	The LAN cable is not connected correctly.	Connect LAN cable securely.
	. The IP address setting of POP server is not correct.	Set the correct IP address with Mail Server Setting.
The message of "POP Authention Error" is displayed.	The setting of the user and password of POP server is not correct.	Set correctly with Mail Server Setting.
A message of " Monitor data size is very large!! Please, delete old monitor data!!" is displayed during collecting the mail of operation data.	The memory capacity to store data is insufficient.	Move to Offline Screen, and delete unnecessary data.
A message of " Now finalizing Maintenance Tool !!" is displayed at finishing Offline, and the screen does not finish.	The internal data is under arrangement at finishing the maintenance tool.	Offline Screen will automatically be finished after completing this process. Please wait a while.
Data cannot be imported.	It was going to import the data acquired by "Maintenance Tools (Ver.3.**)".	Among the data obtained by Ver3.**, the operation monitor data (*.MTD) can only be imported. Regarding to other data, the

		data obtained by Ver.4.** has no compatibility with that obtained by Ver.3.**.
A message of " The file name is incorrect. --- " is displayed. Data cannot be imported.	It contains characters unable to be fetched in (such as ["or"] and the like).	Please delete such special characters in the file name.

Off-Line Monitor Trouble(2)

Trouble	Cause	Repair
Printing is not normally carried out for graph etc.	-	Please set a setup of a printer as Grayscale Printing.
In processing for the time searching or text convert of the operation status monitor, "Date or Time is wrong" is displayed without executing the processing.	The information inherent in a district (language) will be added on the column of Date and Time depending on the PC (OS) of the district. However, such information inherent in the district can not be read by the maintenance tool.	- Change the setting of the OS to that in English for use. - Execute processing after deleting the information (characters) inherent in the district to be added on the column of Date and Time.