

Pro-face®

GP-Viewer EX

Operation Manual

Preface

Please read the manuals carefully for correct use of this product. Please be sure to keep the manuals handy so that you can refer to them at any time.

NOTES

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Intel, Pentium	Intel Corporation, USA
Pro-face	Digital Electronics Corporation of Japan
Ethernet	Western Digital Electric Corporation, USA

The following terms differ from the formal trade names and trademarks.

Term used in this manual	Formal Trade Name or Trademark
Windows 2000	Microsoft® Windows® 2000 Operating System
Windows XP	Microsoft® Windows® XP Operating System
Windows Vista	Microsoft® Windows Vista® Operating System
Windows 7	Microsoft® Windows® 7 Operating System
Windows Server 2003	Microsoft® Windows Server® 2003 Operating System

Manual Symbols and Terminology

Safety Symbols and Terms

This manual uses the following symbols to identify important information related to the correct operation of GP-Viewer EX. The symbols used here also identify important safety-related information.

Symbols and meaning are as follows.



The addition of this symbol to a Danger or Warning safety label indicates that an electrical hazard exists, which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, **will result in** death or serious injury.

WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, **can result in** death or serious injury.

CAUTION




CAUTION indicates a potentially hazardous situation which, if not avoided, **can result in** minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

General Information Symbols and Terms

This manual uses the following symbols and terms for general information.

Symbols	Description
	States precautions and restrictions that must be followed.
	Provides tips on correct product use or supplementary information.
*	Indicates an item with an explanatory footnote.
	Indicates an item's related information.
1, 2	Indicates an operation procedure. Follow the numbered steps.

Terminology

This manual uses the following terms and acronyms in its descriptions.

Symbols	Description
Screen Editor & Logic Program Software	Indicates GP-Pro EX.
PLC	Indicates Programmable Logic Controllers.
GP	Indicates GP3000 Series and GP4000 Series display units.
IPC	Indicates PS Series, PL Series and PC/AT compatible machines.

This manual describes operations with an emphasis on the GP3000 Series. If you are using a different display type, substitute the term GP with your display type, keeping in mind that functions differ between models.

Precautions

This manual describes safety symbols and terms for the correct and safe operation of GP-Viewer EX. Please read this manual and all related manuals carefully to understand the correct operation and features of GP-Viewer EX.

WARNING

UNINTENDED EQUIPMENT OPERATION

- Touch panel switches should NOT be used to make a switch that could result in human injury or equipment damage. Trouble with the GP main unit, units, and cables which keep the output ON or OFF could result in a serious accident. An output signal that could result in a serious accident must be equipped with a monitoring circuit such as a limiter. Also, the system must be designed for important actions to be conducted from a device other than the GP main unit. This will prevent an accident due to false output or malfunction.
- Touch panel switches should NOT be used for a device's Emergency Stop Switch. The Ministry of Health, Labor and Welfare requires all industrial machinery/systems must be equipped with a mechanical, manually operate emergency stop switch. Also, for other kinds of systems, similar mechanical switches must be provided to ensure safe operation of those systems.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

CAUTION

HEARING DAMAGE

- The GP-Pro EX install disk is a CD-ROM or DVD-ROM. Never play the CD-ROM/DVD-ROM on an audio CD/DVD player. Unexpected volume can cause hearing problems or speaker damage.

Failure to follow these instructions can result in injury or equipment damage.

NOTICE

LOSS OF DATA

- Do not turn off your personal computer's power switch during the execution of a program. The project files could be damaged as a result.
- Do not change the contents of this product's project files using Text Editor software. It might destroy the project files.

Failure to follow these instructions can result in equipment damage.

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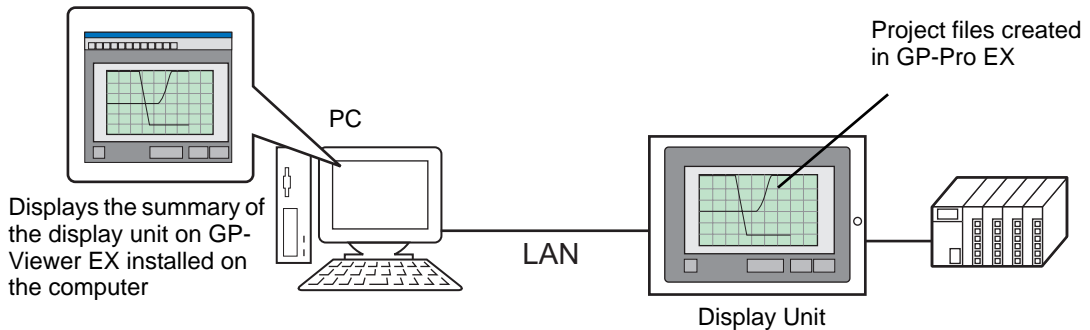
1 | Summary

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1.1 GP-Viewer EX

GP-Viewer EX is an application that displays and operates remotely located display screens. It enables you to recover and monitor activities for troubleshooting and perform daily maintenance.

To use this feature, the computer and display unit must be placed on the same network. GP-Viewer EX must be installed on the computer and the license must be set for the display unit. You can install GP-Viewer EX from your GP-Pro EX Ver2.10 or later CD/DVD-ROM, or downloaded from the Home page.



License

Key code

To use GP-Viewer EX, you must purchase a separately sold license. (Model: EX-VIEWER-LICENSE). With the license, a document with a [Key code] will be issued.

IMPORTANT

- To enter key codes, please refer to the following.
 - ☞ Maintenance/Troubleshooting: "M5.3 GP-Viewer EX and RPA license settings"
- The key code cannot be re-issued if lost. Please store it securely.

Application

GP-Viewer EX is installed from the following location.

- For installations using a CD/DVD-ROM of GP-Pro EX (Ver2.10 or later)
 - Insert the CD-ROM/DVD-ROM in your computer's CD/DVD drive, and in the setup screen click [GP-Viewer EX].
 - If the setup screen does not appear, open the CD-ROM/DVD-ROM's [GPViewerEX] folder and double-click "setup.exe".
- For downloading from the home page
 - You can also download the setup file from the home page "Otasuke Pro!" <http://www.pro-face.com/otasuke/>.


NOTE

- For installation procedures, refer to the following.
 - ☞ GP-Pro EX Reference Manual, "Installing and Uninstalling GP-Viewer EX"

1.2 Operation Environment

Target Models

Models of display units supported by GP-Viewer EX are as follows.

 GP-Pro EX Reference Manual

Supported Operating Systems

- Models supported by GP-Viewer EX are as follows.
- Windows 2000 (Service Pack 3 or later)
- Windows XP (Service Pack 2 or later)
- Windows Vista
Ultimate, Home Premium, Home Basic, Business, or Enterprise
- Windows 7
Ultimate, Professional, Home Premium, Home Basic, Starter, or Enterprise
- Windows Server 2003 (Service Pack 2 or later)

NOTE

- 64-bit operating systems are unsupported.
-

Screen resolution

1024x768 or more

Difference between GP-Viewer EX and Display Units

Although GP-Viewer EX supports most of the same features as Display Units, some features cannot be displayed or used on GP-Viewer EX. Please note the following differences when setting up project files.

Device

The data area to be synchronized through communication is different between Synchronous Mode and Asynchronous Mode on GP-Viewer EX.

By not synchronizing screen control data with the display unit, GP-Viewer EX can view different screens than the display unit.

No	Data area	Screen mode	
		Synchronous	Asynchronous
1	System control (system data, system variable)	Asynchronous	Asynchronous
2	Screen control data (#H_ChangeScreenNo, #H_CurrentScreenNo)	Synchronous	Asynchronous
3	Screen control relay device (LS008, Memory Link 0015, System Area top device)	Synchronous	Asynchronous*1
4	Global window control device (#H_GlobalWindowControl #H_GlobalWindowNo #H_GlobalWindowPosX #H_GlobalWindowPosY)	Synchronous	Asynchronous
5	Global window relay device (LS0016 - LS0019, Memory link 0016 - 0019 System area top device)	Synchronous	Asynchronous
6	Internal memory (LS000 to LSXXX, USR00000 to 29999) Excluding No3, No5	Synchronous	Synchronous
7	Device/PLC data Excluding No3, No5	Synchronous	Synchronous
8	Screen drawing buffer*2	Asynchronous	Asynchronous
9	Local window (Activate switch)*3	Asynchronous	Asynchronous

*1 When writing in the screen control relay device from GP-Viewer EX, data is only written to the GP-Viewer EX screen control device not devices on the display unit (example, LS008, Memory link 0015, System Area Start Address) because the display screen does not change. Therefore, when referring the relay device and updating the values, actions may differ from original screen actions. For example, when switching screens by incrementing (increasing the value by 1) and decrementing (decreasing the value by 1) screen numbers, screens cannot be switched properly. That is, when the GP-Viewer EX screen number is 10 and the display unit's screen number is 2, using a relay device to increment the display unit screen number changes the screen to number 3, not number 11. After that, GP-Viewer EX displays the screen numbers 1 and 3 as long as it refers the relay device to increment and decrement. To avoid this status, switch screens following the method below.

1. Switch screens in Synchronous Mode
2. Right-click on the server screen to switch with [Switch screens] (you will need to log in with Level 15)
3. Change project files to switch screens with #H_ChangeScreenNo

- *2 You cannot see the results drawn by the display when it uses trigger or D-script on GP-Viewer EX.
- *3 When starting windows using the Activate switch setting, GP-Viewer EX and the display unit will display windows asynchronously. However, when starting with bit and word, GP-Viewer EX and the display unit will show windows synchronously, even in an Asynchronous Mode, if the starting bit and the control word are allocated to data area (e.g., areas of No. 6 and 7 in table above) to be synchronized. Similarly, when GP-Viewer EX and the display unit show the same screens and the D-script and trigger is set to be synchronized even in an Asynchronous Mode, it runs synchronized.

Features that GP-Viewer EX cannot display/operate

Feature	Details
Switches	<ul style="list-style-type: none"> • AUX Output cannot be used. • Special switches relating to security, reset, offline or other unsupported features cannot be used. • If switches overlap or have multi-function features, they may operate differently from the ones displayed on the display unit.
Sampling Data Display	<ul style="list-style-type: none"> • You cannot edit data. • All of the sampled data is acquired at first, and then the information is updated at the frequency defined in [Information Update Frequency] in [Change setting] in GP-Viewer EX. • Refine Search/Sort is available, but it does not synchronize with the display unit.
Alarm feature	<ul style="list-style-type: none"> • Operations on the display unit may cause the Sub Display to run unexpectedly even though an alarm display part is not displayed on the screen. • Alarm information cannot be cleared by external operations. • Information may differ from the display unit, such as time, active alarm status, and so on. Touching [Update Screen] refreshes the contents by getting the latest alarm information. • You cannot save alarm information. • You cannot perform [Acknowledge] or [Clear] operations. • You cannot perform [Alarm Number Acquisition] operations. • If alarm analysis is used, the analysis list is not shown on the operation log. • Refine Search/Sort is available, but it does not synchronize with the display unit.
Logic Programming Global D-Script Extended Script	You can view the results processed on the display unit, but drawing results are not shown.
D-Script	<p>This feature is enabled in Synchronous Mode. However, drawing results are not shown.</p> <p>This feature also runs in Asynchronous Mode as long as the same screens are displayed.</p>

Feature	Details
Trigger Action	<ul style="list-style-type: none"> • This feature runs in Asynchronous Mode as long as the same screens are displayed. In this situation, changing screens on the display unit will not change screens in GP-Viewer EX. Do not run [Start Application] and [Exit WinGP] commands from GP-Viewer EX as they cannot be confirmed from the application. • This feature is enabled in Synchronous Mode. However, drawing results are not shown.
Screen Capture	<ul style="list-style-type: none"> • You cannot perform screen captures of the display unit as set up in the Screen Capture Settings. Instead, run it from the [Tool] menu, and select [Screen Capture].
Error	<ul style="list-style-type: none"> • Displays errors on both display unit and GP-Viewer EX. • All of the errors are acquired at first, and then the information is updated at the frequency defined in GP-Viewer EX. From [Change setting], select [Information Update Frequency]. • Errors that are restored will not disappear. Such errors disappear only on screen change.
Data Display	<ul style="list-style-type: none"> • In Numeric or Text Displays, an error occurs when the Address Type is specified as Device Type Address, and a device (PLC) is used for the Monitor Word Address.
Historical Trend Graph	<ul style="list-style-type: none"> • You cannot look up the viewer's Cursor Information Storage Address, Status Address and Search Status.
Data Block Display Graph	<ul style="list-style-type: none"> • To clear or re-display the graph in Asynchronous Mode, from the [Update (U)] menu select [Block Display Graph]. Follow the same procedure if data does not update in Synchronous Mode.
XY Historical Scatter Graph	<ul style="list-style-type: none"> • After changing screens, all the data in the buffer is displayed on the graph, including any previously sampled data.
XY Block Display Scatter Graph Normalizing the XY Historical Scatter Graph	<ul style="list-style-type: none"> • On the display unit, many quick changes to the value in the control word using D-Scripts or a logic program on a connected PLC may cause server-side operations not to be detected. • In Asynchronous Mode, the graph's display completion bit does not turn ON when the graph is updated. As a result, on the display unit you cannot reset the control word to zero. Instead, you can set up a switch that resets the control word to zero.
Bulletin Message	<ul style="list-style-type: none"> • When you continuously run display or hide operations, displayed contents may not be synchronized with the display unit. • In order to update messages, clear and then display them again. • The display completion bit is not available.
Recipe feature	<ul style="list-style-type: none"> • The Recipe feature does not work. Special Data Displays (Data Transmission, Filing and Show CSV) are not viewable.
File Manager	<ul style="list-style-type: none"> • You cannot define the status address or select movies. • Files in the GP-Viewer EX computer are displayed.

Feature	Details
LS Area Memory Link	<ul style="list-style-type: none"> From the viewer, you cannot write to the Special Relay Area (LS2071 to LS2074, LS2078 to LS2095). Write operations to the Special Relay Area and Extended System Area are not supported.
Clearing the Security Level	<ul style="list-style-type: none"> To change or clear the level, go to Feature menu's [Change Security Lever] or [Change User ID]. You can set the security level to zero if you leave the user ID and password fields blank and touch OK. (This is not possible when security is defined on the viewer reading data.)
Standby Mode	<ul style="list-style-type: none"> The screen does not change to standby mode. The display unit will enter standby mode, but the screen will not change so long as the viewer is connected.
Japanese FEP (Help)	<ul style="list-style-type: none"> Dictionary set up on the display unit is not available.
Cursor Information Storage Address Status Address Search Status Address	<ul style="list-style-type: none"> Unable to get information about these parts and features.
Operation Log	<ul style="list-style-type: none"> Operation logs are not recorded.
Web Server and FTP	<ul style="list-style-type: none"> Web Server and FTP are not available.
Monitor Features	<ul style="list-style-type: none"> Logic Monitor, Ladder Monitor, Device Monitor, VM/DVI and RPA do not work.
Remote PC Access	<ul style="list-style-type: none"> Remote PC Access is unavailable.
Printing	<ul style="list-style-type: none"> Printing feature is not available.
Transfer Project File	<ul style="list-style-type: none"> Project files cannot be transferred.
Monitor Features	<ul style="list-style-type: none"> Device Monitor, Address Monitor and Ladder Monitor cannot be used.
Backlight Color	<ul style="list-style-type: none"> Backlight Color is not available.
Offline mode	<ul style="list-style-type: none"> Cannot change to the offline mode.
Bar Code Reader	<ul style="list-style-type: none"> A bar code reader cannot be connected.
Modem	<ul style="list-style-type: none"> Cannot connect a modem.
Hand-Held GP Function Keys	<ul style="list-style-type: none"> Hand-held GP's function keys will not operate.
Movies	<ul style="list-style-type: none"> You cannot record or play movies. Parts do not display.
Image Sensor Display	<ul style="list-style-type: none"> Does not display a picture.
Others	<ul style="list-style-type: none"> Does not support Pro-Server EX's node search. The time displayed on GP-Viewer EX is based on the time settings of your computer.

Model Environment

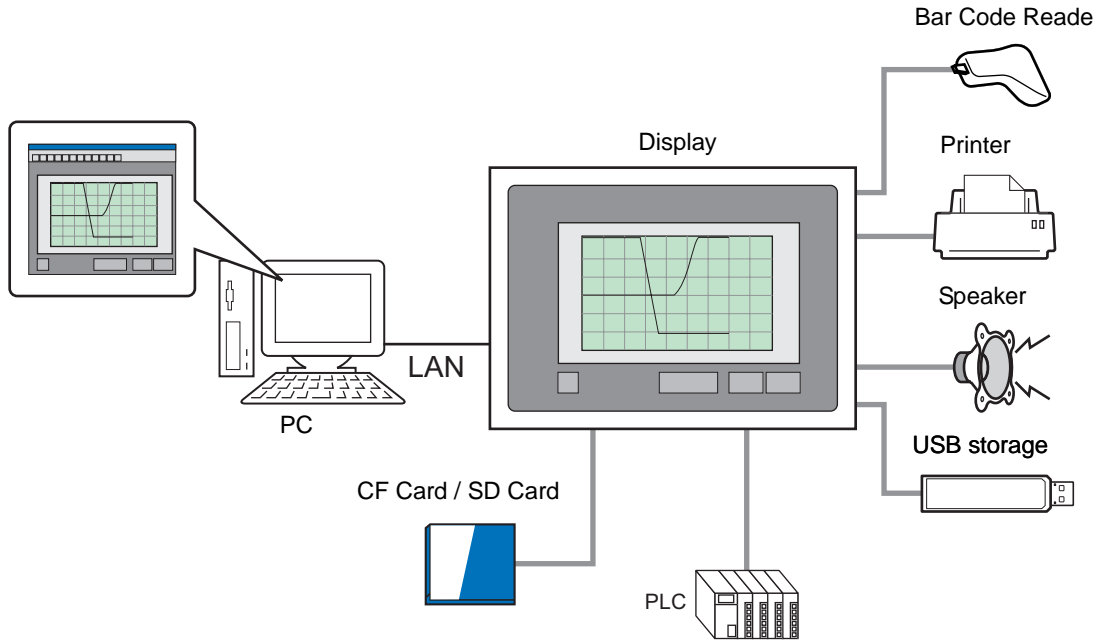
In this section, the following system configuration is used as a model to explain the operations and features. In other system configurations, the display unit and part names may differ. If so, replace the names with those with similar features used in your system configuration.

Standard Configuration

Learning material/ software	Model system specifications	Remarks
Operating System	Windows 2000	-
Device/PLC	Mitsubishi Electric's Q/QnA Serial Communication Series	-
Select Shape	Internet Explorer 6.0	-

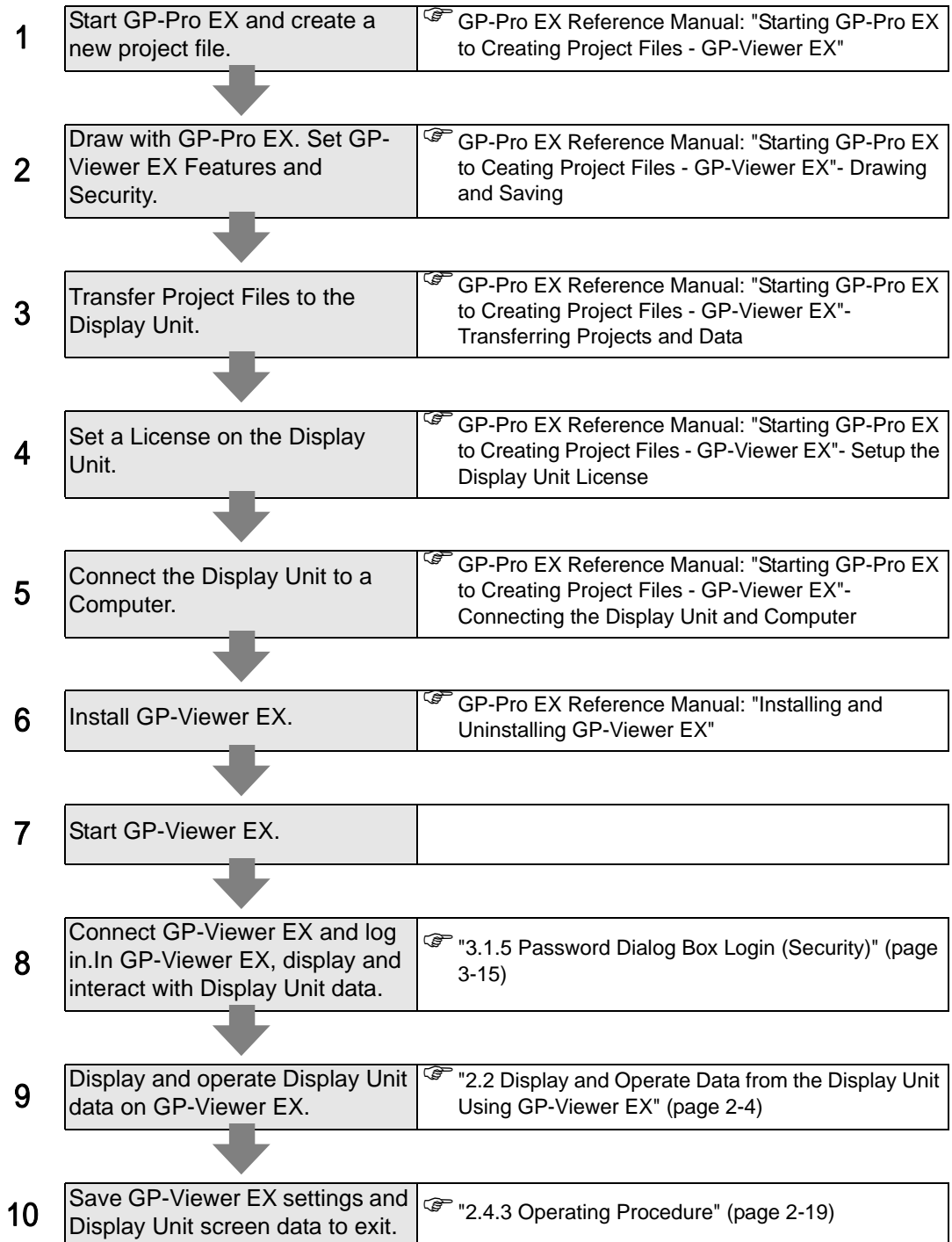
1.3 Full Configuration

Connection or option environment when using GP-Viewer EX is as follows.



1.4 Development Process

The following describes the procedural flow of starting GP-Pro EX, creating a new screen, displaying screen data from a display unit on a computer, installing GP-Viewer EX for operation and operating GP-Viewer EX.



2



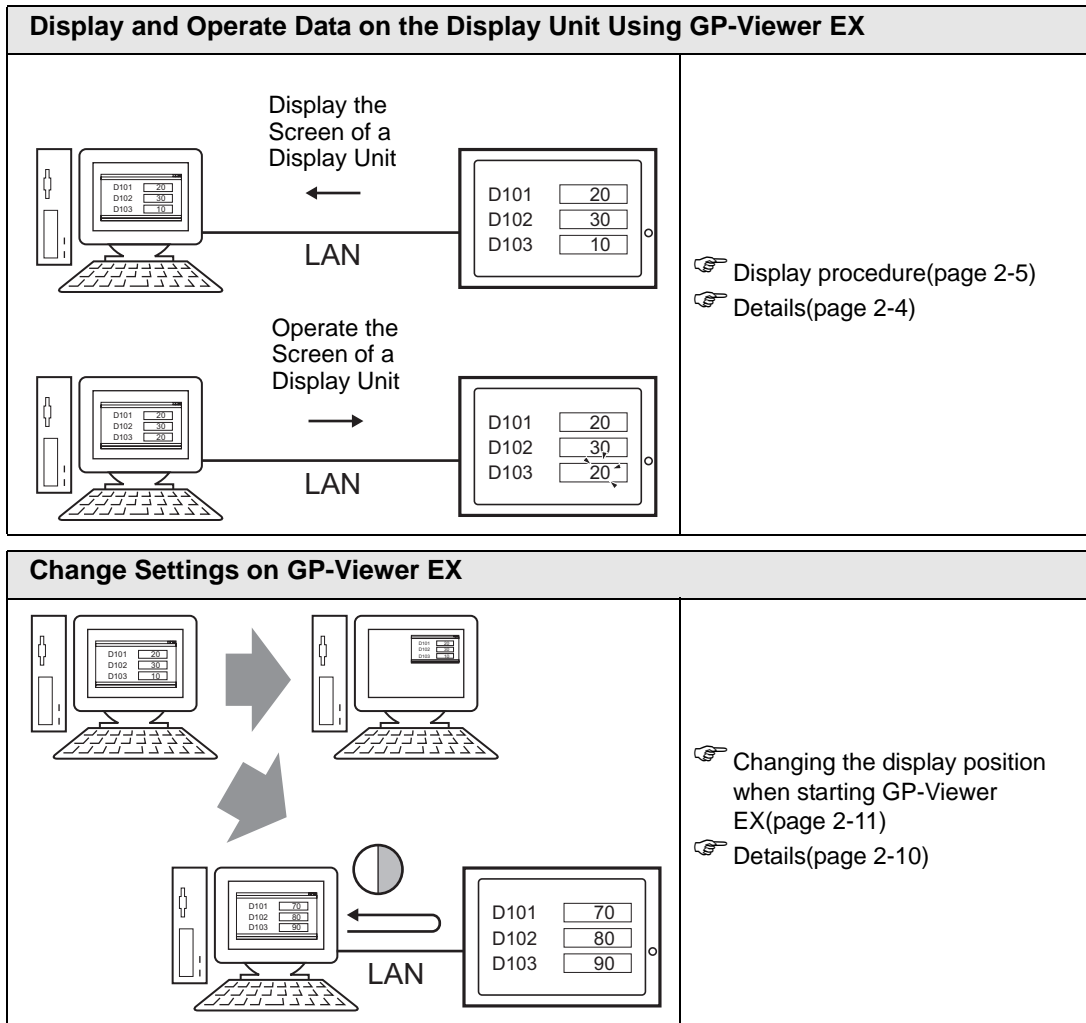
Learning GP-Viewer EX

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2.1 Settings Menu

Only certain models can use the features introduced in this chapter. Check whether your model supports the features before changing any settings.

☞ GP-Pro EX Reference Manual, "Supported Features"



Restricting Users Who Can Display/Operate GP-Viewer (Security)

Enter a password

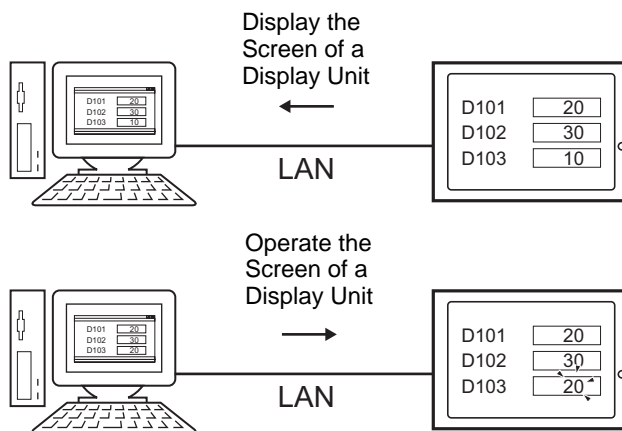
The diagram illustrates the security restriction process. On the left, a computer monitor displays a simple interface with a horizontal bar. A large grey arrow points to the right, where the same computer monitor is shown with a more complex interface. This interface includes a list of three items: D101, D102, and D103. Each item has a corresponding input field. A callout box provides a magnified view of these input fields, showing the following values: D101 is set to 20, D102 is set to 30, and D103 is set to 20. Each input field has a small arrow on its right side, indicating it is a dropdown or selection menu.

- Display procedure(page 2-15)
- Details(page 2-14)

2.2 Display and Operate Data from the Display Unit Using GP-Viewer EX

2.2.1 Details

You can connect the display unit as a server to a computer by LAN, show and operate data from the display unit on a computer using GP-Viewer EX, and check the contents of the display.

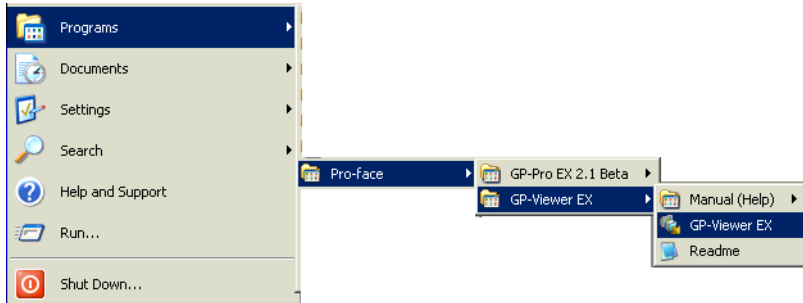


NOTE

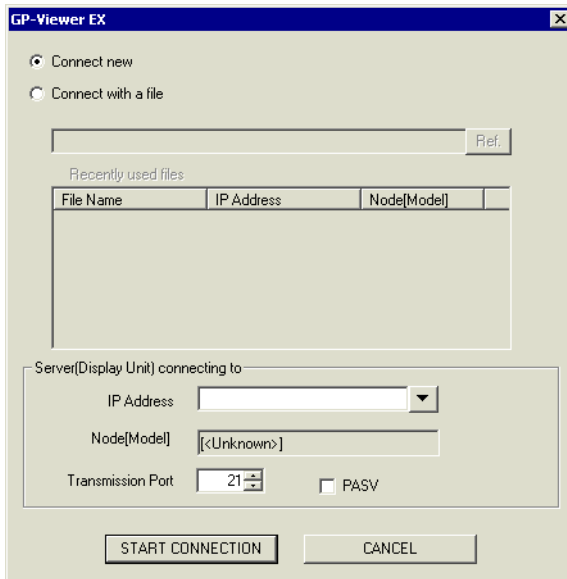
- Please refer to the Settings Guide for details.
 ☞ "3.1.1 Parts Name of Main Screen" (page 3-2)
- To display and operate data of the display unit on GP-Viewer EX, you need to set project files on GP-Pro EX. For a detailed procedure, refer to the following.
 ☞ GP-Pro EX Reference Manual: "Display and Operate Data on the Display Unit Using GP-Viewer EX "

2.2.2 Display Procedure

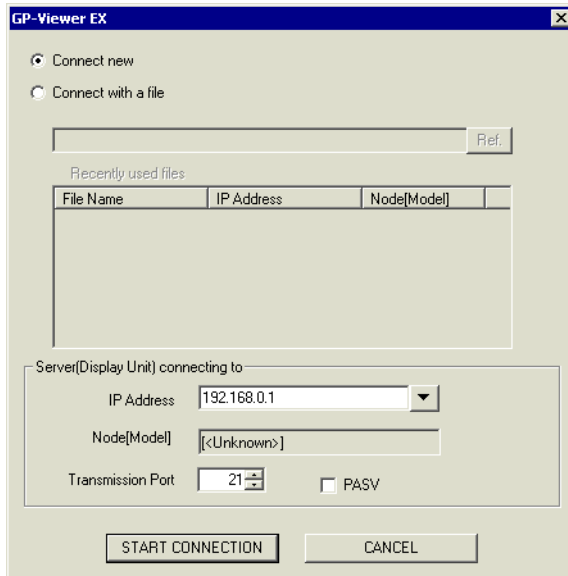
- 1 On the taskbar, choose [Start], point to [Programs], select [Pro-face], and then select [GP-Viewer EX] to start and connect GP-Viewer EX.




- 2 GP-Viewer EX starts and the server connection screen appears.

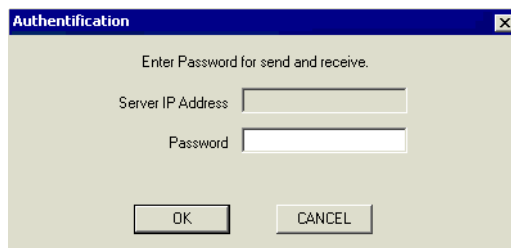


- 3 [Server (Display Unit) connecting to] area's [IP Address] field, set the IP address of the display unit to connect. (Example: 192.168.0.1)

**NOTE**

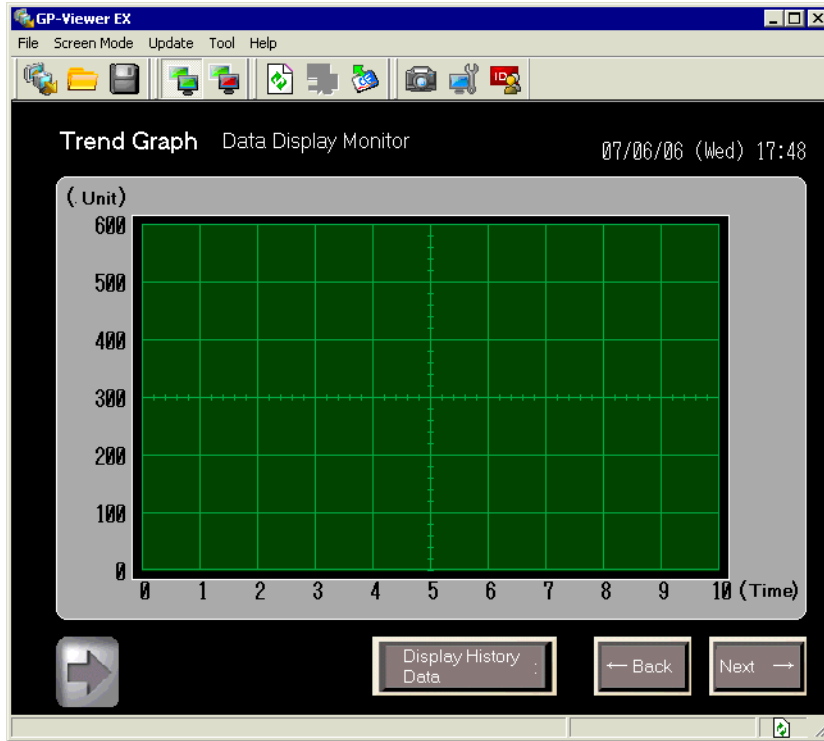
- Before you set the IP address, contact your network administrator.
-  Click to search for display units you can connect.
- The display unit can be set with a domain name. When using the IPC series, you can also enter a computer name. Names can be up to 500 single-byte characters long.

- 4 [Start connection (V)] shows the following screen when the display unit is set up with a password for sending or receiving project files. If a password for sending/receiving has not been set, proceed to the next step.

**NOTE**

- If you enter an invalid password, the prompt screen appears. If you enter an invalid password more than three times, the screen returns to the server connection screen.

5 The screen of the display unit appears on GP-Viewer EX.

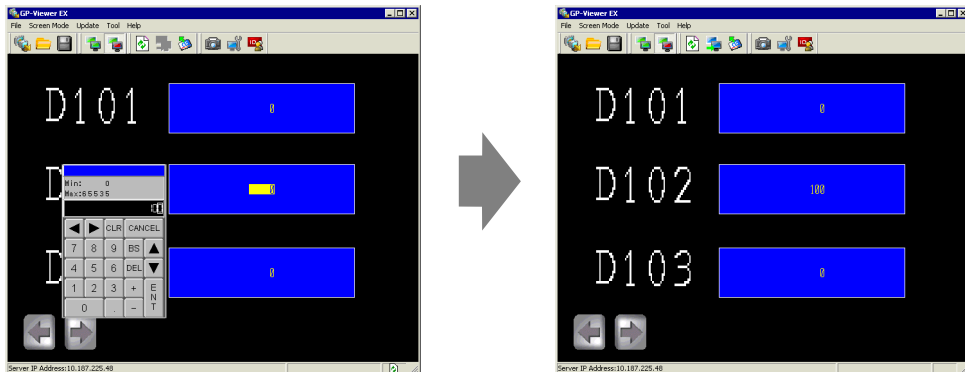


NOTE

- If a security level is set on the display screen, you must enter the password for the security level.
 - ☞ "2.4 Restricting users who can display/operate GP-Viewer (Security)" (page 2-14)
- For details regarding security level, synchronization, and asynchronization when starting GP-Viewer EX, refer to the following.
 - ☞ GP-Pro EX Reference Manual, "On GP-Viewer EX Startup".
- When multiple GP-Viewers are connected, it is possible to disable touch operations in GP-Viewer when starting operations from another viewer. For more details, refer to the following.
 - ☞ GP-Pro EX Reference Manual, "Preventing Operations from Other Display Units (Ethernet Multilink)".

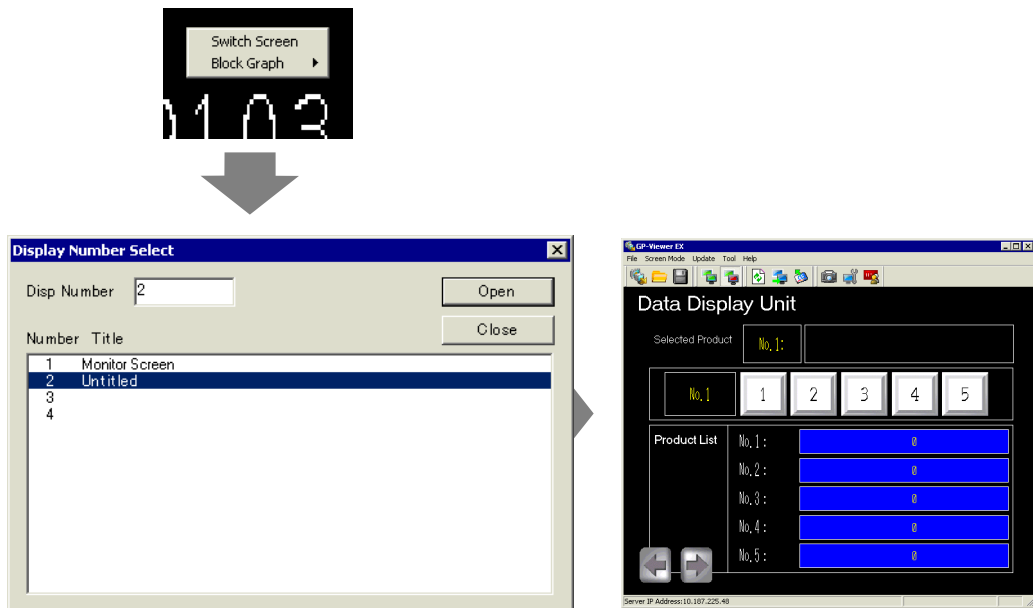
2.2.3 Operating Procedure

- 1 Run operations on the same screen as the display unit and change the value of the device address. The change result also appears on the display unit.



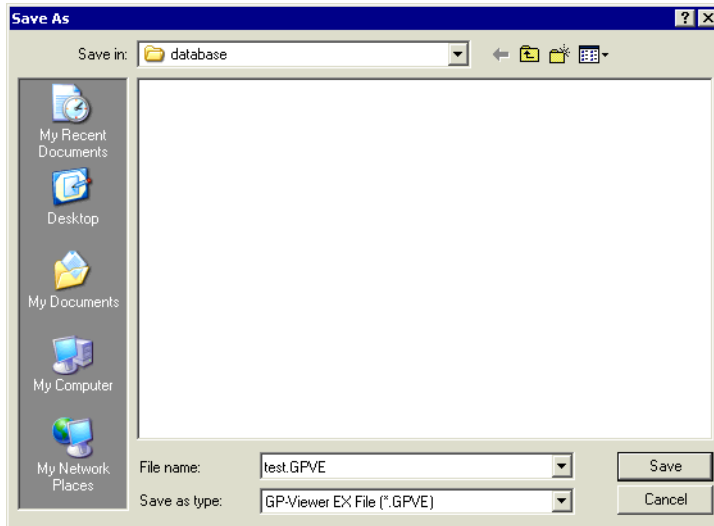
- NOTE**
- If the display unit changes to offline mode while you view the display unit screen, GP-Viewer EX will be disconnected. The connection must be re-established after the display unit returns online.

- 2 You can switch display screens after you right-click [Server screen] on GP-Viewer EX.



- NOTE**
- To change display screens, you must log in with a security level of 15 or higher.
 - When the display unit is set up to prevent screen changes, you cannot change screens from GP-Viewer EX.

- 3 [File (F)] menu's [Save as (S)] command displays the [Save As] dialog box. [Location to save (I)] and [File name (N)] should be defined, and then click [Save (S)]. (Example: test.GPVE).

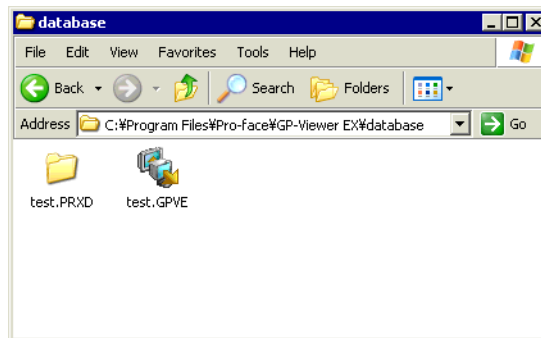


- 4 [File (F)] menu's [Exit (X)] command exits GP-Viewer EX.

NOTE

- Enter up to 200 single-byte characters for the location of the setup files.
- When there are changes in the setup file, a save prompt appears.

- 5 The "test.GPVE" file and "test.PRXD" folder are saved to the destination.



- 6 To start using the same condition again, double-click the setup file (***.GPVE) to start the server connection.

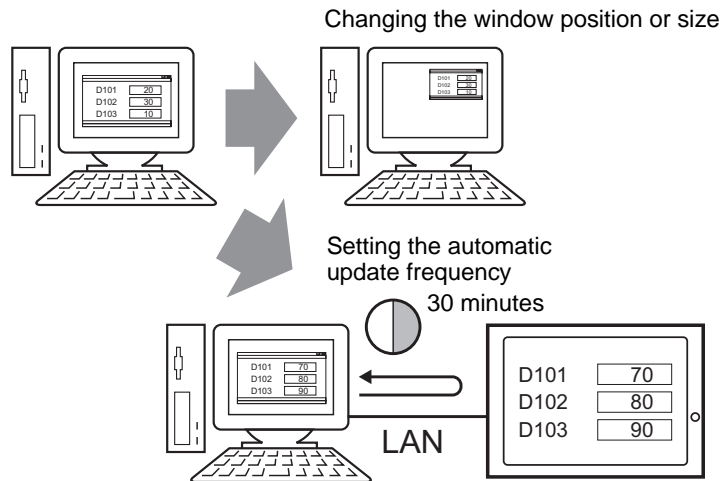
NOTE

- As another option, from the [File menu (F)] select [Open setup file (O)] to display the server connection screen dialog box. In [Connect using existing file], select the saved file.
- If the location for saving the setup file exceeds 200 single-byte characters, an error message appears and the setup file cannot be opened. Move the setup file to a path that contains 200 characters or less.
- When you [Save] a new file or change a save location for project file information using [Save as], a message appears and the screen display is reset and saved. The display of the Data Block Display Graph is cleared. The sub-display of alarm history may change how it displays.

2.3 Changing settings on GP-Viewer EX

2.3.1 Details

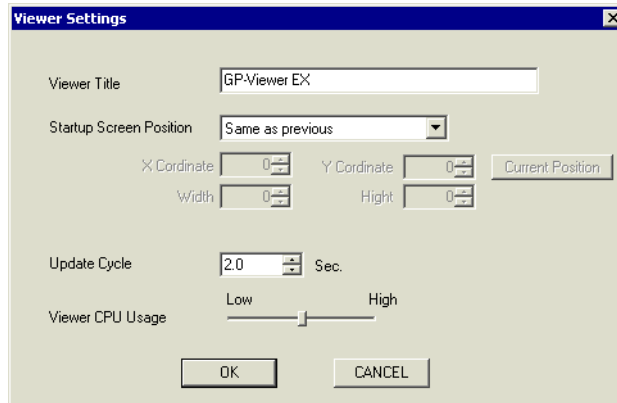
Set the frequency to specify the display position when starting GP-Viewer EX; change the CPU capacity of the computer occupied by GP-Viewer EX, or to regularly track changes in errors and sampling data from the display unit using GP-Viewer EX.



2.3.2 Changing the display position when starting GP-Viewer EX

Set the display position of GP-Viewer EX.

- 1 [Feature (T)] menu's [Change settings (S)] command displays the [Viewer Settings] dialog box.



- 2 [Startup Screen Position] list has includes the [Specified location] option. Use this option to specify the size in the [X Coordinate], [Y Coordinate], [Width], and [Height] fields.

NOTE

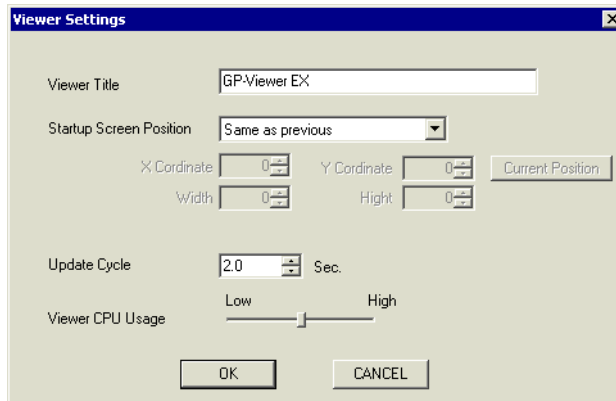
- [Current Position] button enables you to see the current window display position.
-

- 3 The window displays with the set size after restarting GP-Viewer EX.

2.3.3 Adjusting CPU utilization of GP-Viewer EX

The following procedure adjusts the CPU utilization of the computer occupied by GP-Viewer EX. When you want to start and use GP-Viewer EX and other software, or change information from the display unit in a short time, you can adjust the CPU utilization.

- 1 [Feature (T)] menu's [Change settings (S)] command displays the [Viewer Settings] dialog box.



- 2 [Viewer CPU Usage] controls the CPU usage level.

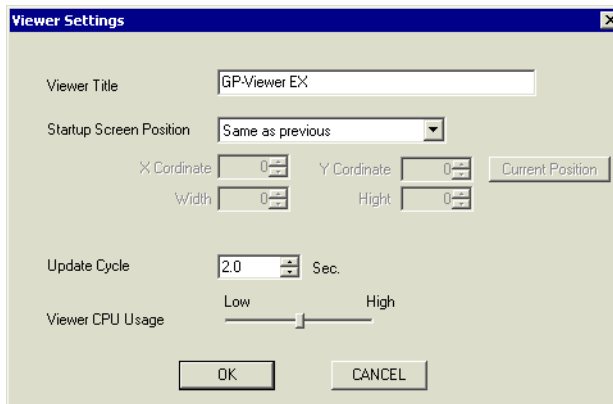
NOTE

- Note: Lowering CPU utilization reduces the load on the computer; however, this may not be made apparent due to display screen updates.

2.3.4 Changing the information update frequency of GP-Viewer EX

The following procedure specifies how frequently information is collected to track changes, such as new errors and sampling data, from the GP-Viewer EX to the display unit. Lowering the update frequency can improve the speed of operations when action on the display unit slows down.

- 1 [Feature (T)] menu's [Change settings (S)] command displays the [Viewer Settings] dialog box.

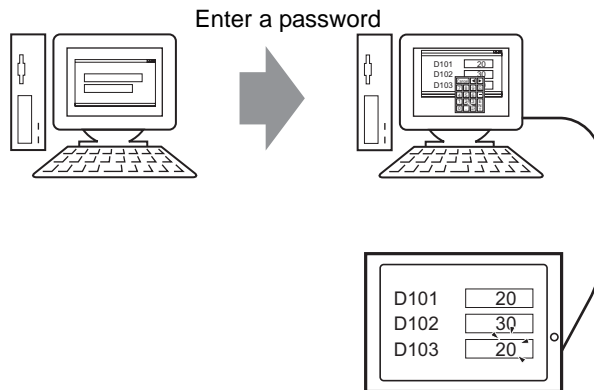


- 2 [Update Cycle] can be adjusted in increments of 0.1 seconds. (Example: 10 seconds).

2.4 Restricting users who can display/operate GP-Viewer (Security)

2.4.1 Details

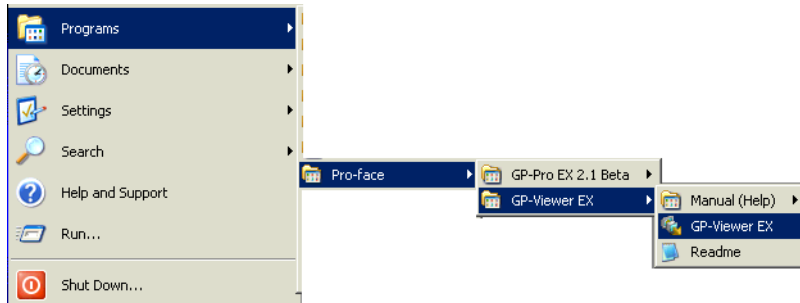
The following procedure adjusts the security levels on GP-Viewer EX to determine which users can display and operate data on the display unit. Here, the security level switches between level 15, which is for maintenance staff and has a password ("5555"), and level 1, which is for status monitoring staff and also has a password ("1111"). There are two methods for setting security: level mode setup and user ID mode setup.

**NOTE**

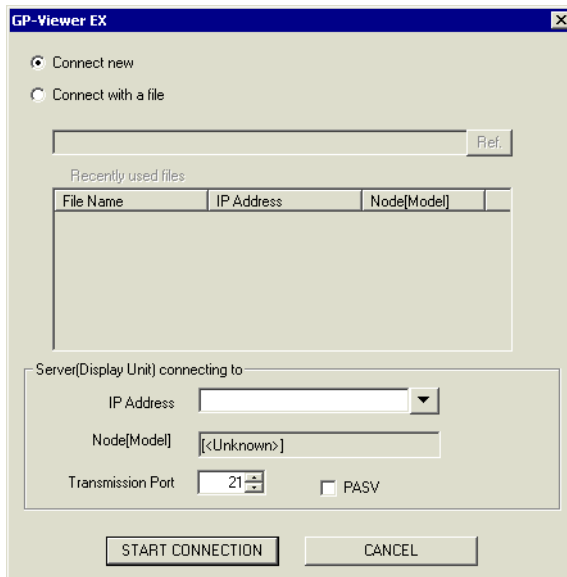
- Please refer to the Settings Guide for details.
 - ☞ "3.1 GP-Viewer EX Settings Guide" (page 3-2)
- To limit which users can display and operate on GP-Viewer EX, you must transfer project files that have had their security set in GP-Pro EX to the display unit. For a detailed procedure, refer to the following.
 - ☞ GP-Pro EX Reference Manual, "Restricting Access to GP-Viewer EX (Security)"

2.4.2 Display procedure

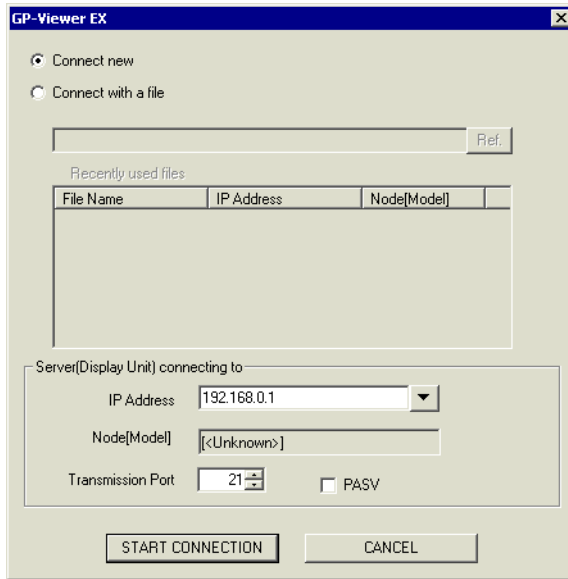
- 1 On the taskbar, click [Start], point to [Programs], then [Pro-face] and then [GP-Viewer EX] to start GP-Viewer EX.




- 2 GP-Viewer EX starts and the server connection screen appears.

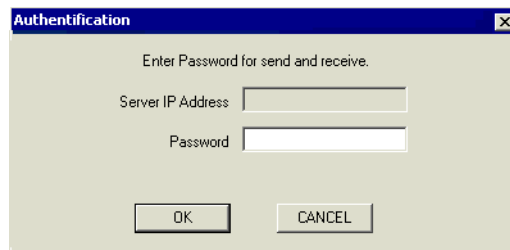


- 3 [Server (Display Unit) connecting to] area's [IP Address] field, set the IP address of the display unit to connect.
(Example: 192.168.0.1)

**NOTE**

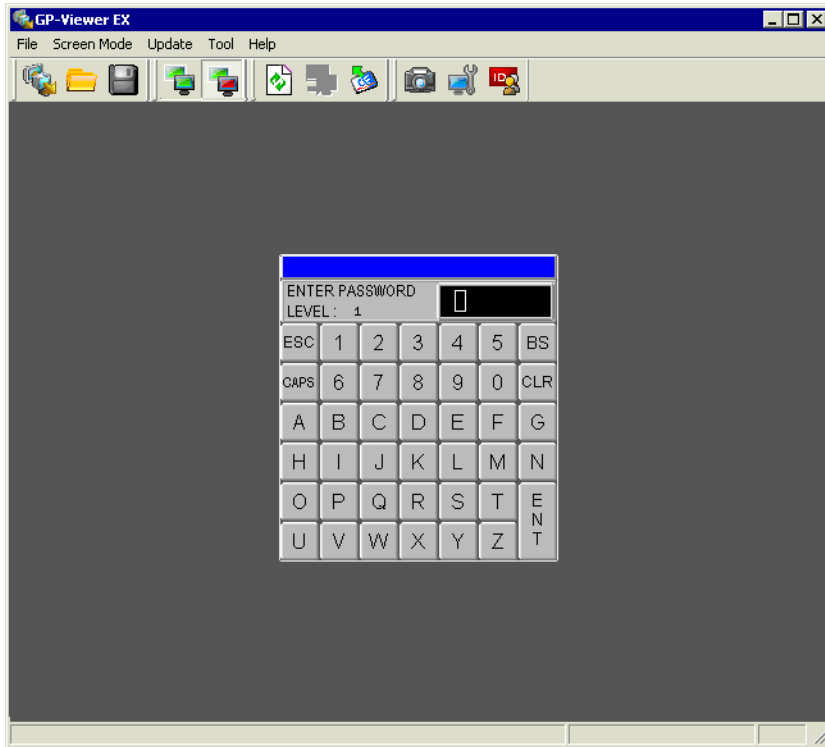
- Before you set the IP address, contact your network administrator.
-  Click to search for display units you can connect.
- The display unit can be set with a domain name. When using the IPC series, you can also enter a computer name. Names can be up to 500 single-byte characters long.

- 4 If a password for sending/receiving project files on the display unit has been set, select [Start connection (S)] to view the following screen. If a password for sending/receiving has not been set, proceed to the next step.

**NOTE**

- If you enter an invalid password, the prompt screen appears. If you enter an invalid password more than three times, the screen returns to the server connection screen.

- 5 The following input dialog box appears showing the security level of the screen. Enter a password up to 8 single-byte characters long. (For example, when security level 1 is set to [Read GP-Viewer data], enter the default password "1111".)

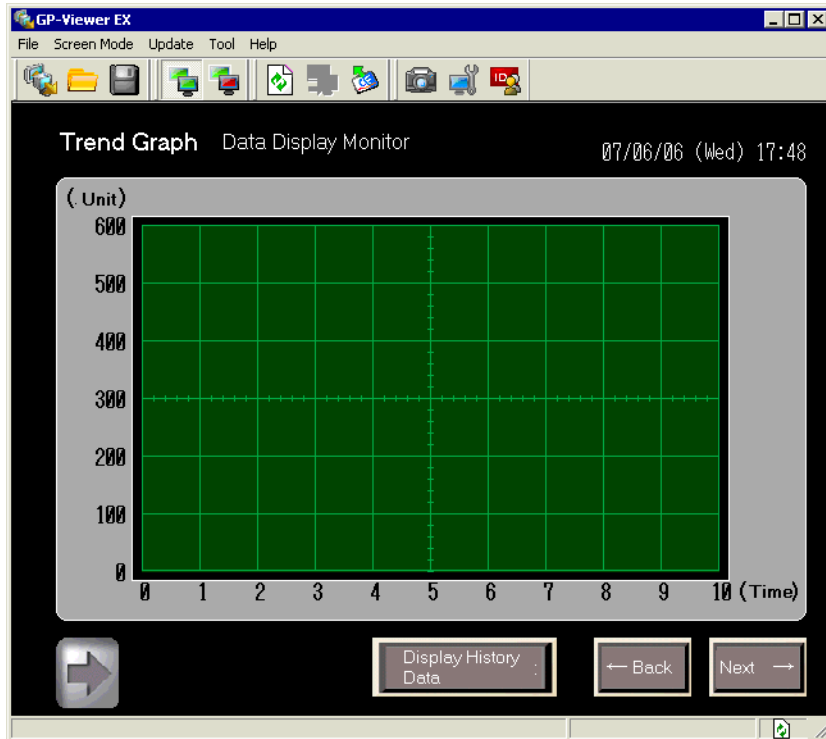
**NOTE**

- If a user ID is set rather than a security level, enter the user ID.
For setup procedures, please refer to the following:
 - ☞ GP-Pro EX Reference Manual, "Procedure - Restricting Access to GP-Viewer EX (Security) User ID Mode"
- For details regarding security level, synchronization, and asynchronization when starting GP-Viewer EX, refer to the following.
 - ☞ GP-Pro EX Reference Manual, "Viewing and Operating Display Unit Data and Video Images from GP-Viewer EX, Web Server, and Camera-Viewer EX".

6 This displays the screen of the display unit.

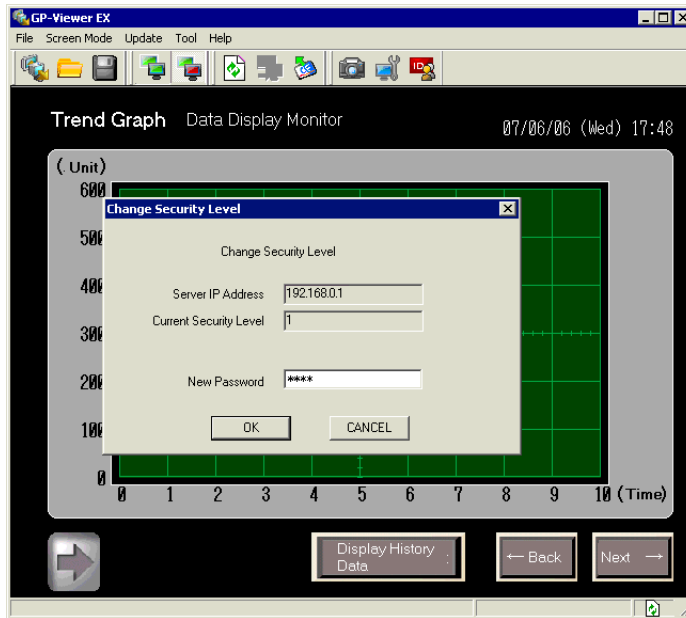
NOTE

- If the display unit changes to offline mode while you view the display unit screen, GP-Viewer EX will be disconnected. The connection must be re-established after the display unit returns online.



2.4.3 Operating Procedure

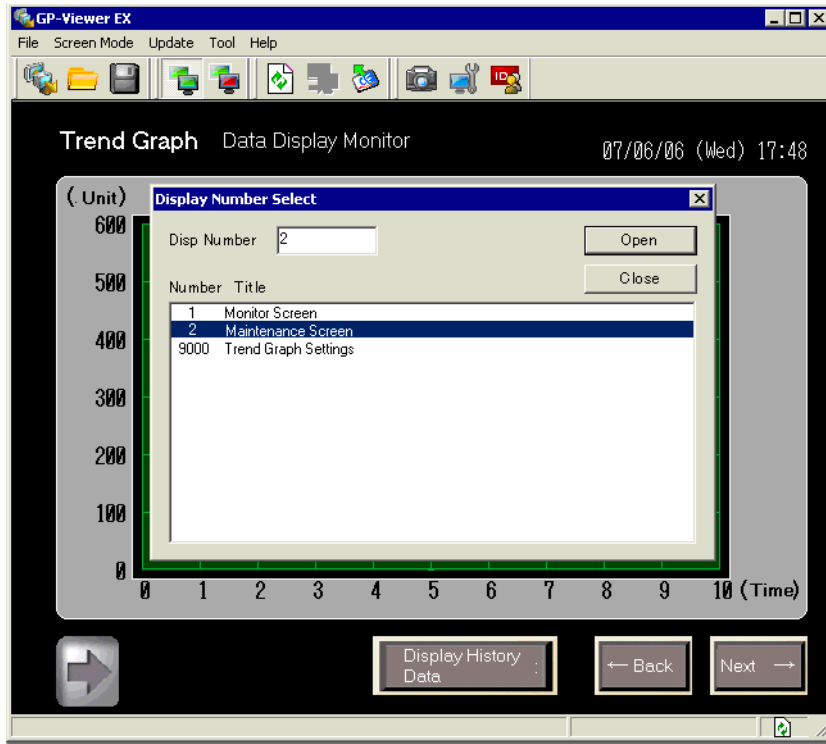
- 1 [Feature (T)] menu's [Change security level (L)] command displays the following dialog box. In the [Change Security Level] dialog box, enter the password for security level maintenance. (Example, Security level for maintenance: 15, Password: 5555)



NOTE

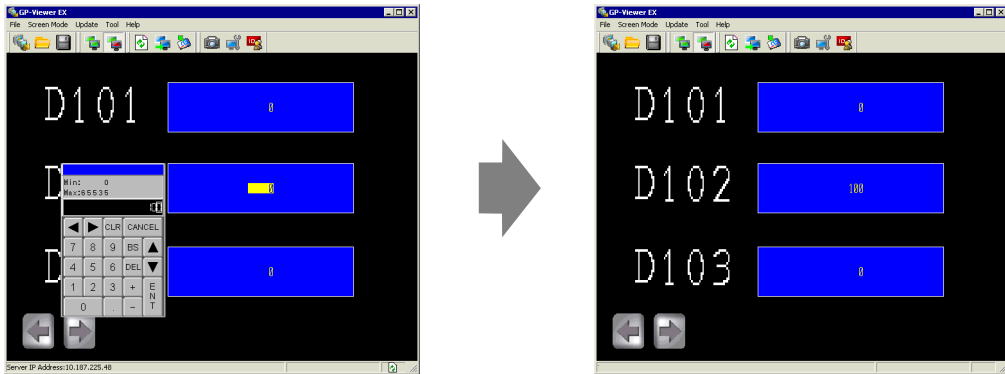
- For details regarding security level, synchronization, and asynchronization when switching screens, please refer to the following.
☞ GP-Pro EX Reference Manual, "When Changing Screens".

- 2 [Server screen] area, right-click and select [Switch screens] to display the [Display Number Select] dialog box. Select the screen to display then click [Open]. Example: [Maintenance screen]

**NOTE**

- To change display screens, you must log in with a security level of 15 or higher.
- You can change security levels by using the [Feature (T)] menu's [Change Security Level (L)] command.

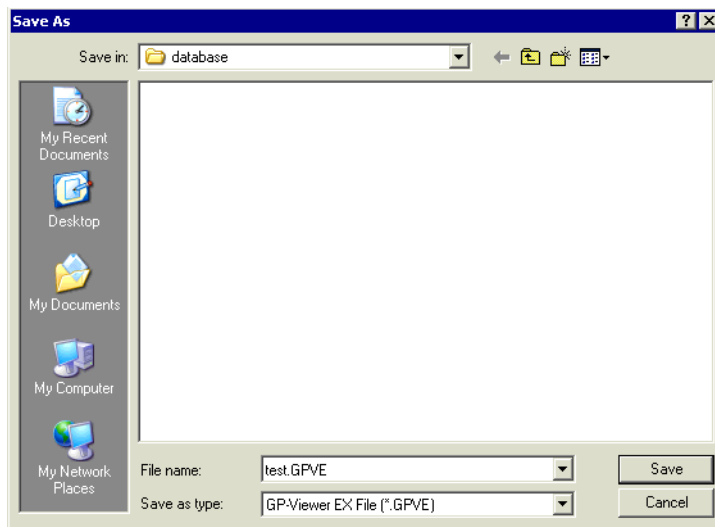
- 3 This operates the screen that displays on the switch destination and changes the value of the device address. The change result also appears on the display unit.



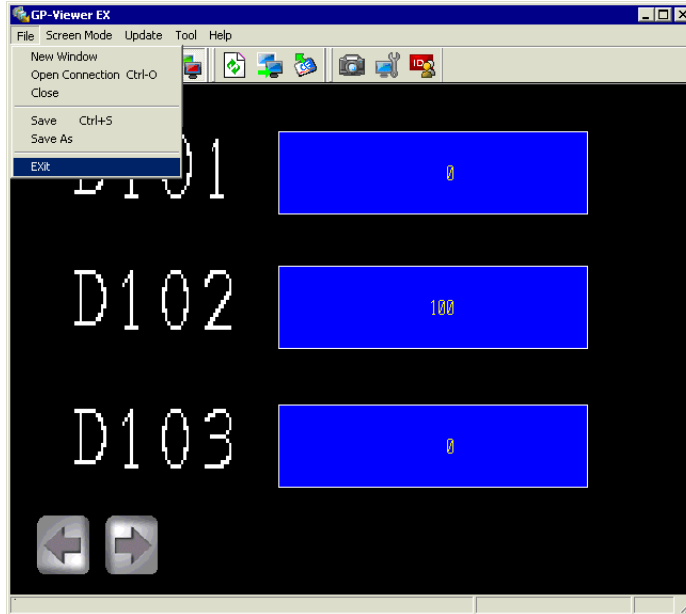
NOTE

- If the display unit changes to offline mode while you view the display unit screen, GP-Viewer EX will be disconnected. The connection must be re-established after the display unit returns online.
- For details regarding security level, synchronization, and asynchronization when operating the screen of GP-Viewer EX, please refer to the following.
☞ GP-Pro EX Reference Manual, 37.6.4 "When Running Screen Operations".

- 4 [File (F)] menu's [Save as (S)] command displays the [Save As] dialog box. Specify the [Save in] folder and [File Name] then click [Save].
(Example: test.GPVE)



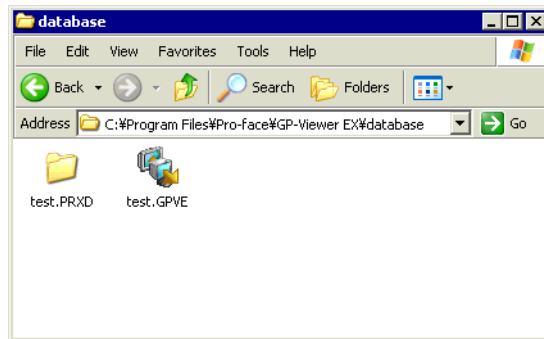
5 [File (F)] menu's [Exit (X)] command exits GP-Viewer EX.



NOTE

- When there are changes in the setup file, a save prompt appears.

6 In the destination, a "test.GPVE" file and a "test.PRXD" folder are saved.



7 To start using the same condition again, double-click the setup file (***.GPVE) to start the server connection.

NOTE

- As another option, from the [File menu (F)], select [Open setup file (O)] to display the server connection screen dialog box. From [Connect using existing file], select the saved file.
- For details regarding screen mode, synchronization, and asynchronization when starting GP-Viewer EX, please refer to the following:
☞ GP-Pro EX Reference Manual, "On GP-Viewer EX Startup".

3

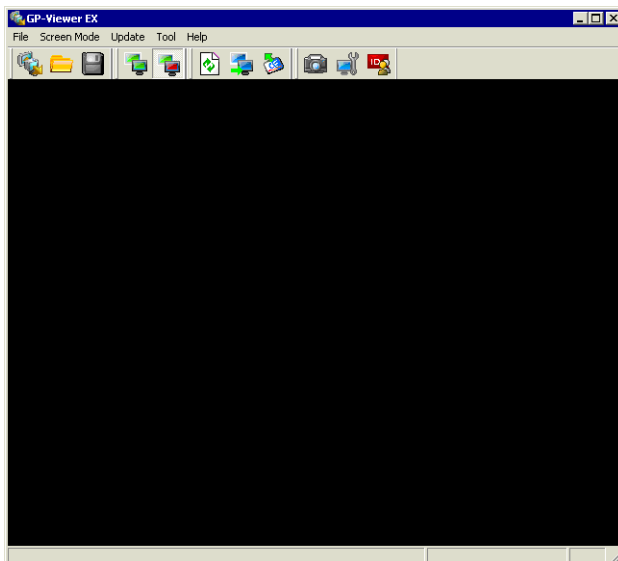


Settings Guide

3.1	GP-Viewer EX Settings Guide	3-2
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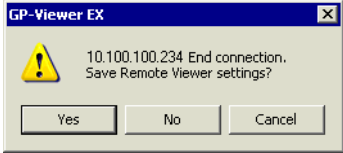
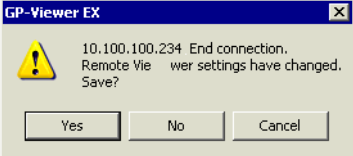
3.1 GP-Viewer EX Settings Guide

3.1.1 Parts Name of Main Screen

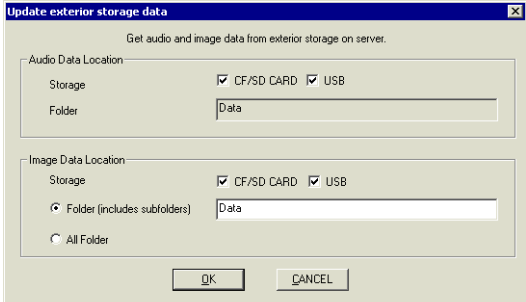


Setting		Description
Title Bar		Displays the Window Title of GP-Viewer EX.[From the [Tool (T)] menu, click [Change settings] and enter a title up to 63 characters in [Title of GP-Viewer EX] of [Window Settings].
Tool Bar		Commands such as Screen mode switch, Update, and Feature are represented by icons. Click the icons to perform each operation.
[File (F)] menu	New Connection (N) (Start new)	A [Server connection screen] displays when GP-Viewer EX is first started. If already started, a new window appears. NOTE • You can open a maximum of three new windows.
	Open setup file (O) (Connect to another server)	[Use existing file] option in the server connection screen is the same state as when this command is run and opens a dialog box. If you are already connected to a display unit, this command does the same thing as the [Close (C)] command.

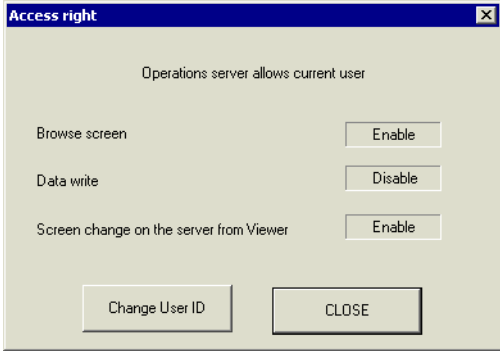
Continued

Setting		Description
Tool Bar	[File (F)]	<p>If there are any changes in the settings of GP-Viewer EX, a save prompt message appears. You can close GP-Viewer EX after you save the settings.</p> <p>New file</p>  <p>Existing file</p> 
		<p>Close (C)</p>
		<p>Save (S)</p>
		<p>Save As (A)</p> <p>NOTE</p> <ul style="list-style-type: none"> • Although the password for sending/receiving project is saved in the setup file, the user name and password entered in the security settings is not saved. • The screen mode is also saved in the setup file.
<p>Exit (X)</p>	<p>When the setup file is opened, runs the [Close (C)] operation to close the setup file, and then closes GP-Viewer EX.</p>	
Screen Mode (M)	<p>Synchronous Mode (S)</p>	<p>Switches from screen asynchronous mode to screen synchronous mode.</p>
	<p>Asynchronous Mode (A)</p>	<p>GP-Viewer EX can display a different screen from the display unit without being affected by screen switch.</p> <p>NOTE</p> <ul style="list-style-type: none"> • For details on the screen synchronous and asynchronous mode, please refer to the following: <p>☞ GP-Pro EX Reference Manual: "Using Synchronous and Asynchronous modes with GP-Viewer EX"</p>

Continued

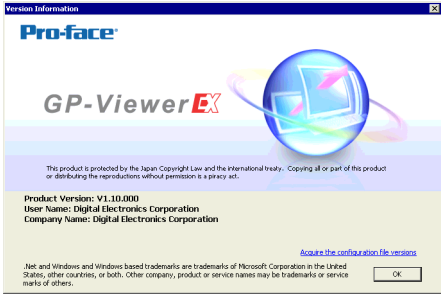
Setting		Description		
Tool Bar	[Update (U)]	Screen Update (U)	Obtains alarm information from the display and then uses that information to initialize the alarm that displays on the GP-Viewer EX screen. Also obtains sampling data and errors shown on the display unit and updates the Block Display Graph.	
		Switch to the Server display screen (S)	If the information update frequency takes a long time with asynchronization screen, the screen of the GP-Viewer EX switches to the screen of the display unit.	
		Update exterior storage data (D)	 <p>Obtains image files and sound data that's different from the information which exists in the external memory of the display unit.</p>	
		Audio data Location	Storage	Select the target storage from [CF/SD CARD] or [USB] where the sound data to be updated will be saved.
			Folder	Displays the path of folders where the sound data to be updated will be saved.
		Image Data Location	Storage	Select the target storage from [CF/SD CARD] or [USB], where the image data will be saved.
			Folder (includes subfolders)	Enter a folder path up to 80 single-byte characters long where the image data will be saved.
			All Folders	Update all data in the target storage where the image data will be saved.
		Block Display Graph (B)	Display	This is used when the display change notice is not detected on GP-Viewer EX.
			Clear	This is used when the clear change notice is not detected on GP-Viewer EX.
Clear and Display	This is used when the clear and re-display notices are not detected on GP-Viewer EX.			

Continued

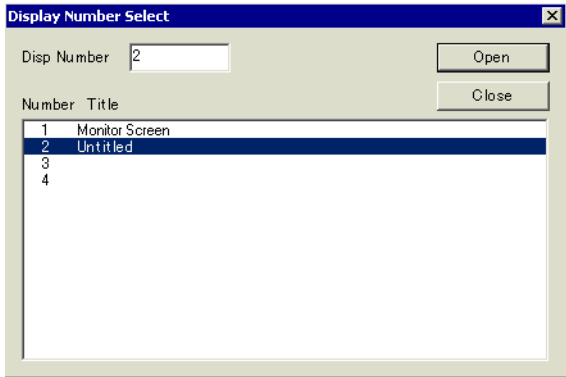
Setting		Description
Tool Bar	Feature (T)	
	Screen Capture (C)	When you click, it will capture the screen that displays on GP-Viewer EX. The browse application for JPEGs opens and the captured image is displayed.[File (F)] menu's [Save as (A)] command enables you to save the file in JPEG format.
	Access right	
	Browse screen	Indicates whether the screen shown on the display unit is permitted. NOTE <ul style="list-style-type: none"> If security is not set up, the [Change User ID] button is displayed, but you cannot make any changes.
	Data write	Indicates whether writing of the display unit's device value from GP-Viewer EX is permitted with the current log-in security level.
	Screen change on the server from Viewer	Indicates whether changing screens on the display unit from GP-Viewer EX is allowed with the current log-in security level. NOTE <ul style="list-style-type: none"> To be able to use the change screen operation, in GP-Pro EX open the [System Settings] window. Click [Display Unit] to display its page, click the [Remote Viewer] tab and select the [Enable Screen Changes from Client] check box. You need to also log in with security level 15. When [Data Write] is [Disabled], this setting will also be [Disabled]. Even when [Enable Screen Changes from Client] is set up in GP-Pro EX, in the [Display Unit] page's [Remote Viewer] tab, if [Write GP-Viewer Data] is disabled in security settings, [Change Screen on Server from Viewer] will be [Disabled].
	Change User ID	Changes to a different user or security level.

Setting		Description
	Close	[Closes the [Access Rights] dialog box.
	Change settings (S)	<p>[Change settings] dialog box appears where you can set up the window position, automatic update frequency information, and CPU utilization.</p> <p>NOTE</p> <ul style="list-style-type: none"> For details on each setting, please refer to the following. <ul style="list-style-type: none"> "2.3 Changing settings on GP-Viewer EX" (page 2-10)

Continued

Tool Bar	Feature (T)	Change User ID (U)/ Change Security Level (U)	<p>Changes the currently logged in security level. If the User ID was set in the security setup, the [Change User ID] dialog box appears. If the security level was set, the [Change Security Level] dialog box appears.</p> <p>NOTE</p> <ul style="list-style-type: none"> For details on each setting, please refer to the following. <ul style="list-style-type: none"> "3.1.5 Password Dialog Box Change User ID" (page 3-15) "3.1.5 Password Dialog Box Change Security Level" (page 3-16)
		Operation Manual (M)	Opens the GP-Viewer EX Operation Manual.
Help (H)	Version Information	Online Update (U)	Updates GP-Viewer EX.
			
		Product Version	Displays the version information of GP-Viewer EX.
		User Name	Displays the user name entered during installation of GP-Viewer EX.
		Company Name	Displays the organization name entered during installation of GP-Viewer EX.
		Obtain version of configuration files	[Save as] dialog box appears to save configuration files.
		OK	Close the dialog box.

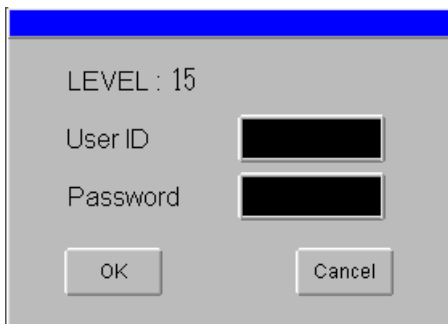
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Setting		Description
Server screen		Displays the screens of the connected display unit.
Right-click menu		<p>[Server Screen] right-click menu.[Change screen] command displays the following dialog box, which you can use to change screens on the display unit.</p> <p>NOTE</p> <ul style="list-style-type: none"> To enable the change screen operation from the right-click menu, the security level must be set up on the display unit and the user must log into GP-Viewer EX with security level 15. 
Screen Change		You can scroll screen areas that cannot display in GP-Viewer EX with a scroll bar.
Block Display Graph	Display	This is used when the display change notice is not detected on GP-Viewer EX.
	Clear	This is used when the clear change notice is not detected on GP-Viewer EX.
	Clear and Display	This is used when the clear and re-display notices are not detected on GP-Viewer EX.
Scroll Bar		You can scroll screen areas that cannot display in GP-Viewer EX with a scroll bar.
Status Bar		A progress bar displays when you receive screen data.
Stop button		Stops the connection process.

3.1.2 Screen authentication

When you switch screens, if the security level for the screen in the destination is higher than the log-in security level, the following [Screen authentication] dialog box appears.

User ID Settings



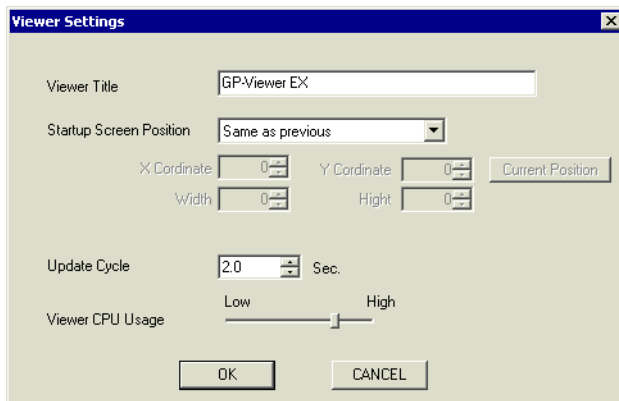
Setting	Description
LEVEL	Displays the security level of the currently logged in user.
User ID	Enter up to eight single-byte characters to set up the security level user ID for the destination screen.
Password	Enter up to eight single-byte characters to set up the security level password for the destination screen.

Security Settings



Setting	Description
New Password	Enter up to eight single-byte characters to set up the security level password for the destination screen.

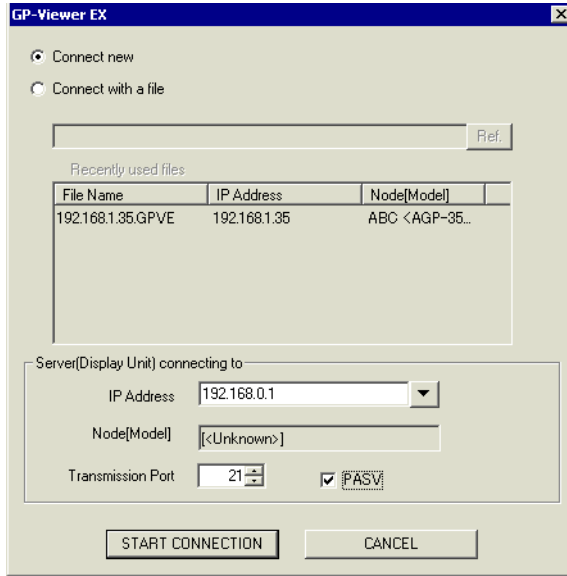
3.1.3 Change settings



Setting	Description
Viewer Title	Enter up to 63 characters for GP-Viewer EX title.
Startup Screen Position	<p>When starting GP-Viewer EX, select the window position from [Same position as previous exit], [Specified position] and [Center of Desktop].</p> <ul style="list-style-type: none"> • Same position as before closing Displays in the same position as the previous display position of GP-Viewer EX. • Specified position Displays in the specified size and in the specified coordinate position. • Center of Desktop Displays in the size adjusted to the display screen size in the center of the desktop. For example, if the display screen is VGA (640x480), the horizontal width also includes the window border and the scroll bar (approximately 650). Vertical width includes the title, menu, toolbar and status bar (approximately 530). <p>NOTE</p> <ul style="list-style-type: none"> • When you create a new file, enter a 600x400 display in the center of the desktop. If disconnected, a display size recommended by the operating system is entered in the center of the desktop.(1024x768) area begets (600x400). When the connection is established, the size is adjusted to the screen size of the connected display unit.
X Coordinate, Y Coordinate	<p>When you select [Specified position] as the [Startup Screen Position], when starting GP-Viewer EX the window position is set based on X and Y coordinates.</p> <ul style="list-style-type: none"> • X coordinates from 0 to the maximum resolution of the selected model (horizontal) – 1 • Y coordinates from 0 to the maximum resolution of the selected model (vertical) – 1
Width, Height	Specifies the window size width and height. [Set a value from zero to the maximum resolution of the selected model.

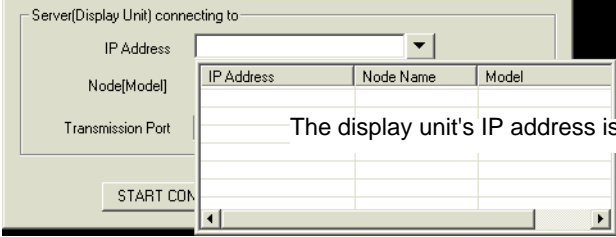
Setting	Description
Current Position	Sets the current GP-Viewer EX position as defined in the [X Coordinate], [Y Coordinate], [Width] and [Height] fields.
Update Cycle	<p>Sets the frequency for checking information updates, such as GP errors and sampling data on GP-Viewer EX, from 1 second to 3600 seconds (1 hour). You can set this in increments of 0.1 seconds.</p> <p>NOTE</p> <ul style="list-style-type: none"> • When an alarm occurs, information gets updated regardless of set frequency.
Viewer CPU Usage	To ensure GP-Viewer EX does not occupy too much of the computer's CPU, select CPU usage from [Level 1:10%], [Level 2:20%], [Level 3:30%], [Level 4:40%] and [Level 5: No limit].

3.1.4 Server Connection Screen



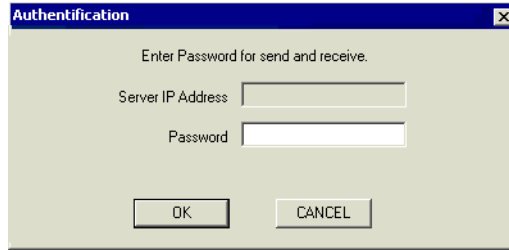
Setting	Description
Connect new	Connects to the display unit without using information from the previously saved setup file (*.GPVE).
Connect with a file	Connects to the display unit based on information from the previously saved setup file. <div style="border: 1px solid black; padding: 2px; display: inline-block;">NOTE</div> <ul style="list-style-type: none"> If there is no recently used file, an error message appears and the connection fails.
Existing file path	Displays the most recently set file path.
Recently used files	Displays a list of the 10 most recently saved files. When you select the setup file, the save to location is shown under [Existing file path]. If there are more than 10 files, the oldest file is deleted first. If the setup file was not saved, a blank space displays. This area displays the setup file name, IP address of the display unit (computer name or domain name), and node and model name.

Continued

Setting	Description
Server (Display Unit) connecting to	Set the display unit to be connected.
IP Address	Enter the IP address of the display unit to be connected. The display unit can be set with a domain name. When using the IPC series, you can also enter a computer name. Names can be up to 500 single-byte characters long.
Search	<p>Searches for displays that the GP-Viewer can connect to. In the screen that appears after searching, choose the IP address of the display unit you want to connect.</p> 
Node (Model)	If a node name is defined on the display unit, that name and the display's model information are shown.
Transmission port	Enter the port, between 1 to 65535, used for transferring data.
PASV	Select when connection problems occur due to network security.

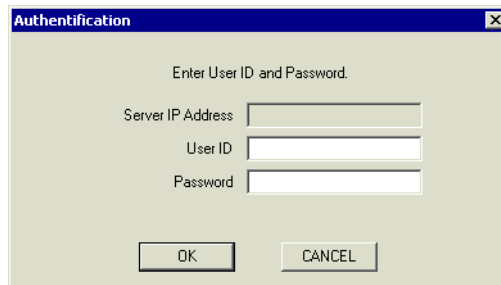
3.1.5 Password Dialog Box

Password for Sending/Receiving Project Files



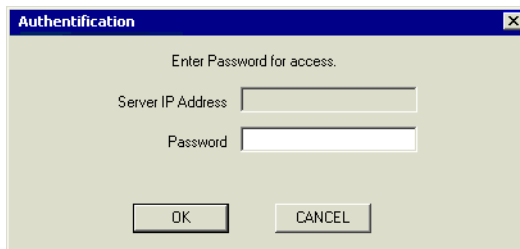
Setting	Description
Server IP Address	Displays the IP address (or machine and domain name) of the display unit that requires a password for sending/receiving project files.
Password	<p>If a password for sending/receiving project files has been set for the display unit, it can contain up to 24 characters.</p> <p>NOTE</p> <ul style="list-style-type: none"> • If an incorrect password is entered three times, the connection is canceled. • When a password is saved in the setup file and connections that follow are made based on the setup file, the saved password is used.

Authentication (User ID)



Setting	Description
Server IP Address	Displays the IP address (or machine and domain name) of the display unit that requires [User ID] and [Password] settings.
User ID	You can add up to eight characters for the user ID when security settings are set up in GP-Pro EX.
Password	Enter up to eight single-byte characters for the user ID password.

Login (Security)



Setting	Description
Server IP Address	Displays the IP address (or machine and domain name) of the display unit to be connected.
Password	Enter up to eight single-byte characters for the GP-Pro EX security password.

Change User ID

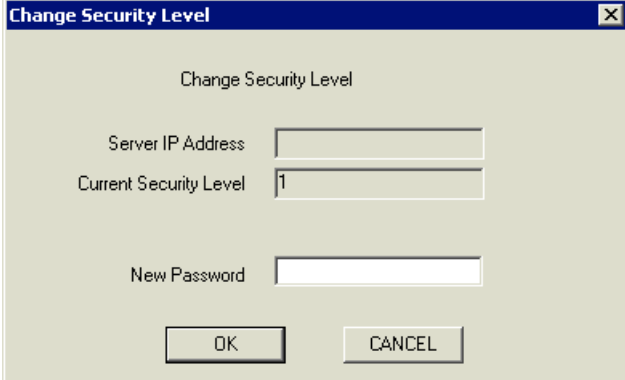


Setting	Description
Server IP Address	Displays the IP address of the display unit to be connected.
Current User ID	Displays the [User ID] of the currently logged in user.
Current Security Level	Displays the security level of the currently logged in user.
New User ID	Enter up to eight single-byte characters for the [User ID] security level that you want to switch to.
Password	Enter up to eight characters for the destination's user ID password.

NOTE

- If the browsing feature on GP-Viewer EX is not permitted for the security level of the User ID at the switch destination, you cannot switch to that User.

Change Security Level



Change Security Level

Server IP Address

Current Security Level

New Password

OK CANCEL

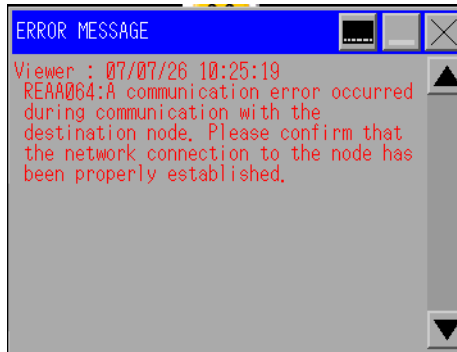
Setting	Description
Server IP Address	Displays the IP address of the display unit to be connected.
Current Security Level	Displays the security level of the currently logged in user.
New Password	Enter a password, up to eight single-byte characters long, for the security level of the screen that you want to switch to.





NOTE

- If the browsing feature on GP-Viewer EX is not permitted with the access privileges for the security level of the switch destination, you cannot change to this security level.



Error window

Errors generated on both the display unit and GP-Viewer EX displayed at the same time. Errors display in order of detection. You can set the update frequency of display unit errors in the [Viewer Settings] dialog box's [Update Cycle] and [Performance] fields.





Setting	Description
	<p>Displays the system menu when it is not visible.</p>  <p>NOTE</p> <ul style="list-style-type: none"> To display the system menu, touch or click the top-right corner and then within 0.5 seconds the bottom left, or the top-left corner and then the bottom right. Each corner is 40x40 dots.
	<p>Switches the position of the system menu to either the upper or lower part of the screen.</p>
	<p>Displays the second level of system menus. If the the second level menu is already displayed, displays the first level menu.</p>

Continued

Setting	Description
Error	<p>Always displays the latest error message on one line. If the error message cannot display on one line, it displays up to the maximum number of allowable characters.</p> <ul style="list-style-type: none"> • Display Unit Error <p>Errors generated on the display unit are shown as follows:</p> <pre>===== Server Error: <Display Unit Time> <Error Code>:<Category>:<Error Message> =====</pre> <p>NOTE</p> <ul style="list-style-type: none"> • When errors display on the system menu, it is shown as follows. <pre>===== Server: <Error Code>:<Category>:<Error Message> =====</pre> <ul style="list-style-type: none"> • The time that is shown with the display errors is based on the display unit time settings. <p>When GP-Viewer EX is in a separate physical location, the displayed time may differ from the display unit.</p> <ul style="list-style-type: none"> • GP-Viewer EX Error <p>Errors generated on GP-Viewer EX appear in red, as shown below:</p> <pre>===== Viewer Error: <Time on the Viewer PC> <Error Code>:<Category>:<Error Message> =====</pre> <p>NOTE</p> <ul style="list-style-type: none"> • Displays in black on monochrome models. • System menu errors appear in red, as shown below. <pre>===== Viewer: <Error Code>:<Category>:<Error Message> =====</pre> <ul style="list-style-type: none"> • Times that appear in GP-Viewer EX errors are based on the time settings of the computer used to run GP-Viewer EX. When located in a separate physical location, the displayed time may differ from the display unit.
Sound and volume control	This controls the sound volume of GP-Viewer EX.
	Changes how to display error messages (in error windows or one-line displays similar to the system menu).
	Closes an error window.

NOTE

- For errors that are automatically restored, such as communication errors with a connected device/PLC, the display unit may erase the error but the error remains in GP-Viewer EX. To remove the error, either change screens or click the Close button [x] in the system menu. 
 - When multiple errors are triggered at the same time, depending on the timing of when errors are received, all the errors may not display. 
-

4



Restrictions

4.1	View	4-2
4.2	SRAM process	4-3
4.3	Connection	4-4

4.1 View

In the case below, when [Synchronous Mode (S)] is enabled in [Screen Mode (D)], the display and GP-Viewer EX do not display identical items.

- About unsupported features for GP-Viewer EX that display on the display unit
- About scrolled or sorted data (e.g., alarm parts)

GP-Viewer EX does not have an offline mode. If the display unit moves to offline mode, communication with the GP-Viewer EX is disconnected and a communication error results.

- When you [Save] a new file or change a save location for project file information using [Save as], a message appears and the screen display is reset and saved. The display of the Data Block Display Graph is cleared. The sub-display of alarm history may change how it displays.
- When changing screens is prohibited on the server, you cannot change screens from GP-Viewer EX.
- Even when [Enable Screen Changes from Client] is set up in GP-Pro EX, in the [Display Unit] page's [Remote Viewer] tab, if [Write GP-Viewer Data] is disabled in security settings, [Change Screen on Server from Viewer] will be [Disabled].

4.2 SRAM process

The following features cannot be processed simultaneously because the SRAM save area is shared.

Therefore, if operation processes on the display overlap with requests from GP-Viewer EX, the processes may take a long time.

	Names of features
1	Sampling data CSV saving feature
2	Alarm history CSV saving feature
3	Filing data CSV saving feature
4	SRAM auto-backup feature
5	Logging data CSV saving feature (GP2000-compatible feature)
6	Line-plot Graph data CSV saving feature (GP2000-compatible feature)
7	CSV saving feature of data from data sampling (GP2000-compatible feature)
8	CSV saving of SRAM backup data from Pro-Server EX

4.3 Connection

- Regardless of the number of connected display units, you can display up to four windows of GP-Viewer EX on one computer. However, up to three units of GP-Viewer EX can access the display unit at the same time.
- If a project file is transferred to the display unit or the display unit enters offline mode while connected to GP-Viewer EX, the connection process will restart.
- After restoring the backed up SRAM data from the CF card, select [Use existing file] to connect to GP-Viewer EX. The project file is updated during connection.
- Be careful with the time spent for your tasks as you access data from the display unit from multiple computers.

5



Troubleshooting

5.1	Operations on the display unit is slow	5-2
5.2	Response of GP-Viewer EX is slow	5-3
5.3	Action of other applications on a computer is slow	5-4
5.4	Error Messages	5-5

5.1 Operations on the display unit is slow

Has the [Update Cycle] been set too high?

Cause

[Update Cycle] may be set too high. The display unit may be overloaded because GP-Viewer EX must be frequently updated with information from the display unit.

Solution

[Tool (T)] menu's [Change setting (P)] command, set the [Update Cycle] to a longer interval than the current setting.

Are there multiple connected GP-Viewer EXs?

Cause

Multiple GP-Viewer EXs are connected to one display unit, and therefore the display unit may be overloaded.

Solution

Reduce the number of connected GP-Viewer EXs or revise your system configuration.

5.2 Response of GP-Viewer EX is slow

The update cycle may be too long.

Cause

Drawing update frequency has been set too long which may cause the GP-Viewer EX to respond slowly.

Measures

[From the [Tool (T)] menu, select [Change setting (P)] and set a higher update frequency in the [Update Cycle] and a higher CPU utilization rate in the [Viewer CPU Usage].

Communication to or from the GP-Viewer EX may be overloading the network band.

Cause

Communication to or from the GP-Viewer EX may be overloading the network band.

Measures

From the [Tool (T)] menu, select [Change setting (P)] and set a longer update frequency under [Update Cycle].

NOTE

- With a longer information update frequency, you can reduce the CPU utilization as needed.
-

5.3 Action of other applications on a computer is slow

Is the GP-Viewer EX using too much CPU?

Cause

The GP-Viewer EX may be using too much of the computer's CPU.

Solution

From the [Tool (T)] menu, select [Change setting (P)] and lower the CPU utilization from its current value in [Viewer CPU Usage].

NOTE

- With a lower CPU utilization, the update cycle can be set longer as needed.
-

5.4 Error Messages

Errors generated on both the display unit and GP-Viewer EX are displayed on the system menu. Errors display in order of detection. You can set the update frequency of display unit errors in the [Viewer Settings] dialog box's [Update Cycle] and [Performance] fields. For a summary of errors, refer to the following.

- ☞ Maintenance/Troubleshooting: "T.7 Display-related errors"

