User's Manual

DXA120
DAQSTANDARD Viewer

YOKOGAWA
Yokogawa Electric Corporation

IM 04L41B01-63EN
6th Edition

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PRS 108-01E

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How to Use This Manual

Structure of the Manual

This manual consists of the following five chapters and index.

Chapter	Title	Content
1	Before using the DAQSTANDARD	Explains the PC system environment required for use of the DAQSTANDARD. Also explains how to install it.
2	Displaying Data with the Data Viewer	Explains how to display data stored in the hard disk etc. Also explains how to convert data to various data formats such as ASCII. Explains how to sign data.
3	Troubleshooting	Gives a list of error messages and corrective measures.
Index		Gives a list of important terms used in this manual.

Range of Explanation in this Manual

This manual does not explain the basic operations of your PC's operating system (OS). For such descriptions, refer to the Windows User's Guide etc.

Conventions Used in This Manual

- **Unit**
  K ..... Indicates "1024". (Example: 100 KB)
- **Menus, commands, dialog boxes and buttons**
  Enclosed in [ ].
- **Note**
  Provides useful information regarding operation of the software.

About Images

The images that appear in this manual may be different from those that appear on the software, but not to a degree that interferes with procedural explanations.

Products Covered in This Manual

Item	Described in This Manual
DX1000/DX1000N/DX2000	Up to release number 4 (firmware version 4.1x)
MV1000/MV2000	Up to release number 1 (firmware version 1.0x).
CX1000/CX2000	Up to style number S3.
DX100/DX200/DX200C	Up to style number S4.
MV100/MV200	Up to style number S4.
DAQSTANDARD	Up to firmware's version R8.2x.
DX100P/DX200P	Up to style number S5.

Revision History

Edition	Additions and Changes
1	Revised for release number 4 of the DX1000/DX1000N/DX2000 and for the DX100P/DX200P. This manual was created through the division of the fifth edition of the conventional DAQSTANDARD user's manual (IM04L41B01-61E) into different manuals for each software application.
2	Changes to the operating environment (support for Windows 7). Improvements to descriptions.
3	Changes to the operating environment (Support for Windows XP SP2 is terminated). The file format of the destination file is changed to Excel 97 format for Excel conversion. Improvements to descriptions.
4	Changes to the operating environment (Support for Windows 2000 is terminated, and support for Windows 8).
5	License free Changes to the operating environment (Support for Windows XP and Vista are terminated.)
6	Improvements to descriptions.

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1.1 Overview of the DAQSTANDARD

The DAQSTANDARD consists of the following three utility programs.

- Launcher
- Hardware Configurator
- DX100P/DX200P Hardware Configurator

This manual explains Viewer.

Viewer

Viewer displays the values and waveforms of the measured data from the recorder and prints them.

Hardware Configurator

Hardware Configurator is a software application for creating setup data for the recorder. It can send setup files that you have created to the recorder and save them to storage media. It can be used with the following recorders: the DX1000, DX1000N, DX2000, DX100, DX200, CX1000, CX2000, MV1000, MV2000, MV100, and MV200.

DX-P Hardware Configurator

DX100P/DX200P Hardware Configurator is a software application for creating setup data for the DX100P/DX200P recorder. It can send setup files that you have created to the recorder and save them to storage media.

About Viewer

Viewer can provide waveform, digital, and circular displays of the following five data types created by the recorder, and it can print these displays. With the displayed data, you can link files, save display conditions, and perform data conversion.

- Display data files
- Event data files
- TLOG files
- Report files
- Manual sampled data files

You can also open signable units of batch files and continuous data and view the operation history.

1.2 Required PC System Environment

Hardware

Personal Computer

A computer which runs on Windows 7, Windows 8.1, or Windows 10.

CPU and Main Memory

32-bit edition: Intel Pentium 4, 3 GHz or faster x64 or x86 processor; 2 GB or more of memory

64-bit edition: Intel x64 processor that is equivalent to Intel Pentium 4, 3 GHz or faster; 2 GB or more of memory

Hard Disk

A free space of 100 MB or more (more space may be required, depending on the amount of data stored).

Mouse

A mouse supported by Windows.

Monitor

A video card that is recommended for the OS and a display that is supported by the OS, has a resolution of 1024×768 or higher, and that can show 65,536 colors (16-bit, high color) or more.

Interface Port

An RS-232 port or an Ethernet port supported by the OS.

Printer

A printer supported by Windows is required. An appropriate printer driver is also required.

Operating System (OS)

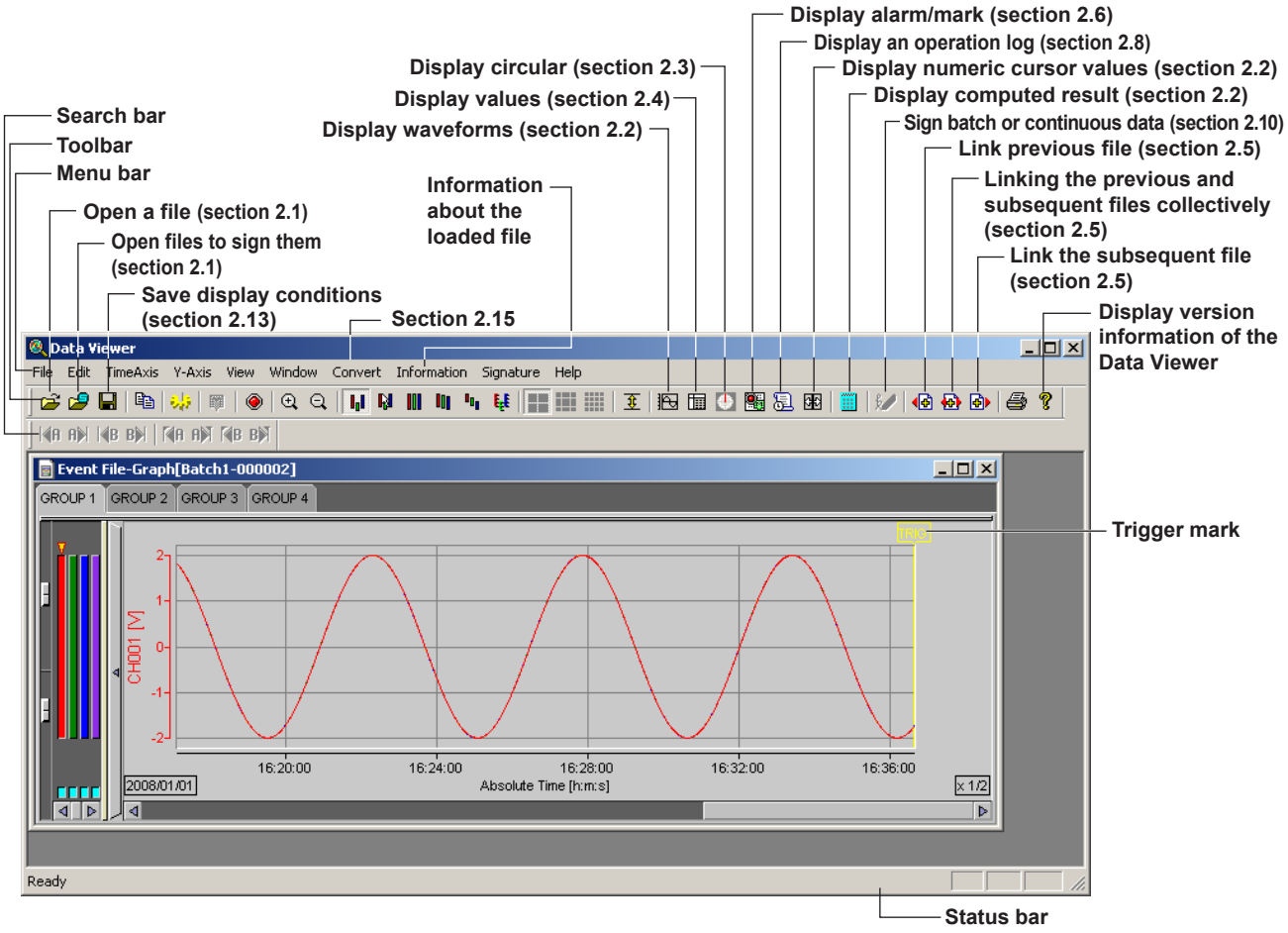
OS	Version
Windows 7	Home Premium 32-bit and 64-bit editions
	Professional 32-bit and 64-bit editions
Windows 8.1	32-bit and 64-bit editions (Supports the desktop mode)
	Pro 32-bit and 64-bit editions (Supports the desktop mode)
Windows 10	Home (32-bit, 64-bit editions)
	Pro (32-bit, 64-bit editions)

Note

- The time zone can be set in [Date/Time] which can be opened from [Control Panel].
- If daylight saving time is used, mark the check box of “Automatically adjust clock for daylight saving changes”.
- The time zone should not be set using the autoexec.bat file. If “TZ=GTM0” is set in the file, specify “rem” to disable it.
- Data created in 2038 or later cannot be handled.
- The font “Courier New” needs to be installed on your personal computer.

2.1 Starting and Exiting the Data Viewer

Starting the Data Viewer



You can also start the program by selecting [Start] - [Programs] - [DAQEXPLORER] - [Viewer].

You cannot start multiple Data Viewers. If you set file associations you can start Data Viewer by double-clicking a data file. You can start Data Viewer by dragging a data file onto the Data Viewer icon.

Files That the Data Viewer Can Display (Extension)

File Type	DX1000/ DX1000N/ DX2000	MV1000/ MV2000	CX1000/ CX2000	DX100/ DX200/ DX200C	DX100P/ DX200P	MV100/ MV200
Display data file	DAD, DSD	DAD	cds	dds	dbd	dds
Event data file	DAE, DSE	DAE	cev	dev	dbe	dev
TLOG file	–	–	dtg	dtg	dtg	dtg
Link settings file	ldx	ldx	ldx	ldx	ldx	ldx
Report file	DAR*	DAR*	dhr, ddr, dwr, dmr	dhr, ddr, dwr, dmr	dhr, ddr, dwr, dmr	dhr, ddr, dwr, dmr
Manually sampled data file	DAM	DAM	dmn	dmn	dmn	dmn

* Can be displayed in stacked bar graphs (column bar).

Toolbar, Search Bar, and Status Bar

Clicking [View] - [Toolbar], [Search Bar], or [Status Bar] from the menu bar displays the corresponding bar in the window. The bar will disappear if the check is removed.

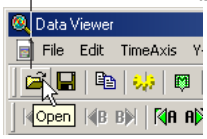
Processing of New File Names

When you create a file using Data Viewer, it processes the specified file name in the following ways.

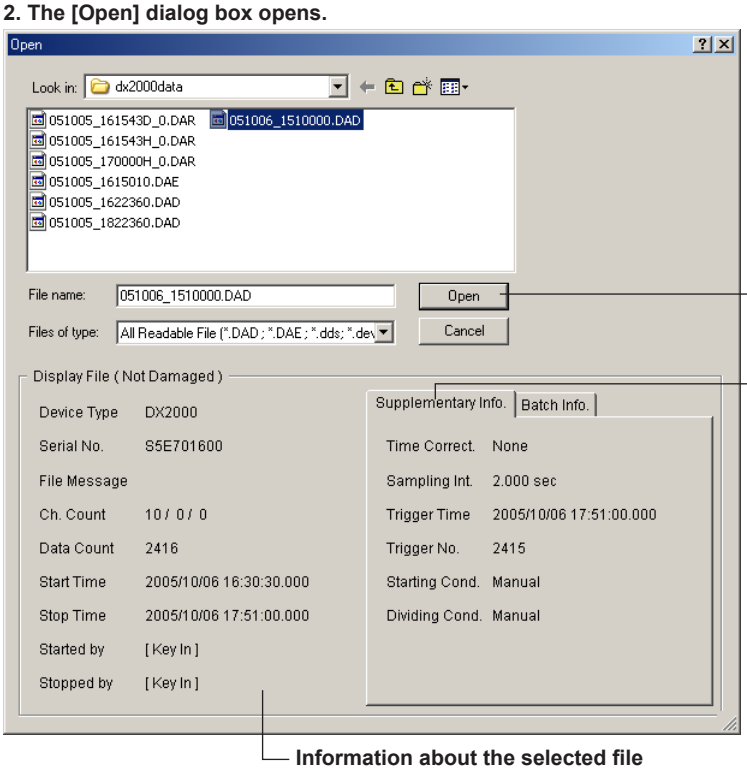
- The following characters are converted to underscores: slashes, colons, asterisks, backslashes, quotation marks, question marks, less-than signs, greater-than signs, and vertical bars.
- If you leave the extension out of a file name, and the file name starts with a period, the period is converted into an underscore.

Opening the File

1. Click here ([File] - [Open]).



2. The [Open] dialog box opens.



3. Select the desired file and click the [Open] button.

Supplementary Info. tab

Information about the selected file

Note

You can change file names in the [Open] dialog box. You cannot delete files.

Opening Signable Units of Data

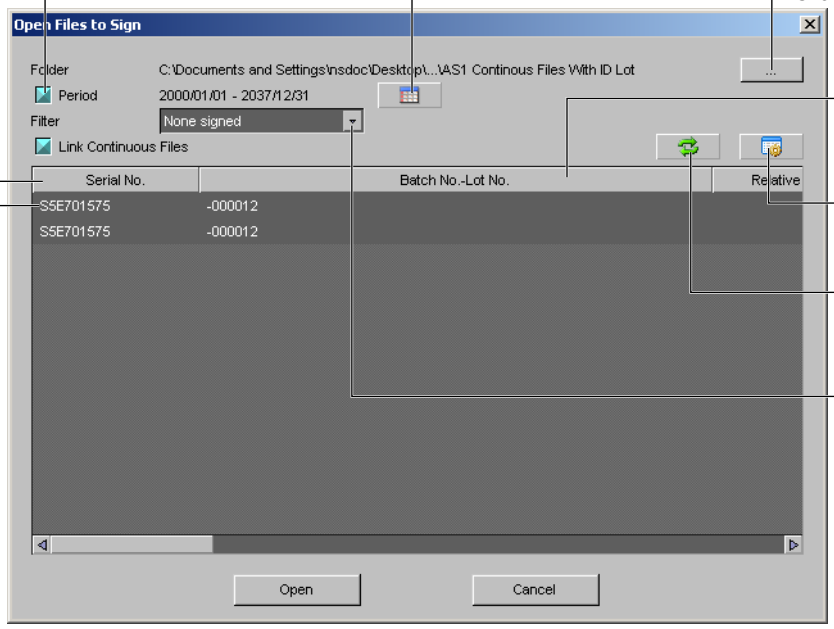
1. Click here, or click [Open to Sign] in the [File] menu.

2. The [Open Files to Sign] dialog box appears.

You can set the period when this check box is selected.

Click here to set the period.

Click here to specify a folder.



Click an item to switch the sort order between ascending and descending.

Display settings button
Click this button to select which items to display.

Refresh button
Click this button after you change the search conditions.

Select the filter type from the list that appears when you click here.

When you click the refresh button, a list of signable units of data appears.

The items that you chose in the Display settings dialog box after clicking the display settings button appear in the order that you specified, starting from the left.

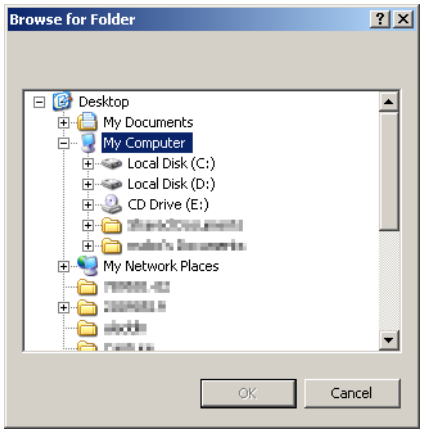
Specifying the Folder to Search In

Data Viewer searches through the selected folder for signable units of data. Data Viewer does not search through subfolders.

If a folder's path is too long to be displayed in its entirety, the middle of the path is omitted.

If you previously specified a network folder, the initially selected folder in the [Browse for Folder] dialog box will be My Computer, and the [OK] button will be unavailable.

Example of Display during Folder Selection



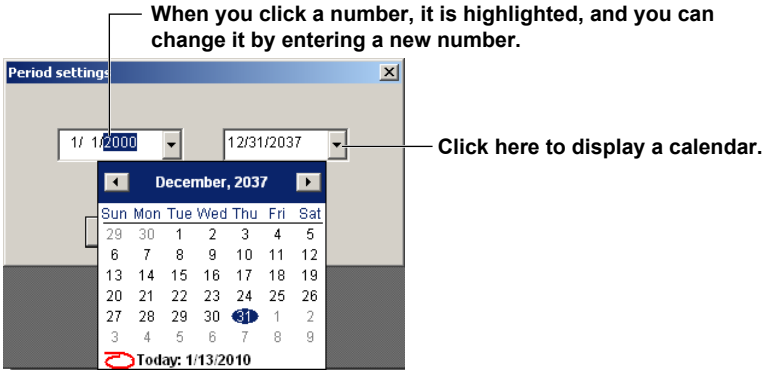
Setting the Period

You can set the period by using the calendar that appears when you click the icon or by clicking the numbers so that they become highlighted and then entering the dates directly.

You can set the period within the range of 2000/01/01 to 2037/12/31.

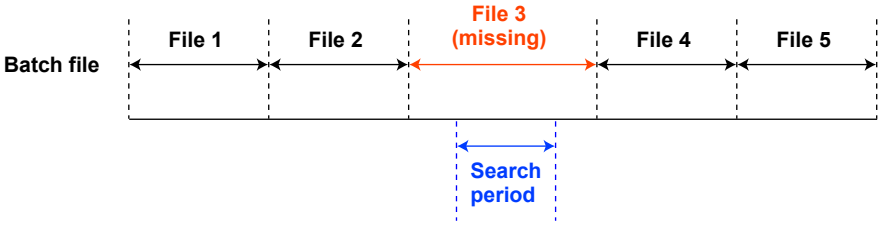
If the ending date is earlier than the starting date, the two dates are switched.

Period Settings Window



Of the files that are searched, all files that contain some data that overlaps in time with the specified period are displayed in the search results. Also, even if files within a batch file are missing, as long as the data period of the batch file overlaps with the specified search period, the batch file will be displayed in the search results.

Concept Diagram of Batch File Searching

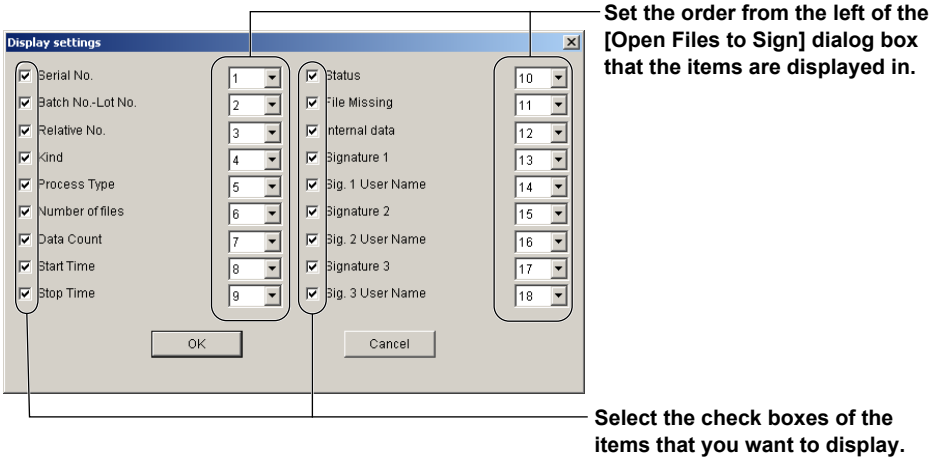


Selecting Which Items to Display

Items whose check boxes are selected are displayed.

To set the order that an item is displayed in from the left of the display, select a number from the list next to the item. When you change an item's number, the numbers of the other items also change as if that item were moved to the position that you specified. Given original order number A and new order number B, if A < B, the order numbers of the items that originally had order numbers A+1 to B are decremented by one. If A > B, the order numbers of the items that originally had order numbers B to A-1 are incremented by one.

Example of Display during Display Item Selection



The table below lists the display items and their descriptions. In the initial settings, all display items are shown.

Display Items and Descriptions

Item	Description	How the Item Is Displayed for Multiple Files	
		Batch File	Linked Continuous Files
Serial No.	The device's serial number.	The device serial number of the newest linked file appears.	The device serial number of the newest linked file appears.
Batch No.-Lot No.	The batch number and lot number.	The batch number and lot number of the newest linked file appear.	The batch number and lot number of the newest linked file appear.
Relative Number	For the DX100P/DX200P, this is the file number based on the batch start. For release number 4 of DX1000/DX1000N/DX2000 models with the /AS1 option, this is the data file serial number.	The relative number of the oldest linked file appears.	The relative number of the oldest linked file appears.
Kind	The data file type (display/event).	The file type of the newest linked file appears.	The file type of the newest linked file appears.
Process Type	The process type (batch/continuous)	The display is fixed at "Batch."	The display is fixed at "Continuous."
Number of files	The number of files in a signable unit.	The number of linked files appears.	The number of linked files appears.
Data Count	The number of data points. If there are more than 5 million points, the data count appears in red.	• The number of points from the oldest linked file to the newest linked file appears. • If files are missing, the data of the missing files is also counted.	The total number of data points in all the linked files appears.
Start Time	The data start time (yyyy/mm/dd hh:mm:ss.mmm).	The start time of the oldest linked file appears.	The start time of the oldest linked file appears.
Stop Time	The data stop time (yyyy/mm/dd hh:mm:ss.mmm).	The stop time of the newest linked file appears.	The stop time of the newest linked file appears.
Status	The status of the data file (not damaged/damaged). If the file is damaged or the data is corrupt, "Damaged" appears.	"Not Damaged" only appears if none of the linked files is corrupt or damaged. Otherwise, "Damaged" appears.	"Not Damaged" only appears if none of the linked files is corrupt or damaged. Otherwise, "Damaged" appears.
File Missing	Whether or not there is a missing file (exist/none).	If all the files in the batch are linked, "None" appears. Otherwise, "Exist" appears.	Fixed at "None."
Internal data	Whether or not data saved through key operations exists (exist/none).	The internal data status of the newest linked file appears.	The internal data status of the newest linked file appears.
Signature 1	Signature 1 (no sig./pass/fail). The first signature of the newest linked file.	The first signature of the newest linked file appears.	The first signature of the newest linked file appears.
Sig. 1 User Name	The name of the user who created signature 1.	The user name of the first signature of the newest linked file appears.	The user name of the first signature of the newest linked file appears.
Signature 2	Signature 2 (no sig./pass/fail).	The second signature of the newest linked file appears.	The second signature of the newest linked file appears.
Sig. 2 User Name	The name of the user who created signature 2.	The user name of the second signature of the newest linked file appears.	The user name of the second signature of the newest linked file appears.
Signature 3	Signature 3 (no sig./pass/fail).	The third signature of the newest linked file appears.	The third signature of the newest linked file appears.
Sig. 3 User Name	The name of the user who created signature 3.	The user name of the third signature of the newest linked file appears.	The user name of the third signature of the newest linked file appears.

Setting the Filter

Select an item from the list. The items and their descriptions are listed below.

Item	Description
All	All files, regardless of their signature status.
1No sig.	Files without a first signature
2No sig.	Files without a second signature
3No sig.	Files without a third signature
None signed	Files without any signatures.
Signed	Files with a first, second, or third signature.

Changing the Settings and Searching Again

After you change the settings, click the [refresh] button.

A list of the search results based on the new settings appears.

The priority that is applied when you search again is listed below.

1. Search folder
2. Search period (ignored if its check box is not selected)
3. Filter
4. Link Continuous Files (ignored if its check box is not selected)

Setting Retention

The settings that you specify in the [Open Files to Sign] dialog box are saved when you close it. These settings are saved to a configuration file (.ini extension) when you close Data Viewer. The settings that are saved are listed below.

- Folder
- Filter
- Whether or not the Period check box is selected.
- Whether or not each of the display items is displayed or not and their display order
- The item used to sort the results of the signable data list.
- The direction of the order (ascending or descending) of the signable data list.
- The size of the [Open Files to Sign] dialog box.

Opening the Same File Twice

You cannot open the same file twice. The ways in which Data Viewer responds when you try to open the same file more than once are listed below.

- If you have opened a single batch file or group of continuous files (this includes cases when you are linking to a separate file) and you try to open a file that is already open, the currently displayed screen is brought to the foreground.
- If you have opened multiple batch files or groups of continuous files (this includes cases when you are linking to a separate file) and you try to open a single file, the currently displayed screen is brought to the foreground.
- If you try to open a continuous file when multiple batch files or some of the files that the continuous file contains are open, a message (W3129) will appear.

Link Continuous Files

As indicated in the table below, continuous files are displayed differently depending on whether or not the check box for this item is selected or not.

Check Box	Display Method
Selected	Continuous files that can be linked are linked and displayed on a single line.
Not selected	Continuous files are not linked. Each file is displayed on a separate line.

Displaying and Selecting Search Results

The signable units of data are listed. You can open a signable unit of data even some of its files are missing. “NoData” appears for the missing portions of the data.

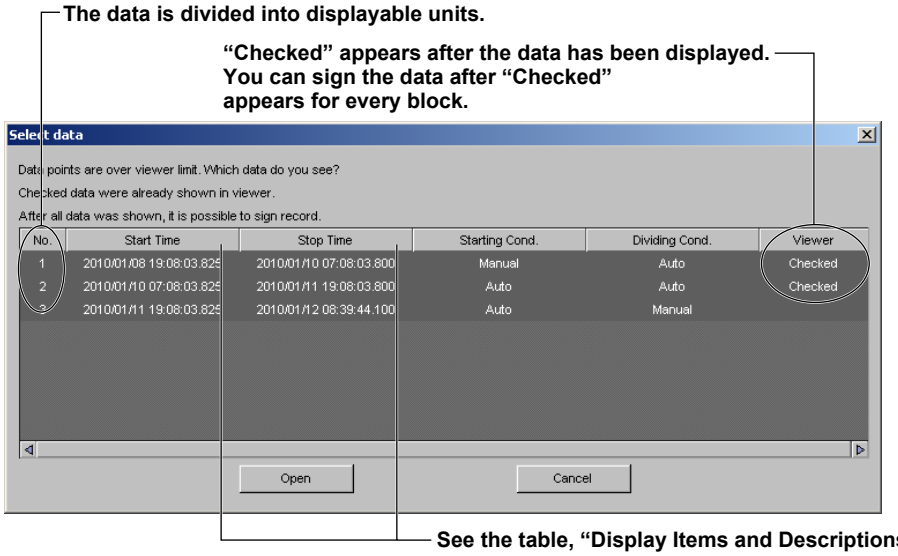
You can only choose one signable unit of data from the list.

You cannot delete signable units of data.

Displaying More Than 5 Million Points of Data

You cannot display more than 5 million points of data at the same time. When you try to open a file that contains more than 5 million points of data, the [Select data] dialog box appears. In the [Select data] dialog box, you can open the 5-million-point divisions of a file. The divisions will appear in different windows.

The number of data points in one of the files in a group of continuous data files will never exceed 5 million. Also, you cannot link continuous files together to produce a displayable unit of data that contains more than 5 million data points.



To sign into a batch file that contains 5 million data points or more, first put all the files in the batch in a single folder, and then open all the files from the Select data dialog box. While you are opening divisions, do not move files, delete them, or perform other file operations.

The checked/not-checked status under [Viewer] is reset when you open another batch file that has 5 million data points or more.

Opening a Division of a Signable Unit of Data

You can open the files in a division of a signable unit of data by double-clicking the division or by clicking the [Open] button.

If the beginning or end of the selected division is missing, the missing parts of the data are ignored when the files in the division are opened.

Selecting Divisions and Signing the Data

You can only select one division. You can sign a signable unit of data after you open all of the divisions within it.

The checked display items in a unit of data are reset when you close Viewer or open another batch file that has 5 million data points or more.

How Units of Data Are Divided

Units of data that contain more than 5 million points of data are divided as indicated below.

- Files are linked to produce separate divisions of up to 5 million data points in length, and these divisions are displayed.
- The data contained within a single file is always contained within a single division.

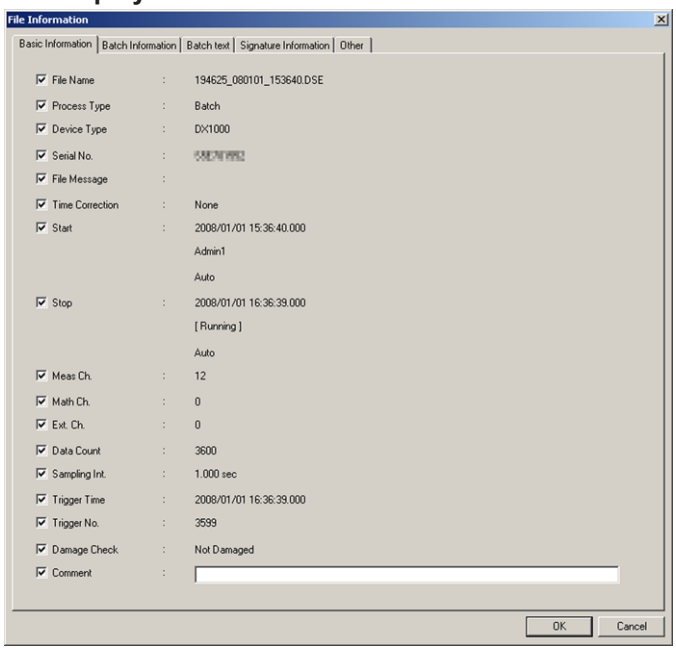
How Units of Data Start and End

See "Checking File Information" in this section.

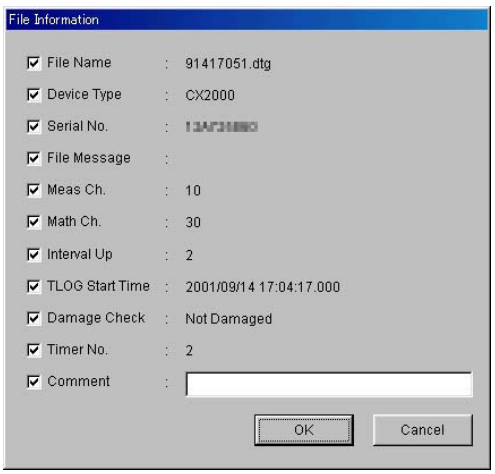
Checking File Information

You can check the information about the active data file by selecting [Information] - [About Document].
Items whose check boxes are selected are printed in the header when you print data.

- **For display data files and event data files**



- **For TLOG files**



The items that are checked are output in the header when printed.

Note

- Multiple files can be opened simultaneously.
- The number of files that can be opened simultaneously depends on the memory size of the PC and the free disk space.

Contents of the Basic Information Tab

Item		Description	How the Item Is Displayed for Multiple Files	
			Batch File	Linked Continuous Files
File Name		The file name. (If the file name is long, the portion that does not fit within the dialog box is not displayed.)	If there are two linked files, the name of the first file and of the second file are displayed delimited by a comma. Example: 61023149.DBE,61102049.DBE If there are three or more linked files, the name of the first file and of the second file are displayed with commas and an ellipsis between them. Example: 61023149.DBE,...,61102049.DBE	
Process Type		The process type (batch/continuous).	The display is fixed at “Batch.”	The display is fixed at “Continuous.”
Device Type		The device type (DX100P, DX200P, DX1000, DX2000).	The device type of the newest linked file appears.	The device type of the newest linked file appears.
Serial No.		The device’s serial number.	The device serial number of the newest linked file appears.	The device serial number of the newest linked file appears.
File Message		The file message (up to 50 characters).	The file message of the newest linked file appears.	The file message of the newest linked file appears.
Time Correction		Whether or not the time was changed while data was being acquired (done/none).	“None” only appears if the time was not changed for any of the files. Otherwise, “Exist” appears.	“None” only appears if the time was not changed for any of the files. Otherwise, “Exist” appears.
Start	Start time	The time when data acquisition started (yyyy/mm/dd hh:mm:ss.mmm).	The start time of the oldest linked file appears.	The start time of the oldest linked file appears.
	Started by	The name of the user who started data acquisition (up to 20 characters).	The name of the user who started the acquisition of the oldest linked file appears.	The name of the user who started the acquisition of the oldest linked file appears.
	Starting condition	The condition under which data acquisition started (Manual/Restart after Black Out/Auto/Triggered Restart/Over Write/Unknown).	The starting condition of the oldest linked file appears.	The starting condition of the oldest linked file appears.
Stop	Stop time	The time when data acquisition stopped (yyyy/mm/dd hh:mm:ss.mmm).	The stop time of the newest linked file appears.	The stop time of the newest linked file appears.
	Stopped by	The name of the user who stopped data acquisition (up to 20 characters).	The name of the user who stopped the acquisition of the newest linked file appears.	The name of the user who stopped the acquisition of the newest linked file appears.
	Dividing condition	The condition under which data acquisition stopped (Manual/Black Out/Auto/Data Count/Interrupted/Unknown).	The dividing condition of the newest linked file appears.	The dividing condition of the newest linked file appears.
Meas Ch.		The number of measurement channels.	The number of measurement channels in the newest linked file.	The number of measurement channels in the newest linked file.
Math Ch.		The number of math channels.	The number of math channels in the newest linked file.	The number of math channels in the newest linked file.
Ext. Ch.		The number of external input channels.	The number of external input channels in the newest linked file.	The number of external input channels in the newest linked file.
Data Count		The number of data points.	The number of points from the oldest linked file to the newest linked file appears. (If a file in the middle is missing, the missing data is also counted.)	The total number of data points in all the linked files appears.
Sampling Int.		The sampling interval, in seconds.	The sampling interval of the newest linked file appears.	The sampling interval of the newest linked file appears.
Trigger Time		The trigger time (yyyy/mm/dd hh:mm:ss.mmm).	The trigger time of the newest linked file appears.	The trigger time of the newest linked file appears.
Trigger No.		The trigger position (from 0).	The trigger position of the newest file based on the oldest data in the oldest file. (If a file in the middle is missing, the missing data is also counted.)	The trigger position of the newest file based on the oldest data in the oldest file.
Damage Check		The status of the data file (damaged/not damaged).	“Not Damaged” appears if none of the linked files is corrupt or damaged. Otherwise, “Damaged” appears.	“Not Damaged” appears if none of the linked files is corrupt or damaged. Otherwise, “Damaged” appears.
Comment		You can insert a print comment of up to 127 characters in length.		

Contents of the Batch Information Tab

Item		Description	How the Item Is Displayed for Multiple Files	
			Batch File	Linked Continuous Files
Batch No.		The batch name (up to 32 characters).	The batch number of the newest linked file appears.	The batch number of the newest linked file appears.
Lot No.		The lot number (range: 0 to 99999999). For the DX100P/DX200P, the lot numbers are four digits long. For release number 4 of DX1000/DX1000N/DX2000 models with the /AS1 option, the number of digits in the lot numbers (4, 6, or 8) is determined by the data files within the batch.	The lot number of the newest linked file appears.	The lot number of the newest linked file appears.
Header 1 to 3		Headers 1 to 3 (up to 64 characters).	Headers 1 to 3 of the newest linked file appear.	Headers 1 to 3 of the newest linked file appear.
Comment (1 to 3)	Time	The time when the comment was made (yyyy/mm/dd hh:mm:ss.mmm).	The time when the comment was made for the newest linked file appears.	The time when the comment was made for the newest linked file appears.
	User	The user who made the comment (up to 20 characters).	The user who made the comment for the newest linked file appears.	The user who made the comment for the newest linked file appears.
	Comment	The comment itself (up to 32 characters for the DX100P/DX200P, up to 50 characters for release number 4 of DX1000/DX1000N/DX2000 models with the /AS1 option).	The comment of the newest linked file appears.	The comment of the newest linked file appears.

Contents of the Batch text Tab

Item		Description	How the Item Is Displayed for Multiple Files	
			Batch File	Linked Continuous Files
Batch Text (1 to 24)	Title	The batch text title (up to 20 characters).	The batch text title of the newest linked file appears.	The batch text title of the newest linked file appears.
	Description	The batch text description (up to 30 characters).	The batch text description of the newest linked file appears.	The batch text description of the newest linked file appears.

Contents of the Signature Information Tab

Item		Description	How the Item Is Displayed for Multiple Files	
			Batch File	Linked Continuous Files
Signature 1 to 3	Time	The time of the signature (yyyy/mm/dd hh:mm:ss.mmm).	The time of the signature of the newest linked file.	The time of the signature of the newest linked file.
	User	The user who made the signature (up to 20 characters).	The user who signed the newest linked file.	The user who signed the newest linked file.
	Result	The signature result (no sig./pass/fail).	The signature result of the newest linked file appears.	The signature result of the newest linked file appears.
Comment 1 to 3		The signature comment (up to 32 characters).	The signature comment of the newest linked file.	The signature comment of the newest linked file.

- If the signature information for the files in the batch does not match, the information of the newest linked file appears.
- For linked continuous files, the signature information of the newest linked file appears. When this happens “Signature information for the newest linked file” appears.

Contents of the Other Tab

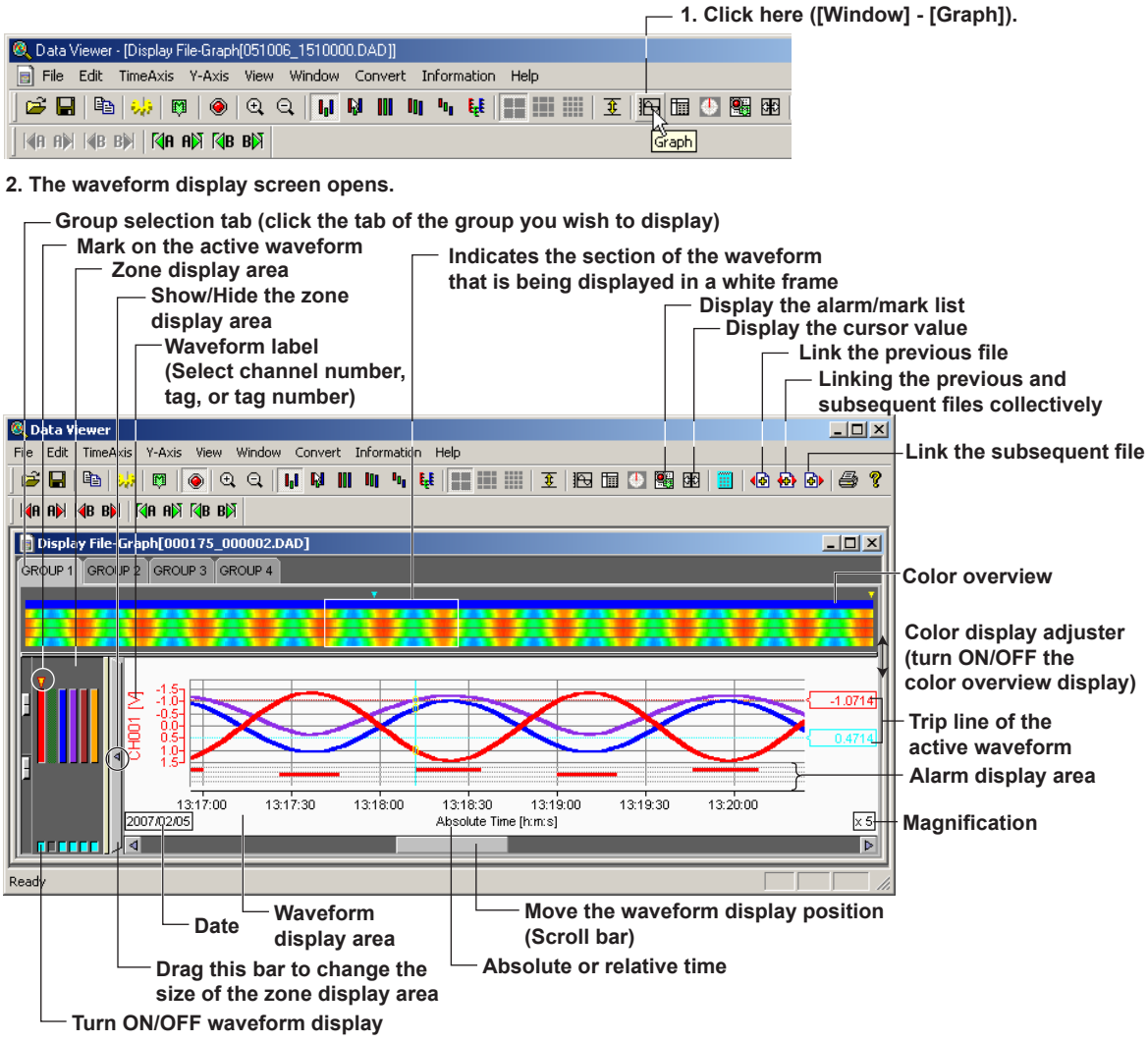
Item	Description	How the Item Is Displayed for Multiple Files	
		Batch File	Linked Continuous Files
Internal data	Whether or not data saved through key operations exists (exist/none).	The internal data status of the newest linked file appears.	The internal data status of the newest linked file appears.
Calibration Corrected Ch.:	The name of the calibration corrected channel.	• For the DX100P/DX200P, the calibration corrected channel of the newest linked file appears. • For release number 4 of DX1000/DX1000N/DX2000 models with the /AS1 option, the calibration corrected channel of the oldest linked file appears.	• For the DX100P/DX200P, the calibration corrected channel of the newest linked file appears. • For release number 4 of DX1000/DX1000N/DX2000 models with the /AS1 option, the calibration corrected channel of the oldest linked file appears.

Closing Data Viewer

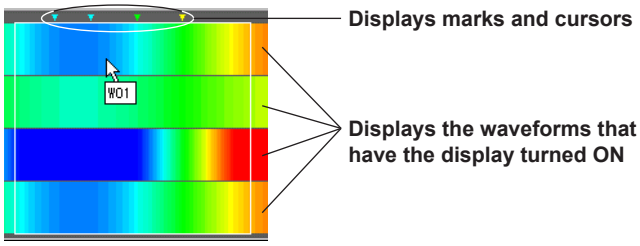
Select [File] - [Exit] or click the [×] button. If you changed the settings in any of the windows, a message “Save changes to ****.***?” is displayed. Click the [Yes] button, if you wish to save the settings and exit the Data Viewer. Click the [No] button, if you do not wish to save the settings and exit the Data Viewer.

2.2 Displaying the Waveform

Displaying the Waveform



Color Overview Display



The measured values of the entire data are displayed using various colors. By assigning 50 different colors from the minimum to the maximum values of the scale, the measured values are assigned to those colors.
If the data are display data, the maximum value is displayed at the top of the space allocated to a single waveform, and the minimum value is displayed at the bottom.

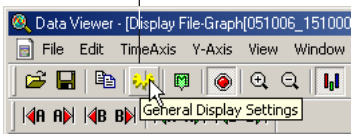
If you click or drag the cursor on the color overview display area, the section of the waveform is displayed in the waveform display area.

Note

The color overview is turned OFF as default.

General Display Settings

1. Click here ([View] - [General Display Settings]).



2. The [General Display Settings] dialog box opens.

3. Click the tab of the group to be configured.

The waveform corresponding to the waveform No. that is clicked becomes active.

Enter the group name

Select normal display or exponential display

Enter the display range

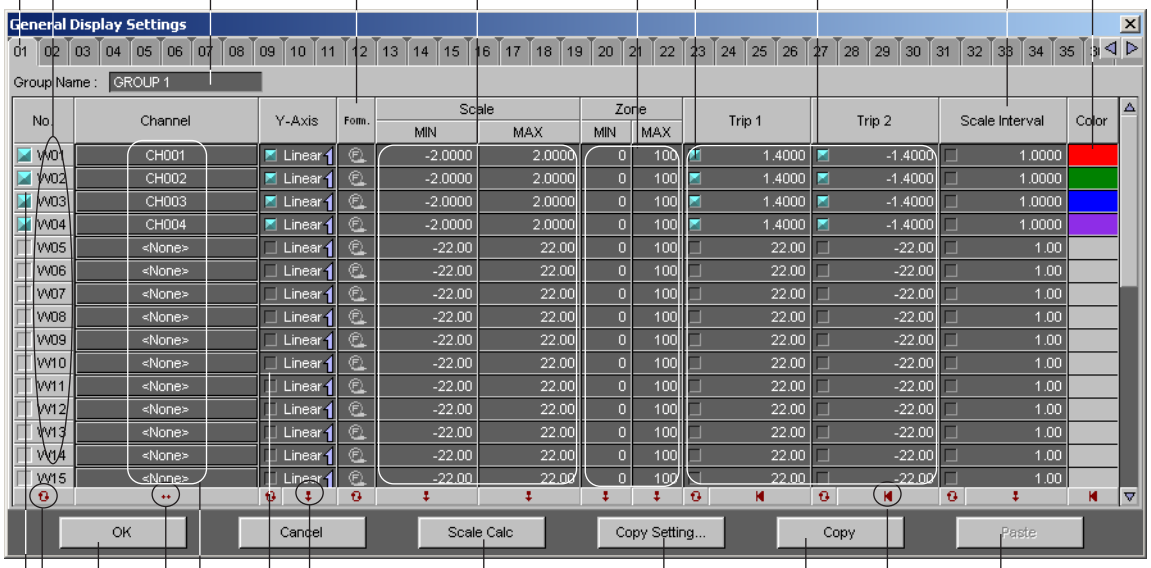
Enter the display position

Show/Hide the trip line

Enter the trip line

Set the scale intervals.

Display color



Paste the copied setup data to the active waveform number

Initialize

Copy the setup data of the active waveform number

Select the items to be copied

Set the maximum and minimum values of the measured data the maximum and minimum values of the scale.

Copy the settings of the first channel in the selected range to all other channels

Show/Hide the Y-axis

Register the channel

Assign numbers to the channels in the selected range in ascending order

Activate the settings and close the dialog box

Turn ON/OFF at once

Turn ON/OFF waveform display (Blue is ON)

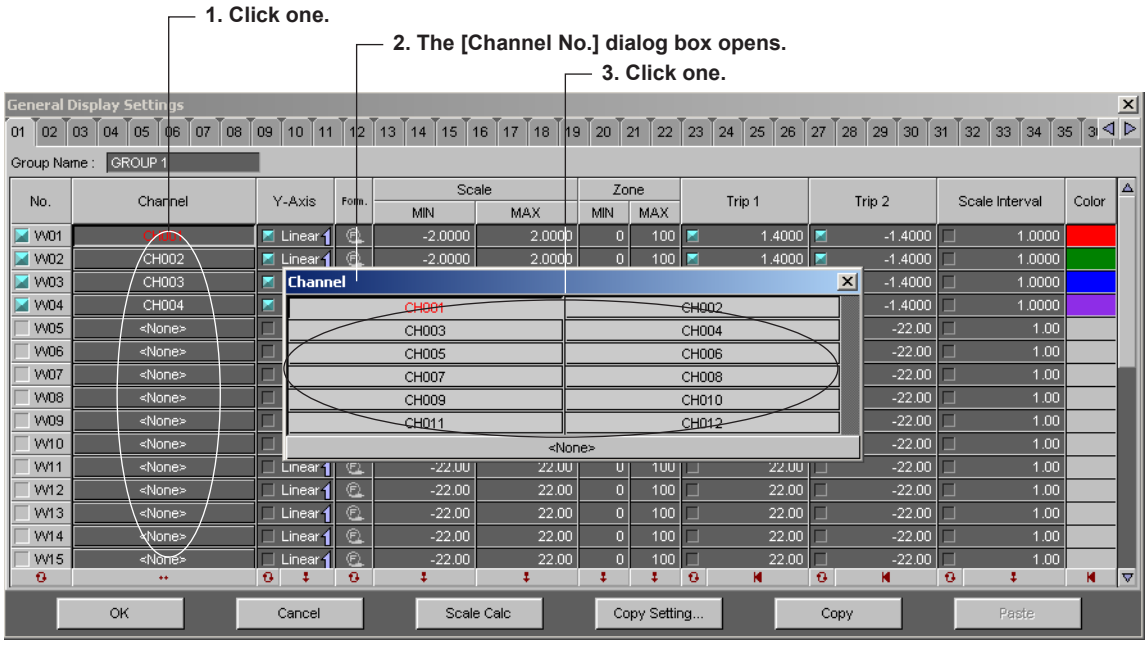
Group

A maximum of 50 groups can be set. A maximum of 32 channels can be registered in one group.

Turn ON/OFF the Display

Check the box of the waveform number to be displayed. This is synchronized to the ON/OFF button of the waveform display of the zone display area.

Registering the Channel



Types of Y-axis and Turning ON/OFF the Y-axis

Select linear or logarithmic by clicking the Y-axis display area. If [Multi-Axis Zone] (page 2-17, Setting the Y-axis) is selected, you can select whether or not to display the Y-axis. The Y-axis of the waveform for which the check box is shown in [blue] will be displayed.

Scale (display range)

The range of minimum and maximum values is from -1.0×10^{16} to 1.0×10^{16}.
Click the scale value display area to enter values.

Zone (display position)

The range is as follows:

- Minimum value: 0 to 99%
- Maximum value: 1 to 100%

Specify the waveform display position by taking the bottom edge of the waveform display area of the waveform display screen to be 0% and the top edge to be 100%. Click the zone display area to enter values.

Trip Line

Two trip lines (trip 1 is red, trip 2 is blue) can be set for each waveform. Only the trip lines of the active waveform are displayed on the waveform display screen. However, on the auto zone display screen (“Setting the Y-axis” on page 2-17), the trip lines of all displayed waveforms that are checked are displayed.
You can change the waveform display zone on the waveform display screen by clicking the edit zone icon on the tool bar or by selecting [Y-Axis] - [Edit Zone] in the menu bar.

Scale Interval

You can specify the scale interval. You can specify values that are within the following range: “1/1000 of the scale width” (this is the smallest scale interval) to “1/2 of the scale width” (this is the largest scale interval). The default value is 1. The decimal place of this setting is the same as the decimal place of the scale.
Example: If the scale is –2.0000 to 2.0000, the smallest scale interval is 0.004, and the largest scale interval is 2.

Note

- If you specify a value that is smaller than the smallest possible value, the smallest possible value will be specified. If you specify a value that is larger than the largest possible value, the largest possible value will be specified.
- When the Y axis is set to logarithmic, you cannot set the scale interval. In this situation, this setting is disabled.
- Y-axis scale numbers
  - A maximum of 22 scale numbers and a minimum of 2 scale numbers can be displayed.
  - If “0” falls within the range of the scale, “0” and the integer multiples of the scale interval with “0” as the origin are displayed.

Display Color

You can select the color of each waveform. To create custom colors, click the [Define Custom Colors] button in the [Color] dialog box.

Copy/Paste

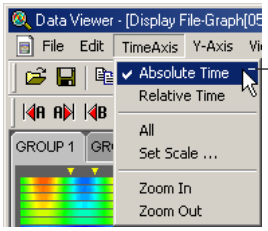
You can copy the setup data of one channel or more to other channels. Use the following procedure to copy and paste.

1. Click the source channel number that you want to copy. To select many channels, click the first source channel, then drag over all the channels that you want to copy.
2. Click the [Copy] button at the bottom of the window.
3. Click the destination channel number. To select many channels, click the first destination channel, then drag over all the channels where you want to paste.
4. Click the [Paste] button at the bottom of the window. The setup data is pasted in the active waveform(s).

You can also copy and paste specific channel items.
After selecting the copy source in step 1, click the [Copy Details] button to display the [Copy Details] dialog box.
Select the items that you want to copy.

Setting the Time Axis

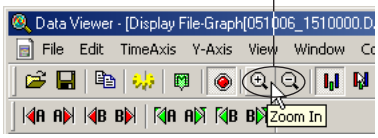
Selecting absolute or relative time display



Select [Time Axis] - [Absolute Time] or [Relative Time].

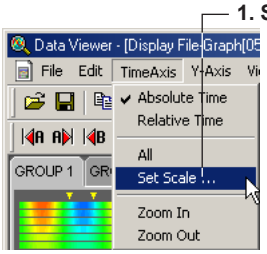
Zoom in or zoom out on the time axis

Click either one

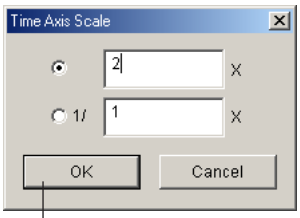


By selecting [Time Axis] - [All], the time axis is adjusted so that all the data can be displayed. If you wish to zoom in or out by specifying the zoom rate, take the following steps (resolution is 1/1000 to 20):

1. Select [Time Axis] - [Set Scale].



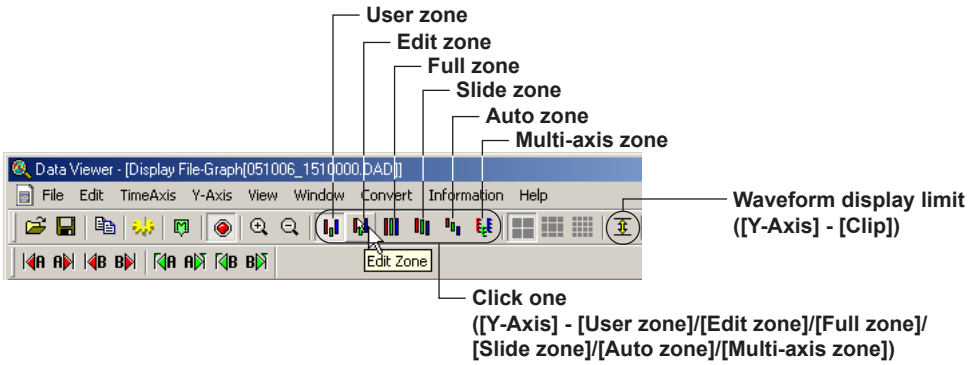
2. The [Time Axis Scale] dialog box opens.



3. After entering the zoom rate, click the [OK] button.

Setting the Y-axis

Selecting the waveform display zone



Select from the following list of choices:
For the display examples of each zone, see the next page.

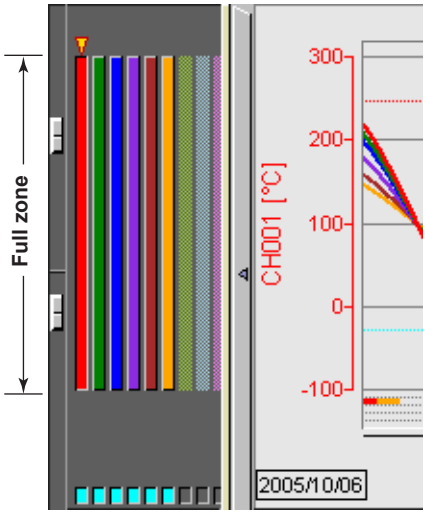
- User zone: Each waveform is displayed in the range specified in [Zone] under the [General Display Setting] (the zone cannot be changed on the waveform display screen).
- Edit zone: Each waveform is displayed in the range specified in [Zone] under the [General Display Setting] (the zone can be changed on the waveform display screen).
- Full zone: Display all waveforms using full zones.
- Slide zone: Display the waveforms in a cascade fashion from the top to the bottom of the waveform display area.
- Auto zone: Display the waveforms by equally dividing the waveform display area by the number of displayed waveforms.
- Multi-axis zone: Display the Y-axis of multiple waveforms.

Note

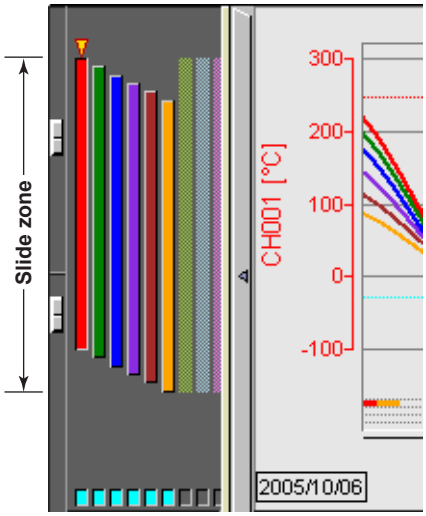
If the waveform display zone is set to some setting other than multi-axis zone and auto zone, only the Y-axis of the active waveform is displayed.

Examples of the Various Zone Settings

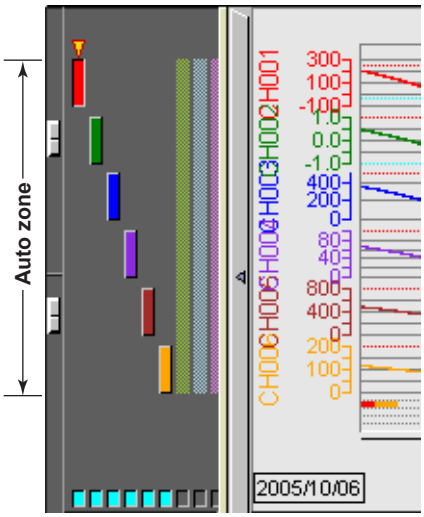
- Full zone



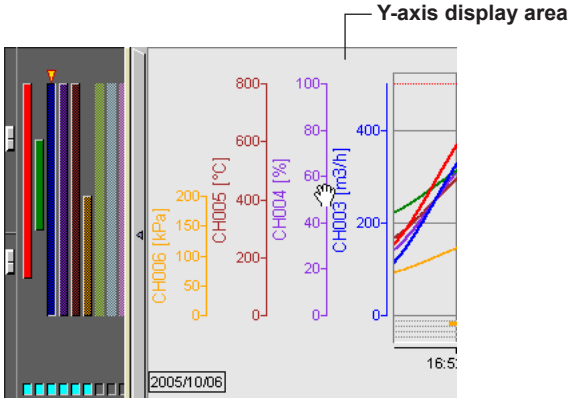
- Slide zone



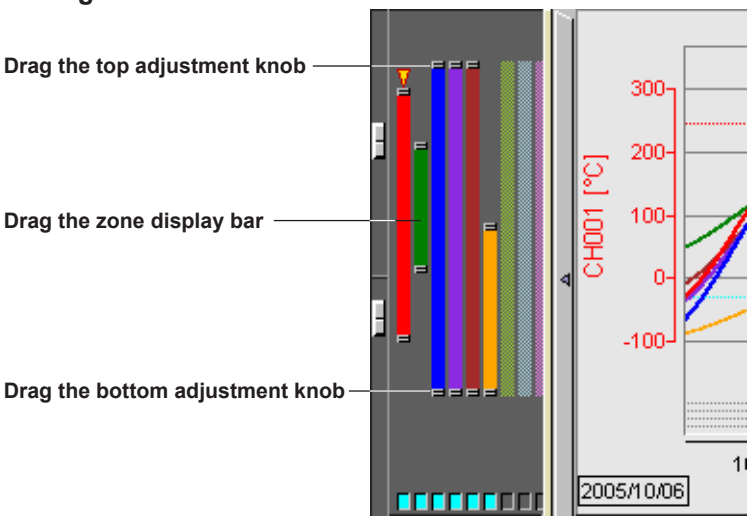
- Auto zone



- Multi-axis zone



Editing Zones

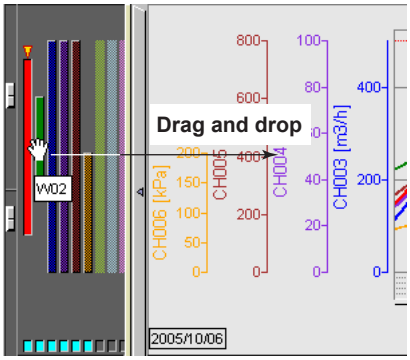


You can change the waveform display zone on the waveform display screen by clicking the edit zone icon on the tool bar or by selecting [Y-Axis] - [Edit Zone] in the menu bar.
The size of the zone can be changed by dragging the top and bottom adjustment knobs.
The entire zone can be moved by dragging the zone display bar.
The zones that are set in [Edit Zone] are reflected in the [Zone] setting of the [General Display Settings].

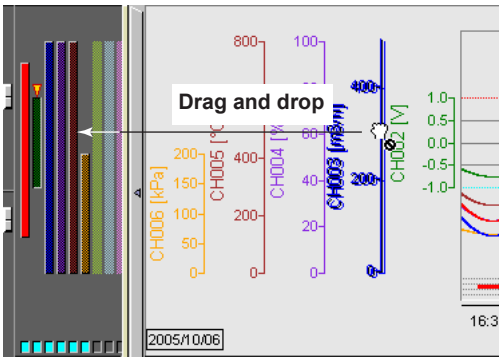
Displaying Multiple Y-axis

When multi-axis zone is selected, the Y-axis scales corresponding to the [Y-Axis] boxes in the [General Display Settings] that are checked will be displayed.

- Adding a Y-axis

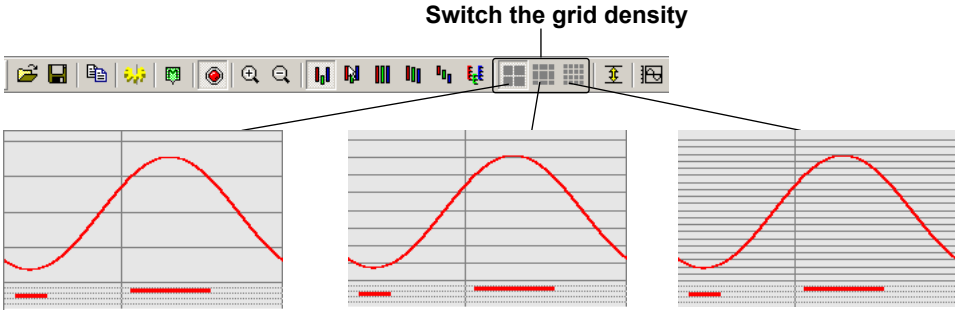


- Deleting a Y-axis



Changing the Grid Display

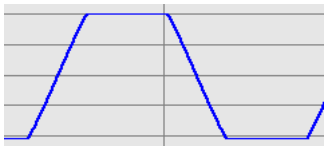
Select the grid type by clicking [Grid density] on the toolbar, or Y-axis on the menu bar. Switch the grid density.



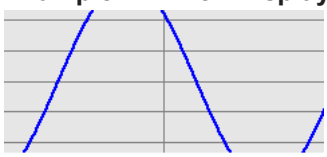
Waveform Display Limit (clip)

When the waveform display limit is enabled by clicking the clip icon ( ) or by selecting [Y-Axis] - [Clip], the Y-axis display range of the waveform are limited to the minimum and maximum values that were specified under [General Display Settings] - [Scale]. Measured values that are less than the minimum value are set to the minimum value and values that are greater than the maximum value are set to the maximum value.

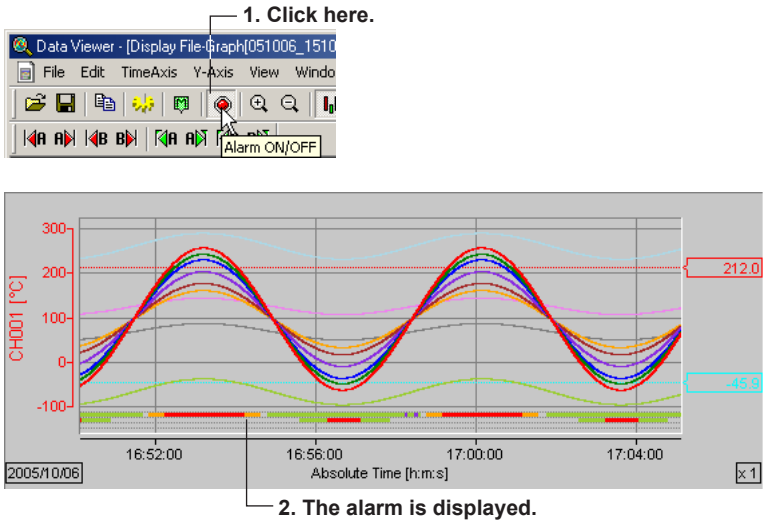
- **Example in which Display Limit is Enabled**



- **Example in which Display Limit is Disabled**

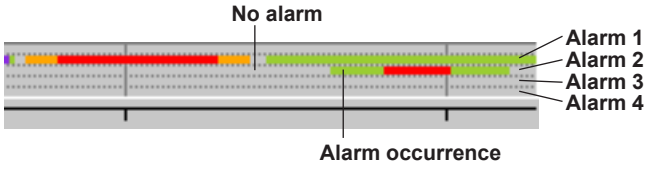


Turn ON/OFF the Alarm Display



The alarm conditions of alarm 1 to 4 are displayed in the alarm display area.

Alarm display



The alarm of the active waveform is displayed in front.

Selecting the Characters Used to Identify Channels

You can set what kind of labels to use to display channels. You can select channel numbers, tags, or tag numbers by selecting [View] - [Channel No.], [Tag], or [Tag No.].* Register labels from the DX front panel or by using the Hardware Configurator.

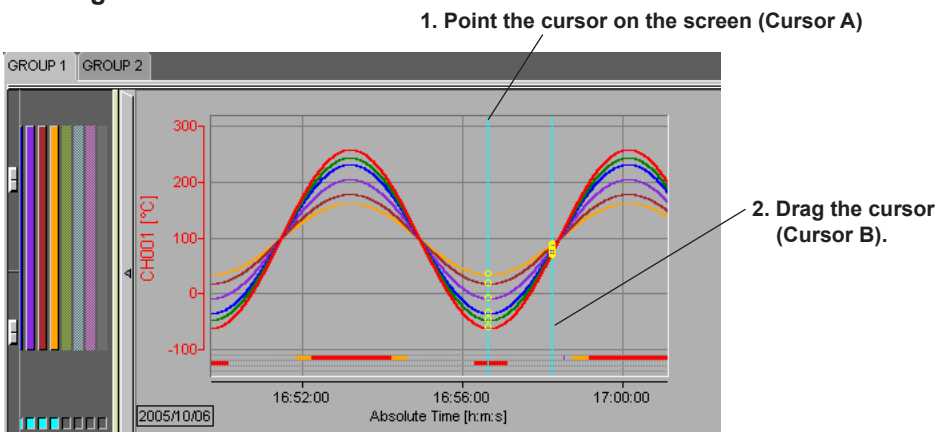
* This function is available on the DXs with release numbers 3 and later.

Note

- The label setting (channel number, tag, or tag number) is common to all of the following windows:
  Waveform display window, circular display window, numeric display window, list display window, [Cursor Value] window, [Computed Result] window, [General Display Setting] dialog box, channel selection dialog box, and data conversion dialog box
- Channel number, tag, and tag number displays
  If you reduce the size of a waveform display window, labels may not be displayed in their entirety. Labels are displayed in their entirety on all other windows.
- If you convert measured data to Excel or other formats, the converted files contain channel numbers, tags, and tag numbers.

Showing/Hiding Cursors

Showing the Cursor

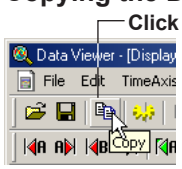


By selecting [Edit] - [Select All], Cursor A and Cursor B moves to the beginning and the end of the data, respectively.

Hiding the Cursor

Select [View] - [Hide Cursor].

Copying the Data to the Clipboard



On the numerical window and list display window (section 2.6), you can copy the data between Cursor A and Cursor B to the Windows clipboard. On the waveform display window and circular display window, the displayed image can be copied to the clipboard.

Note

- The maximum number of data points that can be copied to the clipboard is 1000.
- The channels that are copied to the clipboard are those that are registered in the selected group with the waveform display turned ON.
- When the display mode of the time axis is set to absolute time, the absolute time is output. If it is set to relative time, the relative time from the first data point is output.
- Contents that have been copied to the clipboard can be pasted to other applications for use.

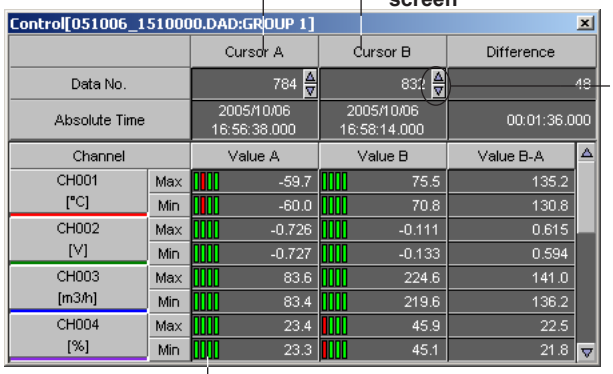
Displaying Cursor's Values

Clicking the control icon or selecting [Window] - [Control] displays the [Control] dialog box.

1. Click here ([View] - [Display Cursor's Values]).

2. The [Cursor's Value] dialog box opens.

The values of Cursor A and B on the waveform display screen



Cursor movement button

Alarm display
(Displays the conditions of alarm 1, 2, 3, and 4 from the left)

A list of Cursor A and B values and their differences on the waveform display screen is displayed. You can change the values of Cursor A and B by clicking the cursor movement buttons.

When the alarm display is turned ON, the alarm conditions are displayed. When an alarm is in effect, the indicator is red. When it is not, the indicator is green.

Displaying Numeric Values of Abnormal Data

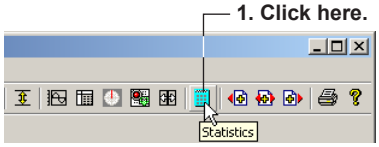
The abnormal data are displayed as follows:

+OVER: Measured/computed data are over the positive limit
-OVER: Measured/computed data are under the negative limit
LACK: Computation error or data dropout

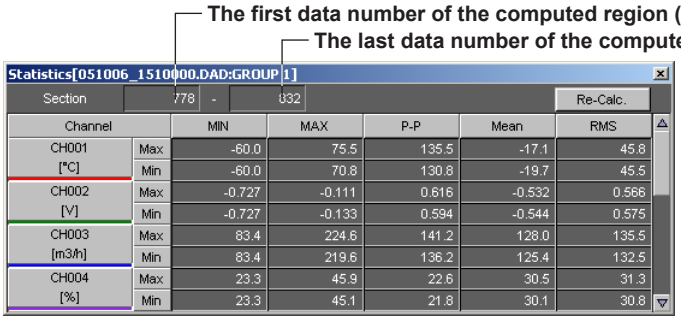
Note

When a cursor is not displayed on the waveform display screen, the cursor's value display area becomes blank. Difference becomes INVALID.

Displaying Statistics



2. The statistics display screen opens.



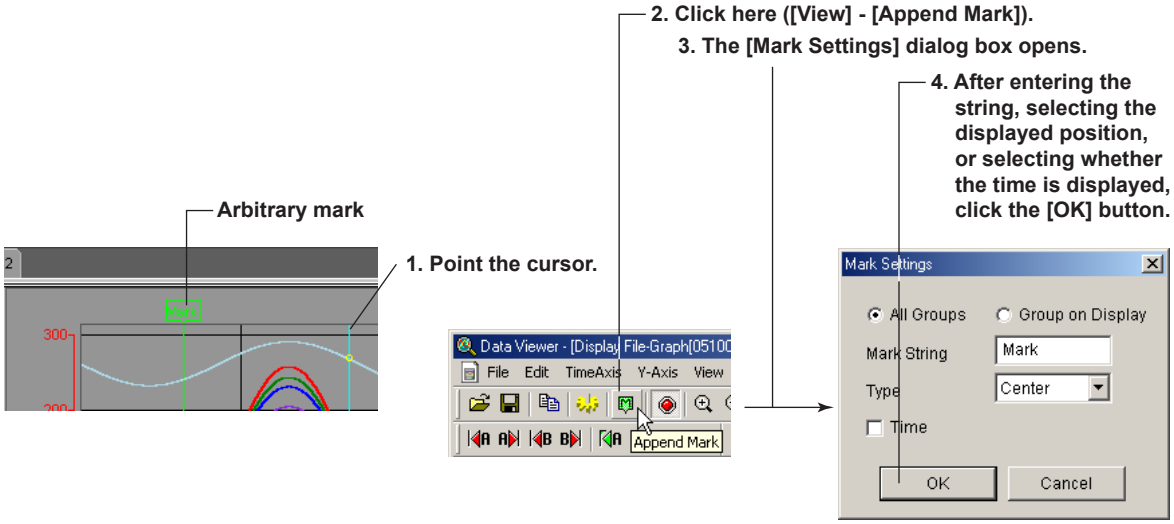
Note

$$RMS = \sqrt{\frac{1}{n}\sum_{k=0}^{n-1}(x_k)^2}$$

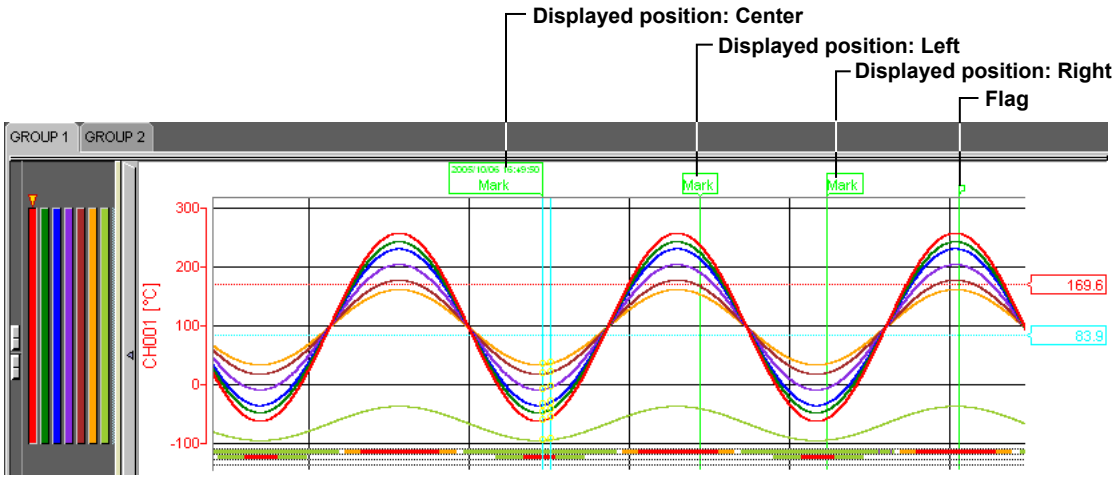
n : Number of data
x_k : value

The minimum value, maximum value, P-P, mean, and rms value for each waveform in the range specified by Cursors A and B are computed and displayed. If the cursor is not displayed, the computation is performed over the entire data.
As the results of the computation do not update automatically, you must click the [Re-Calc.] button in the [Statistics] dialog box to update the computed results if you change the position of Cursor A or B.

Adding Arbitrary Marks

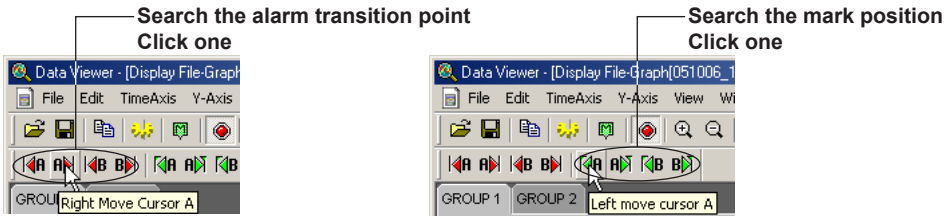


When Cursor A and Cursor B are at the same position, arbitrary marks can be placed. You can select whether to put the arbitrary marks on all groups or only on the displayed group. And you can set the displayed position of the mark and select whether the time is displayed by the mark.
The displayed time is either the absolute time or relative time depending on the time axis setting.



If you left-click the mark while pressing the “Ctrl” key, the mark is displayed in front.
If you left-click the mark while pressing the “Shift” key, the mark is displayed in the back.
Double-clicking a mark, that has been created using the Data Viewer, opens the [Mark] dialog box in which you can change the displayed group and the mark name.

Searching the Alarm Transition Point and Mark Position



Searching the Alarm Transition Point

Moves Cursor A or Cursor B to the alarm transition point (the point at which the alarm occurred and the point at which the alarm was released) of the active channel.
Searching is possible to the left and right of the cursor.

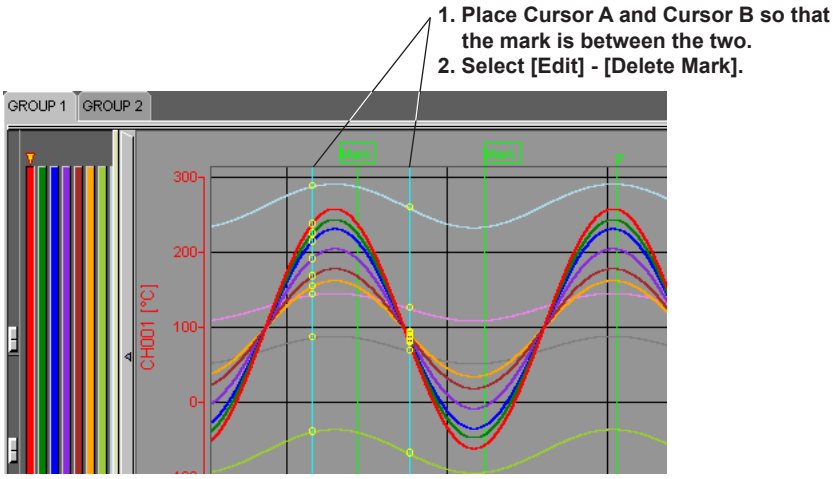
Searching the Mark Position

Moves Cursor A or Cursor B to the mark position (arbitrary mark or trigger mark) of the active group.
Searching is possible to the left and right of the cursor.

Note

- The searching function cannot be used, if the cursor is not displayed.
- The search function cannot be used, if there are no arbitrary marks or when the alarm display is OFF.

Deleting Marks



The arbitrary marks (green/yellow) and trigger marks (yellow) between Cursor A and Cursor B are deleted.

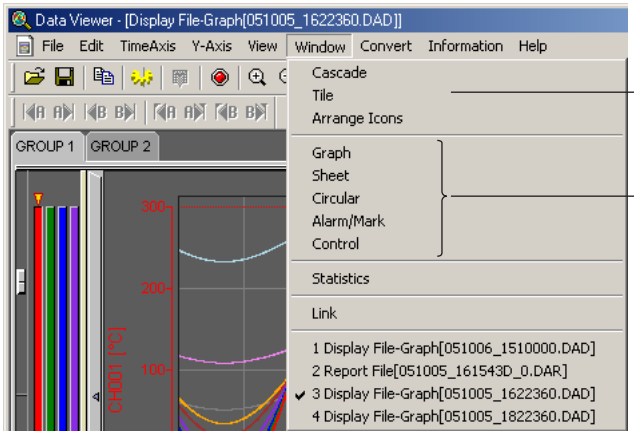
Note

- The arbitrary marks placed on the Data Viewer are green. The arbitrary marks (messages) and trigger points placed on the recorder are yellow.
- Up to 32 characters can be used for a mark name.

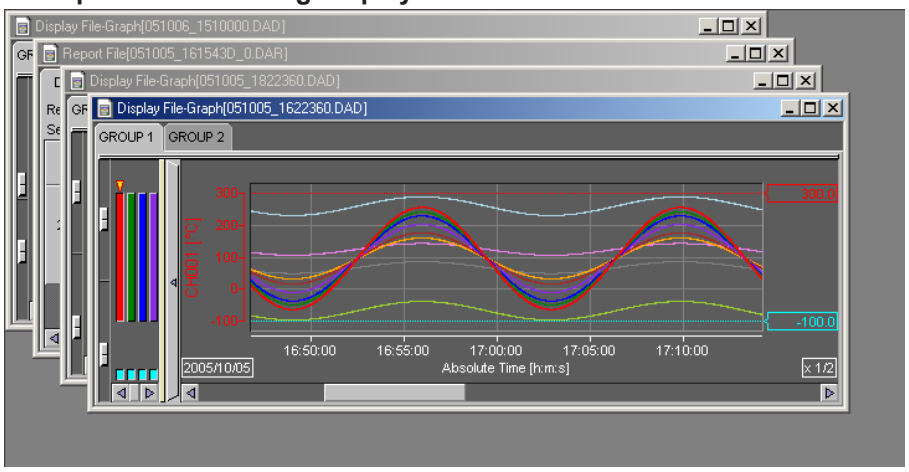
Resetting Marks

All arbitrary marks created on the Data Viewer are erased by selecting [Edit] - [Reset Mark]. The marks (messages) and the trigger point that were created on the recorder but deleted on the Data Viewer are displayed again.

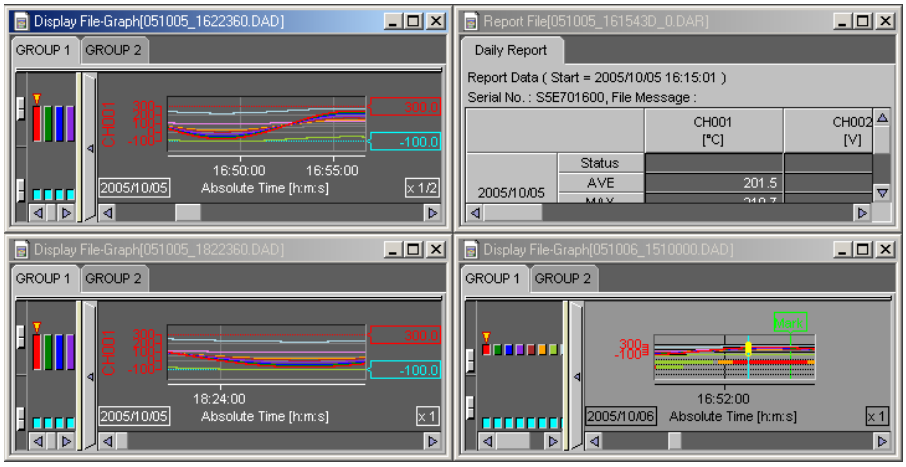
Setting the Window



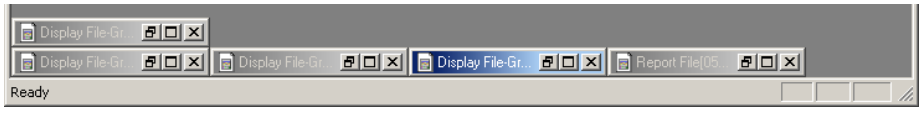
- **Example of a Cascading Display**



- **Example of a Tiled Display**

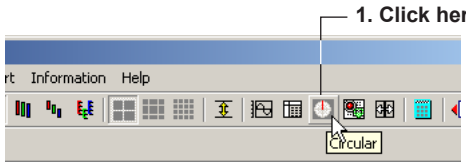


- **Example of an Arranged Icon**

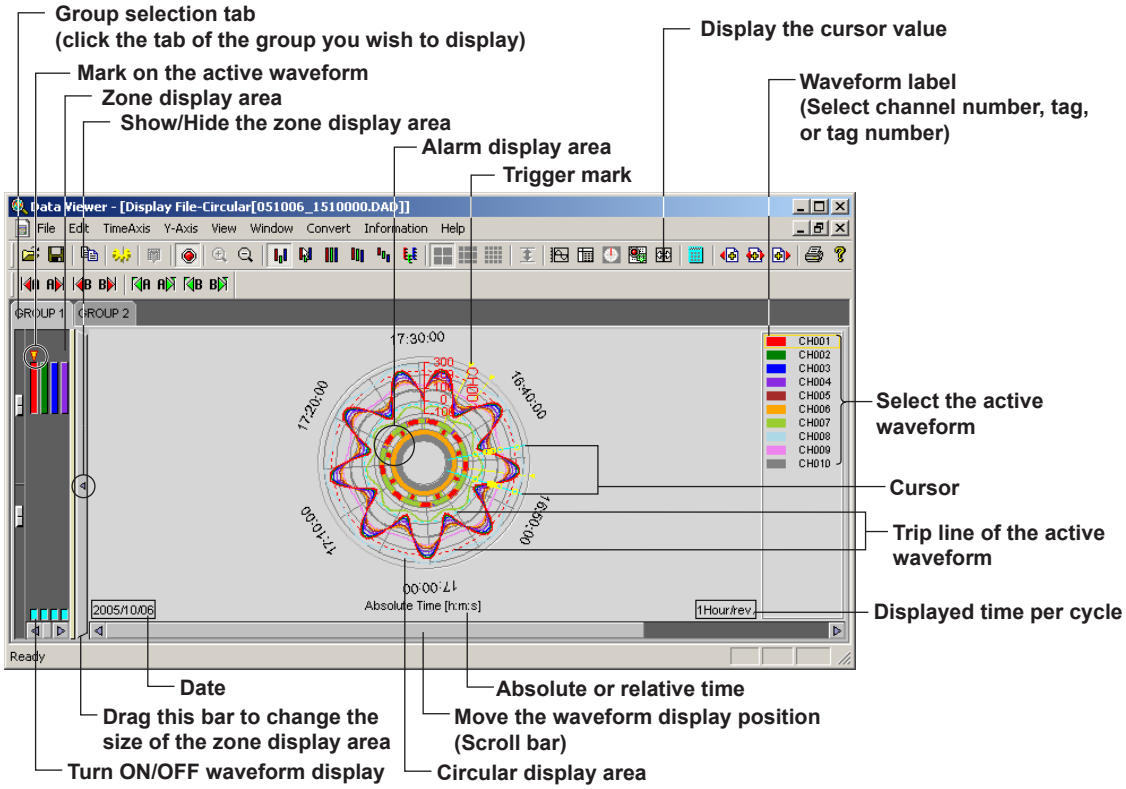


2.3 Circular Display

Circular Display



2. The circular display screen opens.



General Display Settings

The parameters in the [General Display Settings] dialog box that are different between the circular display and the waveform display (section 4.2) are as follows:

Trip Line

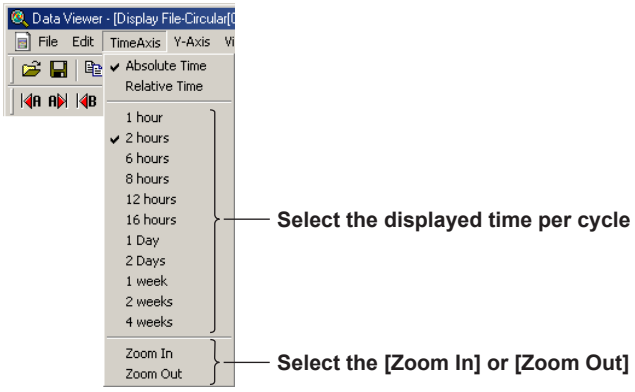
The trip lines on the circular screen cannot be dragged and dropped.
You can change the position of the trip lines by changing the values in the [General Display Settings] dialog box.

Setting the Time Axis

Selecting absolute or relative time display and zooming in or zooming out on the time axis.

See section 2.2, “Displaying the Waveform.”

Selecting the displayed time

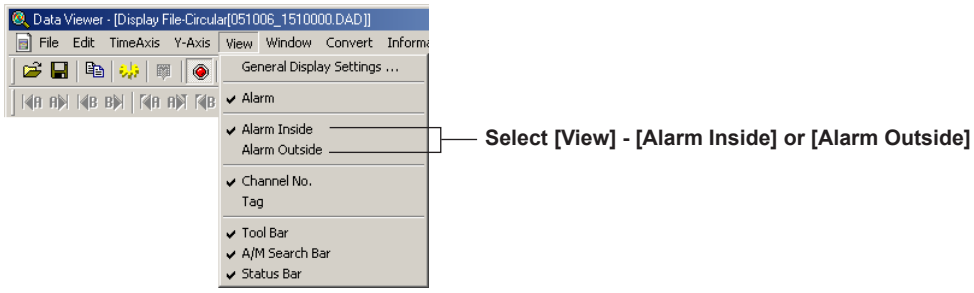


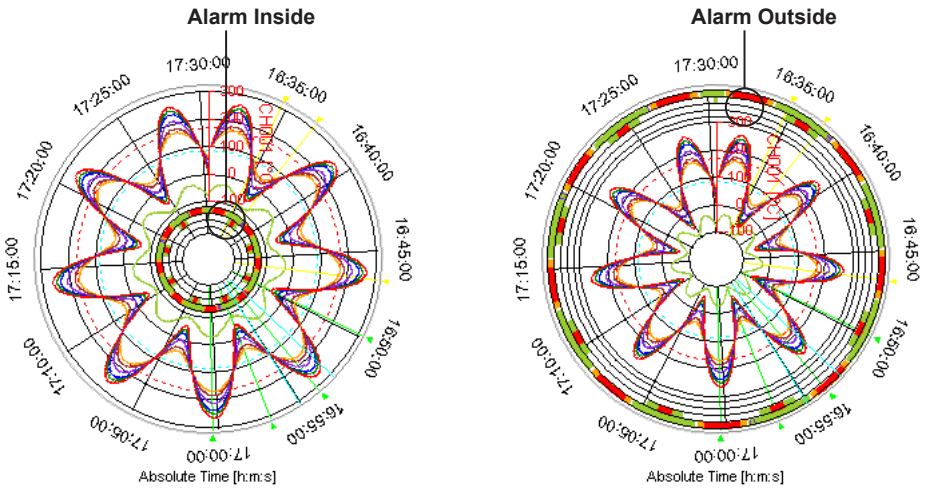
Setting the Y-axis

The circular screen always displays the waveform that is limited to the values between the maximum and minimum values of the Y-axis display range. The range is set using [Scale] in the [General Display Settings] dialog box.

Turning ON/OFF the Alarm Display

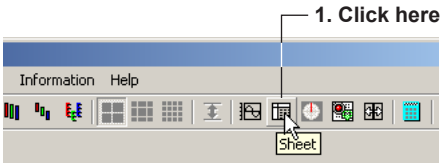
You can select whether to display the alarm on the inside or the outside of the waveform display section of the circular screen.



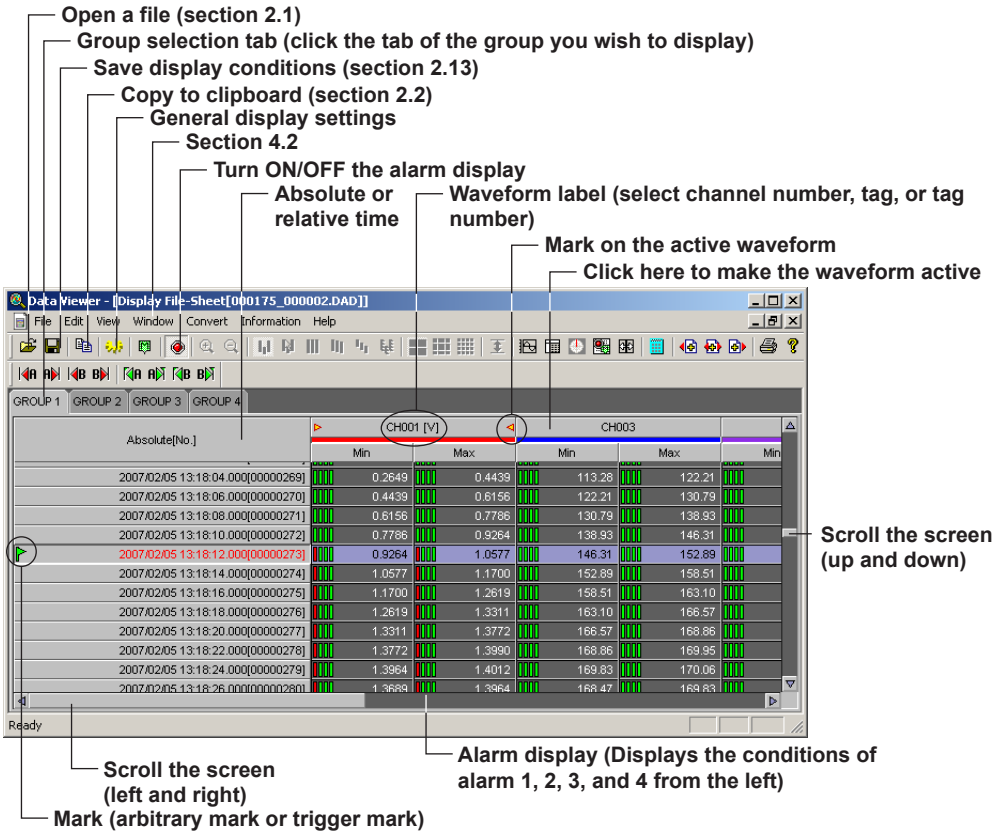


2.4 Displaying Numeric Values

Displaying Numeric Values



2. The numeric display screen opens.



General Display Settings of the Numeric Display

Clicking the General Display Settings icon or selecting [View] - [General Display Settings] opens the [General Display Settings] dialog box. Of the parameters in the [General Display Settings] dialog box, those that relate to the numeric display are as follows:

- Normal or Exponential display of numerical values
- Registering the channel and turn the display ON or OFF

For details related to the setting procedures, see “General Display Settings” in section 2.2, “Displaying the Waveform.”

Setting the Time Axis

Select [View] - [Absolute Time] or [Relative Time]. Then, select the time display format using [Format].

Turn ON/OFF the Alarm Display

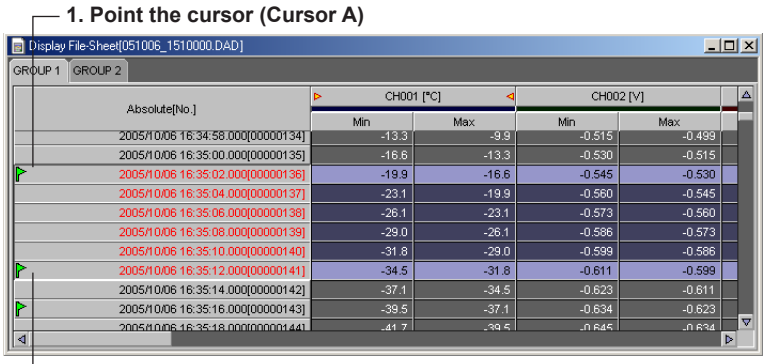
The alarm conditions of alarms 1 to 4 are displayed on the screen by clicking the alarm display icon or selecting [View] - [Alarm] and turning ON the alarm display. When an alarm is in effect, the indicator is red. When it is not, the indicator is green.

Selecting the Characters Used to Identify Channels

For details, see “Selecting the Characters Used to Identify Channels” in section 2.2, “Displaying the Waveform.”

Showing/Hiding Cursors

Showing the cursor



By selecting [Edit] - [Select All], Cursor A and Cursor B moves to the beginning and the end of the data, respectively.

Showing the Cursor Value, Displaying Statistics and Hiding the Cursor

For details, see “Displaying Cursor’s values,” “Hiding the Cursor,” “Displaying Statistics” in section 2.2, “Displaying the Waveform.”

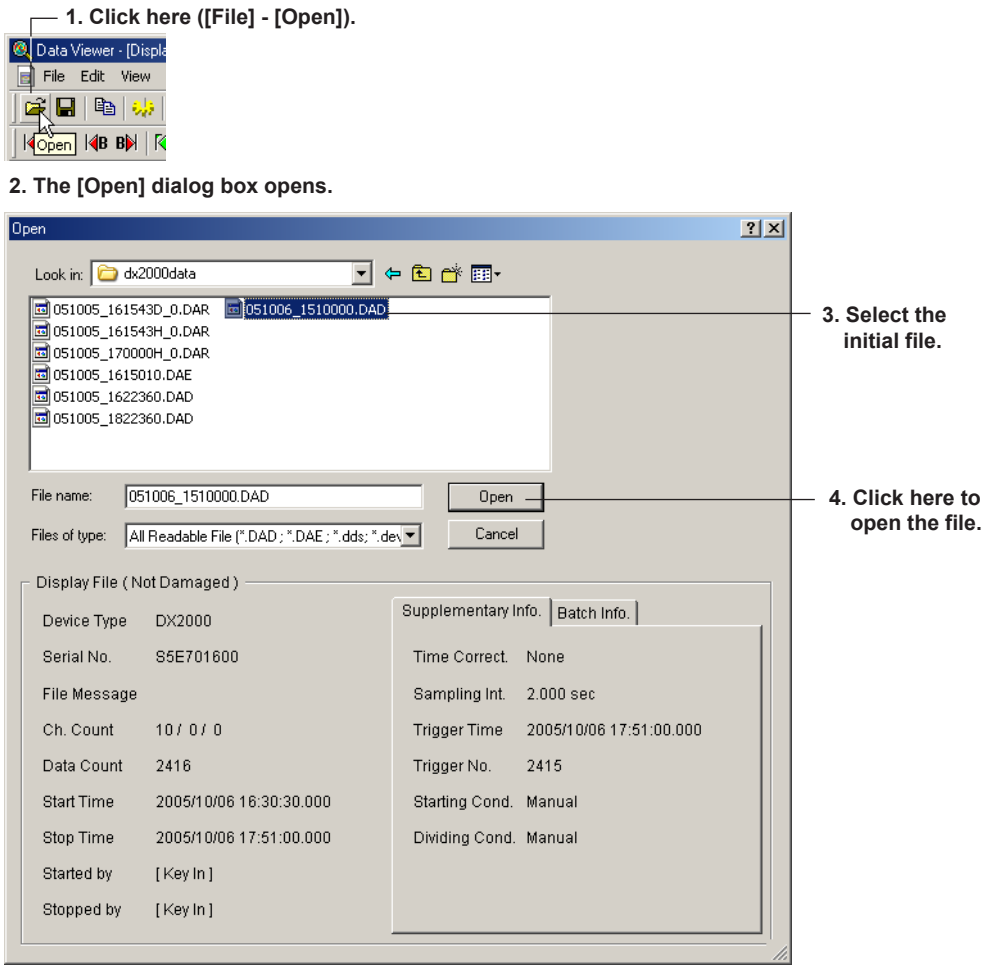
Adding Arbitrary Marks, Deleting Marks, and Resetting Marks

For details, see “Adding Arbitrary Marks,” “Deleting Marks,” and “Resetting Marks” in section 2.2, “Displaying the Waveform.”

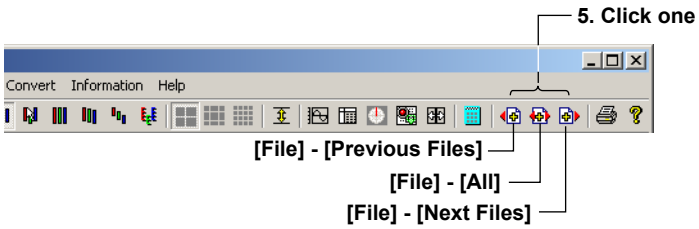
2.5 Linking Files and Saving the Link Settings File

Linking Files

You can link and display files that have been divided by the auto save function, power failures, or other means (factors) on the recorder.
The files that can be linked are those that exist in the same directory. There are two methods to link files, from the toolbar and from the menu bar.



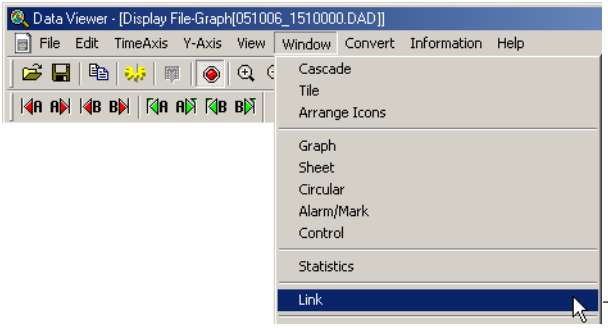
From the Toolbar



Linking Previous and Subsequent Files Collectively

This function is available with R7.21 or later. You can collectively link previous and subsequent files to the current file, and display them. All files available for linking are shown together in a display.

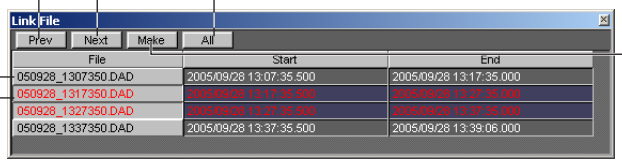
From the Menu Bar



5. Click here ([Window]-[Link]).

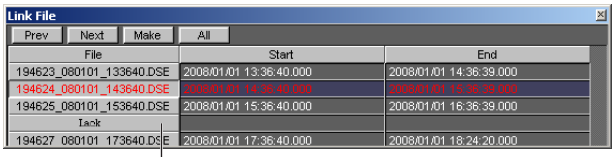
6. The [Link] dialog box opens.

8. Select [Prev] (previous file), [Next] (subsequent file), or [All] (all files).



7. Click here (display files for linking).

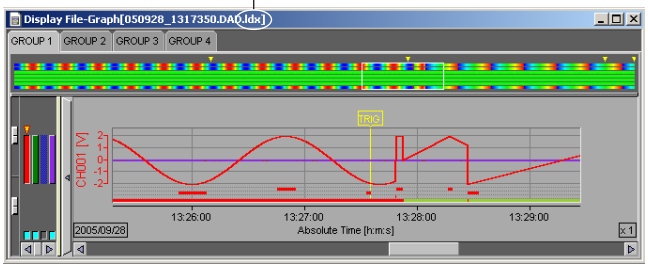
9. Displays the linked files in a different color.



If a file in the batch file is missing, "Lack" appears in place of the file name.

10. Displays the linked files.

When the link settings file is saved (see the next page), the extension .ldx is appended to the original file name.



Note

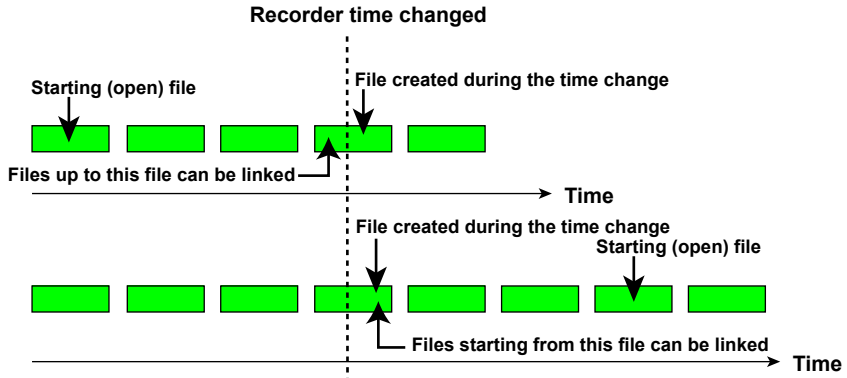
When linking and displaying files, make sure that the number of data points after linking does not exceed 5242880.

In addition, if there is a period over which data does not exist such as when a power failure occurs, data is counted as if the data is acquired at the given scan interval even during that period. The scan interval and the maximum period for linking files are indicated below.

Interval	Period
25 ms	36.4 hour
125 ms	7.5 days
1 s	60.6 days
10 s	606.8 days

For example, if data is captured continuously at a 125-ms interval and there is a one or more week long power failure, the data from before and after the power failure cannot be linked and displayed.

- If you open a file that was created prior to a time change on the recorder and then link subsequent files, files from the open file up to the point of the time change are linked. If you open a file that was created after a time change on the recorder and then link previous files, files starting from the point of the time change are linked.



- The linked data display is based on the time of the starting file.

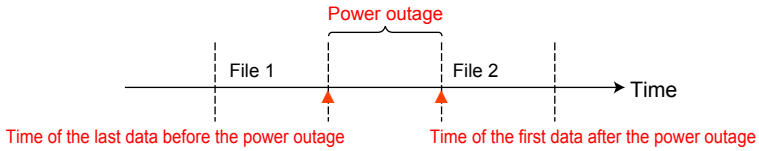
How the Number of Data Points in Linked Files Is Calculated

This section explains how the number of data points in linked files is calculated.

Calculation Method When No Data Is Missing

When there have been no power outages or time changes, the number of data points is calculated according to the data start and end numbers of each unit of data.
When there has been a time change, any time changes within connected files are ignored, and the number of data points is calculated according to the data start and end numbers of each unit of data. When there has been a power outage, blank data is inserted. The number of inserted blank data points is determined by the following formula.

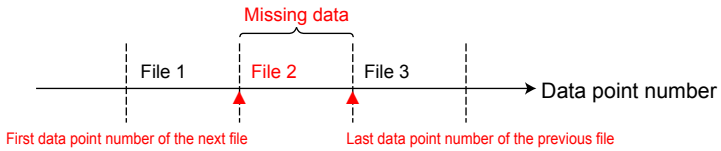
$$\text{[Number of inserted blank data points]} = \frac{\text{[Time of the first data after the power outage]} - \text{[Time of the last data before the power outage]}}{\text{[Acquisition period]}} - 1$$



Calculation Method When Data Is Missing

When the data within a batch data file created by the DX100P/DX200P or by a DX1000/DX1000N/DX2000 model with the /AS1 option is missing, blank data is inserted. The number of inserted blank data points is determined by the following formula.

[Number of inserted blank data points]=[Last data point number of the previous file] - [Last data point number of the previous file] -1



Saving the Link Settings File

Select [File] - [Save Display Setting As] to save the link settings file to the same directory as the linked files.
The file name takes the form of the original file name with the file extension .ldx.
You can save the file by specifying the file name and the destination directory by selecting [File] - [Save Display Setting].

Note

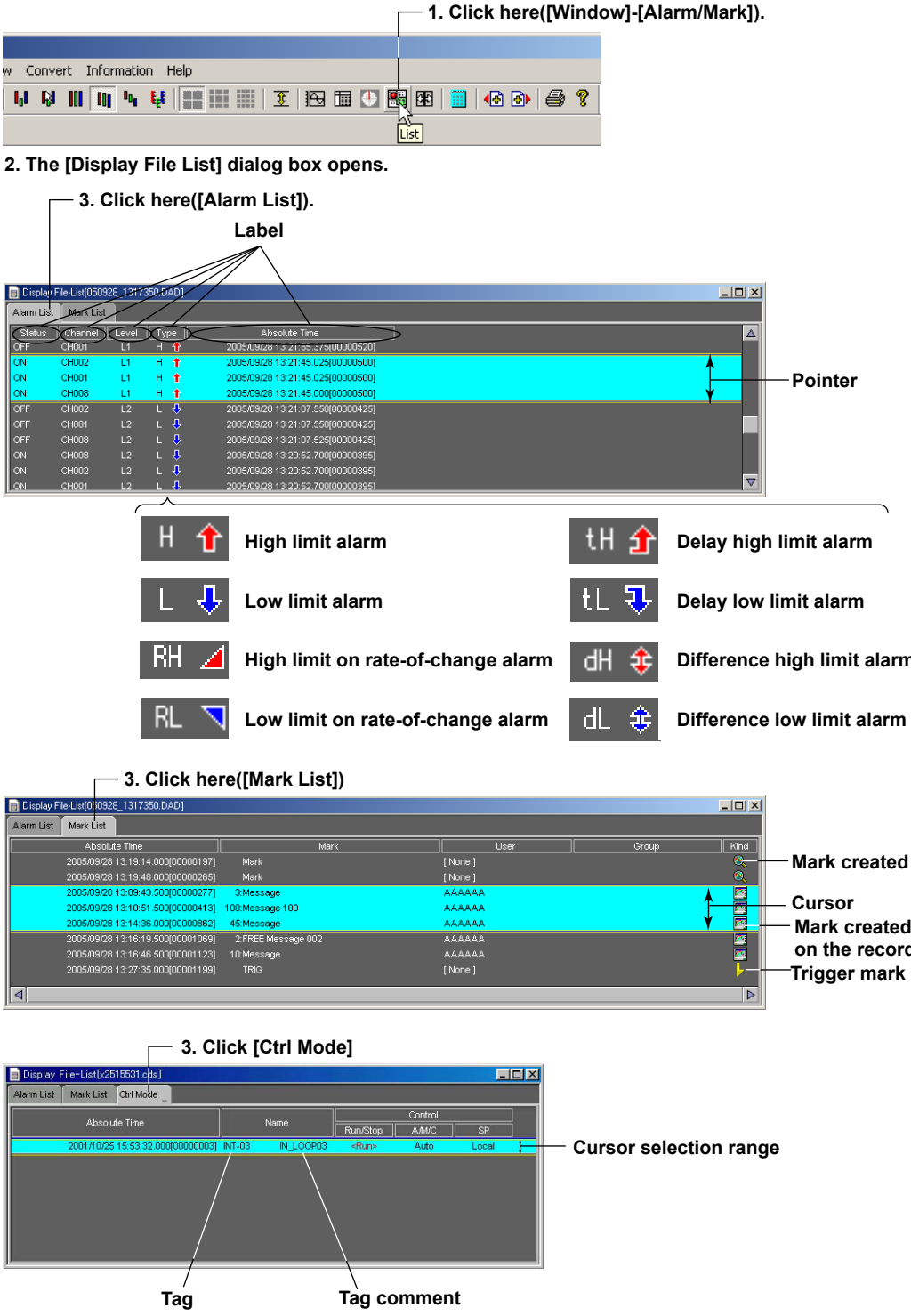
Files with the extension .ldx contain only link settings. To reopen a linked file, you must have the original data file.

Saving the Display Conditions of Linked Files

For information about the display state when you open files and link them, save display settings, or save display settings to a specific file name, and for information about how display settings are saved when you close displays, see section 2.13, “Saving the Display Settings.”

2.6 Listing Alarms, Marks, and Control Modes, and Converting the List

A list of alarms, marks, and control modes is displayed with the display data file or event data file opened.



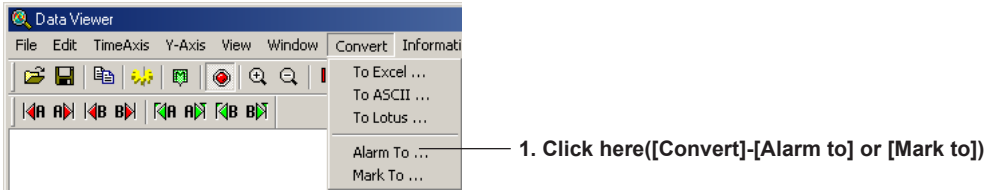
Click a label on the [Alarm List] display screen to sort using the label. The first click will sort the list in the ascending order; the second click will sort the list in the descending order.

Note

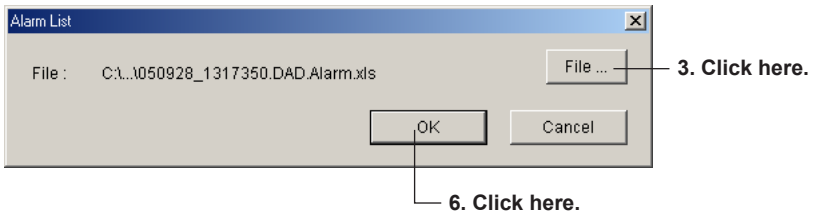
If you drag on the [Alarm List] display screen, a pointer is displayed. The cursor on the waveform display, circular display, numerical display, and cursor value display are not synchronized to this pointer.

Converting and Saving an Alarm List, Mark List, or Control Mode List

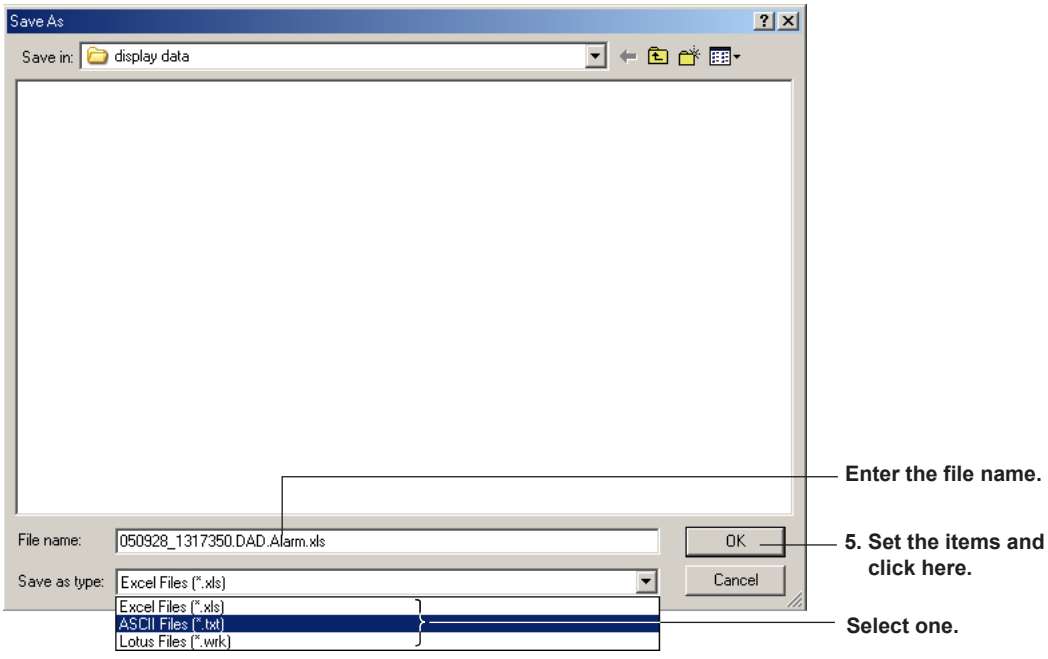
An alarm list, mark list, or control mode list can be converted to Excel, ASCII, and Lotus formats.



2. The [Alarm List] or [Mark List] dialog box opens.



4. The [Save As] dialog box opens.

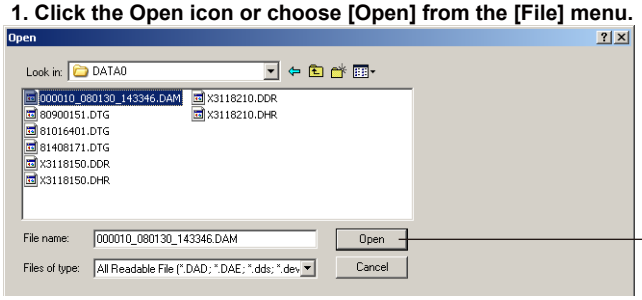


See section 2.15 for the file format after conversion.

2.7 Displaying the Manually Sampled Data Files

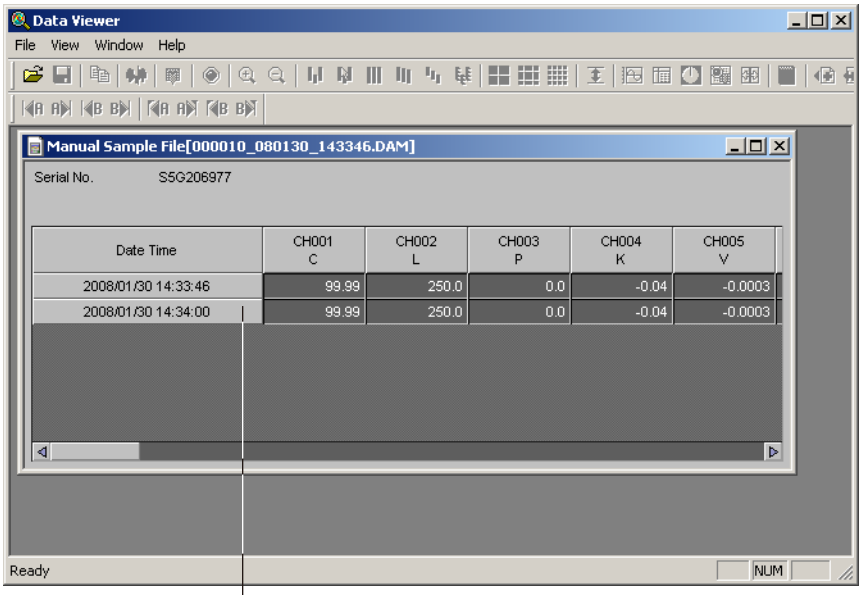
This section explains how to display a manually sampled data file.

1. Click the Open icon or choose [Open] from the [File] menu.



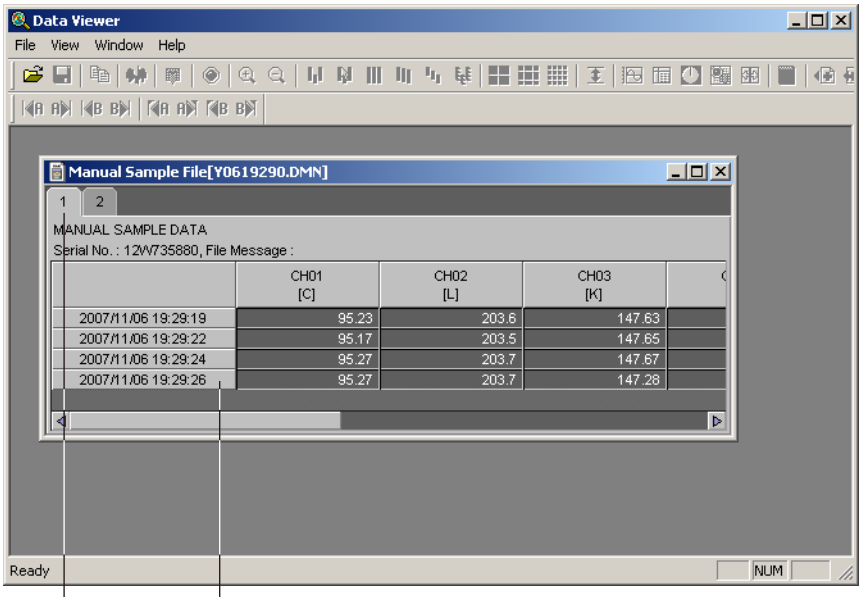
2. Select the desired file, and click the [Open] button.
Extension: .DAM or .dmn

DX1000, DX1000N, DX2000, MV1000, and MV2000 manually sampled data file (.DAM extension)



Date/time of manual sampling

CX1000, CX2000, DX100, DX200, DX200C, MV100, and MV200 manually sampled data file (.dmn extension)



Date/time of manual sampling

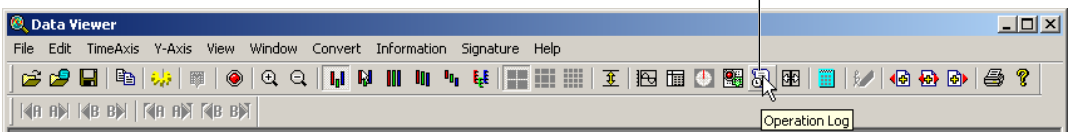
If a file contains manually sampled data that has been acquired under different conditions, they are displayed separately using tabs.

2.8 Displaying an Operation Log, Displaying Changed Settings, and Converting Data

Displaying an Operation Log

You can display operation logs for display and event data files created by a DX100P/DX200P or by a DX1000/DX1000N/DX2000 model with a release number of 4 and the /AS1 option.

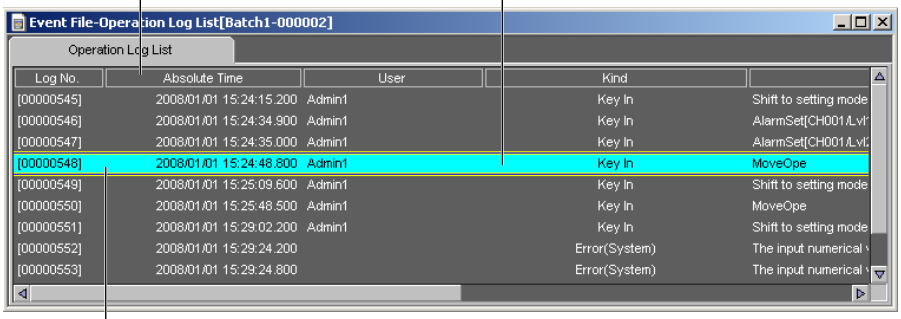
1. Click here, or click [Operation Log] in the [Window] menu.



2. The Operation Log List window appears.

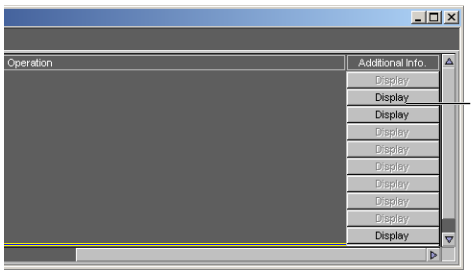
Absolute or relative time
To switch the display, in the [View] menu, click [Absolute Time] or [Relative Time].

3. Select and double-click a log of configuration changes.
If the appropriate configuration software is not installed, message E3132 appears.



Entries have shadowed characters when:

- They are logs of configuration changes.
- The appropriate software is installed when Viewer is opened.
- The appropriate software was not uninstalled or deleted after Viewer was opened.



Additional information display button
Double-click this button to display the Additional Info. window (see page 2-44).

4. Search for the appropriate setting serial number.
If the appropriate setting serial number cannot be found, message E3124 appears.

5. The appropriate configuration software starts (see page 2-46).

Operation Log Items

This section describes each item of the operation log.

- **Log No.**
  The sequential number of the log entry.
- **Absolute or Relative Time**
  Absolute Time: The time when the logged event occurred is displayed in the format yyyy/mm/dd hh:mm:ss.mmm.
  yyyy: year according to the Gregorian calendar, mm: month, dd: date, hh: hour, mm: minute, ss.mmm: second
  Relative Time: The relative time based on the oldest data is displayed in the format d hh:mm:ss.mmm.
  d: day, hh: hour, mm: minute, ss.mmm: second
- **User**
  The user name.
- **Kind**
  The displayed contents are listed separately for each recorder product.
  When an error or alarm occurs, “Error” or “Alarm” appears followed by the type of error or alarm in parentheses. For example, if an error occurs when a key is pressed, “Error(Key In)” appears. If an alarm occurs when a key is pressed, “Alarm(Key In)” appears.

Displayed Contents of Kind

Device Type	DX100P/DX200P	DX1000/DX1000N/DX2000 release number 4 with the /AS1 option
Displayed contents	Key In Remote In USER Key In. Comm. In PC Software Meas. Srv.(Monitor) FTP Server Test Srv.(Setting) Test Srv.(Monitor) Serial Comm. Auto Unknown	Key In Remote In Comm. In Event System PC Software Unknown

- **Operation**
  The types of operations are listed below.

DX100P/DX200P Operations

Operation	Details	What Appears on the Screen (Bolded words are displayed on the screen. Unbolded words are explanations.)
Error	Error code	See the table, “List of Operation Log Error Codes.”
Alarm	Error code	See the table, “List of Operation Log Error Codes.”
Login	—	**Login**
Logout	—	**Logout**
Invalid password	—	**Password refused**
Memory start	—	**Start memory**
Memory stop	—	**Stop memory**
Alarm acknowledgment	—	**Alarm ACK**
Message	—	**Message**
Manual sampling	—	**Manual Sample**
Trigger	—	**TRIG**
Starting of computation	—	**Start Math function**

(Continued on next page)

Operation	Details	What Appears on the Screen (Bolded words are displayed on the screen. Unbolded words are explanations.)
Stopping of computation	—	**Stop Math function**
Resetting of computation	—	**Reset Math data**
Acknowledgment of missing computation	—	**No Math data ACK**
Snapshot	—	**Snapshot**
Starting of mail	—	**Start mail**
Stopping of mail	—	**Stop mail**
Saving of display data	—	**Save Display Data**
Saving of event data	—	**Save Event Data**
Loading of display data	—	**Load Display Data**
Loading of event data	—	**Load Event Data**
Changing of settings	Setting file sequence number	**Change configuration[**setting file sequence number**]**
Before time change	—	**Before time change**
Before time adjustment	—	**Before time adjust**
After time adjustment or change	—	**After change(adjust) time**
Power failure	—	**Power failure occurs**
Recovery after power failure	—	**Restart after Black Out**
Loading of login information	—	**Load login information**
Execution of clear 1	—	**Clear 1**
Execution of clear 2	—	**Clear 2**
Execution of clear 3	—	**Clear 3**
Setting of the batch number	—	**Set batch number**
Setting of the lot number	—	**Set lot number**
Invalid password	—	**Password refused**
Saving of the system mode configuration	—	**Save configuration(system mode)**
Saving of the engineering mode configuration	—	**Save configuration(engineering mode)**
Loading of the system mode configuration	—	**Load configuration(system mode)**
Loading of the engineering mode configuration	—	**Load configuration(engineering mode)**
Changing of the system mode configuration	Setting file sequence number	**Change configuration[**setting file sequence number**](system mode)**
Changing of the engineering mode configuration	Setting file sequence number	**Change configuration[**setting file sequence number**](engineering mode)**
Changing of the engineering mode and system mode configurations	Setting file sequence number	**Change configuration[**setting file sequence number**](system mode & engineering mode)**
Changing of settings related to user registration	Setting file sequence number	**Change configuration[**setting file sequence number**](Login information)**
Changing of the system mode configuration and settings related to user registration	Setting file sequence number	**Change configuration[**setting file sequence number**](system mode & Login information)**
Login to A/D calibration mode	—	**Login(A/D calibration mode)**
A/D calibration	—	**Execute A/D calibration**
Acknowledgment of unauthorized access	—	**Set user refused ACK**

(Continued on next page)

Operation	Details	What Appears on the Screen (Bolded words are displayed on the screen. Unbolded words are explanations.)
Changing of the password	—	**Change Password**
Shutting down	—	**Shutdown**
File uploading	—	**File Upload**
File downloading	—	**File Download**
Changing of the number of calibration points	Channel number/ previous number of points/current number of points	**Input calibration point change(CH** Channel number**:**previous number of points->new number of points**)**
Changing of the calibration value	Channel number/ Calibrated point/ Value	**Set Point is changed(CH** Channel number **No.**Calibrated point**:**Value**)**
Resetting of computation	Channel number	**Reset Math data(CH Channel number)**
Starting of time adjustment	Difference from the time to change to	**Start of time adjustment[**Difference from the time to change to(+/-, minutes, seconds, milliseconds, microseconds)**]**
Completion of time adjustment	—	**Completion of time adjustment**
Time adjustment by SNTP	—	**Time adjustment by the SNTP server.**
Switch in or out of daylight saving time	—	**Summer or winter time change.**
Saving of data from internal memory	—	**Manual data save to removable media.**
Changing of engineering mode configuration and settings related to user registration	Setting file sequence number	**Change configuration[**setting file sequence number**](engineering mode & Login information)**
Changing of the engineering mode and system mode configuration and settings related to user registration	Setting file sequence number	**Change configuration[**setting file sequence number**](all)**

The messages that appear for errors and alarms are listed below.

List of Operation Log Error Codes

Error Code	Message
1	System error.
2	Incorrect date or time setting.
3	A disabled channel is selected.
4	Incorrect function parameter.
5	The input numerical value exceeds the set range.
6	Incorrect input character string.
7	Too many characters.
8	Incorrect input mode.
9	Incorrect input range code.
21	Cannot set an alarm for a skipped channel.
22	The upper and lower span limits are equal.
23	The upper and lower scale limits are equal.
30	The partial boundary value exceeds the range of the span.
35	The upper and lower limits of the display band are equal.
36	The lower limit of the display band is greater than the upper limit.
37	The display band is narrower than 4% of the entire display.
40	Incorrect group set character string.
41	There is no specified input channel.
42	Exceeded the number of channels which can be set.
43	A channel number cannot repeat in a group.
45	There is no character string saved in the clipboard.
46	The character string saved in the clipboard is too long.
47	Start and end time cannot match.

(Continued on next page)

Error Code	Message
48	Invalid or missing DST time settings.
61	There is no channel specified by the MATH expression.
62	MATH expression grammar is incorrect.
63	MATH expression sequence is incorrect.
64	MATH upper and lower span values are equal.
70	MATH constant description is incorrect.
71	MATH constant description is incorrect.
80	This username is already registered.
81	All space or 'quit' string cannot be specified.
82	There is no user who can enter to the SETUP mode.
83	Duplicate used combination of user ID and password.
85	The login password is incorrect.
86	The key-lock release password is incorrect.
87	This key is locked.
88	This function is locked.
89	Press [FUNC] key to login.
90	No permission to enter to the SETUP mode.
91	Password is incorrect.
92	Press [ESC] key to change to the operation mode.
93	String including space or all space cannot be specified.
94	More than one address cannot be specified.
95	This function is locked.
100	IP address doesn't belong to class A, B, or C.
101	The result of the masked IP address is all 0s or 1s.
102	SUBNET mask is incorrect.
103	The net part of default gateway is not equal to that of IP address.
104	FTP client failed because the memory mode is 'manual'.
110	This user name is not registered.
111	The login user ID is incorrect.
112	Password must use more than 6 alphanumeric characters.
113	Password entered is incorrect.
114	This user name is invalid.
115	Relay behavior Hold and Indicator Nonhold can not be selected.
116	This user name cannot be specified.
117	This password is not effective.
118	You are logged out, because of invalid access.
119	This user name is unable to use this mode.
120	Measured value is incorrect. (in ascending order)
121	A user is already logged in.
122	Measured value exceeds the range setting.
123	Measure function cannot be used until range settings are stored.
124	Password entry cannot be performed.
125	Character entry cannot be performed.
150	This action is not possible because sampling is in progress.
151	This action is not possible during sampling or calculating.
152	This action is not possible because saving is in progress.
153	This action is not possible because formatting is in progress.
155	The message is not written while sampling is stopped.
156	There are no channels to be saved to the memory.
157	This function is not possible at this time.
158	Exceeds time deviation setting.
160	Cannot load the specified data. Change the memory setting.
170	End process can't proceed, because setting file is not saved to Media.
171	The selected configuration file is not compatible with this system.
172	Data save is not possible in the current operating mode.
173	Data save is not possible because of insufficient media capacity.
200	Operation aborted because an error was found on media.
201	Not enough free space on media.
202	Media is read-only.
210	Media has not been inserted.
211	Media is damaged or not formatted.

(Continued on next page)

Error Code	Message
212	Format error.
213	The file is read-only.
214	There is no file or directory.
215	Exceeded the allowable number of files.
216	The file or directory name is incorrect.
217	Unknown file type.
218	Directory exists. Delete the directory or change directory name.
219	Invalid file or directory operation.
220	The file is already in use. Try again later.
230	There is no setting file.
231	Abnormal setting exists in file.
232	There is no available data.
233	The specified historical data do not exist.
234	The specified channel is not assigned to the display group.
240	You can't sign this record because a signature is already present.
241	There is no file for signing record.
242	There is no sign record information.
243	This file is not allowed to sign record.
244	Data is damaged or changed.
245	This function cannot be used in the historical trend display.
246	This function cannot be used due to no data file saved in media.
247	This function cannot be used in setting mode.
260	IP address is not set or ethernet function is not available.
261	SMTP server is not found.
262	Cannot initiate E-mail transmission.
263	Sender's address rejected by the server.
264	Some recipients' addresses are invalid.
265	SMTP protocol error.
266	Ethernet cable is not connected.
267	Could not connect to SMTP server.
268	E-mail transmission request failed.
269	E-mail transfer error.
275	The current image can not be output to the Web.
276	Image data currently being created.Unable to perform key operation.
277	Could not output screen to Web.
278	Web control denied because a user has control.
280	IP address is not set or FTP function is not available.
281	FTP mail box operation error.
282	FTP control connection error.
283	FTP command was not accepted.
284	FTP transfer setting error.
285	FTP data connection error.
286	FTP file transfer error.
287	FTP is failed because of file acquirement from external media.
290	SNTP access failure.
291	SNTP server does not respond.
292	Incorrect SNTP server setting.
293	Invalid SNTP server reply.
294	No time correction because excess time deviation with SNTP server.
300	Command is too long.
301	Too many number of commands delimited with ';'.
302	This command has not been defined.
303	Data request command can not be enumerated with sub-delimiter.
350	Command is not permitted to the current user level.
351	This command cannot be specified in the current mode.
352	The option is not installed.
353	This command cannot be specified in the current setting.
354	This action is not possible during sampling or calculating.
367	Password change denied because another user is logged in.
500	Execution is complete.
501	Please wait a moment...

(Continued on next page)

Error Code	Message
503	Data are being saved to media...
504	File is being loaded from media...
505	Formatting...
506	Memory save to media was interrupted.
507	Exchange media to continue the saving operation.
508	There is no file or directory.
510	Range cannot be changed during sampling or calculating.
511	MATH expression cannot be changed during sampling or calculating.
512	Because memory save is 'manual' mode, FTP is not available.
513	Cannot change during calculating.
520	Connecting to the line...
521	The data file is being transferred.
540	Code1 download finished.
541	Code2 download finished.
542	Media read error.
543	Flash write error.
550	The A/D calibration is being executed...
551	FTP test is being executed...
552	E-mail test is being executed...
553	Review and sign functions cannot be used when the file is divided.
554	Signature functions are being executed.
555	Login prohibited because software login is active.
556	Press [FUNC] key to login.
557	This user is not allowed to change a setting.
558	Setting changes are aborted while data is saved.
559	This command must be used with LL command.
560	Now connecting to SNTP server...
561	Now adjusting the time.
600	Measured data and settings have been initialized.
601	Measured data have been initialized.
610	This username is already registered.
611	There is no user who can enter to the SETUP mode.
612	Please acknowledge all active alarms before stopping this record.
613	You cannot sign this record because of being made by memory time up.
614	Calibration settings are reset because of range setting change.
615	Setting changes are aborted while data is saved.
900	ROM failure.
901	RAM failure.
910	A/D memory failure for all input channels.
911	Channel 1 A/D memory failure.
912	Channel 2 A/D memory failure.
913	Channel 3 A/D memory failure.
914	Channel 4 A/D memory failure.
921	Channel 1 A/D calibration value error.
922	Channel 2 A/D calibration value error.
923	Channel 3 A/D calibration value error.
924	Channel 4 A/D calibration value error.
930	Memory acquisition failure.
940	The ethernet module is down.

Operations on DX1000/DX1000N/DX2000 Models with Release Number 4 and the /AS1 Option

Operation	Details	What Appears on the Screen (Bolded words are displayed on the screen. Unbolded words are explanations.)
Error	Error code	See the DX1000/DX1000N/DX2000 User's Manual.
Alarm	Error code	
A/D calibration mode	—	**A/D calibration mode**
A/D calibration	—	**A/D calibration**
Power off	—	**Power off**
Power on	—	**Power on**
Login	—	**Login**

(Continued on next page)

Operation	Details	What Appears on the Screen (Bolded words are displayed on the screen. Unbolded words are explanations.)
Logout	—	**Logout**
User invalidation	—	**Invalid user**
Changing of the password	—	**Change Password**
Acknowledgment of unauthorized access	—	**Unauthorized access ACK**
Memory start	Batch group number	**Start memory** (when the batch group number is invalid)
		Start memory[Batch group number**]** (when the batch group number is valid)
Memory stop	Batch group number	**Stop memory** (when the batch group number is invalid)
		Stop memory[Batch group number**]** (when the batch group number is valid)
Alarm acknowledgment	Channel/level	**Alarm Ack[ALL]**(when all alarms are acknowledged)
		Alarm Ack[CH Channel number**/Lvl** Alarm level**]**(when not all alarms are acknowledged)
Resetting of the alarm display	—	**Alarm Display Reset**
Message	—	**Message** (when the batch group number is invalid)
		Message[Batch group number**]** (when the batch group number is valid)
Manual sampling	—	**Manual Sample**
Starting of computation	—	**Start Math function**
Stopping of computation	—	**Stop Math function**
Resetting of computation	Batch group number	**Reset Math data** (when the batch group number is invalid)
		Reset Math data[Batch group number**]** (when the batch group number is valid)
Acknowledgment of missing computation	—	**No Math data ACK**
Snapshot	—	**Snapshot**
Starting of mail	—	**Start mail**
Stopping of mail	—	**Stop mail**
Saving of display data	Batch group number	**Save Display Data** (when the batch group number is invalid)
		Save Display Data[Batch group number**]** (when the batch group number is valid)
Saving of event data	Batch group number	**Save Event Data** (when the batch group number is invalid)
		Save Event Data[Batch group number**]** (when the batch group number is valid)
Manual data save to removable media.	—	**Manual data save to removable media.**
New time after time change or adjustment	—	**New time after time change or adjustment**
Time change	—	**Time Correction**
Starting of time adjustment	Difference from the time to change to	**Time adjustment start[**Difference from the time to change to (the text in the data file is displayed)**]**
Completion of time adjustment	—	**Time adjustment stop**
Time adjustment by SNTP	—	**Time adjustment by the SNTP server.**
Switch to or out of daylight saving time	—	**Switch between normal and daylight saving time**

(Continued on next page)

Operation	Details	What Appears on the Screen (Bolded words are displayed on the screen. Unbolded words are explanations.)
Setting of the batch number	Batch group number	**Set batch number** (when the batch group number is invalid)
		Set batch number[Batch group number**]** (when the batch group number is valid)
Setting of the lot number	Batch group number	Set lot number (when the batch group number is invalid)
		Set lot number[Batch group number**]** (when the batch group number is valid)
Writing to a batch text field	Batch group number	**Writing to batch text field** (when the batch group number is invalid)
		Writing to batch text field[Batch group number**]** (when the batch group number is valid)
Second display update rate	—	**Second display update rate**
Standard display update rate	—	**Standard display update rate**
Modbus client manual recovery	—	**Modbus client manual recovery**
Modbus master manual recovery	—	**Modbus master manual recovery**
Resetting of a timer	Timer number	**Timer Reset[ALL]** (when all timers are reset)
		Timer Reset[Timer number**]** (when not all timers are reset)
Resetting of the match time timer	Timer number	**Match time timer reset[**Timer number
Switching on of the event level switch	Switch number	**Event level switch on[**Switch number**]**
Switching off of the event level switch	Switch number	**Event level switch off[**Switch number**]**
Event edge switch	Switch number	**Event edge switch[**Switch number**]**
Shift to setting mode	—	**Shift to setting mode**
Shift to basic setting mode	—	**Shift to basic setting mode**
Shift to operation mode	—	**MoveOpe**
Writing to a communication input channel	Communication input channel/set value	**Writing to communication input channel[CH** Channel number and set value (the text in the data file is displayed)**]**
Execution of Modbus client exchange	Command number/ set value	**Modbus client exchange execution[CMD** Channel number and set value (the text in the data file is displayed)]
Execution of Modbus master exchange	Command number/ set value	**Modbus master exchange execution[CMD** Channel number and set value (the text in the data file is displayed)**]**
Saving of settings in setting mode	—	**Settings saved in setting mode**
Loading of settings in setting mode	—	**Settings loaded in setting mode**
Loading of settings in basic setting mode	—	**Settings loaded in basic setting mode**
Clear1	—	**Clear1**
Clear2	—	**Clear2**
Clear3	—	**Clear3**
Clear4	—	**Clear4**
Completion of calibration correction	—	**Input calibration finished**
Passing of the due date for the next input calibration	—	**Due date for the next input calibration is over**

(Continued on next page)

Operation	Details	What Appears on the Screen (Bolded words are displayed on the screen. Unbolded words are explanations.)
Changing of setting mode settings	Setting file sequence number	**Change configuration[**setting file sequence number**](Set mode)**
Changing of basic setting mode settings	Setting file sequence number	**Change configuration[**setting file sequence number**](Basic setting mode)**
Changing of settings related to user registration	Setting file sequence number	**Change configuration[**setting file sequence number**](Login information)**
Changing of setting mode settings and basic setting mode settings	Setting file sequence number	**Change configuration[**setting file sequence number**](Basic setting mode & Set mode)**
Changing of setting mode settings and settings related to user registration	Setting file sequence number	**Change configuration[**setting file sequence number**](Set mode & Login information)**
Changing of basic setting mode settings and settings related to user registration	Setting file sequence number	**Change configuration[**setting file sequence number**](Basic setting mode & Login information)**
Changing of setting mode settings, basic setting mode settings, and settings related to user registration	Setting file sequence number	**Change configuration[**setting file sequence number**](all)**
Setting of an alarm	Channel/level	**AlarmSet[CH** Channel number**/Lvl** Alarm level**]**
Changing of an input calibration point	**Channel number**	**Input calibration point change[CH** Channel number**/Pt** Calibration point**]**
Changing of an input calibration value	Channel number/ calibration point	**Input calibration value change[CH** Channel number**/Pt** Calibration point**]**
Setting of an alarm delay	Channel number	**AlmDlySet[CH** Channel number**]**
Specification of a message	Message number	**Set message[**Message number**]**
Setting of the data save destination folder	—	**FolderSet**

- **Additional Information**

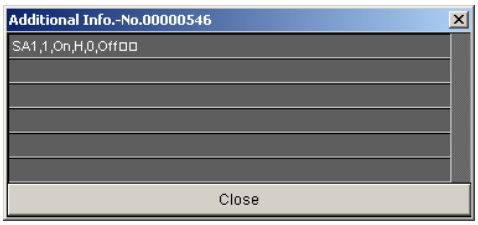
  Some log entries in the display data or the event data of DX1000/DX1000N/DX2000 models with release number 4 and the /AS1 option have additional information. When a log entry has additional information, the [Display] button next to it is available. The items displayed in the additional information are communication commands and the following operation logs.

Operation Logs and Corresponding Communication Command Text

Operation Log	Communication Command Text
Alarm setting	SA command text
Input calibration point setting	EHm,BEGIN command text (m is the channel number)
Input calibration value setting	EHm,SET command text (m is the channel number)
Alarm delay setting	BD command text
Message setting	SG command text
Data save destination folder setting	TH command text

The additional information cannot be copied.

Additional Information Display Example



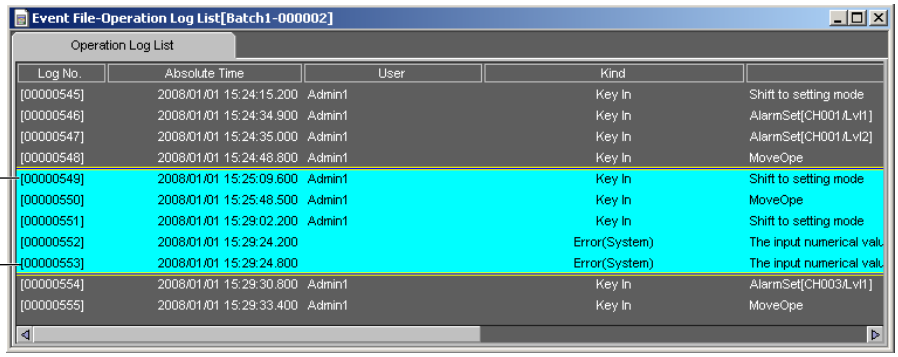
The additional information appears when you click an active [Display] button for a log entry in the [Operation Log List] window.

Selecting Operation Log Entries

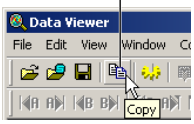
To select a single operation log entry, click on it.
To select all the operation log entries, in the [Edit] menu, click [Select All].

Copying the Operation Log

1. Select operation log entries.



2. Click here, or click [Copy] in the [Edit] menu.



3. The operation log entries are copied to the clipboard.

The copied items are listed below.

- Log No.
- Absolute or Relative Time
- User
- Kind
- Operation

Starting Hardware Configurator

To open Hardware Configurator, in the [Operation Log List] dialog box, double-click an entry with shadowed characters.
Hardware Configurator will not start if:

- The entry you double-clicked is not a log of configuration changes.
- Hardware Configurator was not installed when you started Data Viewer.
- Hardware Configurator is not installed when you double-click the list.
- The corresponding setup file cannot be found.

Setup File Search Location

Data Viewer only searches for setup files within the folder that contains the data file (it does not search through subfolders).

Appearance of Operation Logs Added with the PC Software

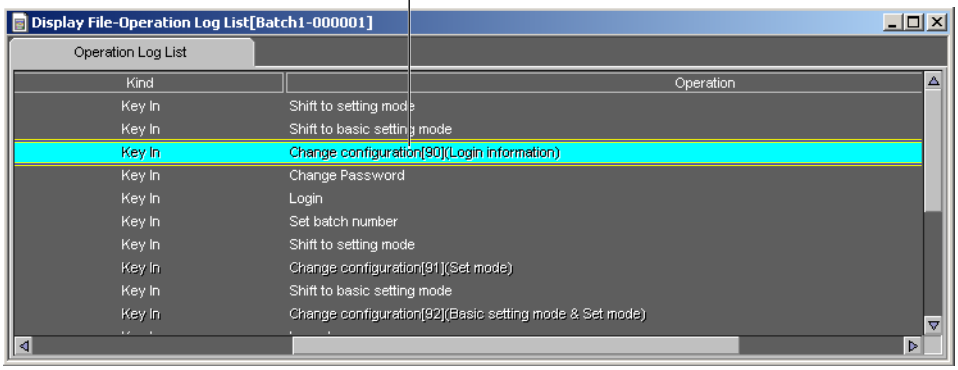
You can use the PC software to add logs entries. Such log entries appear as described below. They appear the same way when they are printed.

Log Item	Displayed Content	
	DX100P/DX200P	DX1000/DX1000N/DX2000 Models with Release Number 4 and the /AS1 Option
Log No.	–	–
Kind	PC Software	PC Software
Operation	Password refused	Invalid user

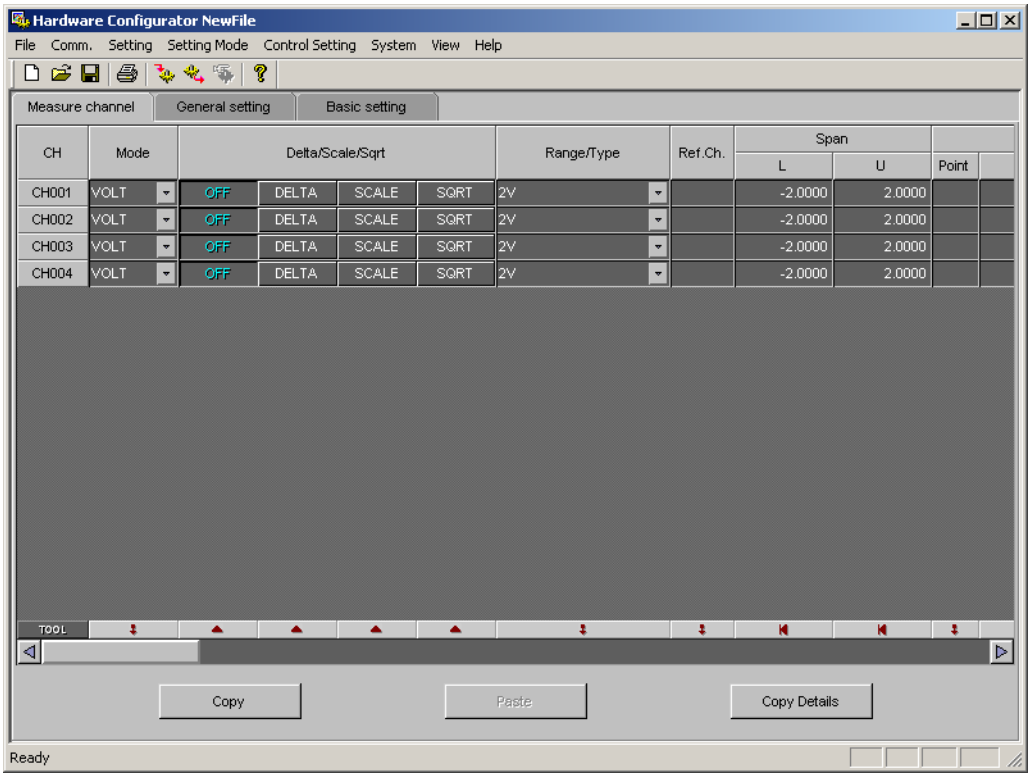
Displaying Setup Data for Configuration Changes

This section explains how to display the setup data for a configuration change from the Operation Log List window.

1. Double-click a log entry whose operation description contains “Change configuration.”



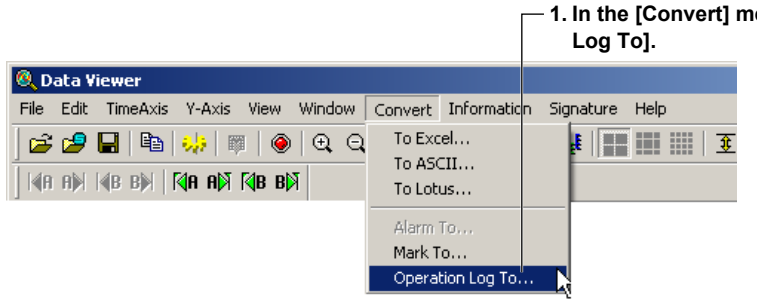
2. Hardware Configurator starts and displays the setup data.



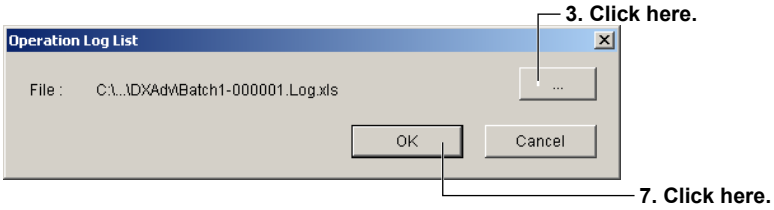
If Hardware Configurator is not installed, a message (E3132) appears.
If Data Viewer cannot find the file that corresponds to the log entry that you selected, a message (E3124) appears.

Converting Operation Log Data

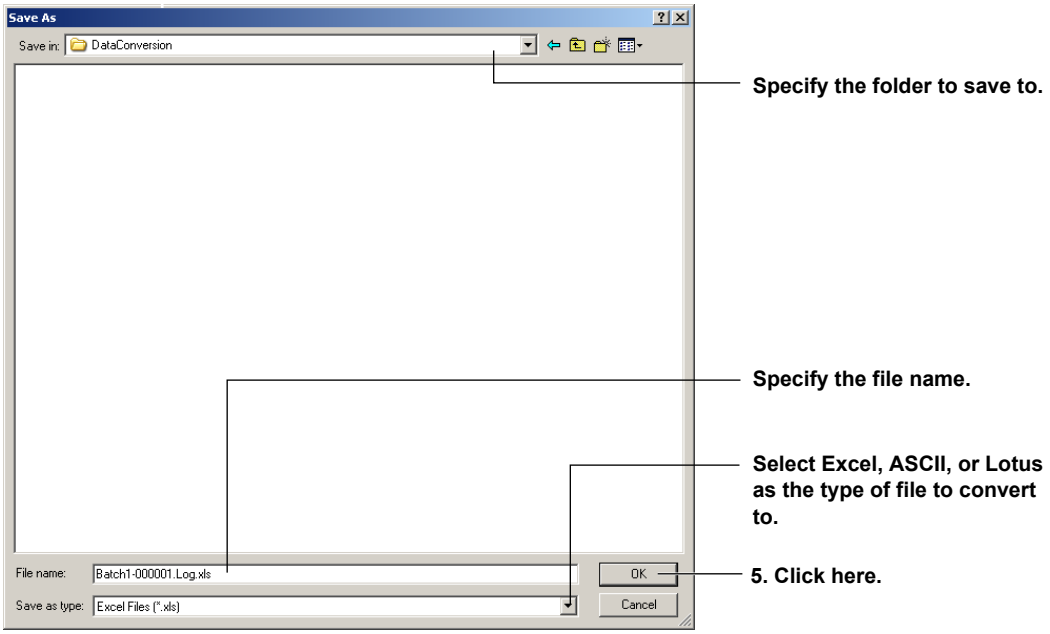
This section explains how to open a display data or event data file and convert its operation log into Excel, ASCII, or Lotus data.



2. The [Operation Log List] dialog box appears.



4. The [Save As] dialog box appears.



6. Close the [Save As] dialog box.

Converted operation log example (result of converting to Excel data)

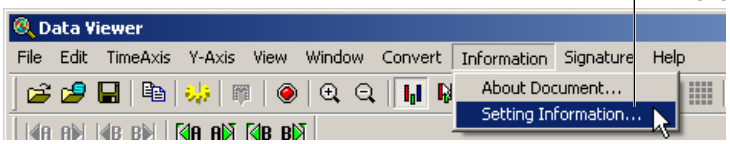
See section 2.15 for the file format after conversion.

	1	2	3	4	5	6	7
1	No.	Date	Time	sec	User	Kind	Operation
2	514	2008/01/01	00:09:33	0.900		Key In	Shift to setting mode
3	515	2008/01/01	00:09:37	0.200		Key In	Shift to basic setting mode
4	516	2008/01/01	00:10:53	0.700		Key In	Change configuration[90](Login information)
5	517	2008/01/01	00:11:33	0.700	Admin1	Key In	Change Password
6	518	2008/01/01	00:11:33	0.700	Admin1	Key In	Login
7	519	2008/01/01	00:12:22	0.200	Admin1	Key In	Set batch number
8	520	2008/01/01	00:13:10	0.700	Admin1	Key In	Shift to setting mode
9	521	2008/01/01	00:15:15	0.950	Admin1	Key In	Change configuration[91](Set mode)
10	522	2008/01/01	00:15:16	0.275	Admin1	Key In	Shift to basic setting mode
11	523	2008/01/01	00:15:58	0.875	Admin1	Key In	Change configuration[92](Basic setting mode & Set mode)
12	524	2008/01/01	00:15:59	0.225	Admin1	Key In	Logout

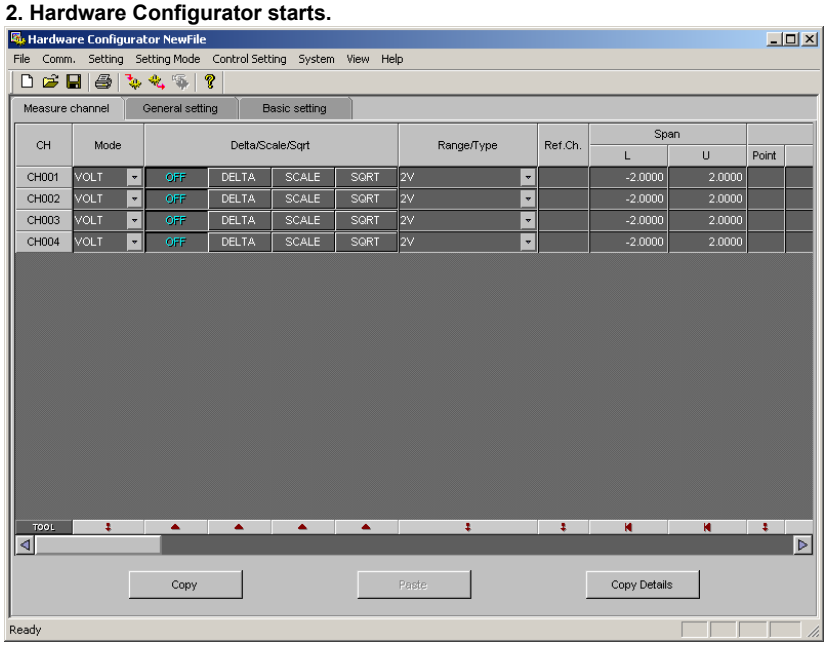
2.9 Displaying the Setting Information of Batch Data and Continuous Data Files

This section explains how to display the setting information of a display or event data file that is currently being displayed in Data Viewer and that was created by a DX100P/DX200P or by a DX1000/DX1000N/DX2000 model with a release number of 4 and the /AS1 option. Batch data refers to display data and event data files whose Process Type item is Batch. Continuous data refers to display data and event data files whose Process Type item is Continuous.

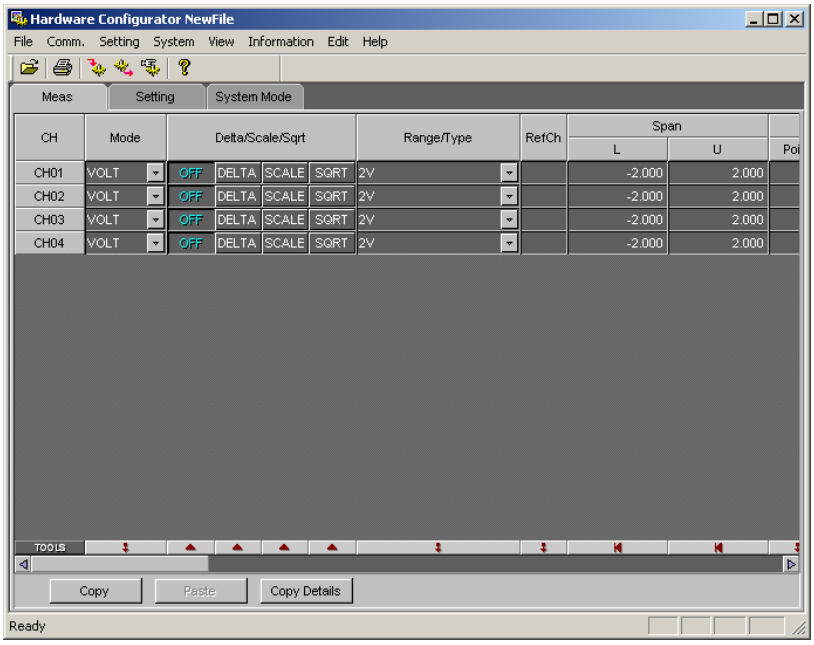
1. In the [Information] menu, click [Setting Information].



2. Hardware Configurator starts.



2. DX-P Hardware Configurator starts.



Displaying Setting Information

For batch files and linked continuous files, the setting information is displayed as described below.

- For the DX100P/DX200P, the settings of the newest linked display or event data file are displayed.
- For the DX1000/DX1000N/DX2000, the settings of the oldest linked display or event data file are displayed.

Note

When you open the DX-P Hardware Configurator, the login information is displayed in the circumstances listed below.
However, the login information is not displayed if there is a CRC error.

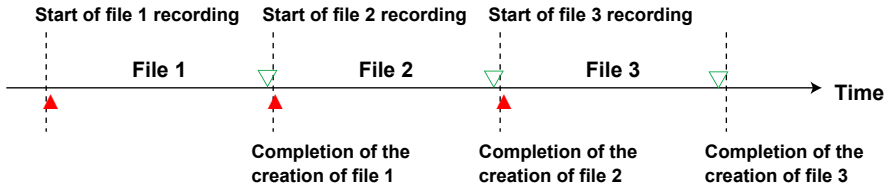
- When you are opening continuous files.
- When you are opening a batch file in which none of the files is missing.

Timing That Setup Data Is Saved At

The timing at which the setup data contained within batch and continuous data is saved is indicated below.

- On DX1000/DX1000N/DX2000 models with release number 4 and the /AS1 option, the setting information is saved when recording starts for a new file.
- On the DX100P/DX200P, the setting information is saved immediately before file creation is completed.

Timing That Setup Data Is Saved At



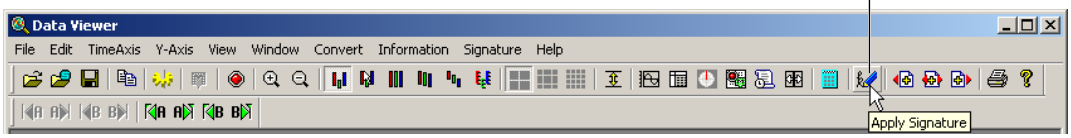
▽: **The DX100P/DX200P setting information is saved immediately before file creation is completed.**

▲: **The DX1000/DX1000N/DX2000 setting information is saved when file recording starts.**

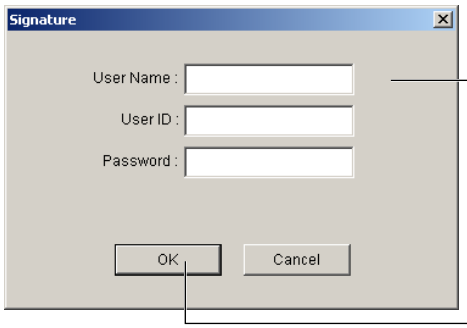
2.10 Signing Batch and Continuous Data

This section explains how to open and sign batch and continuous data.

1. Click here, or click [Apply Signature] in the [Signature] menu.



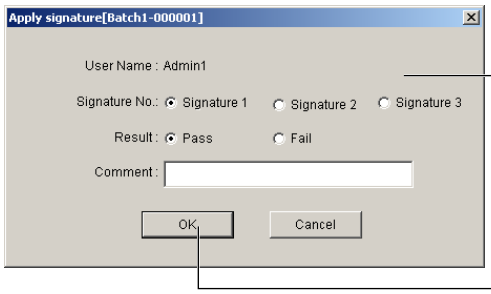
2. The [Signature] dialog box appears.



3. Enter the items.

4. Click here.

5. The [Apply signature] dialog box appears.



6. Select and specify the settings.

7. Click here.

8. The [Information] message appears.

9. Click here.

User Authentication Failure

Authentication only succeeds when the user name, user ID (if used), and password are entered correctly in the Signature dialog box.

If the user name and user ID match but the password is not correct, the failure count for that user is incremented by one. If the user name and user ID do not match, the user cannot be identified, so the failure count for the user is not incremented.

For release number 4 of DX1000/DX1000N/DX2000 models with the /AS1 option, the Signature dialog box closes after five failures.

For the DX100P/DX200P, the Signature dialog box closes after three failures or if authentication succeeds but there is no available signature level.

How Failures Are Counted When a User ID Is Used

- If a specified combination of user name and user ID exists in the file but the specified password is incorrect, authentication fails, and the failure count for the specified combination is incremented by one.
- If a specified combination of user name and user ID exists in the file and the specified password is correct, authentication succeeds, and the failure count for the specified combination is reset to zero.
- When the Signature dialog box is closed, the failure counts for all user name and user ID combinations are reset to zero.
- If a combination of user name and user ID that does not exist in the file is specified, authentication fails, but no failure count is incremented.
- If a combination of user name and user ID that exists in the file but that is invalid is specified, authentication fails, but no failure count is incremented.
- If a combination of user name and user ID that exists in the file is specified and the password is set to the initial setting, authentication fails, but no failure count is incremented.

How Failures Are Counted When a User ID Is Not Used

- If a user name is specified that exists in the file but the specified password does not match it, authentication fails, and the failure count for the user name is incremented by one.
- If a user name is specified that exists in the file and the specified password matches it, authentication succeeds, and the failure count for the user name is reset to zero.
- When the Signature dialog box is closed, the failure counts for all user names are reset to zero.
- If a user name that does not exist in the file is specified, authentication fails, but no failure count is incremented.
- If a user name that exists in the file but that is invalid is specified, authentication fails, but no failure count is incremented.
- If a user name that exists in the file is specified and the password is set to the initial setting, authentication fails, but no failure count is incremented.

How Failures Are Counted When a KDC Server Is Used

(KDC: A key distribution center for the connected domain that uses the Kerberos protocol.)

When a KDC server is used for authentication, user IDs are not used.

- If a user name that does not exist in the file is specified, authentication fails, but no failure count is incremented.
- If a user name that exists in the file but that is invalid is specified, authentication fails, but no failure count is incremented.
- If a user name is specified that exists in the file but the a connection cannot be established with the KDC server, authentication fails, but the failure count for the specified user name is not incremented.
- If a user name is specified that exists in the file and a connection is established with the KDC server, authentication is carried out in the manner indicated below.
  - If a user name that does not exist on the KDC server is specified, authentication fails, but no failure count is incremented.
  - If a user name that exists on the KDC server is specified but the encryption or realm name is not set properly, authentication fails, but the failure count for the specified user name is not incremented.
  - If a user name is specified that exists on the KDC server but the specified password does not match the password on the KDC server, authentication fails, and the failure count for the user name is incremented by one.
  - If a user name is specified that exists on the KDC server and the specified password matches the password on the KDC server, authentication succeeds, and the failure count for the user name is reset to zero.
- When the Signature dialog box is closed, the failure counts for all user names are reset to zero.

Note

You cannot perform KDC authentication if you change the PC's time zone while Viewer is running. You also cannot perform KDC authentication if there is a time difference of 5 minutes or more between the PC and the KDC server.

User Invalidation

Regardless of the file or KDC server authentication circumstances, if a user's password retry count reaches its limit, the user is invalidated. How the password retry count is set is explained below.

- The password retry count is recorded on display and event data files created by DX1000/DX1000N/DX2000 models with release number 4 and the /AS1 option. This retry count is referenced. If the password retry count is recorded as "endless," invalidation never occurs.
- For display and event data files created by the DX100P/DX200P, the password retry count is fixed at 3. (Invalidation occurs after the third failed attempt.)

Before user invalidation occurs, message E3123 is displayed. A log entry is made after user invalidation occurs.

File Used for Authentication

For batch files, authentication is performed using the information in the newest file.
For linked continuous files, authentication is performed using the information in the newest linked file.

Files Affected by Invalidation

For batch files, only the newest file is affected.
For linked continuous files, only the newest linked file is affected.

User Name, User ID, and Password Retention

When the signature dialog box is closed, the user name, user ID, and password are cleared. They are not retained.

User Name, User ID, Password Character Length, and Character Codes

You can enter up to 63 characters for each. The number does not change depending on the number of characters (see the table below) that can be input on the recorder.

Recorder	User Name*	User ID	Password
DX100P/DX200P	Up to 20 characters	Up to 8 characters	Between 6 and 8 characters
DX1000/DX1000N/DX2000	Up to 20 characters	Up to 8 characters	Between 6 and 20 characters
* You cannot use forward slashes (/) or at signs (@) in the user name.			

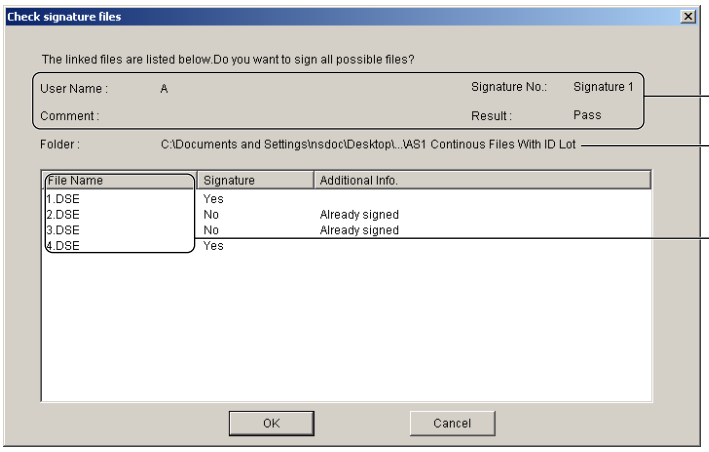
Enter "^" (character code 0x5E) if you want to display "°" on the DX100P/DX200P or DX1000/DX1000N/DX2000.

Comment Character Length

You can enter up to 32 characters.

Checking the Files to Be Signed

The Signature results dialog box opens after you have signed a linked continuous file.



The settings made in the[Signature] and [Apply signature] dialog boxes are displayed here.

The middles of long folder paths are omitted and replaced with an ellipsis.

All linked continuous files

The newest file can be signed. Levels of files other than the newest file that have not yet been signed can be signed.

User Invalidation

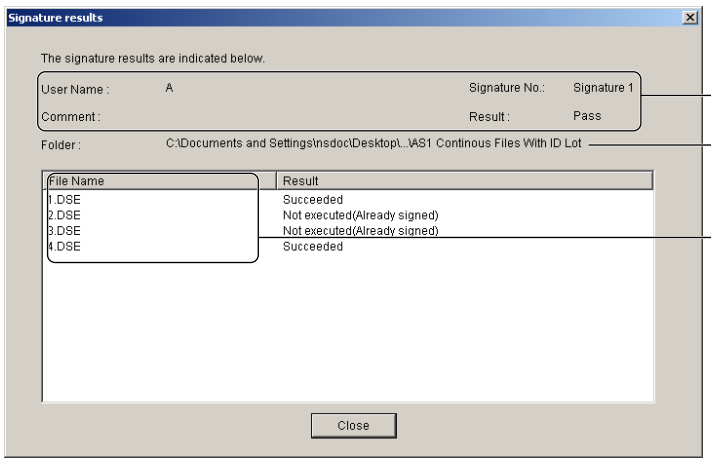
For files other than the newest file, user invalidation does not occur when you check for users, their validity or invalidity, password status, signature privileges, etc.

Additional Information

Additional Information	Description
Already signed	The specified level has already been signed.
Not registered user.	In file-based authentication, this message can appear for the following reasons (assuming that the specified level has not already been signed). • The user does not exist on the file. • The user exists on the file but has been invalidated. • The user exists on the file and is valid, but the password is set to its default. • The user exists on the file and is valid and the password is set to the default, but the specified password does not match. In authentication using a KDC server, this message can appear for the following reasons (assuming that the specified level has not already been signed). • The user does not exist on the file. • The user exists on the file but has been invalidated.
There is no signature no.	The user does not have permission to sign the specified level (assuming that user authentication succeeded and the specified level has not been signed).

Displaying the Signature Results

To check the results after you have signed a linked continuous file, open the [Signature results] dialog box.



The settings made in the[Signature] and [Apply signature] dialog boxes are displayed here.

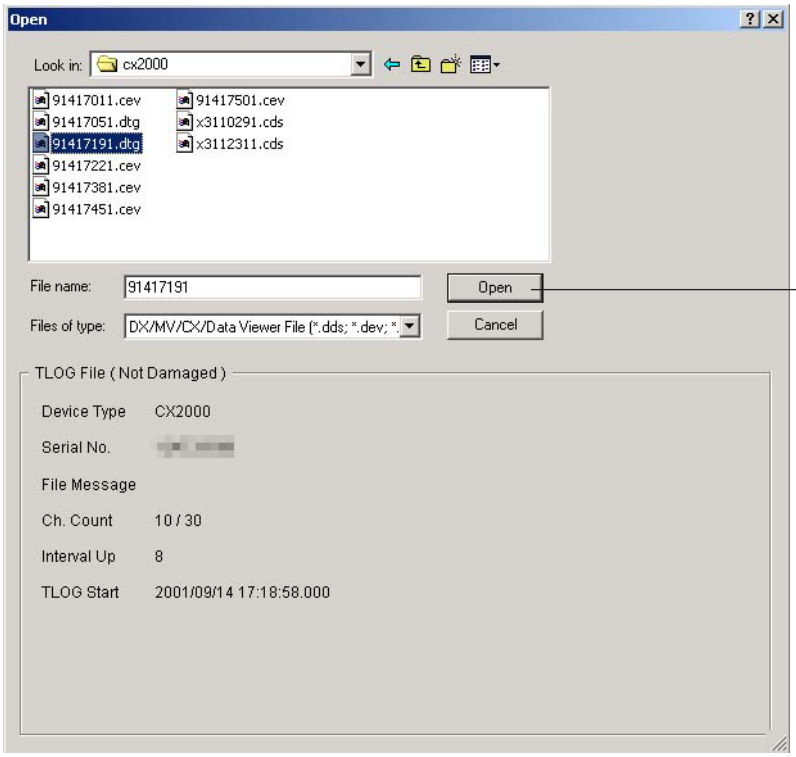
The middles of long folder paths are omitted and replaced with an ellipsis.

All linked continuous files

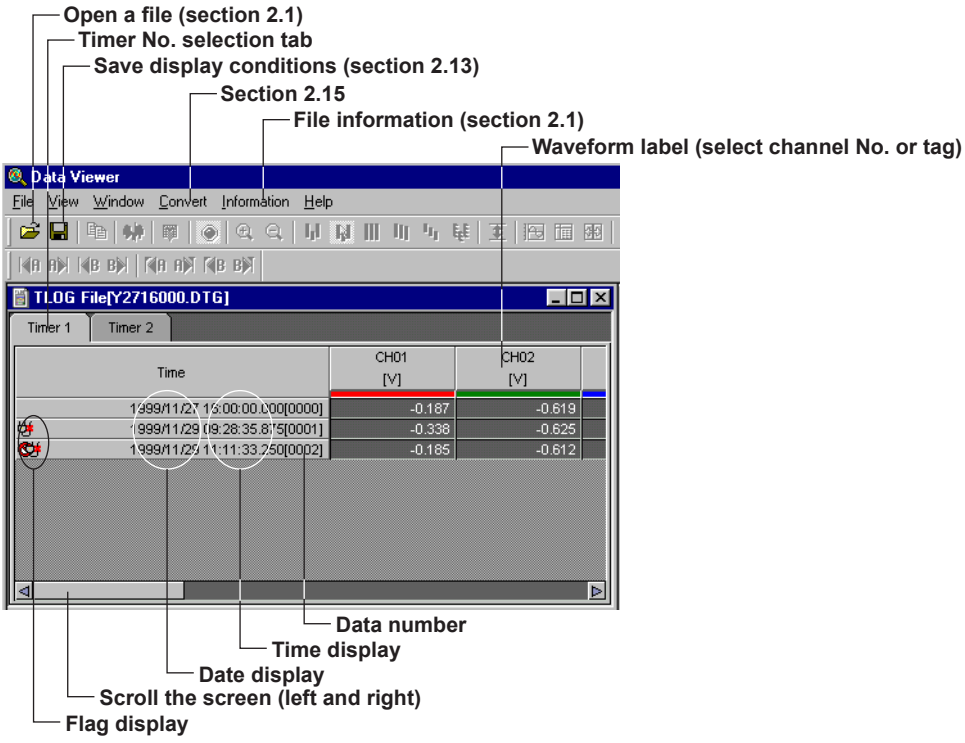
2.11 Displaying the TLOG Files

This section explains how to display a TLOG File that has been created by the CX1000, CX2000, DX100, DX200, DX200C, MV100, or MV200. The TLOG file name extension is .dtg.

1. Click the [Open] button or select [File] - [Open].



2. Select the desired file (.dtg) and click the [Open] button.



Turning ON/OFF Flags

When [View] - [Flags] is selected, the following status information is displayed:

 : Stopped TLOG computation.

 : The CX time and date was changed during TLOG computation.

 : Power failure occurred during TLOG computation.

Date/Time Display

Select [View] - [Date Format] or [Time Format] to select the display format. If [None] is selected, the date or time will not be displayed.

Data No.

When [View] - [Data No.] is checked, the data number is displayed.

Selecting the Characters Used to Identify Channels

For details, see “Selecting the Characters Used to Identify Channels” in section 2.2, “Waveform Display.”

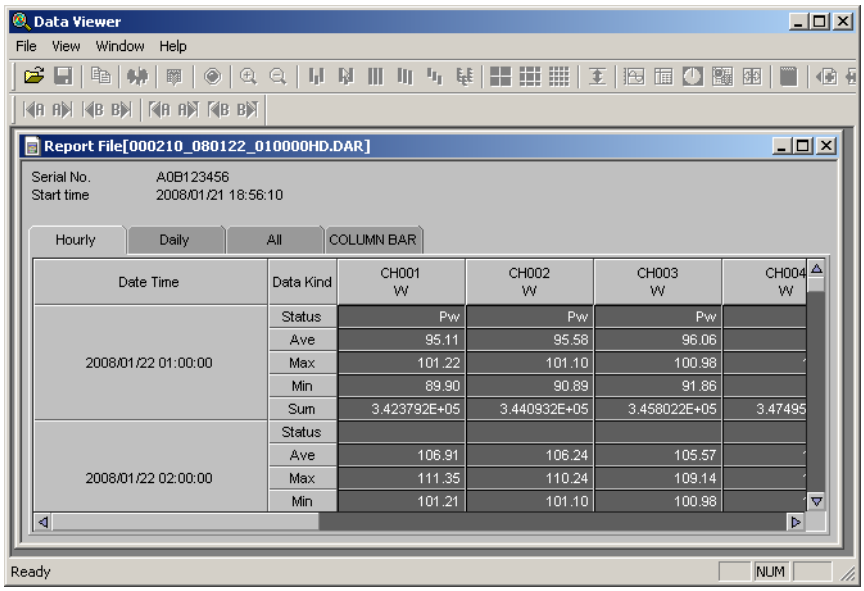
2.12 Displaying the Report Files

Report Files Generated by the DX1000/DX1000N/DX2000/MV1000/MV2000

The report file name extension is .DAR.

Displaying Report Data Numerically

1. Click the Open icon or choose [Open] from the [File] menu.
2. Select a report file.
   The report appears. The following figure is an example in which hourly report and daily report are stored in a single report file.



Status

The following characters are displayed in Status.

Er : A measurement error or computation error occurred during the period over which the report was created.

Ov: An over range or computation overflow occurred during the period over which the report was created.

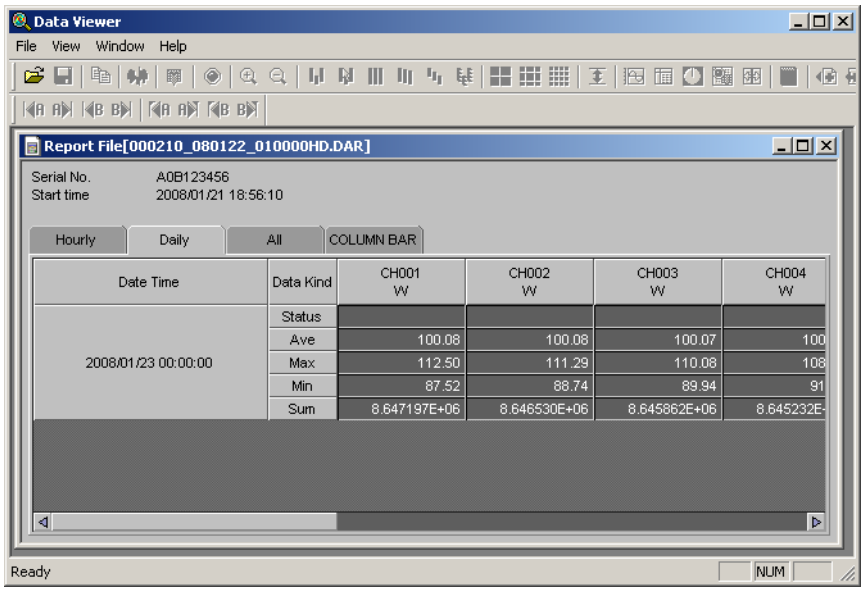
Pw: A power failure occurred during the period over which the report was created.

Cg: The time was changed during the period over which the report was created.

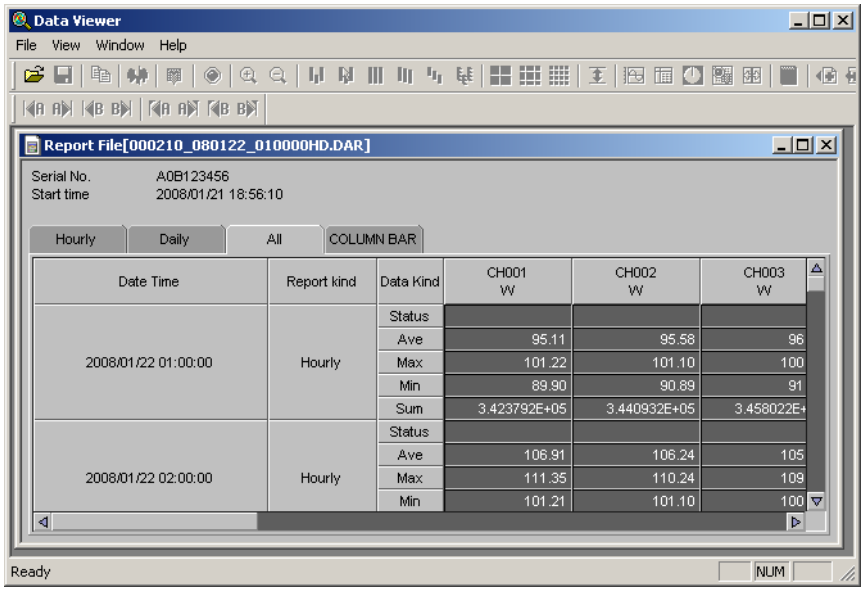
Bo: The burn out occurred during the period for the report.

- **[Hourly] Tab**
  Displays hourly reports in the file.

- **[Daily] Tab**
  Displays daily reports in the file.



- **[All] Tab**
  Displays all reports in the file.



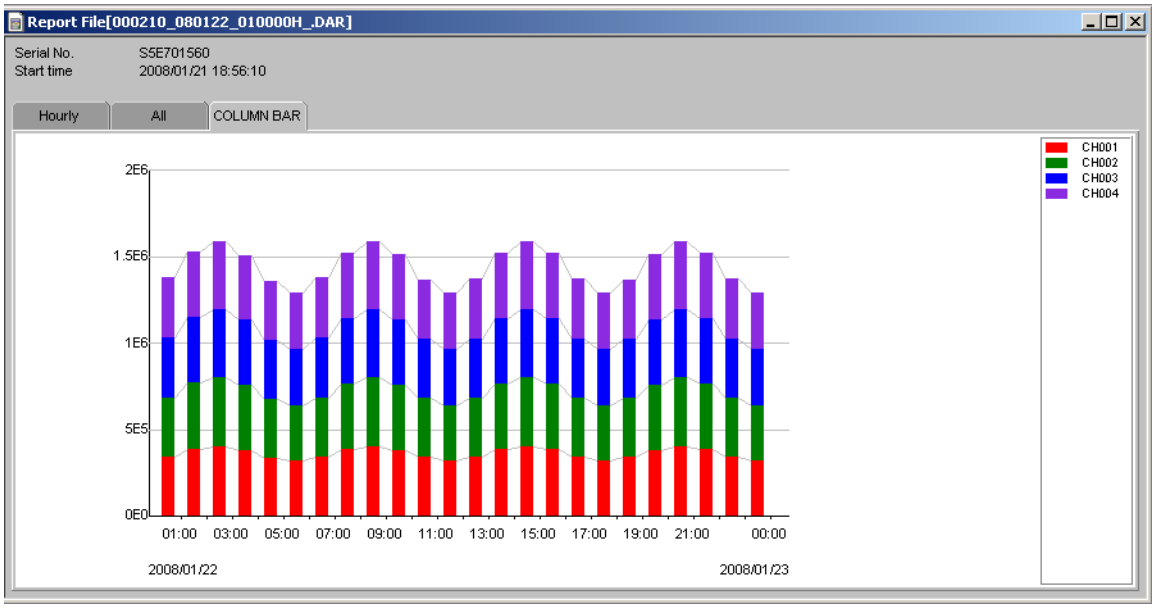
Displaying a Stacked Bar Graph of Report Data

You can display report data generated by the DX1000, DX1000N, DX2000, MV1000, or MV2000 on a stacked bar graph.

1. Click the Open icon or choose [Open] from the [File] menu.
2. Select a report file.
3. Click the [COLUMN BAR] tab.

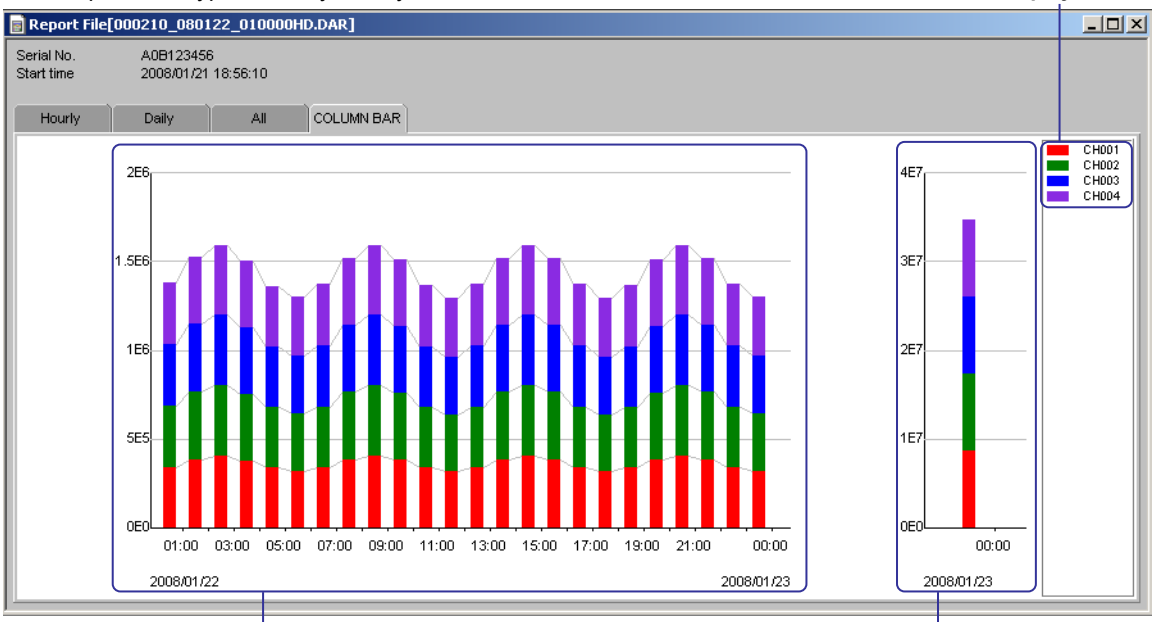
If the report data type is hourly

The example below shows a stacked bar graph of hourly reports for channels 001 to 004.



If the report data type is hourly + daily

Channel display colors



Hourly
Displays hourly for hourly + weekly
Displays hourly for hourly + monthly

Daily
Displays weekly for daily + weekly
Displays monthly for hourly + monthly

Note

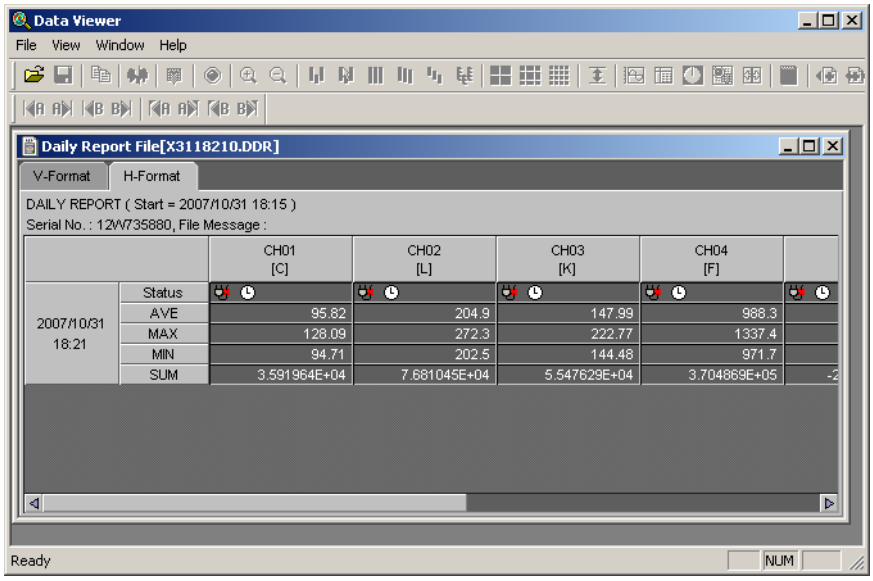
- The channel colors are fixed. You cannot change them.
- All channels in the report file are displayed on one screen.
- Channels containing errors, overflow, or negative values are not displayed.

Report Files Generated by the CX1000/CX2000/DX100/DX00L/DX200/DX200C/DX100P/DX200P/MV100/MV200

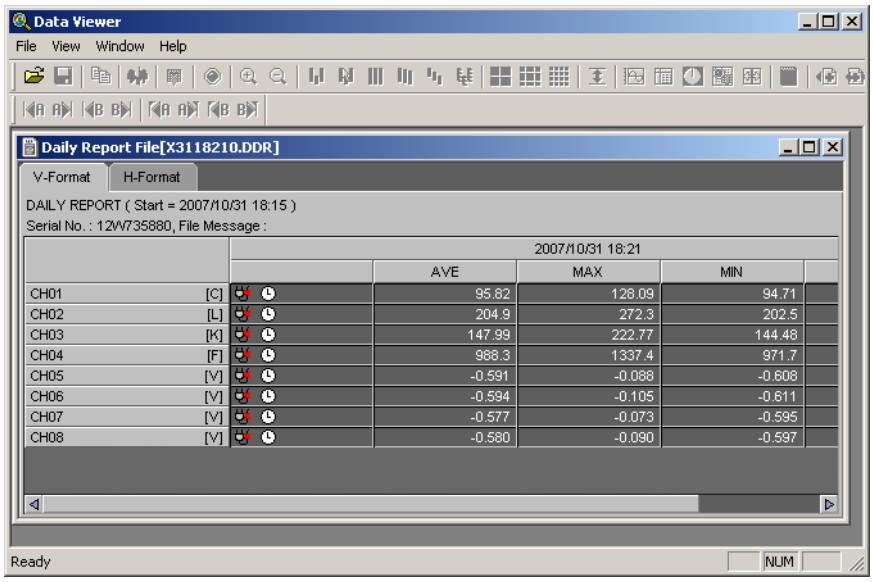
The report file name extension is .DHR, .DDR, .DWR, or .DMR.

Displaying Report Data Numerically

1. Click the Open icon or choose [Open] from the [File] menu.
2. Select a report file.
   The report appears. The following figure is an example of a daily report.



You can select [V-Format] or [H-Format]. The figure above is an example of H-Format. The following figure is an example of V-Format.



Status

The following icons are displayed in Status.

: A measurement error or computation error occurred during the period over which the report was created.

: An over range or computation overflow occurred during the period over which the report was created.

: A power failure occurred during the period over which the report was created.

: The time was changed during the period over which the report was created.

: The burn out occurred during the period for the report.

2.13 Saving the Display Settings

The display settings can be saved to a file. The following display settings can be saved:

For Display Data File, Event Data File, and Link Settings File Displays

- Print comment
- Cursor A and Cursor B positions
- ON/OFF condition of the clipping of the displayed waveform
- Settings specified in the General Display Settings
- Mark information
- Zoom rate of the time axis
- Display mode of the time axis (absolute/relative)
- Waveform display area
- Grid type
- The background and grid color of the waveform display area
- Y-axis zone setting
- The active waveform
- The height of the data overview of each group
- The width of the zone display area of each group
- Show/Hide condition of the zone display area
- Selected group
- ON/OFF condition of the alarm display
- Position of the display screen
- The channel identification string mode (channel/tag/tag number)
- ON/OFF condition of file information items (see section 2.1)

For TLOG File Display

- ON/OFF condition of TLOG file information items (see section 2.1) and print comment
- The string to be used (channel/tag)
- Display format of date and time

The information is saved to the same directory as the data files. The name of the saved file is the name of the data file being displayed, with an added [vdx] extension (Y1116040.DDS.vdx, for example).
This display setting file can be overwritten unlimited number of times.
When the data with the same file name is reopened, the display settings that were saved are used. If you do not wish to open the data using the saved settings, delete the display setting file ([vdx] extension) before opening the data file.
Files whose display conditions have been saved are displayed in the manner described below.

File Types and How They Are Displayed

Operation / File Type	When One File Is Opened	When Files Are Linked	When Multiple Files Are Opened Together in the [Open to Sign] Dialog Box
Files created by the DX100P/DX200P or by a DX1000/DX1000N/DX2000 model with a release number of 4 and the /AS1 option	Displayed according to the conditions in the vdx file.	• Marks are displayed according to the conditions in the vdx file. • Everything else is displayed according to the default settings.	• Marks are displayed according to the conditions in the vdx file. • Everything else is displayed according to the display conditions in the newest of the vdx files (if there are no vdx files, everything is displayed according to the default settings).
Other files	Displayed according to the conditions in the vdx file.	Displayed according to the default settings.	

If there is only one cursor (cursor A or B) in the data, the cursor positions of cursor A and B are set to the position of that cursor.

Saving the Display Conditions of Linked Files

The table below indicates how the display conditions of linked files are saved.

How the Display Conditions of Linked Files Are Saved

Operation / Status	Linkability and Post-Link File Name	Save Display Setting	Save Display Setting As	When the Window Is Closed
When one file is open	Linkable. The file name does not change.*1	The settings are saved to a vdx file.	Not allowed.	The settings are saved to a vdx file.
When a single file is opened and linked to another file	Linkable. The file name does not change.*1	The settings for each of the linked files are saved to separate vdx files.*2	The settings are saved to an ldx file.	The settings for each of the linked files are saved to separate vdx files.*2
When an ldx file is opened.	Linkable. “ldx” is appended to the file name when it is saved.	The settings are saved to an ldx file.	The settings are saved to an ldx file.	The settings are saved to an ldx file.
When multiple files are opened together in the [Open Files to Sign] window	When data is missing in the middle of a batch file, linkage with files before the missing data is impossible, but linkage with files after the missing data is possible. The file name does not change.	The settings are saved to a vdx file.*2	The settings are saved to an ldx file.	The settings for each of the files are saved to separate vdx files.*2

*1 When you select Save Display Setting As, the file name is determined as indicated below.

- If a batch number and lot number are attached, the file name is (Batch number)-(Lot number).ldx.
- If the batch number is blank and a lot number is attached, the file name is -(Lot number).ldx.
- If a batch number is attached and there is no lot number, the file name is (Batch number).ldx.
- If the batch number and lot number are both blank and the names of the first and last files are “A.DBE” and “Z.DBE,” the file name is “A.DBE-Z.DBE.ldx.”

*2 To prevent the automatic creation of massive numbers of vdx files, the current display conditions of data files and link reference files whose mark information has been changed are applied to the corresponding vdx files.

The explanation below describes how link reference files are chosen.

- If you open a single file and then link it to another file, the file that you opened first is the link reference file.
- When you open multiple files in the Open Files to Sign dialog box, the newest linked file is the link reference file. (After you open the linked files, even if you link to another file, the link reference file does not change.)

The images below show how display conditions and link information are saved.

Illustration of How Display Conditions Are Saved to .vdx Files

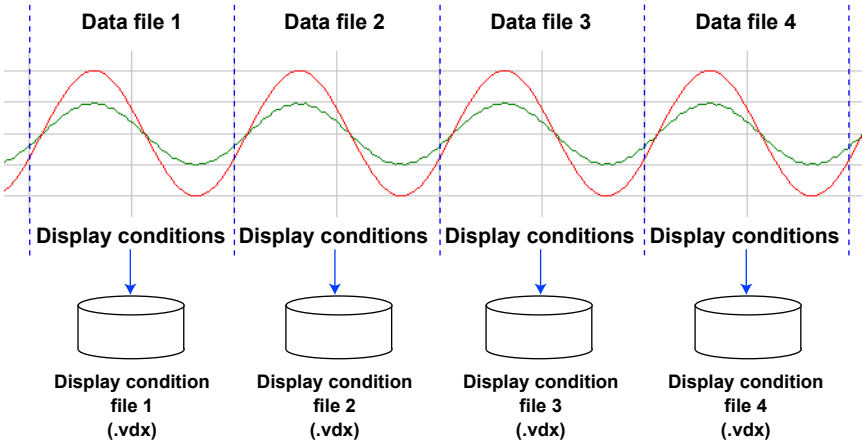
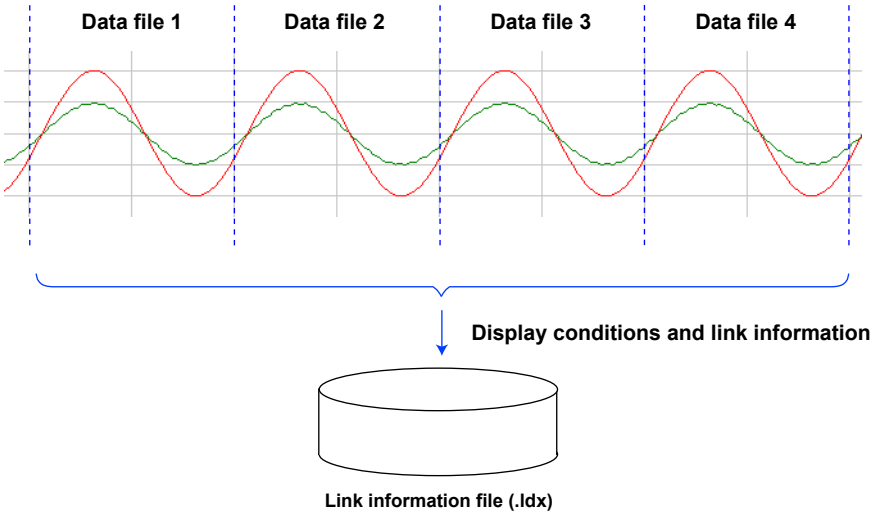


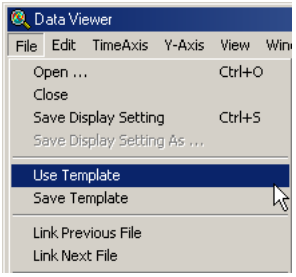
Illustration of How Display Conditions and Link Information Are Saved to .ldx Files



2.14 Saving Display Template

Saving Templates

1. From the File menu, choose Save Template.
   The currently displayed settings are saved as a template file to the same folder as the displayed data.



Using Templates

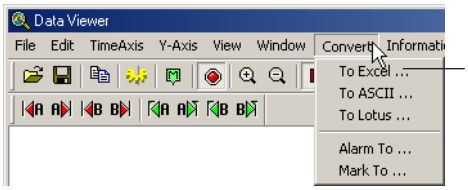
1. From the File menu, choose Use Template.
   If the currently displayed data file is not accompanied by its display settings file, it is displayed according to the setting information of the template file residing in the same folder.
   If the currently displayed data file is accompanied by its display settings file, it is displayed according to the setting information of the display settings file.
   If you do not wish to use the template, select File > Use Template again to clear the check mark.

The template file is saved with the name default.tdx in the folder of the currently displayed data. When using a template file, the template file residing in the same folder as the displayed data is used. The setting information saved to the template file is as follows.

- Print comment
- Y-axis zone setting
- ON/OFF condition of the clipping of the displayed waveform
- Settings specified in the General Display Settings
- Zoom rate of the time axis
- Display mode of the time axis (absolute/relative)
- Waveform display area
- Grid type
- The channel identification string mode (channel/tag/tag number)
- ON/OFF condition of file information items (see section 2.1)
- The background and grid color of the waveform display area
- The width of the zone display area of each group
- The active waveform
- The height of the data overview of each group
- Show/Hide condition of the zone display area
- Selected group
- ON/OFF condition of the alarm display
- Position of the display screen

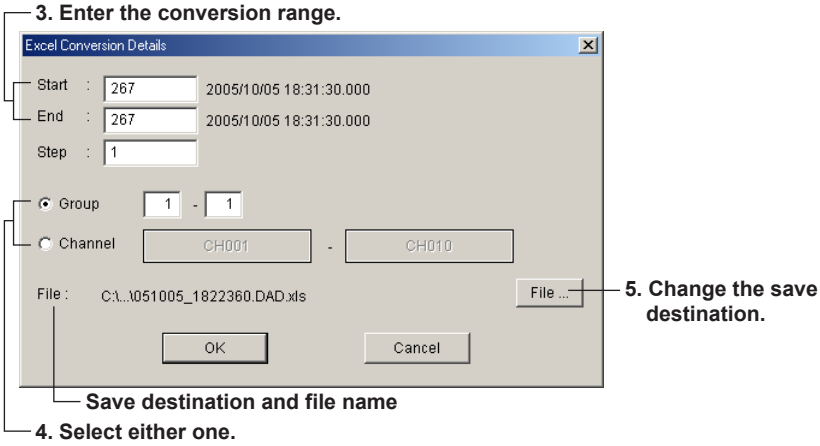
2.15 Converting the Data

Measured data can be converted into ASCII, Lotus, and Excel formats. For details on converting operation log data, see section 2.8.

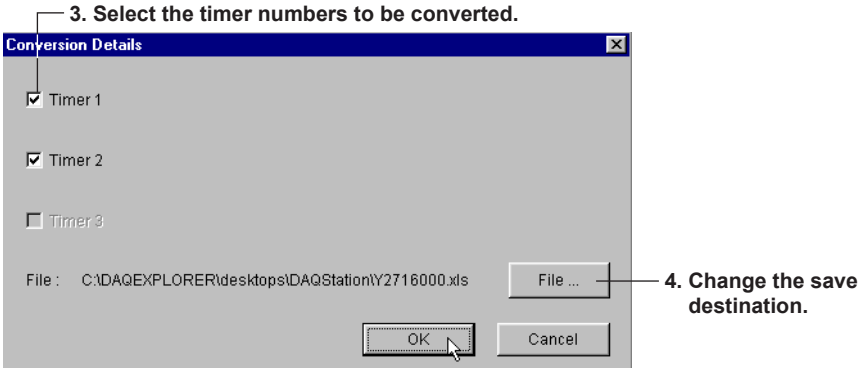


2. The [Conversion Details] dialog box opens.

When Viewing the Waveform Display or Digital Display



When Displaying a TLOG File



Start Point and End Point

Cursor A and Cursor B are used to set the start point and end point of the range, respectively. If Cursor A and Cursor B are not specified or the cursors were erased, the data numbers of the start and end points are automatically set to [0] and [total number of data points - 1], respectively.

To convert all the data in the specified range, set the step number to 1.

Step

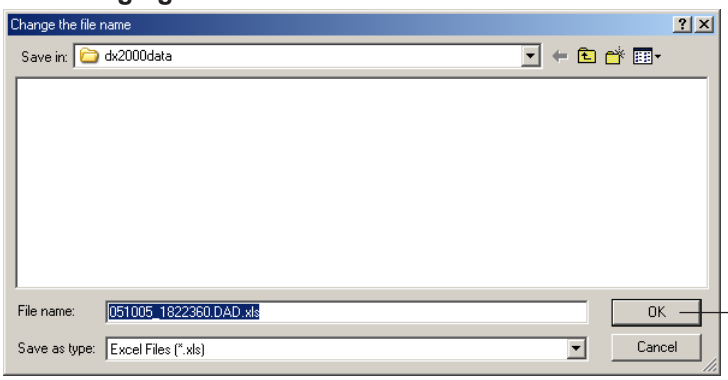
To convert all the data in the specified range, set the step number to 1.

Group/Channel

If you select [Group], enter the range of groups to be converted.

If you select [Channel], enter the range of channels to be converted.

Changing the Save Destination



Select the destination folder and file and click the [OK] button

To change the destination folder or the name of the file containing the converted data, click the [File] button. The [Change the file name] dialog box opens.

Note

- The default group is set to the number of the group that is currently being displayed. The default channel is set to all channels.
- The name of the destination file is automatically set to the displayed file name followed by the extension that identifies the data format. For ASCII, Lotus, and Excel conversions, the file extensions [txt], [wrk] (can be loaded using version 2.0 or later), and [xls] (can be loaded by Excel 97 or later) are attached, respectively.
- The conversion format of files with and without batch information differs.
- There is a limit in the number of data points that Lotus1-2-3 and Excel can handle. For these programs, specify the number of data points to be converted before performing the conversion. Note that even if the number of data points to be converted is within the limits, it still may not be possible to load the data if there is not enough free memory available on the PC. If the limit is exceeded, perform automatic division prior to conversion. A serial number is attached to the file name.
- Do not specify a floppy disk or an external storage medium as the save destination as it will take a long time for the save operation.
- Do not specify the root directory as the save destination.
- Prepare enough free space on the destination disk.

Conversion Example

ASCII conversion file

```
"DAQSTANDARD","Rx.xx"
"Data Viewer","Rx.xx"
"","",
"Device Type","DX2000"
"Serial No.","xxxxxxxxx"
"File Message",""
"Time Correction","None"
"Starting Condition","Manual"
"Dividing Condition","Manual"
"Meas Ch.",       48
"Math Ch.",        1
"Ext Ch.",        1
"Data Count",       10
"Sampling Interval",    2.000,"sec"
"Start Time","2008/12/02","16:07:04",    0.000
"Stop Time","2008/12/02","16:07:22",    0.000
"Trigger Time","2008/12/02","16:07:22",    0.000
"Trigger No.",          9
"Damage Check","Not Damaged"
"Started by","[ Key In ]"
"Stopped by","[ Key In ]"
"Num. Of Converted Data",       10
"Num. Of Converted Ch.",       10
"Converted Group",          1,"-",          1
"Ch.","CH001","CH002","CH003","CH004","CH005","CH006","CH007","CH008","CH009","CH010"
"Tag","11-AAAAA11111BBBBB11111CCCCC0001","22-AAAAA22222BBBBB22222CCCCC0002","33-
AAAAA33333BBBBB33333CCCCC0003","44-AAAAA44444BBBBB44444CCCCC0004","55-
AAAAA55555BBBBB55555CCCCC0005","66-AAAAA66666BBBBB66666CCCCC0006","ABC-7777777777","ABC-
8888888888","ABC-9999999999","ABC-1010101010"
"Tag No.","ABC-1","ABC-2","ABC-3","ABC-4","ABC-5","ABC-6","ABC-7","ABC-8","ABC-9","ABC-10"
"Unit","V","V","V","V","V","V","V","V","V","V"
"Date","Time","sec","MIN","MAX","MIN","MAX","MIN","MAX","MIN","MAX","MIN","MAX","MIN","MAX"
AX","MIN","MAX","MIN","MAX","MIN","MAX"
"2008/12/02","16:07:04",    0.000,   1.8494,   1.8527,   1.5867,   1.5920,   1.2175,   1.22
0.7653,   0.7734,   0.2610,   0.2697,  -0.2610,  -0.2523,  -0.7653,  -0.7572,  -1.2175,  -1
-1.5867,  -1.5813,  -1.8477,  -1.8444
"2008/12/02","16:07:06",    0.000,   1.8427,   1.8494,   1.5760,   1.5867,   1.2036,   1.21
0.7492,   0.7653,   0.2437,   0.2610,  -0.2783,  -0.2610,  -0.7814,  -0.7653,  -1.2313,  -1
```

Excel conversion file

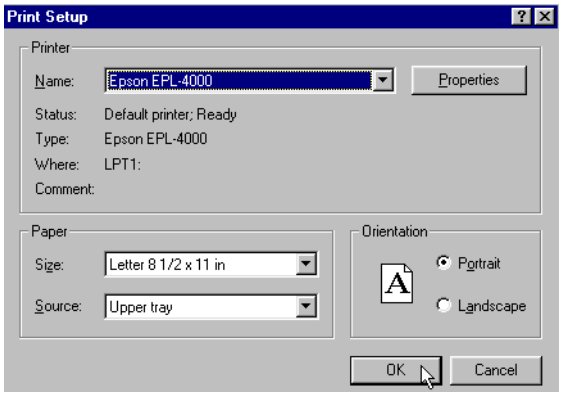
	A	B	C	D	E	F	G	H	I	J
1	DAQSTANDARD		Rx.xx							
2	Data Viewer		Rx.xx							
3										
4										
5	Device Type		DX2000							
6	Serial No.		xxxxxxxxx							
7	File Message									
8	Time Correction		None							
9	Starting Condition		Manual							
10	Dividing Condition		Manual							
11	Meas Ch.		48							
12	Math Ch.		1							
13	Ext Ch.		1							
14	Data Count		10							
15	Sampling Interval		2.000	sec						
16	Start Time		2008/12/0	16:07:04	0.000					
17	Stop Time		2008/12/0	16:07:22	0.000					
18	Trigger Time		2008/12/0	16:07:22	0.000					
19	Trigger No.		9							
20	Damage Check		Not Damaged							
21	Started by		[Key In]							
22	Stopped by		[Key In]							
23										
24	Num. Of Converted Da		10							
25	Num. Of Converted Cl		10							
26	Converted Group		1	-	1					
27										
28			Ch.	CH001		CH002		CH003		CH004
29			Tag	11-AAAAA11111BBBI		22-AAAAA22222BBBI		33-AAAAA33333BBBI		44-AAA
30			Tag No.	ABC-1		ABC-2		ABC-3		ABC-4
31			Unit	V		V		V		V
32	Date	Time	sec	MIN	MAX	MIN	MAX	MIN	MAX	MIN
33	2008/12/0	16:07:04	0.000	1.8494	1.8527	1.5867	1.5920	1.2175	1.2244	0.76
34	2008/12/0	16:07:06	0.000	1.8427	1.8494	1.5760	1.5867	1.2036	1.2175	0.74
35	2008/12/0	16:07:08	0.000	1.8358	1.8427	1.5652	1.5760	1.1896	1.2036	0.73

2.16 Printing

You can print a display data file, event data file, manually sampled data file, TLOG file, or report file.

Setting the Printer

1. Select [File] - [Print Setup].



2. Set the printer, paper and orientation.

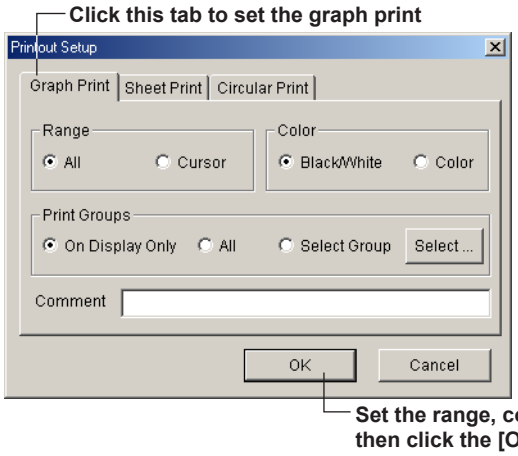
Note

Set the printer according to the configuration of the system that you are using.

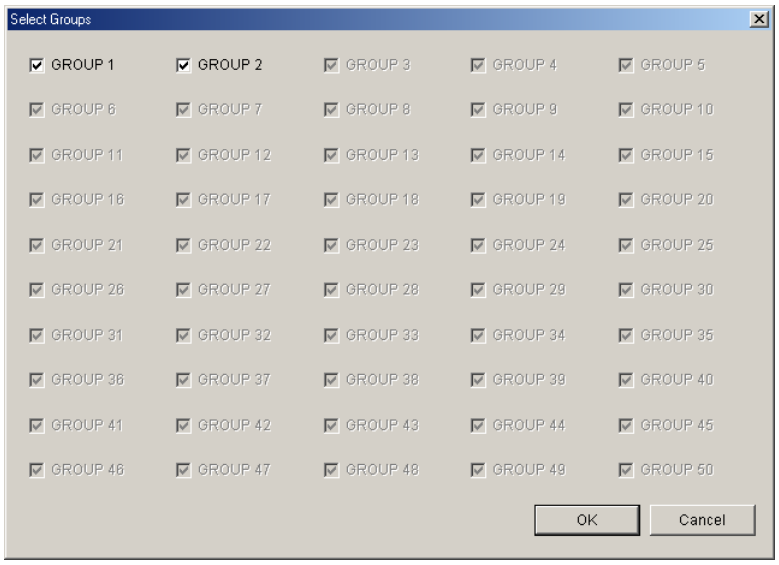
Specifying the Contents to be Printed (for Display Data File and Event Data File)

Specify the contents to be printed before executing the print. This setting is not necessary if you are printing a manually sampled data file, TLOG file, or report file.
Select [File] - [Print Settings]. The [Printout Setup] dialog box opens. When the waveform is displayed, printing is carried out according to the settings under the Graph Print tab of the [Printout Setup] dialog box. If numeric values are displayed, printing is carried out according to the settings under the Sheet Print tab.

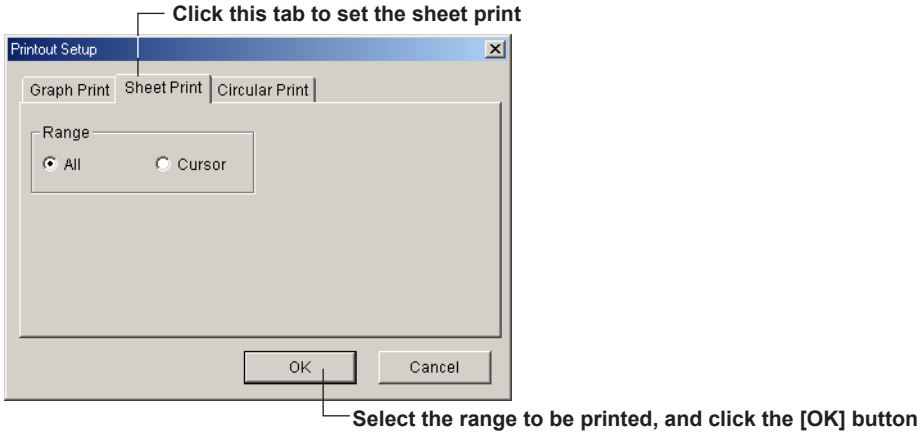
Setting Graph Print



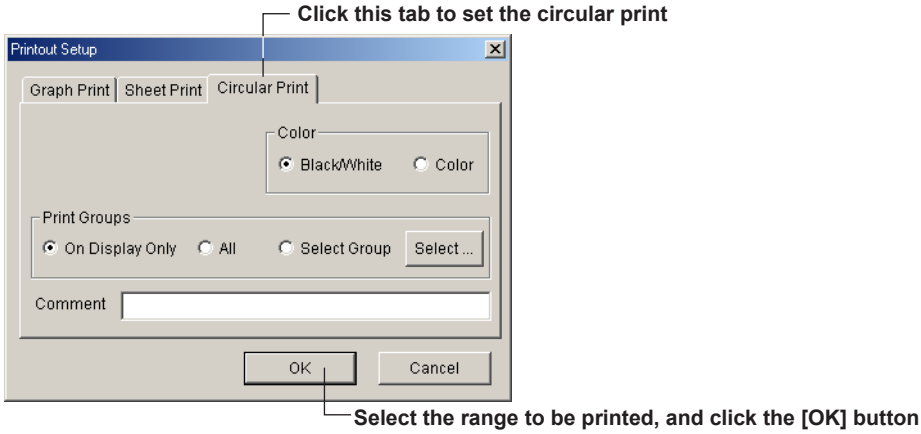
If you selected [Select Group], click the [Select] button. The [Select Groups] dialog box opens. Select the groups to be printed. Click the [OK] button to close the dialog box.



Setting Sheet Print



Setting Circular Print



Note

- The [Comment] can be entered or changed using [About Document] (see “Checking File Information” page 2-8). When the print comment is entered or changed, it is reflected in the comment of [About Document] dialog box.
- Up to 127 characters can be entered in the [Comment] entry box. However, the number of characters that is actually printed is limited.
- When the cursor is not displayed, select the [All] button under [Range] in the [Printout Setup] dialog box.

Header

A header can be printed when printing the waveform or a TLOG file.
Of the items that are displayed in the file information dialog box ([Information] - [About Document]), those that are checked are printed in the header section. For details related to the file information, see section 2.1.

Print Preview

You can preview the print layout before actually printing the data.
Selecting [File] - [Print Preview] displays the print preview screen.

Note

- The preview screen will display the print image of the specified range.
- The file information is also displayed when previewing the graph. If the color overview, alarm, [Cursor value] window, and [Statistics] window are displayed, these are also displayed on the preview screen along with the graph
- For the print preview operation, see the instruction manual that came with your operating system.

Operation Log Printout

Absolute or Relative Time

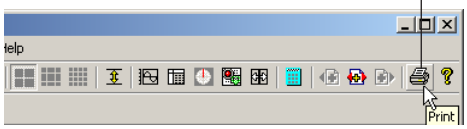
Absolute time or relative time is printed according to the setting on the operation log display.

Widths of Printed Items

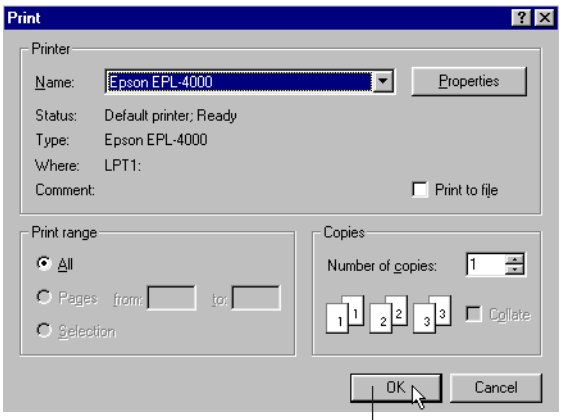
Printed Item	Width
Log No.	11 characters
Absolute Time	24 characters
Relative Time	17 characters
User	22 characters
Kind	32 characters
Operation/Additional Info.	74 characters

Printing

1. Click here ([File] - [Print]).



2. The [Print] dialog box opens.



Select the printer, print range, the number of copies, and click the [OK] button

3.1 Troubleshooting

Messages

Code	Message	Description
M3130	Do you want to sign this record?	This message appears to confirm that you want to sign the record.
M3131	Do you want to cancel?	Click [OK] to cancel the operation.

Error Messages

Code	Message	Description	Corrective Action
E0002	Insufficient Memory.Please close at once.	–	Exit other programs then restart, or reboot the OS then restart.
E0211	Can't write to file.	There is insufficient space in the directory, or the file is being used by another program.	Check the free space in the directory. The file may be currently used by another program, so check it.
E0212	Can't read file.	The file does not exist, or there is a problem with the file system.	Check whether the file exists. Also check whether the file system is correct.
E0213	Can't open file.	The file does not exist, or there is a problem with the file system.	Check whether the file exists. Also check whether the file system is correct.
E0250	Failed to start Adobe Reader.	Adobe Reader 7 or more is required to see the user's manual.	Install Adobe Reader or confirm that Adobe Reader is already installed.
E3115	Too many data.	The number of data entries in the files that are to be linked exceeds 5,242,880 entries, so the files cannot be linked.	Decrease the number of files that you are linking.
E3118	Some files may be overwritten. Do you still want to continue?	The file may be corrupt.	Continue if OK. If not, change the file names.
E3119	Already signed	The specified level has already been signed.	Contact the administrator if you cannot solve the problem.
E3120	Not registered user.	The user name, user ID, or password has been entered incorrectly.	Check the login information, and enter it again. Contact the administrator if you cannot solve the problem.
E3121	There is no signature no.	The user you signed in as does not have permission to make a signature.	Contact the administrator if you cannot solve the problem.
E3122	%dtimes password input failure.	Stops operation. “%d” is the number of failures.	Check the login information, and enter it again. Contact the administrator if you cannot solve the problem.
E3123	%dtimes password input failure. The user will be disable.	The privileges of this user are invalidated. “%d” is the number of failures.	Contact the administrator if you cannot solve the problem.
E3124	%s File is not found.	The setup data with the appropriate setting serial number cannot be found. “PPL” appears instead of “%s” for DX100P/DX200P setup data files. “PSL” appears instead of “%s” for DX1000/DX1000N/DX2000 setup data files. “PEL” appears instead of “%s” for DX1000/DX2000s with a release number of 4 and the /AS1 option.	Put the setup data with the appropriate setting serial number into the folder that contains the data file.
E3125	Cannot perform authentication. There is a problem with the KDC server.	Viewer cannot connect to the KDC server or the KDC server settings have changed and authentication is failing. You cannot perform KDC authentication if you change the PC’s time zone while Viewer is running. The authentication does not work when there is a time difference of 5 minutes or more between DX and the KDC server.	Contact the administrator.
E3132	Failed to start Hardware Configurator.	Hardware Configurator is not installed, so it cannot be started.	Install Hardware Configurator.

Warning Messages

Code	Message	Description	Corrective Action
W3126	You cannot sign because the signature information of the files in the batch is inconsistent.	The signature information of the files in the batch is inconsistent.	Check the signature information in the file for consistency. Contact the administrator if you cannot solve the problem.
W3127	Cannot be displayed because two or more files that contain the same batch data exist in the specified folder.	Two or more files that contain the same batch data exist in the specified folder.	Organize the files so that they do not contain the same batch data.
W3128	The file does not exist.	The file has been deleted or moved.	Update the file list to check for the file. Check the condition of the disk. Contact the administrator if you cannot solve the problem.
W3129	Cannot link and display data because some of them have already been displayed.	The files cannot be displayed because a data file that you want to link is already open.	Link the files after you close the currently displayed data.

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