User's Manual

DXA170
DAQStudio

vigilantplant.®

YOKOGAWA
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IM 04L41B01-62EN
1st Edition

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Thank you for purchasing DAQStudio.
This manual explains the use of DAQStudio. Please read this manual carefully before use and use DAQStudio correctly.
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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 DAQStudio	Explanation of the function outline for DAQStudio. Sample images of screens which actually produced are shown.
2	Creating a Monitor Screen with DAQStudio	Explanation of the operation method for creation of an original monitor screen. Explanation of the operation methods for efficient creation and the methods for saving and opening created display data.
3	Detailed Information for Attributes of Screens and Components	Detailed explanation of the individual attributes of screens and parts.
4	Communication with the DX Recorder	Explanation of the methods for receiving custom display screen data from the DX1000/DX1000N/DX2000 recorder and for sending display data which have produced/edited by DAQStudio to the DX1000/DX1000N/DX2000 recorder via Ethernet.
5	Messages and Handling Methods	Message List and Explanation of the Confirmation Method for the DAQStudio Version
Index		Gives a list of important terms used in this manual.

Scope of the Manual

This manual does not explain the basic operations of Windows XP and Windows Vista. For information regarding the basic operations of Windows, see the user's guide that came with Windows.

Conventions Used in This Manual

Unit

K Denotes 1024 Example: 100 KB
M Denotes 1024K Example: 10 MB
G Denotes 1024M Example: 2 GB

Bolded Items

Items set in boldface mainly refer to on-screen interface elements such as menus, commands, dialog boxes, and buttons, or keys on the keyboard.

Markings

► This mark is used to indicate a reference to a related procedure or explanation.
Example : ►Section 4.1

Symbols used in operational explanation

In the pages explaining operation (chapter 1 to 4), the following symbols are used to distinguish the descriptions.

Procedure This subsection contains the operating procedure used to carry out the function described in the current section. All procedures are written with inexperienced users in mind; experienced users may not need to carry out all the steps.

Explanation Explanation gives information such as limitations related the procedure.

Note Calls attention to information that is important for proper operation of the instrument.

Contents

Chapter 3 Detailed Information for Attributes of Screens and Components

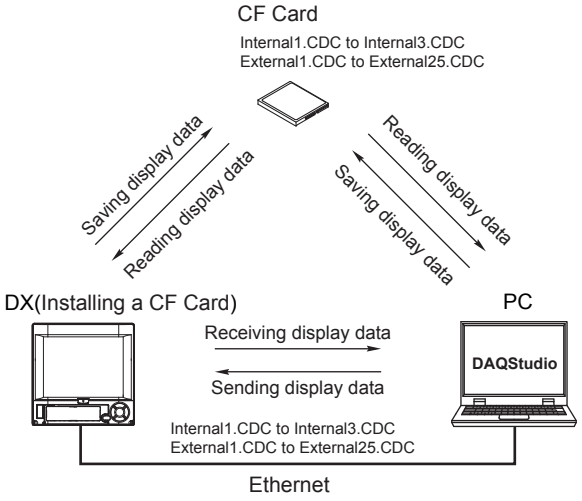
Chapter 4 Communication with DX Recorder

Chapter 5 Messages and Handling Methods

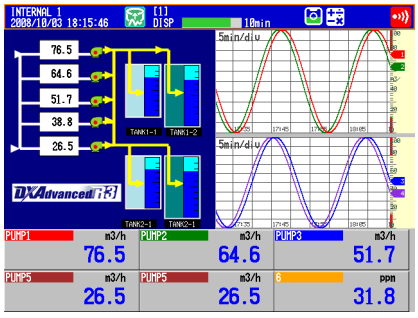
Index

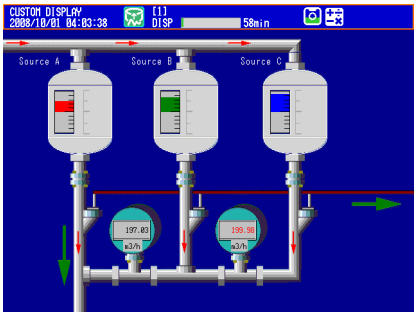
1.1 Overview

DAQStudio is the software for the creation original monitor screens displaying measuring data of DX1000/DX1000N/DX2000 (hereinafter called DX). For monitoring of measuring data, it is possible to assign channels to digital parts, trend parts, etc., and diagram components can be used to create monitor screens matched to site images.
Created monitor screens can be displayed by custom display function of the DX recorder. It is also possible to receive custom display screen data from the DX recorder and to edit them or to send display data created with DAQStudio to the DX recorder. Data transmission and reception can be performed via Ethernet or external storage media (CF cards).



Monitor Screen Creation Examples





A screen is composed of multiple parts, and background setting and display of static bitmap images also can be done.
Multiple parts can be related to each other, and parts can be combined with other parts. Measuring channels are allotted to parts. Size, character font, color, unit, group control, and other attributes are set for each created part.
Parts can be laid out freely in the screen display area at screen grid intervals.

Note

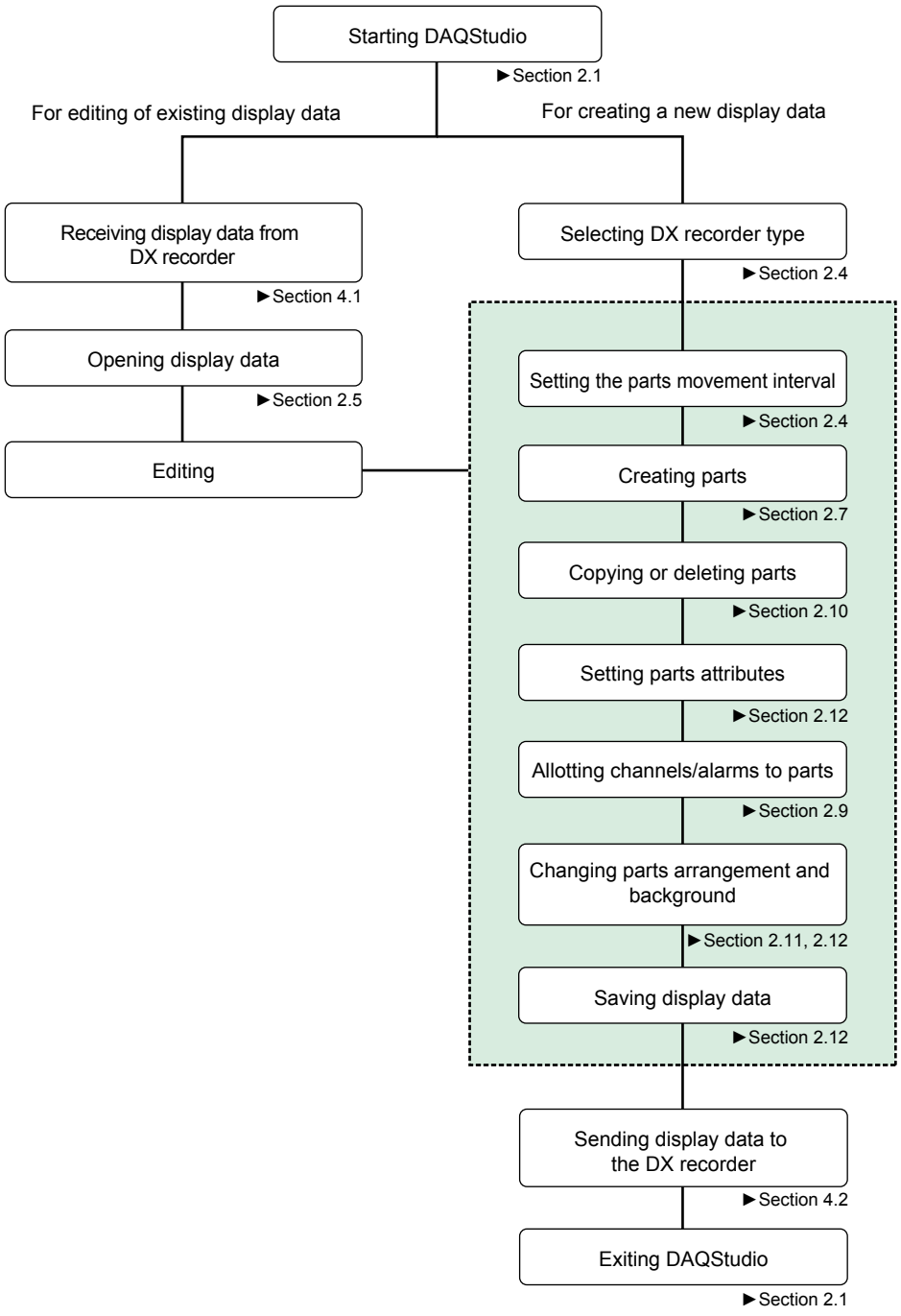
- Monitor screens are displayed correctly only when the language kind of the DX recorder and the language kind of DAQStudio are the same.
- As screens being created with DAQStudio cannot display measuring values, the display differs from the custom display execution screen of the DX recorder.

Creating and Saving Screens

An original monitor screen can be created newly or it can be created by receiving display data from the DX recorder and editing them with DAQStudio. The display data from the DX recorder can be retrieved via Ethernet or display data of the DX recorder saved to external storage media (CF card) can be read in.
Edited or created display data are stored on the hard disk of the computer or external storage media (CF card) and are sent to the DX recorder.

Monitor Screen Creation Flow

The monitor screen creation flow is shown below.



1.2 PC System Requirements

PC System

- **Supported Operating Systems (OS)**

  Run DAQStudio under any of the following operating systems.
  - Windows XP Home Edition SP3
  - Windows XP Professional SP3 (excluding Windows XP Professional x64 Edition)
  - Windows Vista Home Premium, SP1 (excluding the 64-bit edition)
  - Windows Vista Business, SP1 (excluding the 64-bit edition)

  The language displayed by the software under different language versions of the OS are as follows.

OS Language	Software Language
Japanese	Japanese
Other	English

- **PC**

  Machine type

  A PC that runs one of the OS above, and that meets the following CPU and memory requirements.

  CPU and main memory capacity

  When Using Windows XP

  Pentium 4, 1.6 GHz or faster
  512 MB or more of memory

  When Using Windows Vista

  Pentium 4, 3 GHz or faster
  1 GB or more of memory

- **Hard disk**

  Free disk space: 100 MB or more

- **CD-ROM Drive (for Use during Installation)**

- **Mouse**

  Mouse supported by the OS

- **Monitor**

  When Using Windows XP

  A monitor supported by the OS of 1024 × 768 dot or higher and 65,536 colors or more.

  When Using Windows Vista

  A video card recommended for use with Vista and a monitor supported by the OS of 1024 × 768 dot or higher and 65,536 colors or more.

- **Communication Port**

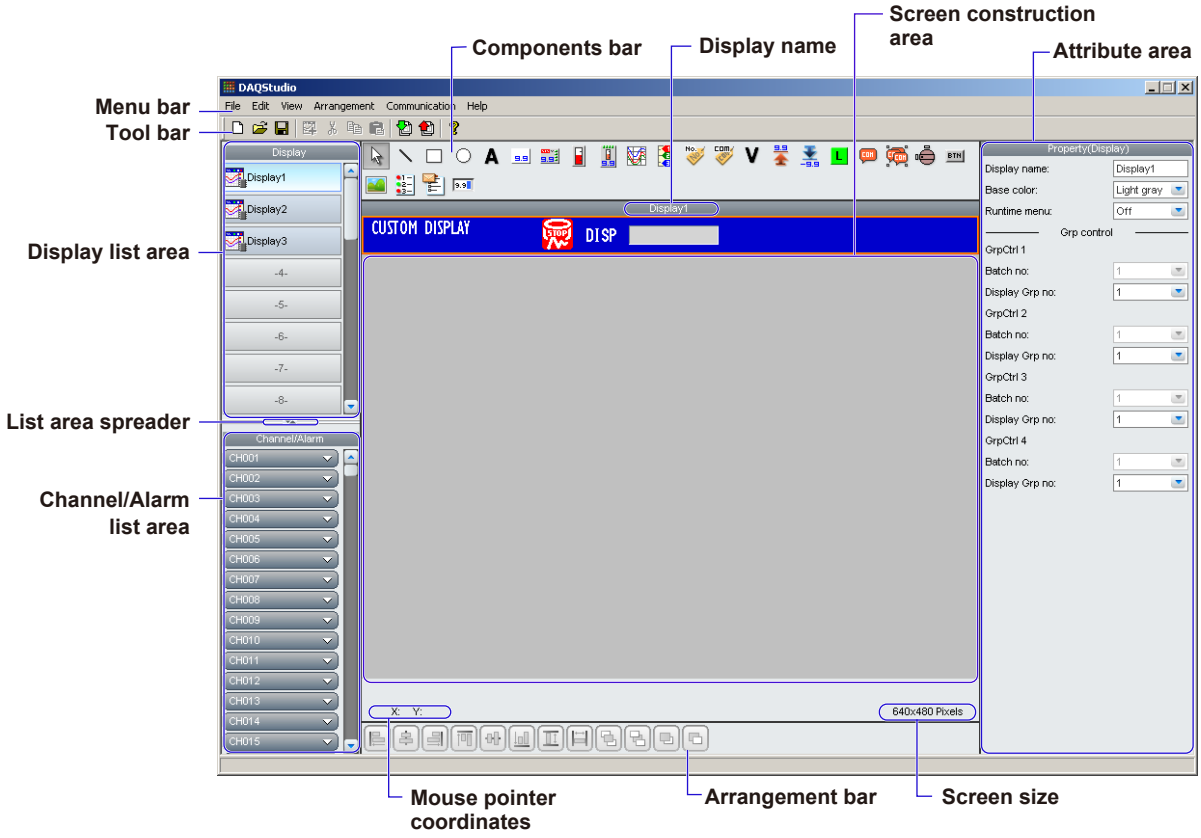
  Ethernet port (10Base-T) supported by the OS. Also, TCP/IP protocol is required to be installed.

2.1 Starting/Exiting DAQStudio

Starting DAQStudio

Procedure

From the Start menu select **All Programs > DAQStudio > DAQStudio**.
The main screen of DAQStudio appears.



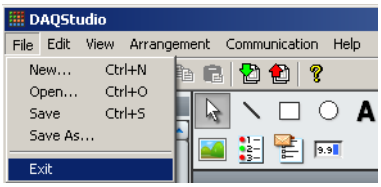
Explanation

The Main screen is composed of Menu bar, Tool bar, Display list area, Channel/Alarm list area, Components bar, Attribute area, Arrangement bar, and Screen construction area. The main screen size is fixed. The DX2000 screen is displayed as the initial value. Refer to Section 2.2 for details of each component in the Main screen.

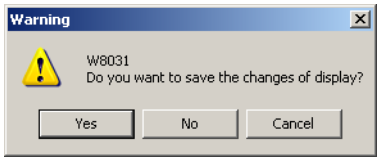
Exiting DAQStudio

Procedure

1. Select **File > Exit** from the menu bar or click the "×" mark at the right top of the Main screen.



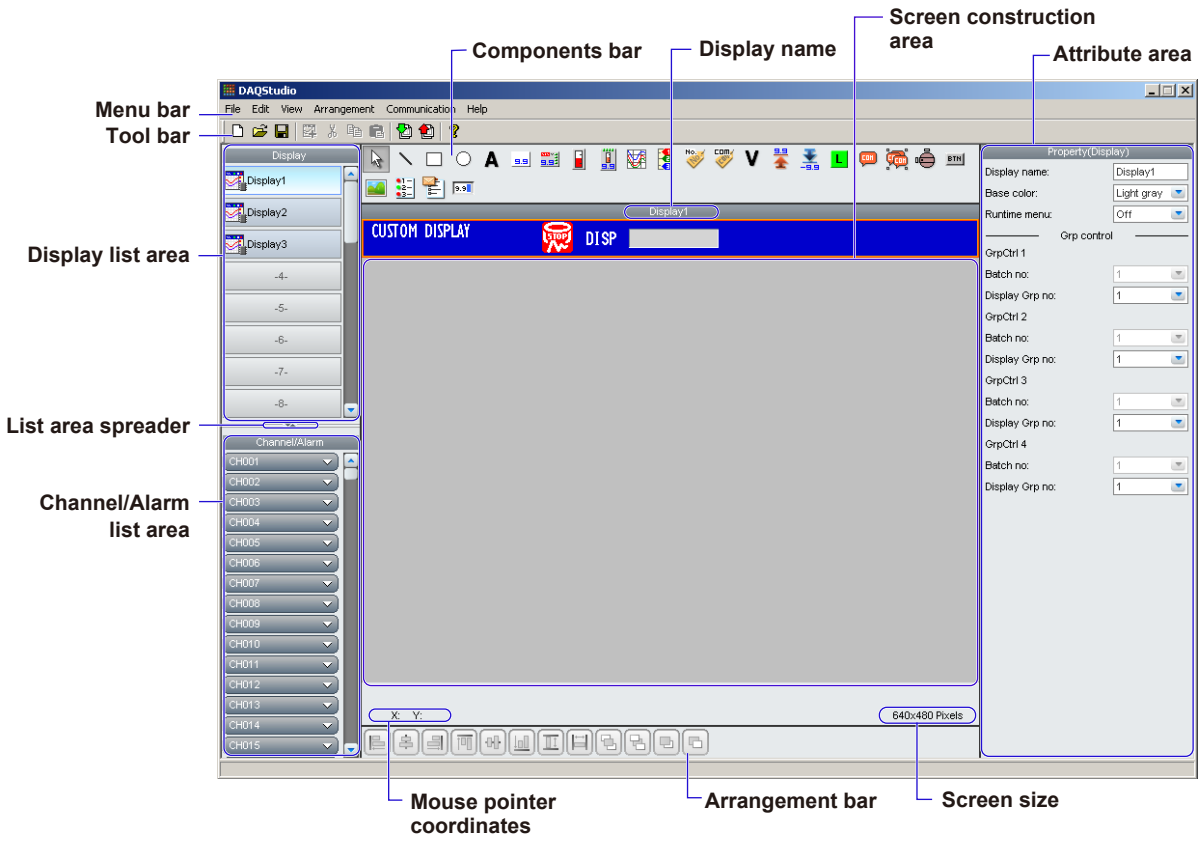
2. Exit from DAQStudio is made when there is no screen being edited.
   If there is a screen being edited, a dialog message confirming whether the screen is to be saved or not is displayed.



3. Click **[Yes]** or **[No]**. (Exit operation is cancelled when **[Cancel]** is clicked.)

2.2 Explanation of the Main Screen of DAQStudio

The configuration of the Main screen of DAQStudio is shown below.

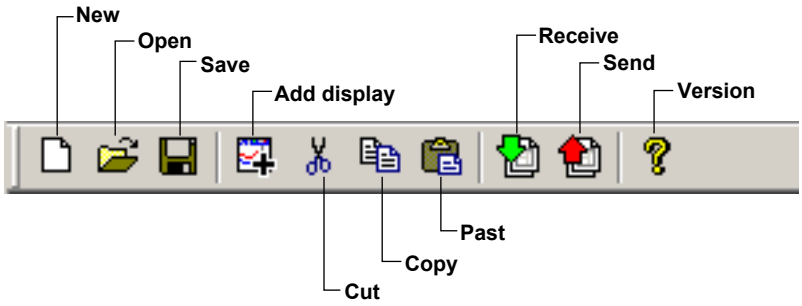


The icon names of each bar are shown below. Refer to Section 2.3 for the icon functions and the shortcut keys.

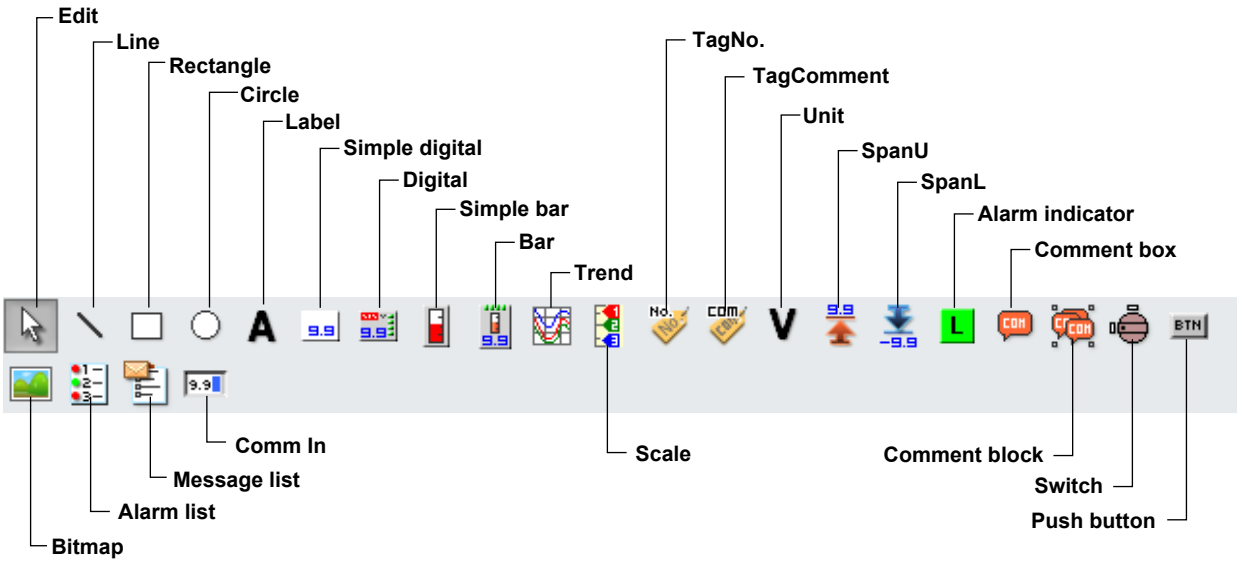
Menu bar

This is composed of **File**, **Edit**, **View**, **Communication**, and **Help**.

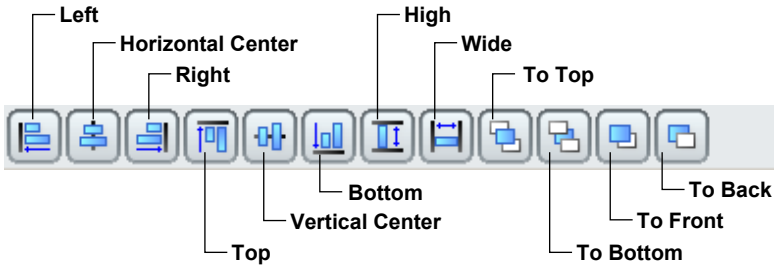
Tool bar



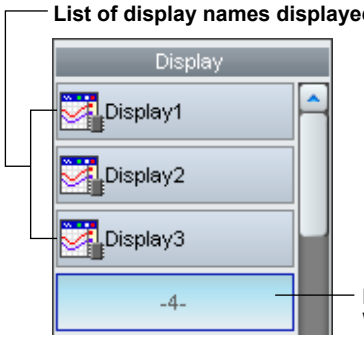
Component bar



Arrangement bar

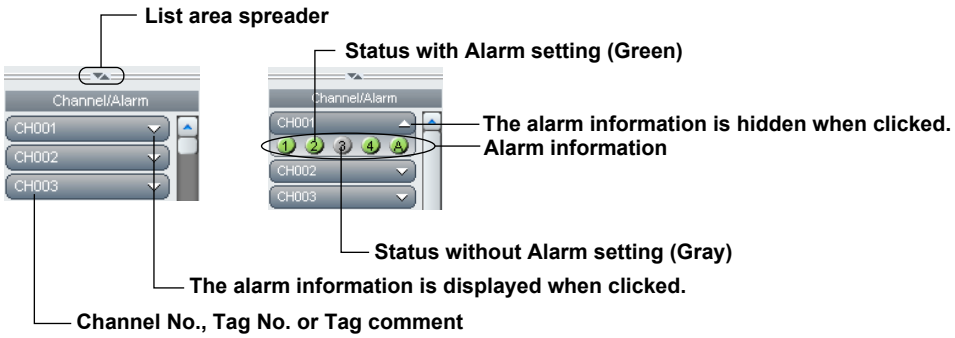


Display list area



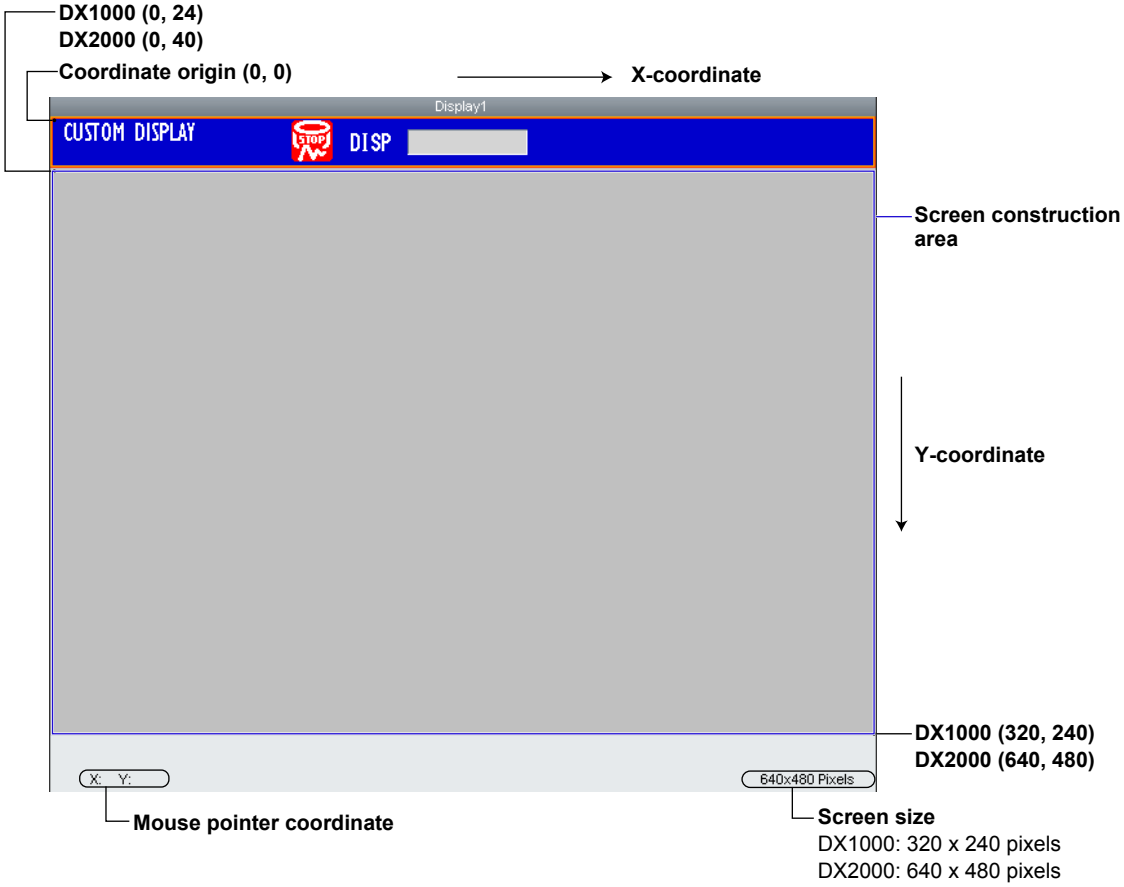
When a display name in the list is clicked or the up and down arrow keys (↑, ↓) of the keyboard are pressed to select a screen, the screen is displayed in the screen construction area.
When a display name is selected, display editing (Copy, Cut, Paste, Delete) can be done in the display list area.
When a location outside the Display list area is selected, editing of the Screen construction area becomes possible.
Refer to Section 2.10 for the operation procedure.
The initial setting at the time of start is for display of blank data for the display names Display1 to Display3.

Channel/Alarm list area



The Channel/Alarm information set at the DX recorder is displayed as Channel No., Tag No. or Tag Comment. At this time, the alarm information is included.
Switching of the display format can be selected from the View menu.
When the mouse pointer is placed onto the list area spreader, the mouse pointer changes to an arrow shape. By dragging, the View area can be increased or decreased vertically.
The initial settings for the Main screen at the time of start are shown below.
In case of DX1000: Channels “CH001” to “CH012” and calculation channels “CH101” to “CH124” are displayed.
In case of DX2000: Channels “CH001” to “CH048”, calculation channels “CH101” to “CH160”, and expansion channels “CH201” to “CH440” are displayed.

Screen construction area



The initial setting at the time of start is display of the DX2000 screen.

2.3 Explanation of Menus, Icons, and Shortcut Keys

Menu bar contents, icons, and shortcut keys are shown in a list.
The icons are arranged on the Tool bar and on the Arrangement bar.

File menu

Menu name	Icon	Shortcut keys	Explanation
File	–	–	–
New		Ctrl+N	All present screens are discarded and a new screen is created.
Open		Ctrl+O	A screen construction file is loaded.
Save		Ctrl+S	A screen construction file is saved to the save folder by overwriting.
Save as	–	–	A save folder is specified and the screen construction file is saved to that folder.
Exit	–	–	The application is exited.

Edit menu

Menu name	Icon	Shortcut keys	Explanation
Edit		–	–
Cut		Ctrl+X	The object is moved to the clipboard.
Copy		Ctrl+C	The object is copied to the clipboard.
Past		Ctrl+V	The object is copied from the clipboard and moved to the specified location.
Select All	–	Ctrl+A	All components in the Screen construction area are selected.
Delete	–	Delete	The object is deleted.
Add Display	–	–	A new screen is added to the display list

View menu

Menu name	Icon	Shortcut keys	Explanation
View	–	–	–
Channel	–	–	The Channel No. is displayed in the Channel list.
TagNo.	–	–	The Tag No. is displayed in the Channel list.
TagComment	–	–	The Tag Comment is displayed in the Channel list.
Grid	–	–	The Grid interval is displayed.

View – Grid menu

Menu name	Icon	Shortcut keys	Explanation
1Dot	–	–	The screen grid interval is set to 1 dot.
5Dot	–	–	The screen grid interval is set to 5 dots.
10Dot	–	–	The screen grid interval is set to 10 dots.
20Dot	–	–	The screen grid interval is set to 20 dots.
50Dot	–	–	The screen grid interval is set to 50 dots.

Arrangement menu

Menu name	Icon	Shortcut keys	Explanation
Arrangement	–	–	–
Left		–	The left edge of the selected component is arranged aligned with the left edge of the reference component.
Horizontal Center		–	The center in horizontal direction of the selected component is arranged aligned with the center in horizontal direction of the reference component.
Right		–	The right edge of the selected component is arranged aligned with the right edge of the reference component.
Top		–	The top edge of the selected component is arranged aligned with the top edge of the reference component.
Vertical Center		–	The center in vertical direction of the selected component is arranged aligned with the center in vertical direction of the reference component.
Bottom		–	The bottom edge of the selected component is arranged aligned with the reference component.
Height		–	The height of the selected component is matched to the height of the reference component.
Width		–	The width of the selected component is matched to the width of the reference component.
To Top		–	The selected component is arranged for display on the foremost plane.
To Bottom		–	The selected component is arranged for display on the rearmost plane.
To Front		–	The selected component is arranged for display one plane to the front.
To Back		–	The selected component is arranged for display one plane to the rear.

Communication menu

Menu name	Icon	Shortcut keys	Explanation
Communication	–	–	–
Receive		–	A screen construction file is received from the DX recorder.
Send		–	A screen construction file is sent to the DX recorder.

Help menu

Menu name	Icon	Shortcut keys	Explanation
Help	–	–	–
Instruction Manual	–	–	The user's manual is displayed.
About		–	The About dialog is displayed.

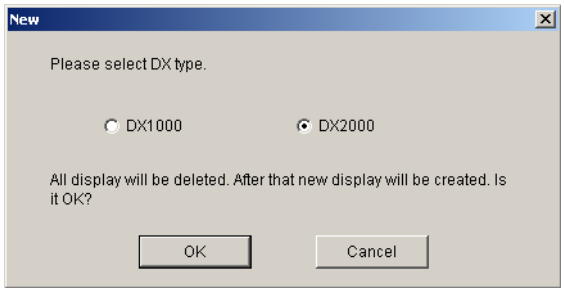
2.4 Specifying a Model, Setting the Grid

Specifying a Model

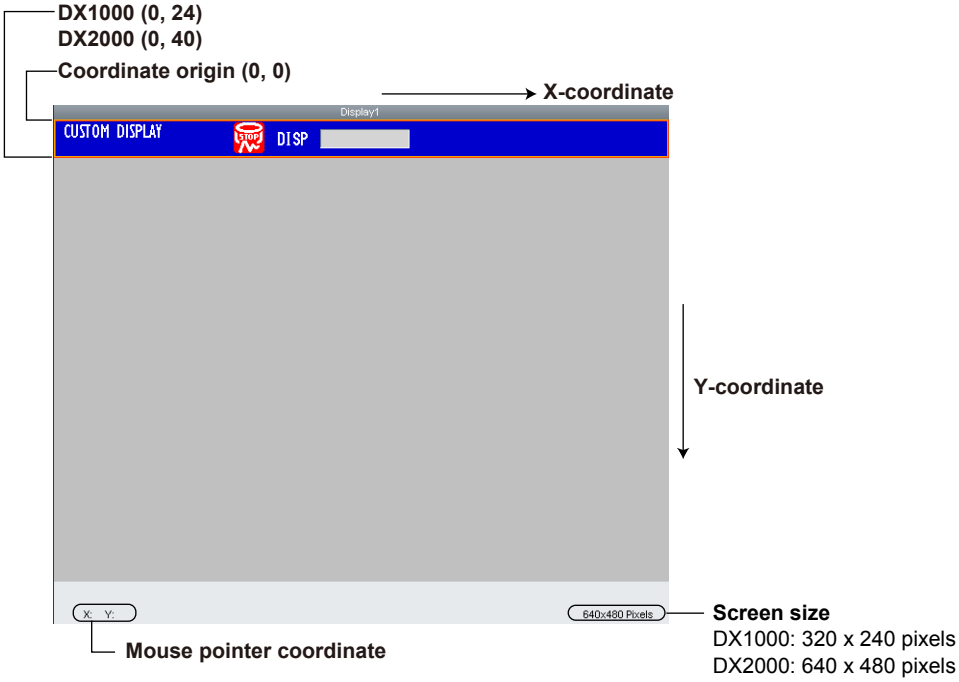
Specify DX1000 or DX2000 as the object model for the display data.

Procedure

1. Select **File > New** from the menu bar or click the New icon.
   The **New** dialog box appears.
   The initially set screen is “DX2000.”



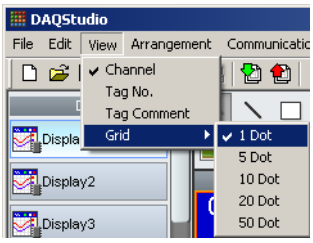
2. Select the model and click **[OK]**.
   OK: The displayed display data are discarded and a new screen is created. The size of the screen construction area for the selected model is displayed.
   Cancel: Return to the Main screen.



Grid setting

Procedure

1. Select **View > Grid** from the menu bar.
2. Specify the screen grid.



Explanation

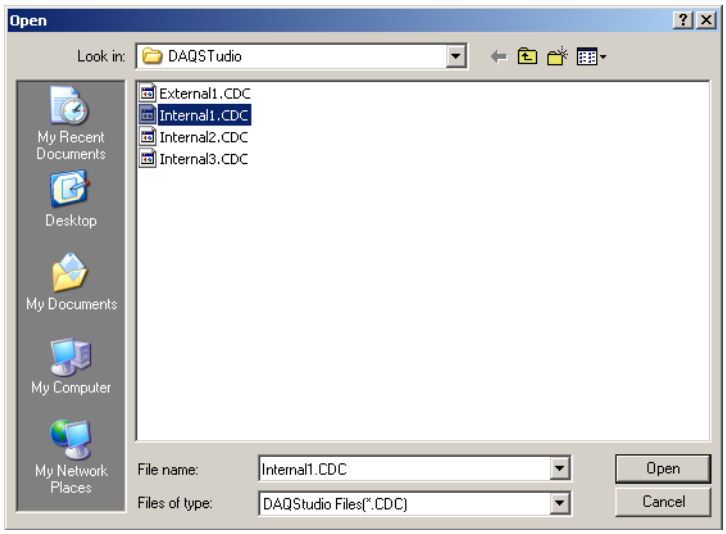
Components can be moved in grid intervals. When components are moved, they can be arranged in a condition with the left apex contacting the grid.

2.5 Open/Save a File

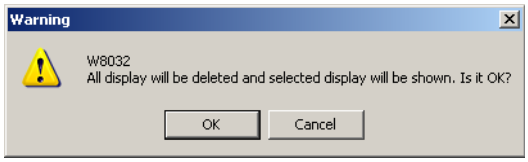
Open a file

Procedure

1. Select **File > Open** from the menu bar or click the **Open** icon.
   The **Open** dialog box appears.



2. Specify the file location and the file name and click **[Open]**.
   When a display data file is already open or when a screen being created is displayed, the following message appears.



3. Click **[OK]** if it is OK to discard the present screen.
   The screen construction data are displayed.

   Click **[Cancel]** if you do not want to discard the present screen.
   File opening is cancelled and return is made to the Main screen.

Explanation

The file names handled by this software are “Internal1.cdc” to “Internal3.cdc” and “External1.cdc” to “External25.cdc.”
When a file is specified, all files with the above names are opened in the folder where that files is located.
When a file is opened, the display name of the opened file is displayed in the display list area. The display name can be changed on the attribute of the display (►Section 3.1).
When a display data is received from a DX recorder (►Section 4.2), the display name defined on the DX recorder is displayed in the display list area.

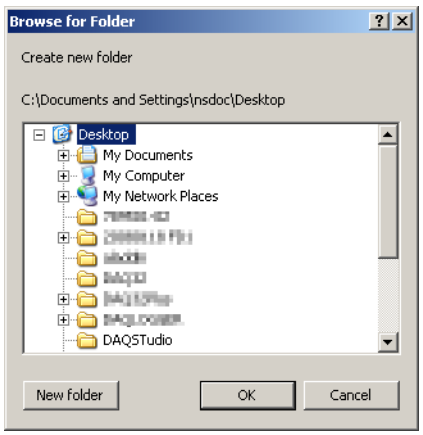
The save destination folder of the opened file becomes the save object folder. When a different file is opened, the save object folder becomes the folder of the opened file.

Save a file

Procedure

Saving a file by specifying a folder

1. Select **File > Save as** from the menu bar.
   The **Browse for Folder** dialog box appears.



2. Specify a folder or click the **[New folder]** button to create a folder.
   If the [New folder] button has been clicked, enter a name for the new folder.

Note

- Network folders or compressed folders cannot be specified at the time of saving a display data.
- Newly created display data must be saved. Bitmap files assigned for components need to be saved in the same folder that the display data will be saved.
- The display data or bitmap data must be saved every time they have been received from DX recorder.

3. Click **[OK]**.
   The data are saved.

Saving a file by overwriting

Select **File > Save** from the menu bar or click the **Save** icon.
In an already existing folder, the data will be saved by overwriting.

Explanation

When the file save folder is specified, the entire information of the Display list area is saved. The file name at the time of saving is as shown below.

Display names in the Display list area at the initial setting*	**The file name when the file was saved**
Display1	INTERNAL1.cdc
Display2	INTERNAL2.cdc
Display3	INTERNAL3.cdc
-4- (Display4: when adding a new data, “Copy”+ display name: of the copy source)	EXTERNAL1.cdc
-5- (Display5: when adding a new data, “Copy”+ display name: of the copy source)	EXTERNAL2.cdc
• • •	• • •
-27- (Display27: when adding a new data, “Copy”+ display name: of the copy source)	EXTERNAL24.cdc
-28- (Display28: when adding a new data, “Copy”+ display name: of the copy source)	EXTERNAL25.cdc

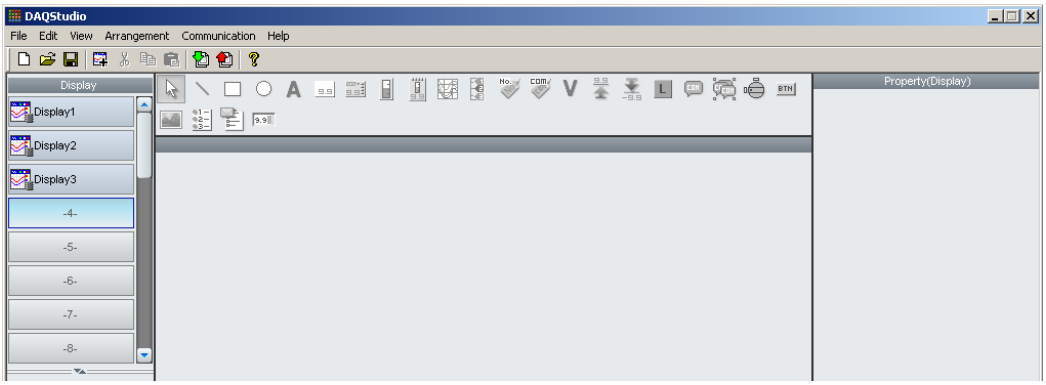
* The display name can be changed on the attribute of the display (►Section 3.1). When a new display data is added (►Section 2.6) or copied from an existing display data (►Section 2.10), the display data file is saved to the list item number 4 or later.

If the file name is changed to file name other than shown above, the display data cannot be sent to the DX recorder.

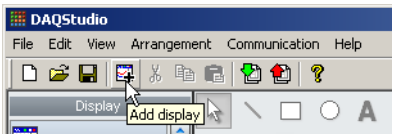
2.6 Adding a Display

Procedure

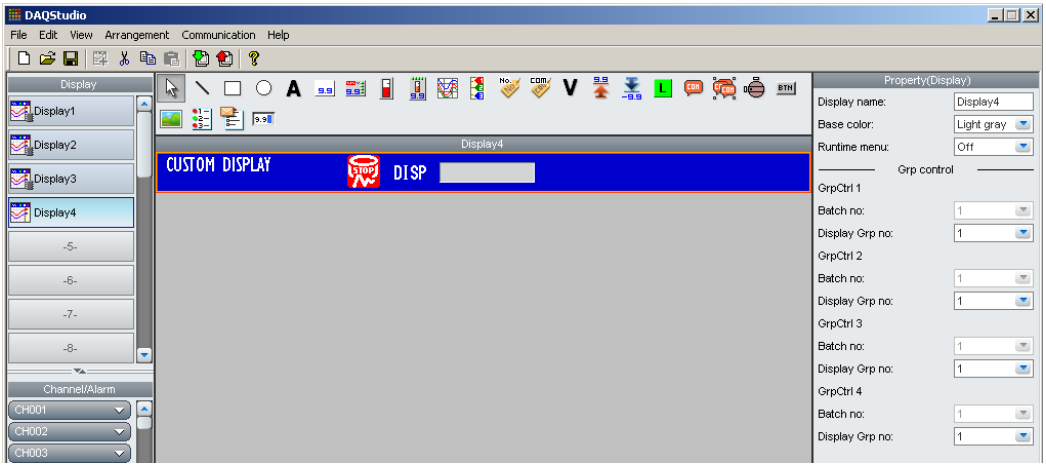
1. Click the Display name in the display list area.
   Now the Add Display icon of the Tool bar can be selected.



2. Select **Edit > Add Display** from the menu bar or click **Add Display** icon.



   The screen for DX2000 is displayed.

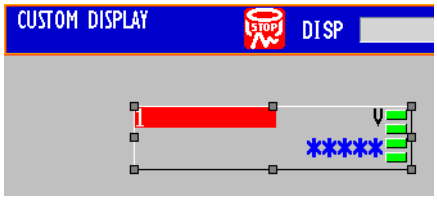


3. Specify the model (► Section 2.4) and create the screen.

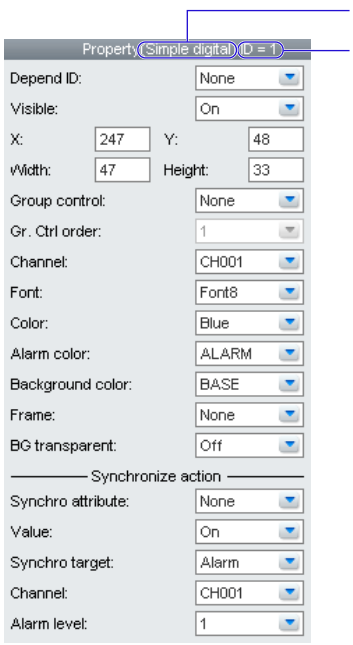
2.7 Creating Components

Procedure

1. On the Components bar, click the icon for the component to be created.
2. Place the mouse pointer in the screen construction area and drag it.
   A component with the dragged size is created.



3. Click the component.
   The attributes of the selected components are displayed in the Attribute area.



Component type

ID numbers are allotted in the order of creation. The ID number differs depending on the kind of component. (Refer to Section 3.2.)

4. Set each attribute item.
   For details, refer to Chapter 3.

Explanation

Explanation of the Components

The icons of the component bar are explained.

Component type	Component name	Icon	Explanation
–	Edit		When the Edit icon is clicked, the components of the Screen construction area can be selected.
Diagram components	Line		Create a straight line connecting any two points.
	Rectangle		Create a rectangle with any dragged points at opposite corners.
	Circle		Create a circle in a square with any dragged points at opposite corners.
Components for channel assignment	Simple digital		Create simple digital components displaying digital values of specified channels.
	Digital		Create components displaying digital values with Tag Comment/Tag No./Channel No., Unit, and Alarm indicator.
	Simple bar		Create simple bar components displaying a bar of a specified channel.
	Bar		Create components with tag comment, tag/tag No./channel No., unit, and digital value added to a simple bar.
	TagNo.		Create a component displaying the tag No. of a specified channel.
	TagComment		Create a component displaying the tag comment of a specified channel.
	Unit		Create a component displaying the unit of a specified channel.
	SpanU		Create a component displaying the upper limit value for the span of a specified channel.
	SpanL		Create a component displaying the lower limit value for the span of a specified channel.
	Alarm indicator		Create a component displaying the alarm level of a specified level, a specified channel.
Label components	Label		Create a label displaying an arbitrary text string.
Components with action functions	Push button		Create a push button.
	Switch display		Create a switch component displaying the state of an internal switch and performing ON/OFF switching of the internal switch by operation.
	Comm In		Create a component displaying the value of specified communication input data and writing values as communication input data.
Components for comment display	Comment box		Create a component displaying a text string set at the DX recorder.
	Comment block		Create a component displaying a comment block text string set at the DX recorder
Components for list display	Alarm list		Create a component displaying an alarm list.
	Message list		Create a component displaying a message list.
Scale components	Scale		Create a scale component displaying a scale plate used together with trend display.
Components for trend display	Trend		Create a trend component displaying the trend of a specified group.
Components for static image display	Bitmap		Create a component displaying a static screen in bitmap format.

Component attributes

Refer to Chapter 3 for the creation number of components, the setting contents of attributes, and the initial values.

2.8 Components Explanation and Creation Examples

This section shows creation examples for components. Components created with DAQStudio and components of the custom display execution screen of the DX recorder differ in the display of measuring data, alarm display, etc. The components creation examples are a mix of components created with DAQStudio and those of the custom display execution screen of the DX recorder.

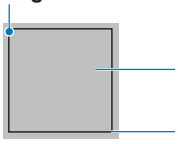
Diagram Components

Line

Origin **You can draw a line going in the left/right or up/down direction from an origin.**

Rectangle

Origin

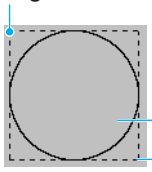


Background color

You can draw a rectangle from an origin toward the lower right.

Circle

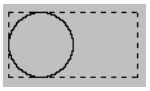
Origin



A circle contacting a square from the inside is drawn.

Background color

A circle is drawn by dragging from a point of origin.



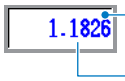
Even when a rectangle is specified, a circle is drawn, but an ellipse cannot be drawn.

Components for Channel Assignment

With an execution screen of the DX recorder, the measuring value of the assigned channel is displayed.

Simple digital

The digital value of the specified channel is displayed.

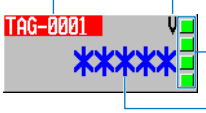


Simple digital display area (Frame: Sunken)

Digital value
******* is displayed with DAQStudio.**

Digital

Tag comment/tag No./channel No. of the measuring channel, unit, alarm indicator, and digital value are displayed.



Tag No. / Tag (Tag comment) / Channel No.

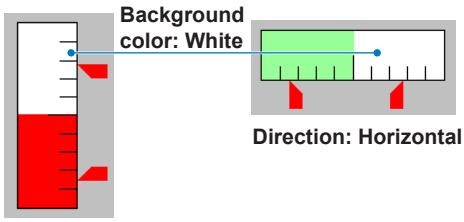
Unit

Alarm display mark

Digital value
******* is displayed with DAQStudio.**

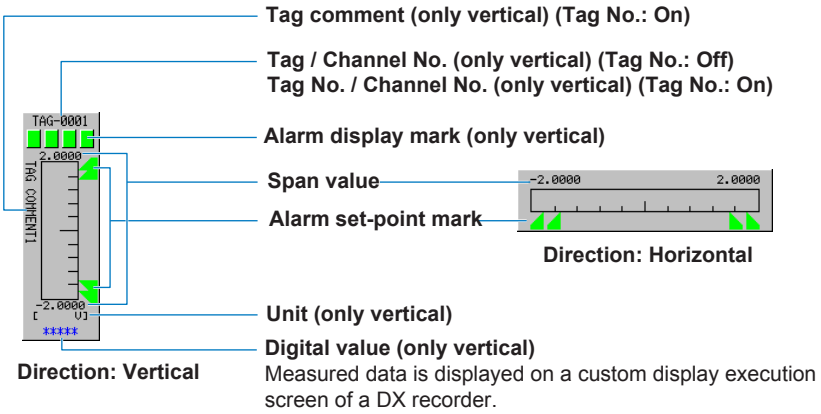
Simple bar graph

Bar graph and alarm mark are displayed.



Bar graph

Bar graph, tag comment/tag No./channel No., alarm indicator, span, tag comment, alarm mark, unit, and digital value are displayed.

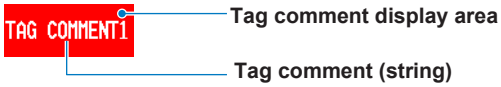


Tag No.

The tag No. of the specified channel is displayed.

Tag comment

Display of the tag comments of the specified channel



Unit

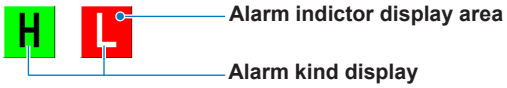
The unit of the specified channel is displayed.

SpanU, SpanL

The upper/lower limit value of the specified channel are displayed.

Alarm indicator

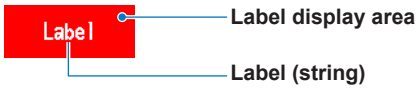
The alarm status of the specified channel is displayed. Refer to the User's Manual (IM 04L41B01-01E or IM 04L42B01-01E) of the DX recorder for the alarm status matching text and display color.



Label components

Label

Display text.



Note

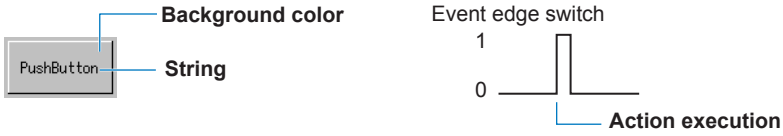
Text may be displayed as blank (space), depending on the font setting. Refer to Section 3.3 for the character types provided for each font (character size).

Components with action functions

Action functions operate on the custom display execution screen of the DX recorder.

Push button

Display a push button. This has no action function on the builder screen of the DX recorder, and on the custom display execution screen it functions as a push button. When a component is selected on the execution screen of the DX recorder by pressing the **up and down arrow keys** and then the **DISP/ENTER key** is pressed, the set action is executed.

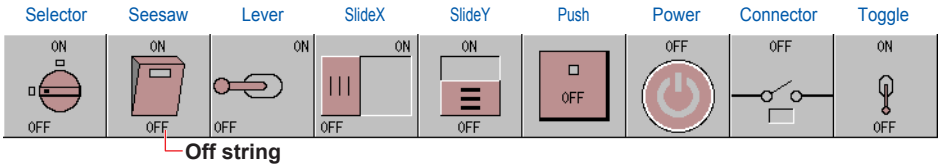


Switch

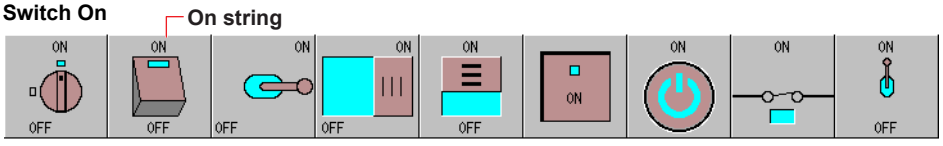
Display switch. The display format of a switch is selected by the item "Style" of the attributes.

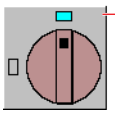
This has no action function on the builder screen of the DX recorder, and switch ON/OFF switching is possible on the custom display execution screen.

Switch Off



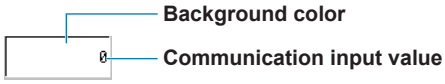
Switch On





Communication input

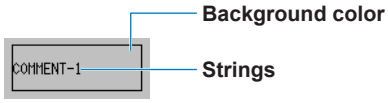
This has no function on the builder screen of the DX recorder, and on the custom display execution screen, the value of the specified communication input data can be displayed and values can be entered to communication input data.



Components for comment display

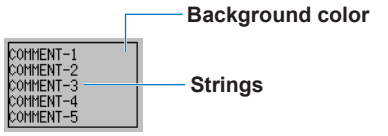
Comment box

The text corresponding to the comment box No. of the DX recorder is displayed.



Comment block

The text corresponding to the comment block No. of the DX recorder is displayed.

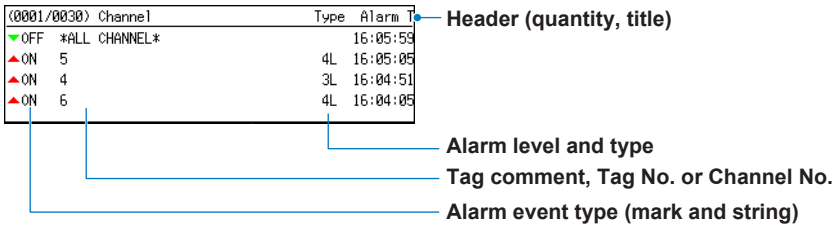


Components for list display

Alarm list

An alarm summary is displayed.

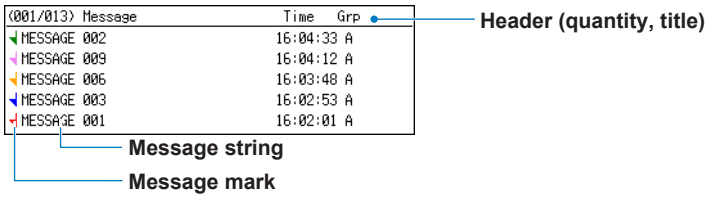
Only the header is displayed on the builder screen of the DX recorder.



Message list

A message summary is displayed.

Only the header is displayed on the builder screen of the DX recorder.



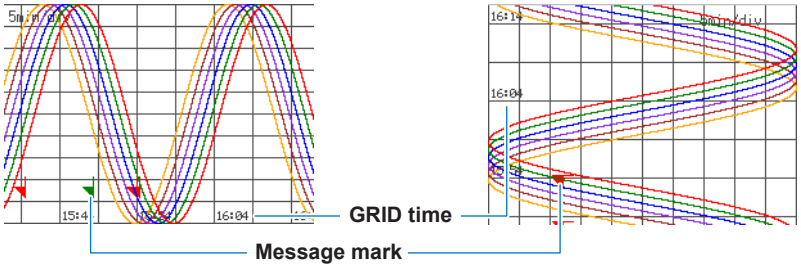
Components for trend display

Trend

The trend of the specified group is displayed.

Only the grid is displayed on the builder screen of the DX recorder.

Direction: Horizontal **Direction: Vertical**



Scale display components

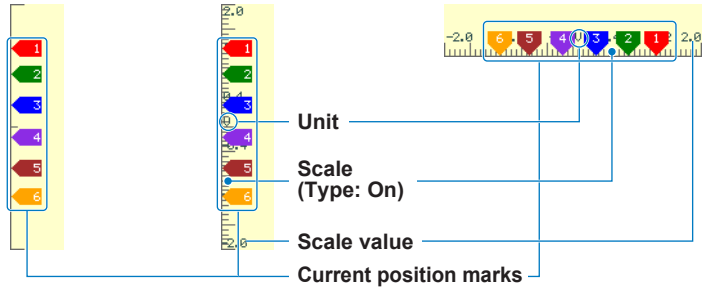
Scale

The scale of the specified group is displayed.

Scale plate, scale value, and unit are displayed.

The present value mark is displayed on the custom display execution screen of the DX recorder.

Direction: Vertical Type: Off **Direction: Vertical Type: On** **Direction: Horizontal Type: On**

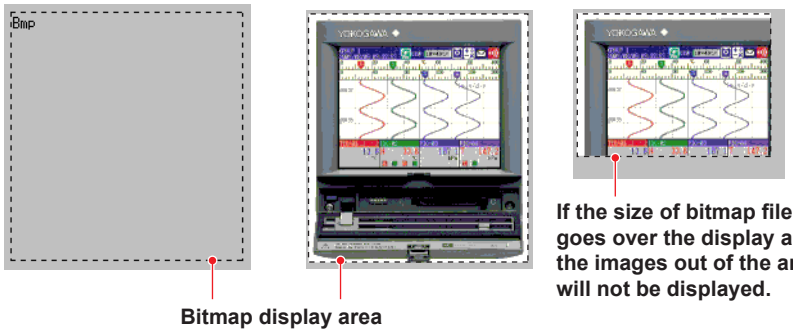


DAQStudio does not display current position marks.

Components for static image display

Bitmap

Display bitmap data.



Note

Conditions for bitmaps which can be read in

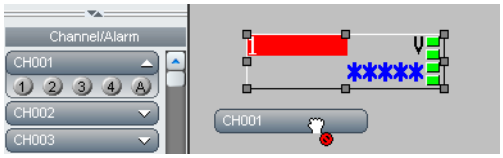
- A format with up to 256 colors (even when less than 256 colors are used, they may not be read in depending on the format).
- A size within 640 (width) x 480 (height) pixels (the file will not be read in even when only one dimension is exceeded).

2.9 Allotting Channels/Alarms to Components

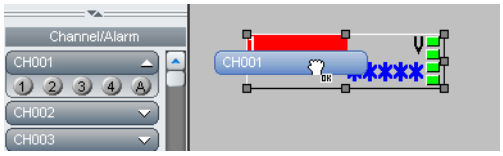
Assigning a channel to a component

Procedure

1. Select the channel to be assigned in the channel/alarm list, drag it to the component, and drop it there.
   If a channel cannot be set, the mouse pointer displays " ."



If a channel can be set, the mouse pointer displays " ."



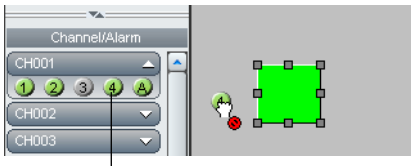
Explanation

Channel assignment is possible only for components for channel assignment.

Assigning an alarm to a component

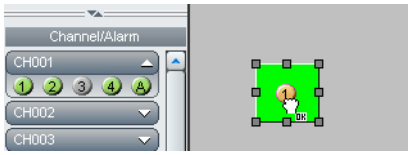
Procedure

1. Select the channel to be assigned in the channel/alarm list.
   The alarm level kind is displayed.
2. Select an alarm level.
3. Drag the alarm to the object to which it is to be assigned and drop it there.
   The alarm is assigned.
   When an alarm is dragged to an object to which an alarm cannot be assigned, the mouse pointer displays " ."



When this is green, alarm On is set for the DX recorder.

If an alarm can be set, the mouse pointer displays " ."



Explanation

Alarms can be assigned only to alarm indicator components.
Channel alarm numbers for measuring channels of the DX recorder with alarm set to On when custom display screen data are received from the DX recorder are green.

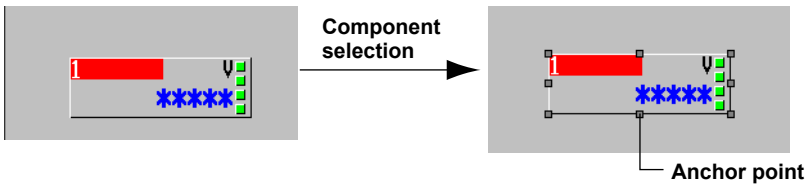
2.10 Editing Components and the Screen

Selection and deselection of components, movement, magnification/contraction

Procedure

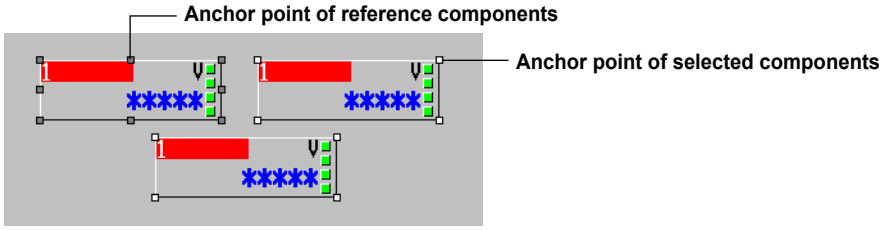
Selecting one component

1. Click the **Edit** icon on the Components bar.
2. Click a component to be selected.
   The component becomes selected. A gray anchor point is displayed on the component.



Selecting multiple components

1. Click the **Select** icon on the Components bar.
2. Click multiple components to be selected while depressing the **SHIFT** key or the **Ctrl** key. You can also drag the screen construction area and create a rectangle with a size to include all components to be selected.
   Multiple components are selected. A white and a gray anchor point are displayed on the component. A gray anchor point is displayed on the reference component.



Cancellation of component selection

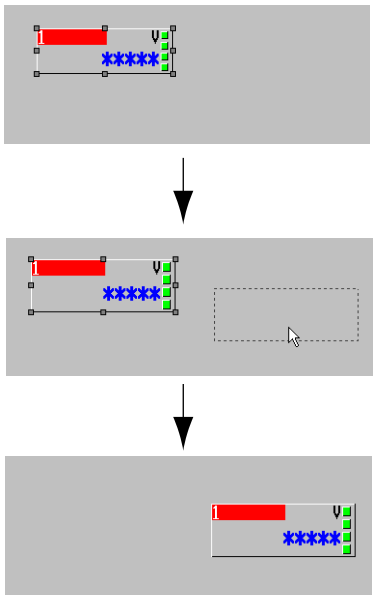
Click a selected component with the Shift key depressed.
The anchor point of the component disappears and the selected status is cancelled.

Making a component a reference component

Click a component with a displayed white anchor point out of a group of selected components while keeping the **Ctrl** key pressed.
The reference component is switched.

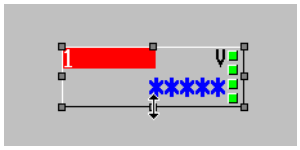
Moving parts

1. Select one or several parts to be moved.
2. Press the **arrow keys** (←↓→↑) on the keyboard to move them by one grid each. Selected components also can be moved by dragging them with the mouse pointer.



Magnifying/contracting components

1. Click the **Edit** icon and then select a component.
2. Move the mouse pointer onto the square anchor point displayed on the circumference of the selected component.
   The mouse pointer changes to an arrow.



3. Drag in direction of the arrow.
   The component is magnified/contracted.

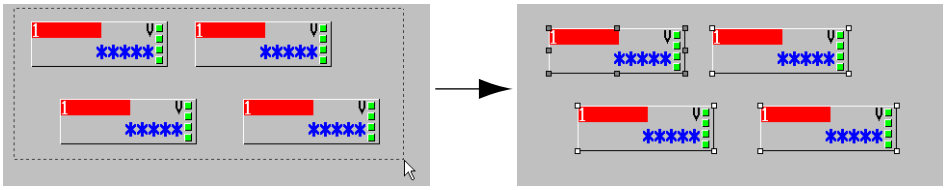
Note

Component magnification/contraction is not possible when multiple components are selected.

Explanation

Reference component

The anchor point of a reference component is displayed in gray.
When multiple components are selected, the attributes of the reference component are displayed in the attribute area. This becomes the reference for rearrangement of components.
When only one component is selected, that component becomes the reference component. When multiple components are selected, the component with the left top apex coordinates arranged most to the top left becomes the reference component (the Y-coordinate has priority). When the left top apex coordinates of components are the same, the component on the top plane becomes the reference component.



When the reference component of multiple selected components is deleted or the selection is cancelled, the anchor point of the component which becomes the reference component according to the above rule becomes gray.

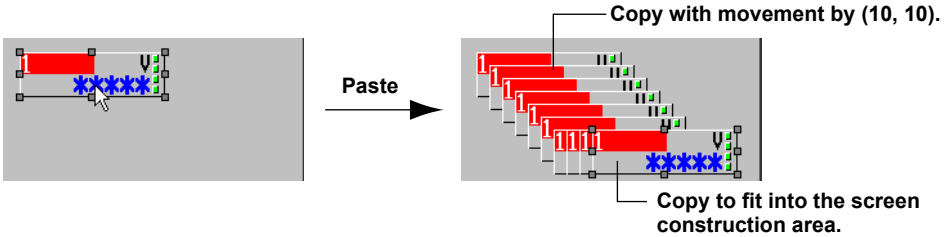
Copy/Cut/Paste/Delete/Add for components and screens

After components or display data have been created, Copy, Cut, Paste, Delete, and Add can be performed for efficient creation of monitor screens.

Procedure

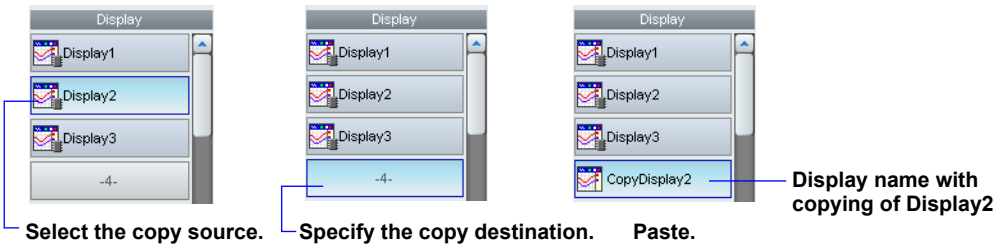
Component Copy and Paste

1. Click the **Edit** icon of the Components bar and click the component to be copied.
2. Select **Edit > Copy** from the menu bar or click the **Copy** icon.
   The component is copied to the clipboard.
3. Select **Edit > Paste** from the menu bar or click the **Paste** icon.
   The component is pasted to a location moved by (10, 10) from the coordinates of the copied component. With the second paste operation, the component is pasted to a location moved by (10, 10) from the previously copied component.
   When coordinates are specified where a part of the components no longer is displayed on the screen construction area, the component is arranged so as to fit into the screen construction area.



Screen Copy and Paste

1. Click the display name to be copied in the display list area.
2. Select **Edit > Copy** from the menu bar or click the **Copy** icon.
   The screen is copied to the clipboard.
3. Click any location (copy destination) on the Display list area.
4. Select “Paste” from the Edit menu or click the Paste icon.
   The display data are copied. The file name becomes “Copy” + “Display name of the copy source.”

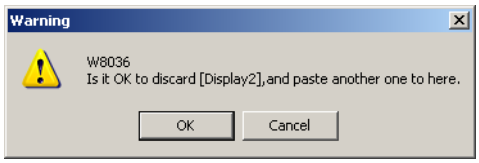


Component Cut and Paste

1. Select one or several components.
2. Select **Edit > Cut** from the menu bar or click the **Cut** icon.
   The component is moved to the clipboard.
3. Select **Edit > Paste** from the menu bar or click the **Paste** icon.
   The component is pasted to a location with the coordinates moved by (10, 10).

Screen Cut and Paste

1. Select a Display name from the Display list.
2. Select **Edit > Cut** from the menu bar or click the **Cut** icon.
   The display data are moved to the clipboard.
   An item No. is displayed for the display name at the movement source.
3. Select **Edit > Paste** from the menu bar or click the **Paste** icon.
   The following message is displayed.



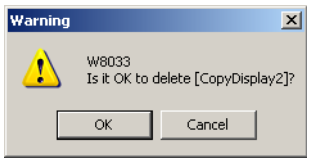
4. Click **[OK]**.
   The display data is pasted.
   The display name becomes “Copy” + “Display name of the copy source.”

Note

Display names from the top through the third in the display list area cannot be cut.

Deleting a component/screen

1. Select the component or display name to be deleted.
2. Select **Edit > Delete** from the menu bar or click the **Delete** icon.
   The component is deleted.
   When display data are deleted, the following message is displayed.



3. Click **[OK]**.
   The display data are deleted.

Note

Display names from the top through the third in the display list area cannot be deleted.

Adding a screen

1. Select the position (item No.) in the Display list where a screen is to be added.
2. Select **Edit > Add Display** from the menu bar or click the **Add Display** icon.
   The display name of “Display” + “Item No.” is displayed in the display list. The data are blank.
   Copied or cut display data can be pasted.

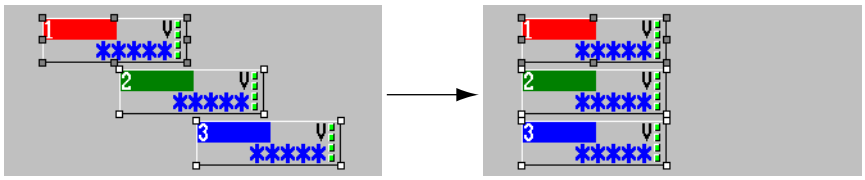
2.11 Arranging Components

Use the icons of the Arrangement bar to change the arrangement and the size of components.

Procedure

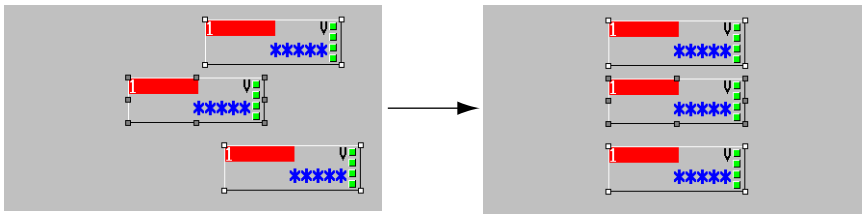
Arranging components aligned with the left edge

1. Select multiple components.
2. Select **Arrangement > Left** from the menu bar or click the **Left** icon on the Arrangement bar.
   The selected components are arranged with the left edge of the reference component as reference.



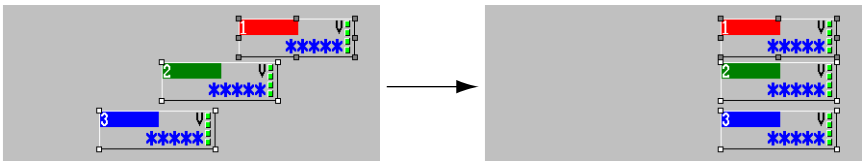
Arranging components at the center of the horizontal direction

1. Select multiple components.
2. Select **Arrangement > Horizontal Center** from the menu bar or click the **Horizontal Center** icon on the Arrangement bar.
   The selected components are arranged with the center in X-axis direction of the reference component as reference.



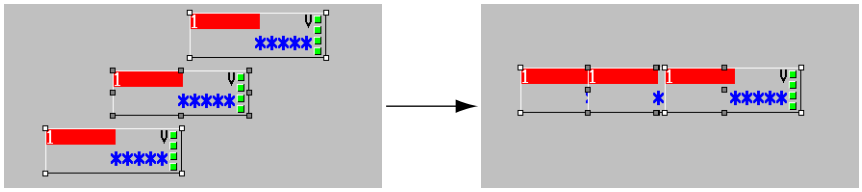
Arranging components aligned with the right edge

1. Select multiple components.
2. Select **Arrangement > Right** from the menu bar or click the **Right** icon on the Arrangement bar.
   The selected components are arranged with the right edge of the reference component as reference.



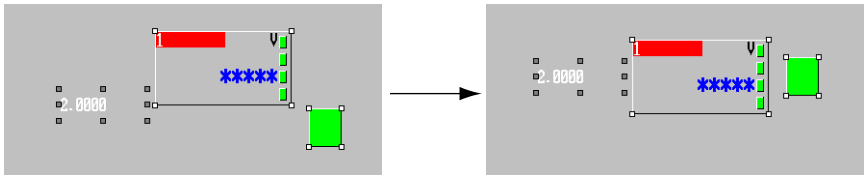
Arranging components aligned with the top edge

1. Select multiple components.
2. Select **Arrangement > Top** from the menu bar or click the **Top** icon on the Arrangement bar.
   The selected components are arranged with the top edge of the reference component as reference.



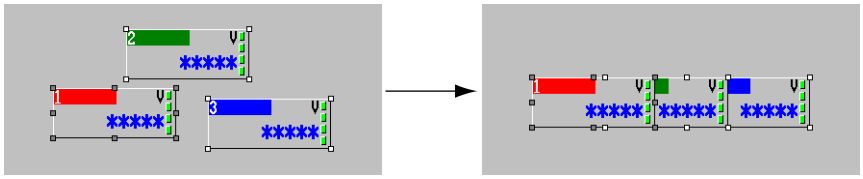
Arranging components aligned with the center in vertical direction.

1. Select multiple components.
2. Select **Arrangement > Vertical Center** from the menu bar or click the **Vertical Center** icon on the Arrangement bar.
   The selected components are arranged with the center in Y-axis direction of the reference component as reference.



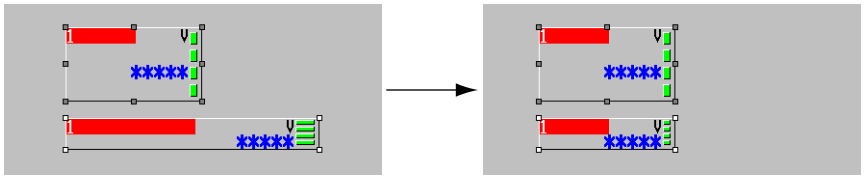
Arranging components aligned with the bottom edge

1. Select multiple components.
2. Select **Arrangement > Bottom** from the menu bar or click the **Bottom** icon on the Arrangement bar.
   The selected components are arranged with the bottom edge of the reference component as reference.



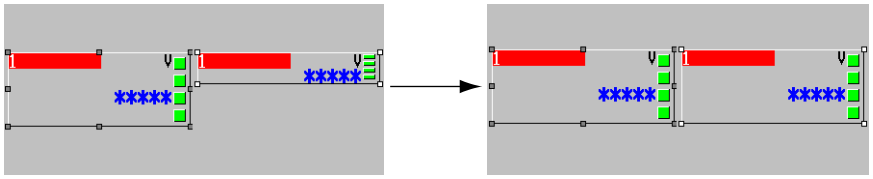
Making the width of components the same as that of the reference component

1. Select multiple components.
2. Select **Arrangement > Width** from the menu bar or click the **Width** icon on the Arrangement bar.
   The width of the selected components becomes the same as the width of the reference component.



Making the height of components the same as that of the reference component

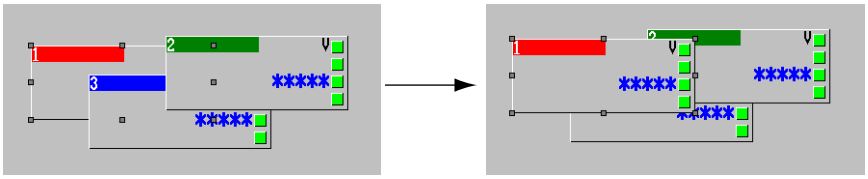
1. Select multiple components.
2. Select **Arrangement > Height** from the menu bar or click the **Height** icon on the Arrangement bar.
   The height of the selected components becomes the same as the height of the reference component.



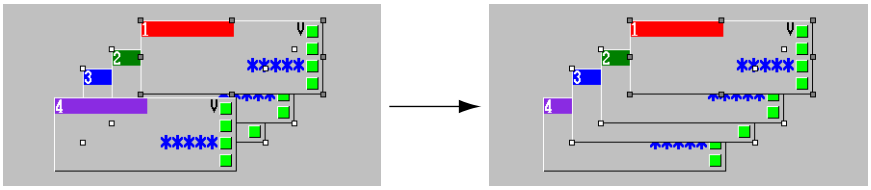
Arranging components to the Top plane

1. Select one or several components.
2. Select **Arrangement > To Top** from the menu bar or click the **To Top** icon on the Arrangement bar.
   The selected components are arranged on the top plane. When multiple components have been selected, the display sequence of the components is arranged to the top as it is.

Arranging one component to the top plane



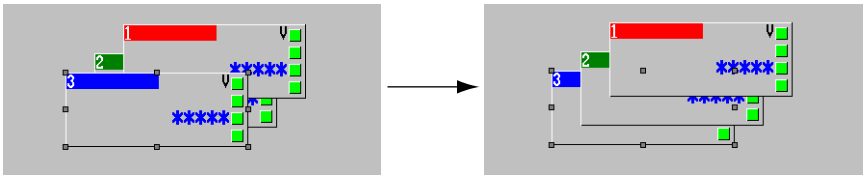
Arranging multiple components to the top plane



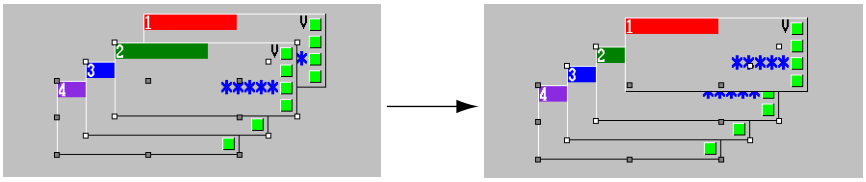
Arranging components to the Bottom plane

1. Select one or several components.
2. Select **Arrangement > To Bottom** from the menu bar or click the **To Bottom** icon on the Arrangement bar.
   The selected components are arranged on the bottom plane. When multiple components have been selected, the display sequence of the components is arranged to the bottom as it is.

Arranging one component to the bottom plane



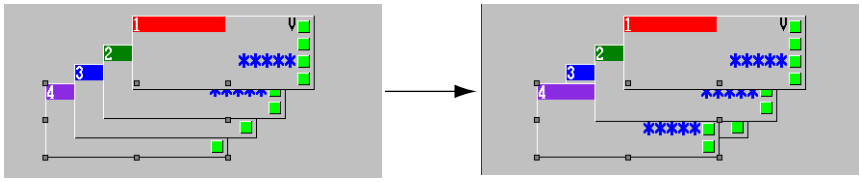
Arranging multiple components to the bottom plane



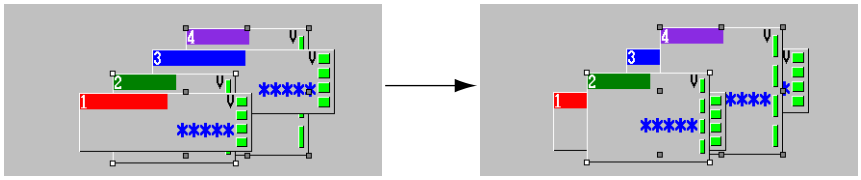
Arranging components to the Front

1. Select one or several components.
2. Select **Arrangement > To Front** from the menu bar or click the **To Front** icon on the Arrangement bar.
   The selected components are arranged one plane to the front. When multiple components have been selected, each component is arranged one plane to the front.

Arranging one component one plane to the front



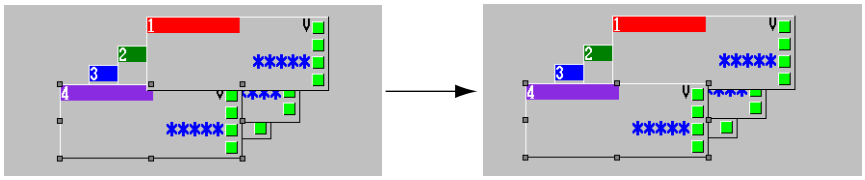
Arranging multiple components each one plane to the front



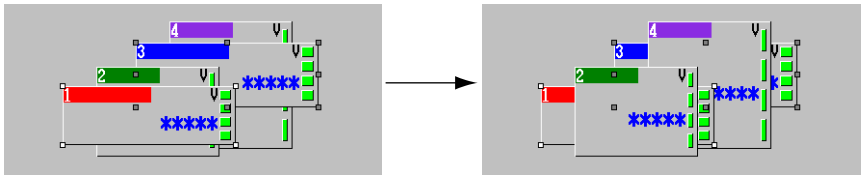
Arranging components one plane to the back

1. Select one or several components.
2. Select **Arrangement > To Back** from the menu bar or click the **To Back** icon on the Arrangement bar.
   The selected components are arranged one plane to the back. When multiple components have been selected, each component is arranged one plane to the back.

Arranging one component one plane to the back



Arranging multiple components each one plane to the back

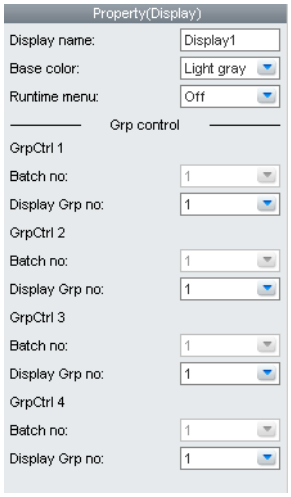


2.12 Setting Attributes

Setting screen attributes

Procedure

1. Click the background part (a place with no components) of the screen construction area.
   The attributes of the screen being created are displayed in the attribute area.

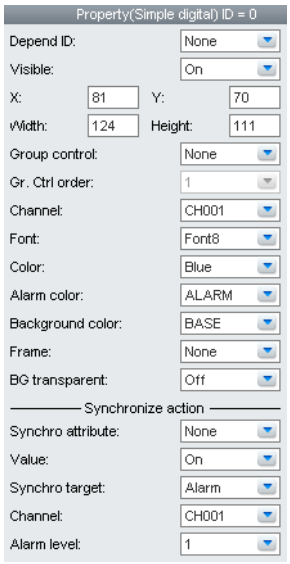


2. The display name can be changed and the settings for background color and screen menu at the time of execution can be selected from a list box.
   Refer to Chapter 3 for details of the setting items.

Setting component attributes

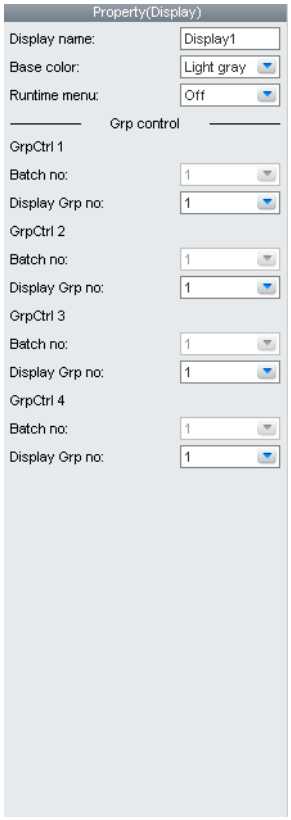
Procedure

1. Select a component.
   The attributes of the selected component are displayed in the attribute area.



2. Values can be entered directly or a list box can be displayed and settings can be changed.
   Refer to Chapter 3 for details of the setting items.

3.1 Screen Attributes



Attribute name	Set value/choice (Underlined items are initial set values)	Description
Display name	Up to 16 single-byte characters	Changes the Display name displayed in the Display list area. This is displayed below the Components bar on the Main screen.
Base color	[Light gray], [Light blue], [L orange], [Aquamarin], [Dark gray], [Dark blue], [Dark green], [White], [Black]	Set the background color of the screen. Components not having a background color are painted with the color set here.
Runtime menu	[Off], [On]	Select display/hide for the soft-key menu of the custom display execution screen of the DX recorder. On: Display the soft-key menu. Off: Hide the soft-key menu.
Batch no	Setting range: 1 to multi-batch number set by the basic settings of the DX recorder DX1000: [1] to [6] DX2000 standard memory: [1] to [6] DX2000 expanded memory: [1] to [12]	This is the batch No. which can be selected within the range of the multi-batch number set by the basic settings of the DX recorder. This item is not displayed when multi-batch is Off.
Display Grp no	When multi-batch is Off DX1000: [1] to [10] DX2000: [1] to [36] When multi-batch is On DX1000: [1] to [6] DX2000: [1] to [12]	Group control is performed for components. Display groups can be switched with the left and right arrow keys on the execution screen of the DX recorder. Display on the builder screen of the DX recorder is made as “Group No.”. For components having a group No. in the attributes (trend and scale), the group No. is switched. For components having only a channel No., the channel No. is switched.

3.2 Component ID No. and Number of Components which can be Created on one screen

When a component is selected in the screen construction area, the setting items of the selected component are displayed in the attribute list. The items which can be set depend on the selected component. The setting items of the attribute area corresponding to each component are explained in the following sections.
Component ID numbers are assigned separate by component kind in order of creation. Also, assignment is made to different ranges by component kinds. The number of components which can be created on one screen is the same as the number of ID numbers which can be assigned, Please refer to the following table.
(The number of components which can be created on the screen is the same as the number of IDs.)

Component type	Component name	ID number	Number of components which can be created on one screen
Components for channel assignment	Simple digital Digital Simple bar Bar TagNo. TagComment Unit SpanU SpanL Alarm indicator	0 to 79	80
Label components	Label		
Components with action functions	Push button Switch Comm In		
Components for comment display	Comment box Comment block		
Components for list display	Alarm list Comm In	8 to 83	4
Components for trend display	Trend	84 to 87	4
Scale components	Scale	88 to 91	4
Diagram components	Line Rectangle Circle	92 to 131	40
Components for static image display	Bitmap	132 to 133	2

3.3 Common Attributes of Components

The attributes which can be set for each component have items which are common for multiple components.
This section explains the set values of common attributes, the choices, and the conditions.

Explanation of choices and set values

SET (Set values)

The “SET” displayed for choices are the values which can be set with the setting menu of the DX recorder.

Font

The following character types are available.

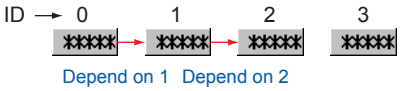
Font (character size)	Description
Font 5	English one-byte characters. ISO8859-1 (Some symbols are not available.)
Font 6	
Font 8	
Font 12	
Font 16	
Font 32	

Explanation of common attributes

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Depend ID	[None], [Component ID]	This is the ID of the component on which the component depends. None: There are no components on which this component depends. Component ID: This is the ID of the component on which the component depends.
Visible	[Off], [On]	Change is not possible in case of dependence on other components. Change is possible when Depend ID is [None]. Off: Not displayed on the execution screen of the DX recorder (always displayed on the builder screen) On: Displayed on the execution screen of the DX recorder
Channel	DX1000: [CH001] to [CH012], [CH101] to [CH124] DX2000: [CH001] to [CH048], [CH101] to [CH160], [CH201] to [CH440]	Set the assigned channel No. Setting is possible when Group control is [None].
Frame	[None], [Black], [White], [Raised], [Sunken]	This is the component frame kind. None: No frame Black: Black frame with a solid line with the width of 1 dot White: White frame with a solid line with the width of 1 dot Raised: Frame with a solid line with the width of 1 dot, appearing raised Sunken: Frame with a solid line with the width of 1 dot, appearing sunken
Group control	[None], [GrpCtrl1], [GrpCtrl2], [GrpCtrl3], [GrpCtrl4]	Indicates group control status. None: No group control GrpCtrl1 to 4: indicates group control for group control 1 to 4.
Gr. Ctrl order	DX1000: [1] to [6] DX2000: [1] to [10]	Indicates the group control order. Setting is not possible when Group control is [None].

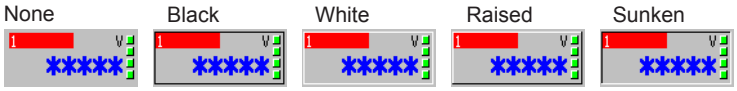
Example of Depend ID

For example, if you have the following components whose IDs are 0 to 3 on the [Builder screen], the IDs you will be able to configure are shown in the below table.



ID	Configurable ID			
0	None	1	2	3
1	None	2	3	
2	None	3		
3	None	0	1	2

Example of Frames



Group control and Gr.Ctrl order (Group control order)

Group control displays or sets the control status of the display group. The group control order cannot be set when Group control is set to [None].

When the number of registrations for the Group Control order at the DX recorder has reached 10, that group control order cannot be displayed. When the number of registrations for all group control orders has reached 10, that group control order cannot be displayed.

Sync act (Synchronize action)

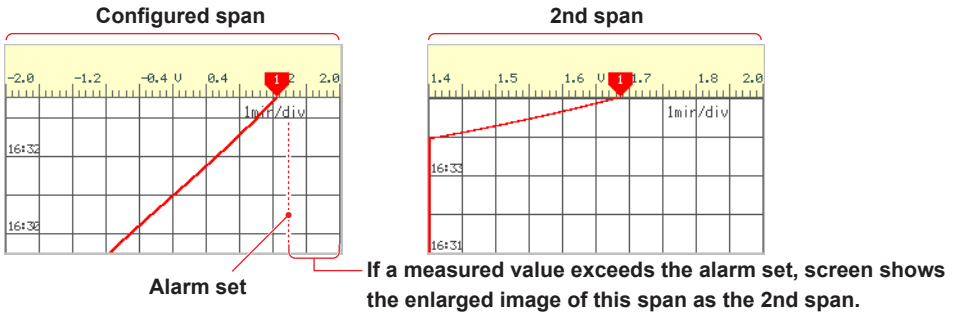
Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Synchro attribute	[None], [Visible], [2nd span]	These are attributes which change with synchronization. None: No synchro attribute Visible: Visible attributes are synchronized. 2nd span is available for trend components and scale components only. Refer to “2nd span” in the following.
Value (switch On)	[Off], [On]	This is the attribute value when the synchronization switch is ON.
Synchro target	[Alarm], [Switch]	This is the object to be synchronized with the component. Alarm: The attribute is synchronized with an alarm. Switch: The attribute is synchronized with a switch.
Channel or Switch no	When the synchro target is [Alarm]: DX1000: [CH001] to [CH012], [CH101] to [CH124] DX2000: [CH001] to [CH048], [CH101] to [CH160], [CH201] to [CH440] When the synchro target is [Switch]: Internal switch No. [1] to [30]	When the synchro target is an alarm: This is the object for attribute synchronization. When the synchro target is [Alarm]: Channel No. to which the attribute is synchronized When the synchro target is [Switch]: Internal switch No. to which the attribute is synchronized
Alarm level	[1], [2], [3], [4], [All]	When the synchro target is [Alarm], the alarm level is specified. 1 to 4: Alarm level All: Synchronization to all alarm levels

2nd span

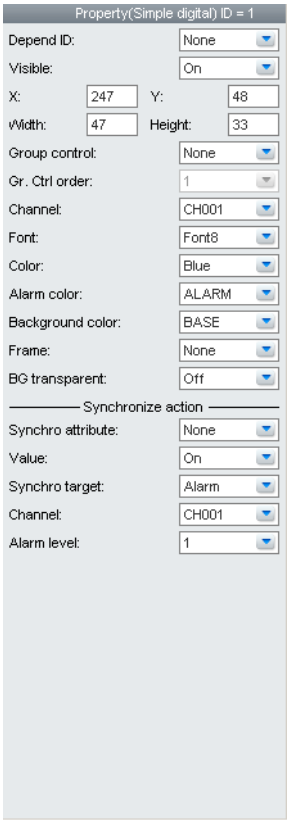
This is the attribute available with trend components and scale components only. You can enlarge the display of trend and scale by synchronizing the On/Off settings of alarm or internal switch. To validate the 2nd span, configure [2nd span] at the synchro attribute field. Scale and trend shown in the below figure are an example of displaying the 2nd span when the alarm is set to On.

(Example of settings)

- 2nd span: On; 2nd span Lower: 85%, 2nd span Upper: 100%
- Synchro attribute: 2nd span; Value (switch On): On; Synchro target: alarm, Channel no: 1; Alarm level: 1



3.4 Attributes of Simple Digital Components



The following limitations exist for setting the attributes of simple digital components.

- Setting to Visible is possible only when Depend ID is [None].

List of Settings

Refer to Section 3.3 for attributes without explanations in the list of settings.

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the left side of the component. X = 0 for X < 0 X = (Max. width*1 – Width) for (X + Width) > Max. width*1
Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the upper side of the component. Y = Min. Y*2 for Y < Min. Y*2 Y = (Min. Y*2 + Max. height*3 – Height) for (Y + Height) > (Min. Y*2 + Max. height*3)
Width	DX1000: 1 to 320 DX2000: 1 to 640	This is the component width. Width = 1 for width < 1 X = (Max. width*1 – Width) for width < Max. width*1 and (X + Width) > Max. width*1 Width = Max. width*1, X = 0 for width ≥ Max. width*1
Height	DX1000: 1 to 216 DX2000: 1 to 440	This is the component height. Height = 1 for height < 1 Y = (Min. Y*2 + Max. height*3 – Height) for height < Max. height*3 and (Y + Height) > (Min. Y*2 + Max. height*3) Height = Max. height*3, Y = Min. Y*2 for height ≥ Max. height*3

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

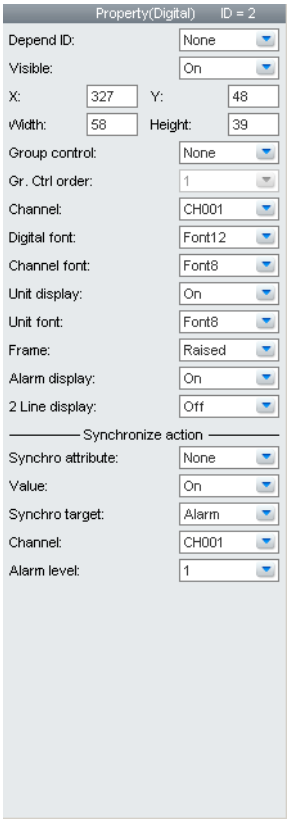
*3 DX1000 max. height = 216, DX2000 max. height = 440

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Font	[Font5], [Font6], [Font8], [Font12], [Font16], [Font32]	This is the character size for the digital value of a component. The initial setting is [Font6] for DX1000 and [Font8] for DX2000.
Color	[Red], [Green], [Blue], [B.violet], [Brown], [Orange], [Y.green], [Light blue], [Violet], [Gray], [Lime], [Cyan], [Dark blue], [Yellow], [Light gray], [Purple], [Pink], [L.brown], [L.green], [Dark gray], [Olive], [Dark cyan], [S.green], [Black], [White], [BASE], [CHANNEL]	Color of the digital value BASE: Base color (background color of the screen) CHANNEL: The color set to the specified channel
Alarm color	Color choice, [Alarm color]	This is the display color for the digital value at the time of occurrence of an alarm. Alarm color: This is the alarm display color set for each alarm level.
Background color	Same choice as for “Color”	This is the background color of the digital value area. The initial setting is [BASE].
BG transparent	[Off], [On]	Select display/no display for transparent background. When this is On, the background color of the execution screen becomes transparent (on the execution screen of the DX recorder, frames are displayed by dotted lines to indicate that background transparent display is ON).

Synchronize action

►Section 3.3

3.5 Attributes of Digital Components



The following limitations exist for setting of attributes for digital components.

- Setting to Visible is possible only when Depend ID is [None].
- Unit font setting is not possible when Unit display is [Off].
- When the synchro target is [Switch], alarm level setting is not possible.
- When Group control is [None], the group control order cannot be set.

List of Settings

Refer to Section 3.3 for attributes without explanations in the list of settings.

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the left side of the component. X = 0 for X < 0 X = (Max. width*1 – Width) for (X + Width) > Max. width*1
Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the upper side of the component. Y = Min. Y*2 for Y < Min. Y*2 Y = (Min. Y*2 + Max. height*3 – Height) for (Y + Height) > (Min. Y*2 + Max. height*3)
Width	DX1000: 1 to 320 DX2000: 1 to 640	This is the component width. Width = 1 for width < 1 X = (Max. width*1 – Width) for width < Max. width*1 and (X + Width) > Max. width*1 Width = Max. width*1, X = 0 for width ≥ Max. width*1

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

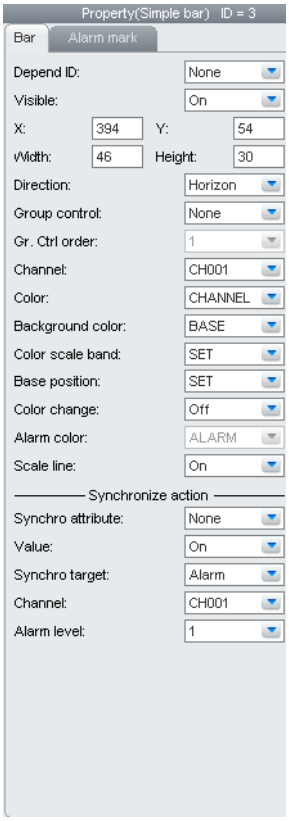
*3 DX1000 max. height = 216, DX2000 max. height = 440

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Height	DX1000: 1 to 216 DX2000: 1 to 440	This is the component height. Height = 1 for height < 1 Y = (Min. Y[*2] + Max. height[*3] – Height) for height < Max. height[*3] and (Y + Height) > (Min. Y[*2] + Max. height[*3]) Height = Max. height[*3], Y = Min. Y[*2] for height ≥ Max. height[*3]
Digital font	[Font5], [Font6], [Font8], [Font12], [Font16], [Font32]	This is the character size for the digital value of a component. The initial setting is [Font8] for DX1000 and [Font12] for DX2000.
Channel font	TagNo./Channel : [Font5], [Font6], [Font8], [Font12], [Font16] TagNo.: [Font5], [Font12], [Font16]	This sets the character size for Tag No., Tag Comment, and Channel No. The initial setting is [Font6] for DX1000 and [Font8] for DX2000.
Unit display	[Off], [On]	Display/No display is selected for the component unit.
Unit font	[Font5], [Font6], [Font8], [Font12], [Font16]	This is the character size for Unit display. Setting is not possible when “Unit display” is [Off]. The initial setting is [Font6] for DX1000 and [Font8] for DX2000.
Alarm display	[Off], [On]	This selects display/no display for the alarm indicator. The alarm display marks correspond to level 1, level 2, level 3, and level 4 from the top. Display is made in the lime color when Alarm is Off and in the color set for each level (red, orange, yellow or pink) when Alarm is On.
2 Line display	[Off], [On]	This selects tag display with division into two lines or no division. Off: Display divided into two lines is not made. On: Display divided into two lines

Synchronize action

►Section 3.3

3.6 Attributes of Simple Bar Graph Components



The following limitations exist for setting of attributes of simple bar graph components.

- Setting to Visible is possible only when Depend ID is [None].

List of Settings

Refer to Section 3.3 for attributes without explanations in the list of settings.

Bar graph tab

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the left side of the component. X = 0 for X < 0 X = (Max. width*1 – Width) for (X + Width) > Max. width*1
Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the upper side of the component. Y = Min. Y*2 for Y < Min. Y*2 Y = (Min. Y*2 + Max. height*3 – Height) for (Y + Height) > (Min. Y*2 + Max. height*3)
Width	DX1000: 1 to 320 DX2000: 1 to 640	This is the component width. Width = 1 for width < 1 X = (Max. width*1 – Width) for width < Max. width*1 and (X + Width) > Max. width*1 Width = Max. width*1, X = 0 for width ≥ Max. width*1

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

*3 DX1000 max. height = 216, DX2000 max. height = 440

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Height	DX1000: 1 to 216 DX2000: 1 to 440	This is the component height. Height = 1 for height < 1 Y = (Min. Y[*2] + Max. height[*3] – Height) for height < Max. height[*3] and (Y + Height) > (Min. Y[*2] + Max. height[*3]) Height = Max. height[*3], Y = Min. Y[*2] for height ≥ Max. height[*3]
Direction	[Horizon], [Vertical]	This is the bar graph display direction. The initial setting depends on the aspect ratio when the bar graph size has been decided. Height at the time of height ≥ Width Width at the time of height < Width
Color	[Red], [Green], [Blue], [B.violet], [Brown], [Orange], [Y.green], [Light blue], [Violet], [Gray], [Lime], [Cyan], [Dark blue], [Yellow], [Light gray], [Purple], [Pink], [L.brown], [L.green], [Dark gray], [Olive], [Dark cyan], [S.green], [Black], [White], [BASE], [CHANNEL]	This is the bar color. BASE: Base color (background color of the screen) CHANNEL: The color set to the specified channel
Background color	Same choice as for “Color”, [None]	This is the background color of the bar graph area The initial setting is [Background color].
Color scale band	[Off], [SET]	Selection of green band display/no display Off: No green band display SET: Setting of the DX recorder
Base position	[SET], [Normal], [Center], [Lower], [Upper]	This is the base position of the bar graph. SET: Setting of the DX recorder
Color change	[Off], [On]	When On, the bar color changes to the specified color when an alarm has occurred.
Alarm color	Same choice as for “Color”, [ALARM]	This sets the bar color when an alarm has occurred.
Scale line	[Off], [On]	On: A scale line is displayed. Off: Only bar and background color are displayed.

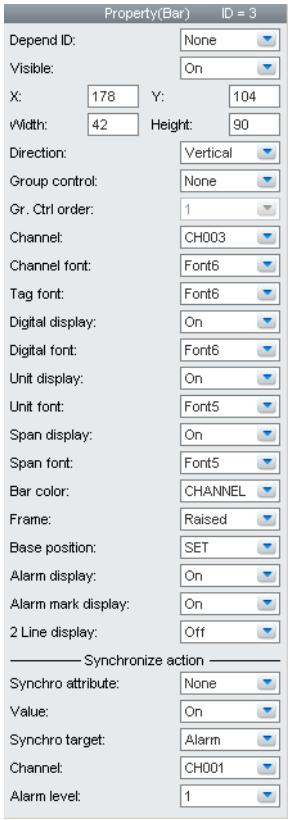
Alarm mark tab

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Use	Checked, Not checked	Checked: Alarm marks are used. Not checked: Alarm marks are not used.
Alarm level	[1], [2], [3], [4]	1 to 4: Alarm level
Style	[Alarm], [Fixed]	This is the alarm mark status. Alarm: Trapezoid Fixed: Triangle
Position	In case of a Vertical Bar Graph [Left], [Right] In case of a Horizontal Bar Graph [Over], [Under]	This set alarm mark setting at top, bottom, left or right of a bar graph. The choices change depending on the bar graph display direction. **In case of a Vertical Bar Graph** Left: Display on the left side of the bar graph Right: Display on the right side of the graph bar **In case of a Horizontal Bar Graph** Over: Display above the bar graph Under: Display below the bar graph
Mark size	[Large], [Small]	This is the alarm mark size. Large: Large mark Small: Small mark
color	[Red], [Green], [Blue], [B.violet], [Brown], [Orange], [Y.green], [Light blue], [Violet], [Gray], [Lime], [Cyan], [Dark blue], [Yellow], [Light gray], [Purple], [Pink], [L.brown], [L.green], [Dark gray], [Olive], [Dark cyan], [S.green], [Black], [White], [CHANNEL]	This is the mark display color. CHANNEL: The color set to the specified channel
Color change	[Off], [On]	Off: The color does not change at the time of alarm occurrence. On: The color of the alarm mark changes when an alarm occurs.
Alarm color	Same choice as for “Color”, [ALARM]	This is the mark display color at the time of alarm occurrence. Setting is not possible when “Color change” is [Off]. Alarm color: This is the alarm display color set for each alarm level.

Synchronize action

►Section 3.3

3.7 Attributes of Bar Graph Components



The following limitations exist for setting of attributes of bar graph components.

- Setting to Visible is possible only when Depend ID is [None].
- Setting of Channel font, Tag font, Digital display, Digital font, Unit display, Unit font, and Alarm display is not possible when Style is [Horizontal].
- Setting of Digital font is not possible when Digital value display is [Off].
- Setting of Unit font is not possible when Unit display is [Off].
- Setting of Span font is not possible when Span display is [Off].

List of Settings

Refer to Section 3.3 for attributes without explanations in the list of settings.

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the left side of the component. X = 0 for X < 0 X = (Max. width*1 – Width) for (X + Width) > Max. width*1
Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the upper side of the component. Y = Min. Y*2 for Y < Min. Y*2 Y = (Min. Y*2 + Max. height*3 – Height) for (Y + Height) > (Min. Y*2 + Max. height*3)
Width	DX1000: 1 to 320 DX2000: 1 to 640	This is the component width. Width = 1 for width < 1 X = (Max. width*1 – Width) for width < Max. width*1 and (X + Width) > Max. width*1 Width = Max. width*1, X = 0 for width ≥ Max. width*1

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

*3 DX1000 max. height = 216, DX2000 max. height = 440

3.7 Attributes of Bar Graph Components

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Height	DX1000: 1 to 216 DX2000: 1 to 440	This is the component height. Height = 1 for height < 1 Y = (Min. Y[*2] + Max. height[*3] – Height) for height < Max. height[*3] and (Y + Height) > (Min. Y[*2] + Max. height[*3]) Height = Max. height[*3], Y = Min. Y[*2] for height ≥ Max. height[*3]
Direction	[Horizon], [Vertical]	This is the bar graph display direction. The initial setting depends on the aspect ratio when the bar graph size has been decided. Height at the time of height ≥ Width Width at the time of height < Width In case of a Horizontal Bar Graph, Tag No./Channel No., Tag, Unit, Digital value, and Alarm indicator are not displayed.
Channel font	[Font5], [Font6], [Font8], [Font12], [Font16]	This is the font for display of the component tag No./channel No. Setting is not possible when “Direction” is [Horizontal]. The initial setting is [Font6] for DX1000 and [Font8] for DX2000.
Tag font	[Font5], [Font6], [Font8], [Font12], [Font16]	This is the font for display of component tags. Setting is not possible when “Direction” is [Horizontal]. The initial setting is [Font6] for DX1000 and [Font8] for DX2000.
Digital display	[Off], [On]	This selects display/no display of component digital values. Setting is not possible when “Direction” is [Horizontal].
Digital font	[Font5], [Font6], [Font8], [Font12], [Font16], [Font32]	This is the font for display of component digital values. Setting is not possible when “Direction” is [Horizontal] or when “Digital value display” is [Off].
Unit display	[Off], [On]	Display/No display is selected for the component unit. Setting is not possible when “Direction” is [Horizontal].
Unit font	[Font5], [Font6], [Font8], [Font12], [Font16]	This is the font for display of component units. Setting is not possible when “Direction” is [Horizontal] or when Unit display is [Off].
Span display	[Off], [On]	This selects display/no display of the component span.
Span font	[Font5], [Font6], [Font8], [Font12], [Font16]	This is the font for display of component span values. Setting is not possible when “Span display” is [Off].
Bar color	[Green], [CHANNEL]	This is the color of the bar graph. Green: Display is made in the color set for each alarm level when an alarm has occurred (red, orange, yellow, pink). CHANNEL: The color set for the channel
Base position	[SET], [Normal], [Center], [Lower], [Upper]	This is the bar graph display origin. SET: Setting of the DX recorder
Alarm display	[Off], [On]	This selects display/no display for the alarm indicator. Setting is not possible when “Direction” is [Horizontal].
Alarm mark display	[Off], [On]	This selects display/no display of alarm marks.
2 Line display	[Off], [On]	This selects tag display with division into two lines (On) or not (Off).

*1 DX1000 max. width = 320, DX2000 max. width = 640

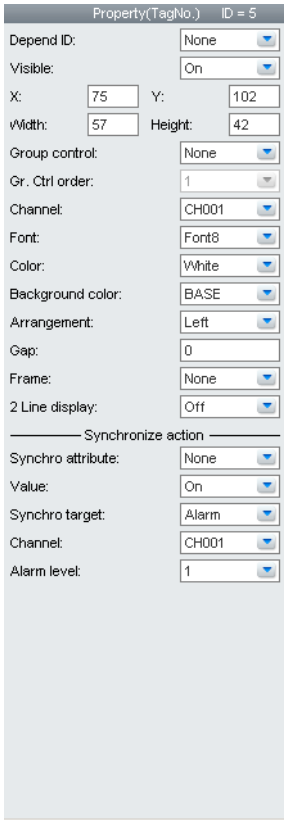
*2 DX1000 min. Y = 24, DX2000 min. Y = 40

*3 DX1000 max. height = 216, DX2000 max. height = 440

Synchronize action

►Section 3.3

3.8 Attributes of Tag No. Components



The following limitations exist for setting of attributes of the tag no. components.

- Setting to Visible is possible only when Depend ID is [None].

List of Settings

Refer to Section 3.3 for attributes without explanations in the list of settings.

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the left side of the component. X = 0 for X < 0 X = (Max. width*1 – Width) for (X + Width) > Max. width*1
Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the upper side of the component. Y = Min. Y*2 for Y < Min. Y*2 Y = (Min. Y*2 + Max. height*3 – Height) for (Y + Height) > (Min. Y*2 + Max. height*3)
Width	DX1000: 1 to 320 DX2000: 1 to 640	This is the component width. Width = 1 for width < 1 X = (Max. width*1 – Width) for width < Max. width*1 and (X + Width) > Max. width*1 Width = Max. width*1, X = 0 for width ≥ Max. width*1
Height	DX1000: 1 to 216 DX2000: 1 to 440	This is the component height. Height = 1 for height < 1 Y = (Min. Y*2 + Max. height*3 – Height) for height < Max. height*3 and (Y + Height) > (Min. Y*2 + Max. height*3) Height = Max. height*3, Y = Min. Y*2 for height ≥ Max. height*3
Font	[Font5], [Font6], [Font8], [Font12], [Font16]	This is the font for display of the component tag No. The initial setting is [Font6] for DX1000 and [Font8] for DX2000.

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

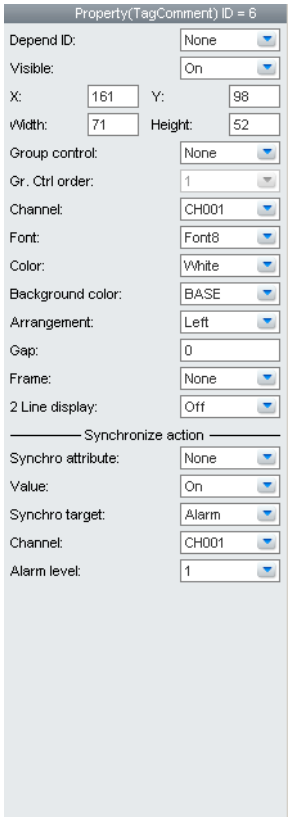
*3 DX1000 max. height = 216, DX2000 max. height = 440

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Color	[Red], [Green], [Blue], [B.violet], [Brown], [Orange], [Y.green], [Light blue], [Violet], [Gray], [Lime], [Cyan], [Dark blue], [Yellow], [Light gray], [Purple], [Pink], [L.brown], [L.green], [Dark gray], [Olive], [Dark cyan], [S.green], [Black], [White], [BASE], [CHANNEL]	This is the bar color. BASE: Base color (background color of the screen) CHANNEL: The color set to the specified channel
Background color	Same choice as for “Color”, [None]	This is the background color of the bar graph area The initial setting is [BASE].
Arrangement	[Left], [Center], [Right]	This is the text arrangement in direction of the X-axis in the tag area. The Y-axis direction always is arranged at the center. Left: Text is displayed left-aligned. Center: Text is displayed centered. Right: Text is displayed right-aligned.
Gap	[0] to [15]	The interval between characters is specified in dots.
2 Line display	[Off], [On]	This selects tag display with division into two lines (On) or not (Off).

Synchronize action

►Section 3.3

3.9 Attributes of Tag Comment Components



The following limitations exist for setting of attributes of tag comment components.

- Setting to Visible is possible only when Depend ID is [None].

List of Settings

Refer to Section 3.3 for attributes without explanations in the list of settings.

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the left side of the component. X = 0 for X < 0 X = (Max. width*1 – Width) for (X + Width) > Max. width*1
Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the upper side of the component. Y = Min. Y*2 for Y < Min. Y*2 Y = (Min. Y*2 + Max. height*3 – Height) for (Y + Height) > (Min. Y*2 + Max. height*3)
Width	DX1000: 1 to 320 DX2000: 1 to 640	This is the component width. Width = 1 for width < 1 X = (Max. width*1 – Width) for width < Max. width*1 and (X + Width) > Max. width*1 Width = Max. width*1, X = 0 for width ≥ Max. width*1
Height	DX1000: 1 to 216 DX2000: 1 to 440	This is the component height. Height = 1 for height < 1 Y = (Min. Y*2 + Max. height*3 – Height) for height < Max. height*3 and (Y + Height) > (Min. Y*2 + Max. height*3) Height = Max. height*3, Y = Min. Y*2 for height ≥ Max. height*3
Font	[Font5], [Font6], [Font8], [Font12], [Font16]	This is the font for display of the component tag No. The initial setting is [Font6] for DX1000 and [Font8] for DX2000.

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

*3 DX1000 max. height = 216, DX2000 max. height = 440

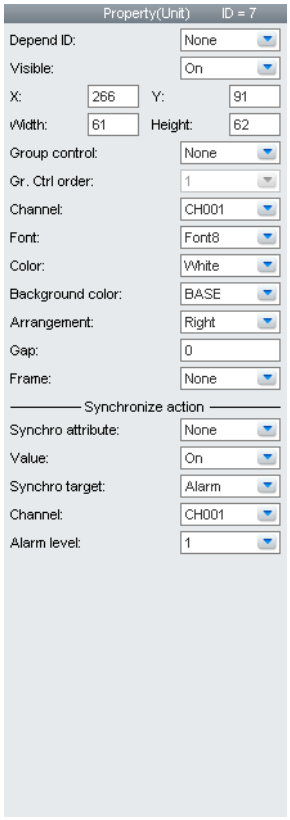
3.9 Attributes of Tag Comment Components

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Color	[Red], [Green], [Blue], [B.violet], [Brown], [Orange], [Y.green], [Light blue], [Violet], [Gray], [Lime], [Cyan], [Dark blue], [Yellow], [Light gray], [Purple], [Pink], [L.brown], [L.green], [Dark gray], [Olive], [Dark cyan], [S.green], [Black], [White], [BASE], [CHANNEL]	The color for display of text. BASE: Base color (background color of the screen) CHANNEL: The color set to the specified channel
Background color	Same choice as for “Color”, [None]	This is the background color of the tag area. The initial setting is [BASE]. None: No painting of the background color
Arrangement	[Left], [Center], [Right]	This is the text arrangement in direction of the X-axis in the tag area. The Y-axis direction always is arranged at the center. Left: Text is displayed left-aligned. Center: Text is displayed centered. Right: Text is displayed right-aligned.
Gap	[0] to [15]	The interval between characters is specified in dots.
2 Line display	[Off], [On]	This selects tag display with division into two lines (On) or not (Off).

Synchronize action

►Section 3.3

3.10 Attributes of Unit Components



The following limitations exist for setting of attributes of unit components.

- Setting to Visible is possible only when Depend ID is [None].

List of Settings

Refer to Section 3.3 for attributes without explanations in the list of settings.

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the left side of the component. X = 0 for X < 0 X = (Max. width*1 – Width) for (X + Width) > Max. width*1
Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the upper side of the component. Y = Min. Y*2 for Y < Min. Y*2 Y = (Min. Y*2 + Max. height*3 – Height) for (Y + Height) > (Min. Y*2 + Max. height*3)
Width	DX1000: 1 to 320 DX2000: 1 to 640	This is the component width. Width = 1 for width < 1 X = (Max. width*1 – Width) for width < Max. width*1 and (X + Width) > Max. width*1 Width = Max. width*1, X = 0 for width ≥ Max. width*1
Height	DX1000: 1 to 216 DX2000: 1 to 440	This is the component height. Height = 1 for height < 1 Y = (Min. Y*2 + Max. height*3 – Height) for height < Max. height*3 and (Y + Height) > (Min. Y*2 + Max. height*3) Height = Max. height*3, Y = Min. Y*2 for height ≥ Max. height*3
Font	[Font5], [Font6], [Font8], [Font12], [Font16]	This is the font for display of unit components. The initial setting is [Font6] for DX1000 and [Font8] for DX2000.

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

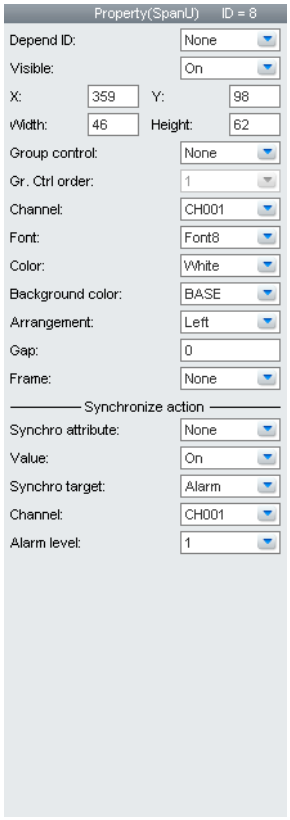
*3 DX1000 max. height = 216, DX2000 max. height = 440

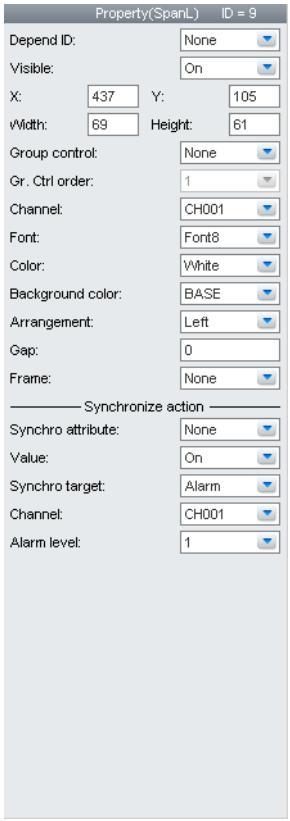
Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Color	[Red], [Green], [Blue], [B.violet], [Brown], [Orange], [Y.green], [Light blue], [Violet], [Gray], [Lime], [Cyan], [Dark blue], [Yellow], [Light gray], [Purple], [Pink], [L.brown], [L.green], [Dark gray], [Olive], [Dark cyan], [S.green], [Black], [White], [BASE], [CHANNEL]	The color for display of text. BASE: Base color (background color of the screen) CHANNEL: The color set to the specified channel
Background color	Same choice as for “Color”, [None]	This is the background color of the tag comment area. The initial setting is [BASE]. None: No background painting
Arrangement	[Left], [Center], [Right]	This is the text arrangement in direction of the X-axis in the tag area. The Y-axis direction always is arranged at the center. Left: Text is displayed left-aligned. Center: Text is displayed centered. Right: Text is displayed right-aligned.
Gap	[0] to [15]	The interval between characters is specified in dots.

Synchronize action

►Section 3.3

3.11 Attributes of Span Upper Limit Components / Span Lower Limit Components





The following limitations exist for setting of attributes of span upper limit components/ span lower limit components.

- Setting to Visible is possible only when Depend ID is [None].

List of Settings

Refer to Section 3.3 for attributes without explanations in the list of settings.

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the left side of the component. X = 0 for X < 0 X = (Max. width[*1] – Width) for (X + Width) > Max. width[*1]
Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the upper side of the component. Y = Min. Y[*2] for Y < Min. Y[*2] Y = (Min. Y[*2] + Max. height[*3] – Height) for (Y + Height) > (Min. Y[*2] + Max. height[*3])
Width	DX1000: 1 to 320 DX2000: 1 to 640	This is the component width. Width = 1 for width < 1 X = (Max. width*[1] – Width) for width < Max. width[*1] and (X + Width) > Max. width[*1] Width = Max. width[*1], X = 0 for width ≥ Max. width[*1]
Height	DX1000: 1 to 216 DX2000: 1 to 440	This is the component height. Height = 1 for height < 1 Y = (Min. Y[*2] + Max. height[*3] – Height) for height < Max. height[*3] and (Y + Height) > (Min. Y[*2] + Max. height[*3]) Height = Max. height[*3], Y = Min. Y[*2] for height ≥ Max. height[*3]

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

*3 DX1000 max. height = 216, DX2000 max. height = 440

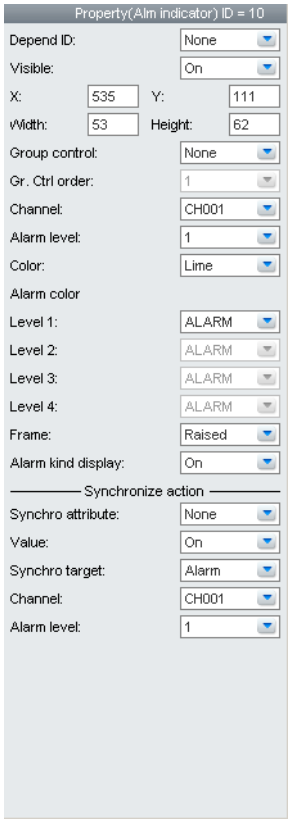
3.11 Attributes of Span Upper Limit Components / Span Lower Limit Components

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Font	[Font5], [Font6], [Font8], [Font12], [Font16]	This is the font for display of span upper limit components/span lower limit components. The initial setting is [Font6] for DX1000 and [Font8] for DX2000.
Color	[Red], [Green], [Blue], [B.violet], [Brown], [Orange], [Y.green], [Light blue], [Violet], [Gray], [Lime], [Cyan], [Dark blue], [Yellow], [Light gray], [Purple], [Pink], [L.brown], [L.green], [Dark gray], [Olive], [Dark cyan], [S.green], [Black], [White], [BASE], [CHANNEL]	The color for display of text. BASE: Base color (background color of the screen) CHANNEL: The color set to the specified channel
Background color	Same choice as for “Color”, [None]	This is the background color for the span upper limit value/span lower limit value area. The initial setting is [BASE]. None: No background painting
Arrangement	[Left], [Center], [Right]	This is the text arrangement in direction of the X-axis in the tag area. The Y-axis direction always is arranged at the center. Left: Text is displayed left-aligned. Center: Text is displayed centered. Right: Text is displayed right-aligned.
Gap	[0] to [15]	The interval between characters is specified in dots.

Synchronize action

►Section 3.3

3.12 Attributes of Alarm Indicator Components



The following limitations exist for setting of attributes of alarm indicator components.

- Setting to Visible is possible only when Depend ID is [None].

List of Settings

Refer to Section 3.3 for attributes without explanations in the list of settings.

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the left side of the component. X = 0 for X < 0 X = (Max. width[*1] – Width) for (X + Width) > Max. width[*1]
Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the upper side of the component. Y = Min. Y[*2] for Y < Min. Y[*2] Y = (Min. Y[*2] + Max. height[*3] – Height) for (Y + Height) > (Min. Y[*2] + Max. height[*3])
Width	DX1000: 1 to 320 DX2000: 1 to 640	This is the component width. Width = 1 for width < 1 X = (Max. width*[1] – Width) for width < Max. width[*1] and (X + Width) > Max. width[*1] Width = Max. width[*1], X = 0 for width ≥ Max. width[*1]
Height	DX1000: 1 to 216 DX2000: 1 to 440	This is the component height. Height = 1 for height < 1 Y = (Min. Y[*2] + Max. height[*3] – Height) for height < Max. height[*3] and (Y + Height) > (Min. Y[*2] + Max. height[*3]) Height = Max. height[*3], Y = Min. Y[*2] for height ≥ Max. height[*3]

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

*3 DX1000 max. height = 216, DX2000 max. height = 440

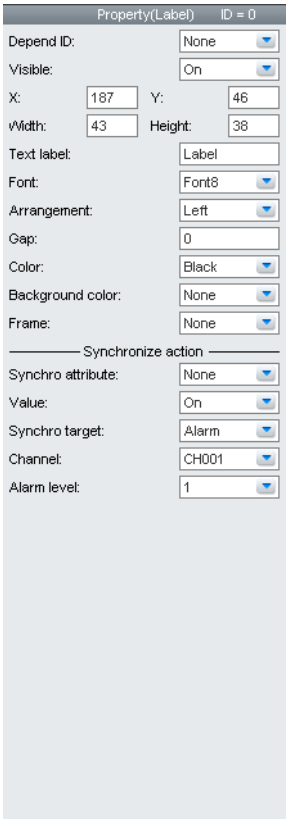
3.12 Attributes of Alarm Indicator Components

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Alarm level	[1], [2], [3], [4], [All]	The assigned alarm level is set. All: This becomes ON when an alarm occurs for any one of Alarm level 1 to 4. Text indicating the alarm kind is not displayed. Text showing the alarm kind is not displayed when Channel alarm is OFF.
Color	[Red], [Orange], [Lime], [Yellow], [Pink], [Black], [White]	This is the color for display when no alarm has occurred.
Level 1	[Red], [Orange], [Lime], [Yellow], [Pink], [Black], [White], [ALARM]	This is the character color for display at the time of occurrence of a level 1 alarm. ALARM: This is the alarm display color set for each alarm level. The alarm levels are [1] and [All].
Level 2	Same choice as for “level 1”	This is the character color for display at the time of occurrence of a level 2 alarm. ALARM: This is the alarm display color set for each alarm level. The alarm levels are [2] and [All].
Level 3	Same choice as for “level 1”	This is the character color for display at the time of occurrence of a level 3 alarm. ALARM: This is the alarm display color set for each alarm level. The alarm levels are [3] and [All].
Level 4	Same choice as for “level 1”	This is the character color for display at the time of occurrence of a level 4 alarm. ALARM: This is the alarm display color set for each alarm level. The alarm levels are [4] and [All].
Alarm kind display	[Off], [On]	This selects display (On) / no display (Off) of strings that indicate alarm kind.

Synchronize action

►Section 3.3

3.13 Attributes of Label Components



The following limitations exist for setting of attributes of label components.

- Setting to Visible is possible only when Depend ID is [None].

List of Settings

Refer to Section 3.3 for attributes without explanations in the list of settings.

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the left side of the component. X = 0 for X < 0 X = (Max. width*1 – Width) for (X + Width) > Max. width*1
Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the upper side of the component. Y = Min. Y*2 for Y < Min. Y*2 Y = (Min. Y*2 + Max. height*3 – Height) for (Y + Height) > (Min. Y*2 + Max. height*3)
Width	DX1000: 1 to 320 DX2000: 1 to 640	This is the component width. Width = 1 for width < 1 X = (Max. width*1 – Width) for width < Max. width*1 and (X + Width) > Max. width*1 Width = Max. width*1, X = 0 for width ≥ Max. width*1
Height	DX1000: 1 to 216 DX2000: 1 to 440	This is the component height. Height = 1 for height < 1 Y = (Min. Y*2 + Max. height*3 – Height) for height < Max. height*3 and (Y + Height) > (Min. Y*2 + Max. height*3) Height = Max. height*3, Y = Min. Y*2 for height ≥ Max. height*3

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

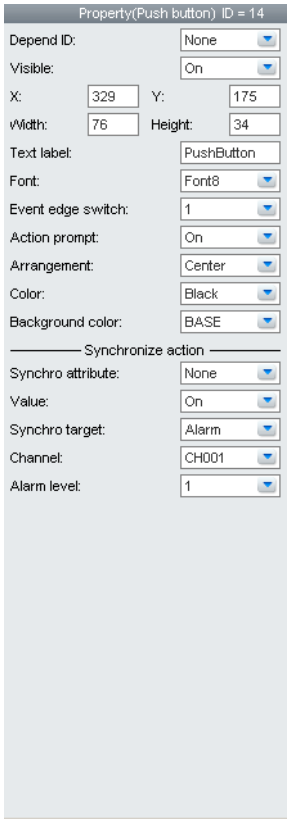
*3 DX1000 max. height = 216, DX2000 max. height = 440

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
String	“Label”	This is text displayed on the screen. Input of max 64 characters (32 double-byte characters) is possible.
Font	[Font5], [Font6], [Font8], [Font12], [Font16], [Font32]	This is the font for display of component text strings. The initial setting is [Font6] for DX1000 and [Font8] for DX2000.
Arrangement	[Left], [Center], [Right]	This is an arrangement kind for text strings in horizontal direction in the tag area. The Y-axis direction always is arranged at the center. Left: Text is displayed left-aligned. Center: Text is displayed centered. Right: Text is displayed right-aligned.
Gap	[0] to [15]	The interval between characters is specified in dots.
Color	[Red], [Green], [Blue], [B.violet], [Brown], [Orange], [Y.green], [Light blue], [Violet], [Gray], [Lime], [Cyan], [Dark blue], [Yellow], [Light gray], [Purple], [Pink], [L.brown], [L.green], [Dark gray], [Olive], [Dark cyan], [S.green], [Black], [White], [BASE]	This is the color of the text. BASE: Base color (background color of the screen)
Background color	Same choice as for “Color”, [None]	This is the background color of the label area. None: No background painting

Synchronize action

►Section 3.3

3.14 Attributes of Push Button Components



The following limitations exist for setting of attributes of push button components.

- Setting to Visible is possible only when Depend ID is [None].

List of Settings

Refer to Section 3.3 for attributes without explanations in the list of settings.

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the left side of the component. X = 0 for X < 0 X = (Max. width[*1] – Width) for (X + Width) > Max. width[*1]
Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the upper side of the component. Y = Min. Y[*2] for Y < Min. Y[*2] Y = (Min. Y[*2] + Max. height[*3] – Height) for (Y + Height) > (Min. Y[*2] + Max. height[*3])
Width	DX1000: 1 to 320 DX2000: 1 to 640	This is the component width. Width = 1 for width < 1 X = (Max. width*[1] – Width) for width < Max. width[*1] and (X + Width) > Max. width[*1] Width = Max. width[*1], X = 0 for width ≥ Max. width[*1]
Height	DX1000: 1 to 216 DX2000: 1 to 440	This is the component height. Height = 1 for height < 1 Y = (Min. Y[*2] + Max. height[*3] – Height) for height < Max. height[*3] and (Y + Height) > (Min. Y[*2] + Max. height[*3]) Height = Max. height[*3], Y = Min. Y[*2] for height ≥ Max. height[*3]

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

*3 DX1000 max. height = 216, DX2000 max. height = 440

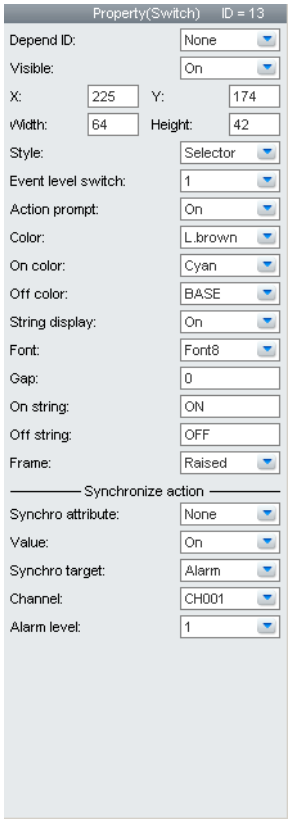
3.14 Attributes of Push Button Components

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Text label	"PushButton"	This is text displayed on a button. Input of max 64 characters is possible.
Font	[Font5], [Font6], [Font8], [Font12], [Font16]	This is the font for display of text strings. The initial setting is [Font6] for DX1000 and [Font8] for DX2000.
Event edge switch	[1] to [30]	—
Action prompt	[Off], [On]	This selects use/no use of dialog boxes confirming execution of an action function. Off: Dialog boxes are not used On: Dialog boxes are used
Arrangement	[Left], [Center], [Right]	This is the text arrangement in direction of the X-axis in the tag area. The Y-axis direction always is arranged at the center. Left: Text is displayed left-aligned. Center: Text is displayed centered. Right: Text is displayed right-aligned.
Color	[Red], [Green], [Blue], [B.violet], [Brown], [Orange], [Y.green], [Light blue], [Violet], [Gray], [Lime], [Cyan], [Dark blue], [Yellow], [Light gray], [Purple], [Pink], [L.brown], [L.green], [Dark gray], [Olive], [Dark cyan], [S.green], [Black], [White], [BASE]	This is the text display color. BASE: Base color (background color of the screen)
Background color	Same choice as for "Color", [BASE]	This is the background color of the label area.

Synchronize action

►Section 3.3

3.15 Attributes of Switch Components



The following limitations exist for setting of attributes of switch components.

- Setting to Visible is possible only when Depend ID is [None].
- Setting of Font, Gap, On Text, and Off Text is not possible when Text display is [Off].

List of Settings

Refer to Section 3.3 for attributes without explanations in the list of settings.

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the left side of the component. X = 0 for X < 0 X = (Max. width*1 – Width) for (X + Width) > Max. width*1
Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the upper side of the component. Y = Min. Y*2 for Y < Min. Y*2 Y = (Min. Y*2 + Max. height*3 – Height) for (Y + Height) > (Min. Y*2 + Max. height*3)
Width	DX1000: 1 to 320 DX2000: 1 to 640	This is the component width. Width = 1 for width < 1 X = (Max. width*1 – Width) for width < Max. width*1 and (X + Width) > Max. width*1 Width = Max. width*1, X = 0 for width ≥ Max. width*1

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

*3 DX1000 max. height = 216, DX2000 max. height = 440

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Height	DX1000: 1 to 216 DX2000: 1 to 440	This is the component height. Height = 1 for height < 1 Y = (Max. height*3 – Height) for height < Max. height*3 and (Y + Height) > Max. height*3 Height = Max. height*3, Y = 0 for height ≥ Max. height*3
Style	[Selector], [Seesaw], [Lever], [SlideX], [SlideY], [Push], [Power], [Connector], [Toggle]	This is the switch display kind.
Event level switch	[1] to [30]	—
Action prompt	[Off], [On]	This selects use/no use of dialog boxes confirming execution of an action function. Off: Dialog boxes are not used On: Dialog boxes are used
Color	[Red], [Green], [Blue], [B.violet], [Brown], [Orange], [Y.green], [Light blue], [Violet], [Gray], [Lime], [Cyan], [Dark blue], [Yellow], [Light gray], [Purple], [Pink], [L.brown], [L.green], [Dark gray], [Olive], [Dark cyan], [S.green], [Black], [White], [BASE]	This is the switch color. BASE: Base color (background color of the screen)
On color	Same choice as for “Color”, [Cyan]	This is the color when the switch is ON. The color at the time of ON is not displayed on the builder screen of the DX recorder.
Off color	Same choice as for “Color”	This is the color when the switch is OFF. The initial setting is [BASE].
String display	[Off], [On]	ON: Display of On Text and Off Text Off: No display of On Text and Off Text
Font	[Font5], [Font6], [Font8], Font12], [Font16]	This is the size of On/Off text. The initial setting is [Font6] for DX1000 and [Font8] for DX2000.
Gap	[0] to [15]	The interval between characters is specified in dots.
On string	“ON”	This is text showing ON. Input of max. 8 single-byte characters is possible. ON Text is not displayed on the execution screen of the DX recorder when “Style” is [Push], [Power], or [Connector].
Off string	“OFF”	This is text showing OFF. Input of up to 8 single-byte characters is possible.

*1 DX1000 max. width = 320, DX2000 max. width = 640

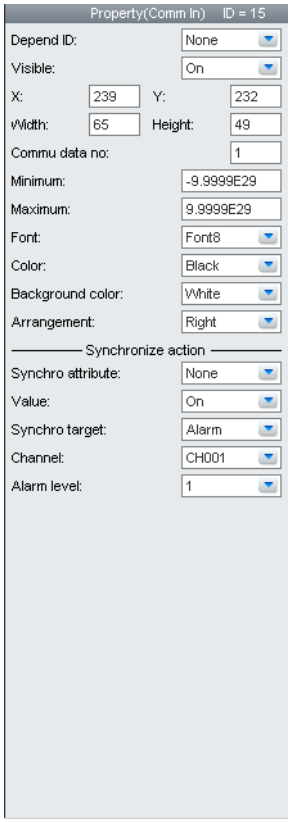
*2 DX1000 min. Y = 24, DX2000 min. Y = 40

*3 DX1000 max. height = 216, DX2000 max. height = 440

Synchronize action

►Section 3.3

3.16 Attributes of Communication Input Components



The following limitations exist for attribute setting for communication input components.

- Setting to Visible is possible only when Depend ID is [None].
- Switching the max. value and the min. value is not possible.

List of Settings

Refer to Section 3.3 for attributes without explanations in the list of settings.

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the left side of the component. X = 0 for X < 0 X = (Max. width*1 – Width) for (X + Width) > Max. width*1
Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the upper side of the component. Y = Min. Y*2 for Y < Min. Y*2 Y = (Min. Y*2 + Max. height*3 – Height) for (Y + Height) > (Min. Y*2 + Max. height*3)
Width	DX1000: 1 to 320 DX2000: 1 to 640	This is the component width. Width = 1 for width < 1 X = (Max. width*1 – Width) for width < Max. width*1 and (X + Width) > Max. width*1 Width = Max. width*1, X = 0 for width ≥ Max. width*1

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

*3 DX1000 max. height = 216, DX2000 max. height = 440

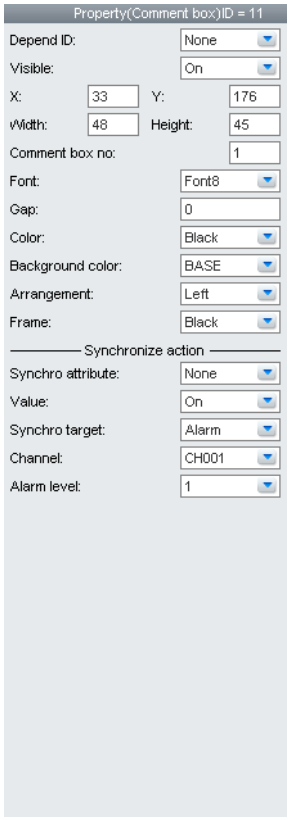
3.16 Attributes of Communication Input Components

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Height	DX1000: 1 to 216 DX2000: 1 to 440	This is the component height. Height = 1 for height < 1 Y = (Max. height[*3] – Height) for height < Max. height[*3] and (Y + Height) > Max. height[*3] Height = Max. height[*3], Y = 0 for height ≥ Max. height[*3]
Commu data no	DX1000: [1] to [24] DX2000: [1] to [60]	This is the displayed communication input data No.
Minimum	–9.9999E+29 to –1.0000E–30 0 1.0000E–30 to 9.9999E+29	Input is possible for the lower limit value. When a value larger than the max. value is entered for the min. value, it becomes the same as the max. value.
Maximum	–9.9999E+29 to –1.0000E–30 0 1.0000E–30 to 9.9999E+29	Input is possible for the upper limit value. When a value smaller than the min. value is entered for the max. value, it becomes the same as the min. value.
Font	[Font5], [Font6], [Font8], [Font12], [Font16], [Font32]	This is the font for display of Comment block text. The initial setting is [Font6] for DX1000 and [Font8] for DX2000.
Color	[Red], [Green], [Blue], [B.violet], [Brown], [Orange], [Y.green], [Light blue], [Violet], [Gray], [Lime], [Cyan], [Dark blue], [Yellow], [Light gray], [Purple], [Pink], [L.brown], [L.green], [Dark gray], [Olive], [Dark cyan], [S.green], [Black], [White], [BASE]	This is the color for display of numerals. BASE: Base color (background color of the screen)
Background color	Same choice as for “Color”	This is the background color of the communication input area. The initial setting is [White].
Arrangement	[Left], [Center], [Right]	This is the text arrangement in direction of the X-axis in the tag area. The Y-axis direction always is arranged at the center. Left: Text is displayed left-aligned. Center: Text is displayed centered. Right: Text is displayed right-aligned.

Synchronize action

►Section 3.3

3.17 Attributes of Comment Box Components



The following limitations exist for setting of attributes of comment box components.

- Setting to Visible is possible only when Depend ID is [None].

List of Settings

Refer to Section 3.3 for attributes without explanations in the list of settings.

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the left side of the component. X = 0 for X < 0 X = (Max. width*1 – Width) for (X + Width) > Max. width*1
Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the upper side of the component. Y = Min. Y*2 for Y < Min. Y*2 Y = (Min. Y*2 + Max. height*3 – Height) for (Y + Height) > (Min. Y*2 + Max. height*3)
Width	DX1000: 1 to 320 DX2000: 1 to 640	This is the component width. Width = 1 for width < 1 X = (Max. width*1 – Width) for width < Max. width*1 and (X + Width) > Max. width*1 Width = Max. width*1, X = 0 for width ≥ Max. width*1
Height	DX1000: 1 to 216 DX2000: 1 to 440	This is the component height. Height = 1 for height < 1 Y = (Max. height*3 – Height) for height < Max. height*3 and (Y + Height) > Max. height*3 Height = Max. height*3, Y = 0 for height ≥ Max. height*3

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

*3 DX1000 max. height = 216, DX2000 max. height = 440

3.17 Attributes of Comment Box Components

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Comment box no	DX1000: [1] to [100], DX2000: [1] to [200]	—
Font	[Font5], [Font6], [Font8], [Font12], [Font16]	This is the font for display of Comment block text. The initial setting is [Font6] for DX1000 and [Font8] for DX2000.
Gap	[0] to [15]	The interval between characters is specified in dots.
Color	[Red], [Green], [Blue], [B.violet], [Brown], [Orange], [Y.green], [Light blue], [Violet], [Gray], [Lime], [Cyan], [Dark blue], [Yellow], [Light gray], [Purple], [Pink], [L.brown], [L.green], [Dark gray], [Olive], [Dark cyan], [S.green], [Black], [White], [BASE]	The color for display of text. BASE: Base color (background color of the screen)
Background color	Same choice as for “Color”, [None]	This is the background color of the Comment box area. The initial setting is [BASE].
Arrangement	[Left], [Center], [Right]	This is the text arrangement in direction of the X-axis in the tag area. The Y-axis direction always is arranged at the center. Left: Text is displayed left-aligned. Center: Text is displayed centered. Right: Text is displayed right-aligned.

*1 DX1000 max. width = 320, DX2000 max. width = 640

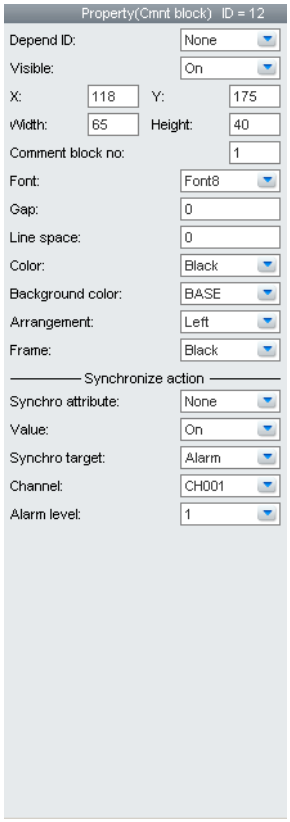
*2 DX1000 min. Y = 24, DX2000 min. Y = 40

*3 DX1000 max. height = 216, DX2000 max. height = 440

Synchronize action

►Section 3.3

3.18 Attributes of Comment Block Components



The following limitations exist for setting of attributes of comment block components.

- Setting to Visible is possible only when Depend ID is [None].

List of Settings

Refer to Section 3.3 for attributes without explanations in the list of settings.

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the left side of the component. X = 0 for X < 0 X = (Max. width*1 – Width) for (X + Width) > Max. width*1
Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the upper side of the component. Y = Min. Y*2 for Y < Min. Y*2 Y = (Min. Y*2 + Max. height*3 – Height) for (Y + Height) > (Min. Y*2 + Max. height*3)
Width	DX1000: 1 to 320 DX2000: 1 to 640	This is the component width. Width = 1 for width < 1 X = (Max. width*1 – Width) for width < Max. width*1 and (X + Width) > Max. width*1 Width = Max. width*1, X = 0 for width ≥ Max. width*1
Height	DX1000: 1 to 216 DX2000: 1 to 440	This is the component height. Height = 1 for height < 1 Y = (Max. height*3 – Height) for height < Max. height*3 and (Y + Height) > Max. height*3 Height = Max. height*3, Y = 0 for height ≥ Max. height*3

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

*3 DX1000 max. height = 216, DX2000 max. height = 440

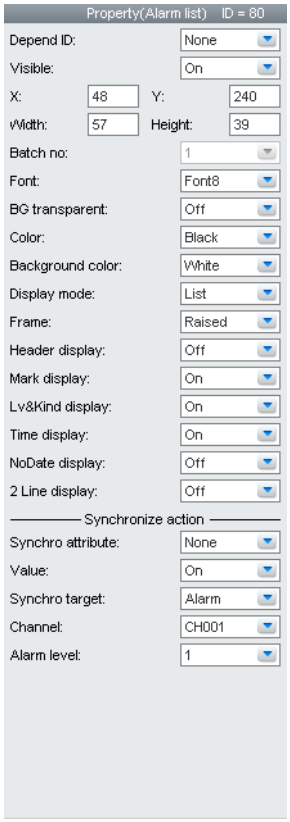
3.18 Attributes of Comment Block Components

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Comment block no	DX1000: [1] to [50], DX2000: [1] to [100]	—
Font	[Font5], [Font6], [Font8], [Font12], [Font16]	This is the font for display of Comment block text. The initial setting is [Font6] for DX1000 and [Font8] for DX2000.
Gap	[1] to [15]	The interval between characters is specified in dots.
Line space	[1] to [15]	The text line space is specified in dots.
Color	[Red], [Green], [Blue], [B.violet], [Brown], [Orange], [Y.green], [Light blue], [Violet], [Gray], [Lime], [Cyan], [Dark blue], [Yellow], [Light gray], [Purple], [Pink], [L.brown], [L.green], [Dark gray], [Olive], [Dark cyan], [S.green], [Black], [White], [BASE]	This is the text display color. BASE: Base color (background color of the screen)
Background color	Same choice as for “Color”, [None]	This is the background color of the Comment block area. The initial setting is [BASE].
Arrangement	[Left], [Center], [Right]	This is the text arrangement in direction of the X-axis in the tag area. The Y-axis direction always is arranged at the center. Left: Text is displayed left-aligned. Center: Text is displayed centered. Right: Text is displayed right-aligned.

Synchronize action

►Section 3.3

3.19 Attributes of Alarm List Components



The following limitations exist for setting of attributes of alarm list components.

- Setting to Visible is possible only when Depend ID is [None].

List of Settings

Refer to Section 3.3 for attributes without explanations in the list of settings.

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the left side of the component. X = 0 for X < 0 X = (Max. width[*1] – Width) for (X + Width) > Max. width[*1]
Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the upper side of the component. Y = Min. Y[*2] for Y < Min. Y[*2] Y = (Min. Y[*2] + Max. height[*3] – Height) for (Y + Height) > (Min. Y[*2] + Max. height[*3])
Width	DX1000: 1 to 320 DX2000: 1 to 640	This is the component width. Width = 1 for width < 1 X = (Max. width*[1] – Width) for width < Max. width[*1] and (X + Width) > Max. width[*1] Width = Max. width[*1], X = 0 for width ≥ Max. width[*1]
Height	DX1000: 1 to 216 DX2000: 1 to 440	This is the component height. Height = 1 for height < 1 Y = (Max. height*[3] – Height) for height < Max. height[*3] and (Y + Height) > Max. height[*3] Height = Max. height[*3], Y = 0 for height ≥ Max. height[*3]

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

*3 DX1000 max. height = 216, DX2000 max. height = 440

3.19 Attributes of Alarm List Components

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Batch no	Setting range: 1 to multi-batch number set by the basic settings of the DX recorder DX1000: [1] to [6] DX2000 standard memory: [1] to [6] DX2000 expanded memory: [1] to [12]	This is the batch No. which can be selected within the range of the multi-batch number set by the basic settings of the DX recorder. This item is not displayed when multi-batch is Off.
Font	[Font6], [Font8]	This is the font for Alarm list display. The initial setting is [Font6] for DX1000 and [Font8] for DX2000.
BG transparent	[Off], [On]	ON: The background color becomes transparent on the execution screen of the DX recorder. In the Screen construction area of this software, frames are displayed by dotted lines to indicate that background transparent display is On. **Caution: Background transparent display is effective when trend components are placed completely overlapping under list components. It is not effective when the trend components project beyond the list components.**
Color	[Red], [Green], [Blue], [B.violet], [Brown], [Orange], [Y.green], [Light blue], [Violet], [Gray], [Lime], [Cyan], [Dark blue], [Yellow], [Light gray], [Purple], [Pink], [L.brown], [L.green], [Dark gray], [Olive], [Dark cyan], [S.green], [Black], [White], [BASE]	The color for display of text. BASE: Base color (background color of the screen)
Background color	[Black], [White]	This is the alarm list background color.
Display mode	[List], [Watch]	This is the mode for display of the alarm list. List: All alarm events are displayed. Watch: Only presently active alarms are displayed.
Header display	[Off], [On]	This selects header display always/not on the execution screen of the DX recorder. On: Display Off: No display
Mark display	[Off], [On]	This selects display/no display of alarm event marks and text on the execution screen of the DX recorder. No display is made on the Screen construction area. On: Display Off: No display
Lv&Kind display	[Off], [On]	This selects display/no display of text showing alarm level and type on the execution screen of the DX recorder. On: Display Off: No display
Time display	[Off], [On]	This selects display/no display of the alarm time on the execution screen of the DX recorder. No display is made in the Screen construction area. On: Display Off: No display
NoDate display	[Off], [On]	This selects time display without or with the date on the execution screen of the DX recorder. No display is made in the Screen construction area. On: The time is displayed without the date. Off: Time and date are displayed.

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

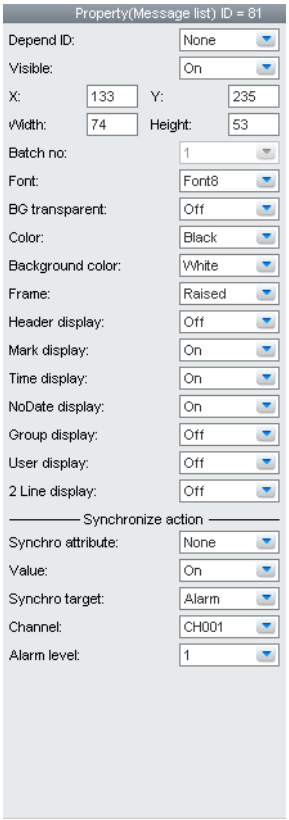
*3 DX1000 max. height = 216, DX2000 max. height = 440

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
2 Line display	[Off], [On]	On: One alarm is displayed on two lines on the execution screen of the DX recorder. Channel text and time are displayed separately on two lines. When “Display without date” is [On], the time is displayed on one line. Off: 2 line display is not performed.

Synchronize action

►Section 3.3

3.20 Attributes of Message List Components



The following limitations exist for setting of attributes of message list components.

- Setting to Visible is possible only when Depend ID is [None].

List of Settings

Refer to Section 3.3 for attributes without explanations in the list of settings.

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the left side of the component. X = 0 for X < 0 X = (Max. width[*1] – Width) for (X + Width) > Max. width[*1]
Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the upper side of the component. Y = Min. Y[*2] for Y < Min. Y[*2] Y = (Min. Y[*2] + Max. height[*3] – Height) for (Y + Height) > (Min. Y[*2] + Max. height[*3])
Width	DX1000: 1 to 320 DX2000: 1 to 640	This is the component width. Width = 1 for width < 1 X = (Max. width*[1] – Width) for width < Max. width[*1] and (X + Width) > Max. width[*1] Width = Max. width[*1], X = 0 for width ≥ Max. width[*1]
Height	DX1000: 1 to 216 DX2000: 1 to 440	This is the component height. Height = 1 for height < 1 Y = (Max. height*[3] – Height) for height < Max. height[*3] and (Y + Height) > Max. height[*3] Height = Max. height[*3], Y = 0 for height ≥ Max. height[*3]

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

*3 DX1000 max. height = 216, DX2000 max. height = 440

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Batch no	Setting range: 1 to multi-batch number set by the basic settings of the DX recorder DX1000: [1] to [6] DX2000 standard memory: [1] to [6] DX2000 expanded memory: [1] to [12]	This is the batch No. which can be selected within the range of the multi-batch number set by the basic settings of the DX recorder. This item is not displayed when multi-batch is Off.
Font	[Font6], [Font8]	This is the font for Message list display. The initial setting is [Font6] for DX1000 and [Font8] for DX2000.
BG transparent	[Off], [On]	ON: The background color becomes transparent on the execution screen of the DX recorder. In the Screen construction area of this software, frames are displayed by dotted lines to indicate that background transparent display is On. **Caution: Background transparent display is effective when trend components are placed completely overlapping under list components. It is not effective when the trend components project beyond the list components.**
Color	[Red], [Green], [Blue], [B.violet], [Brown], [Orange], [Y.green], [Light blue], [Violet], [Gray], [Lime], [Cyan], [Dark blue], [Yellow], [Light gray], [Purple], [Pink], [L.brown], [L.green], [Dark gray], [Olive], [Dark cyan], [S.green], [Black], [White], [BASE]	The color for display of text. BASE: Base color (background color of the screen)
Background color	[Black], [White]	This is the background color for the Message list.
Header display	[Off], [On]	This selects header display always/not on the execution screen of the DX recorder. On: Display Off: No display
Mark display	[Off], [On]	This selects display/no display of message marks on the execution screen of the DX recorder. No display is made on the Screen construction area. On: Display Off: No display
Time display	[Off], [On]	This selects display/no display of the message time on the execution screen of the DX recorder. On: Display Off: No display
NoDate display	[Off], [On]	This selects time display without or with the date on the execution screen of the DX recorder. No display is made in the Screen construction area. On: The time is displayed without the date. Off: Time and date are displayed.
Group display	[Off], [On]	This selects display/no display of the message write group on the execution screen of the DX recorder. On: Display Off: No display
User display	[Off], [On]	This selects display/no display of the message write user on the execution screen of the DX recorder. On: Display Off: No display

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

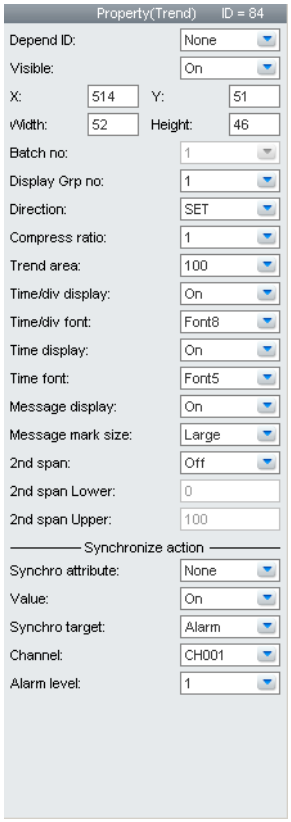
*3 DX1000 max. height = 216, DX2000 max. height = 440

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
2 Line display	[Off], [On]	This selects display/no display of messages on two lines on the execution screen of the DX recorder. ON: 2 Line display Off: No 2 Line display

Synchronize action

►Section 3.3

3.21 Attributes of Trend Components



The following limitations exist for attribute setting for trend components.

- Setting to Visible is possible only when Depend ID is [None].
- The time/div font cannot be set when Time/div display is [Off].
- The message mark size cannot be set when message mark display is [Off].
- 2nd span upper limit and 2nd span lower limit cannot be set when 2nd span is [Off].
- 2nd span upper limit and 2nd span lower limit cannot be switched against each other.
- When the synchro target is [Switch], alarm level setting is not possible.
- Batch No. setting is not possible when the multi-batch function is not effective.

Note

Some time may be required until display data are displayed. Please do the following if you want to shorten the time.

- If All Channel display is On, set it to Off.
- When displaying data compressed in direction of the time axis, lower the compression ratio or reduce the number of trend components.
- When trend components are arranged superposed with push button components, communication input components, and switch components, arrange the components so that they are not superposed. When parts are arranged without gaps, they can overlap. Keep a gap of at least 1 dot between parts.
- When the “Compress ratio” for trend components is set to [2] or higher, the old waveform screen may disappear and an intermediate waveform may be displayed in case of display switching with trend display at the DX recorder. This is caused by a limitation of the internal memory capacity, and it is no abnormality. The data are written to the internal memory.

List of Settings

Refer to Section 3.3 for attributes without explanations in the list of settings.

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the left side of the component. X = 0 for X < 0 X = (Max. width*1 – Width) for (X + Width) > Max. width*1
Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the upper side of the component. Y = Min. Y*2 for Y < Min. Y*2 Y = (Min. Y*2 + Max. height*3 – Height) for (Y + Height) > (Min. Y*2 + Max. height*3)
Width	DX1000: 1 to 320 DX2000: 1 to 640	This is the component width. Width = 1 for width < 1 X = (Max. width*1 – Width) for width < Max. width*1 and (X + Width) > Max. width*1 Width = Max. width*1, X = 0 for width ≥ Max. width*1
Height	DX1000: 1 to 216 DX2000: 1 to 440	This is the component height. Height = 1 for height < 1 Y = (Max. height*3 – Height) for height < Max. height*3 and (Y + Height) > Max. height*3 Height = Max. height*3, Y = 0 for height ≥ Max. height*3
Batch no	Setting range: 1 to multi-batch number set by the basic settings of the DX recorder DX1000: [1] to [6] DX2000 standard memory: [1] to [6] DX2000 expanded memory: [1] to [12]	This is the batch No. which can be selected within the range of the multi-batch number set by the basic settings of the DX recorder. This item cannot be set when multi-batch of the DX recorder is OFF.
Display Grp no	when multi-batch is Off. DX1000: [1] to [10] DX2000: [1] to [36] when multi-batch is On. DX1000: [1] to [6] DX2000: [1] to [12]	Display on the builder screen of the DX recorder is made as “Group No.”. The group selection range differs according to the batch.
Direction	[SET], [Horizontal], [Vertical]	This is the waveform flow direction. SET: Setting of the DX recorder Vertical: Vertical waveform direction Horizontal: Horizontal waveform direction
Compress ratio	[1], [2], [4], [5], [6], [7], [8]	This selects the number of data represented by 1 dot.
Trend area	[50], [60], [70], [80], [90], [100]	The rate for the width of the waveform display is calculated with the width in direction of the time axis as 100 %. This is used when “Trend blank” of the DX recorder is ON.
Time/div display	[Off], [On]	This selects display/no display of Time/div.
Time/div font	[Font6], [Font8]	This is the font for display of Time/div. Setting is not possible when “Time/div display” is [Off]. The initial setting is [Font6] for DX1000 and [Font8] for DX2000.
Time display	[Off], [On]	This selects display/no display of the grid time. On: Display Off: No display
Time font	[Font5], [Font6]	This is the font for display of the grid time. Setting is not possible when “Time display” is [Off].
Message display	[Off], [On]	This selects display/no display of message marks. On: Display Off: No display
Message mark size	[Small], [Large]	This is the size for display of message marks. Setting is not possible when “Message display” is [Off].

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

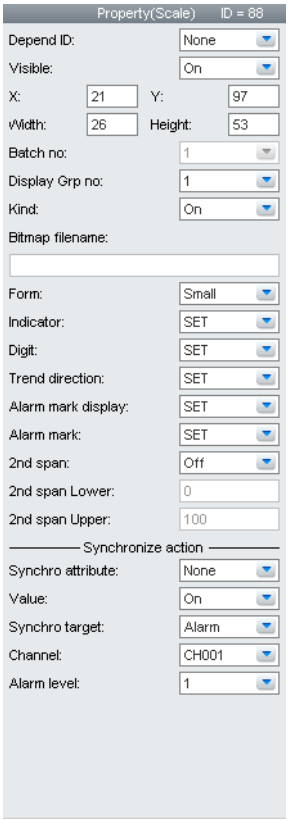
*3 DX1000 max. height = 216, DX2000 max. height = 440

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
2nd span	[Off], [On]	This selects effective/disabled for 2nd span. On: Effective Off: Disabled
2nd span Lower	[0] to [90]	The 2nd span lower limit is set between setting span lower limit (0 %) and upper limit (100 %). Setting is not possible when “2nd span” is [Off].
2nd span Upper	[10] to [100]	The 2nd span lower limit is set between setting span lower limit (0 %) and upper limit (100 %). Setting is not possible when “2nd span” is [On].

Synchronize action

►Section 3.3

3.22 Attributes of Scale Components



The following limitations exist for attribute setting for scale components.

- Setting to Visible is possible only when Depend ID is [None].
- Batch No. setting is not possible when the multi-batch function is not effective.
- Bitmap file name, indicator name, display digit, alarm mark display, and alarm mark style cannot be set when the scale plate kind is [Off].
- When Kind is [On], Bmp file name setting is not possible.
- When Kind is [Bmp], display digit setting is not possible.
- Alarm mark setting is not possible when alarm mark display is [Off].
- 2nd span upper limit and 2nd span lower limit cannot be set when 2nd span is [Off].

Note

Place bitmap files into the same directory as display data (.CDC). The bitmap files cannot be displayed when the data are in a different directory.

List of Settings

Refer to Section 3.3 for attributes without explanations in the list of settings.

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the left side of the component. X = 0 for X < 0 X = (Max. width*1 – Width) for (X + Width) > Max. width*1

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

*3 DX1000 max. height = 216, DX2000 max. height = 440

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the upper side of the component. Y = Min. Y*2 for Y < Min. Y*2 Y = (Min. Y*2 + Max. height*3 – Height) for (Y + Height) > (Min. Y*2 + Max. height*3)
Width	DX1000: 1 to 320 DX2000: 1 to 640	This is the component width. Width = 1 for width < 1 X = (Max. width*1 – Width) for width < Max. width*1 and (X + Width) > Max. width*1 Width = Max. width*1, X = 0 for width ≥ Max. width*1
Height	DX1000: 1 to 216 DX2000: 1 to 440	This is the component height. Height = 1 for height < 1 Y = (Max. height*3 – Height) for height < Max. height*3 and (Y + Height) > Max. height*3 Height = Max. height*3, Y = 0 for height ≥ Max. height*3
Batch no	Setting range: 1 to multi-batch number set by the basic settings of the DX recorder DX1000: [1] to [6] DX2000 standard memory: [1] to [6] DX2000 expanded memory: [1] to [12]	This is the batch No. which can be selected within the range of the multi-batch number set by the basic settings of the DX recorder. This item cannot be set when multi-batch of the DX recorder is OFF.
Display Grp no	when multi-batch is Off. DX1000: [1] to [10] DX2000: [1] to [36] when multi-batch is On. DX1000: [1] to [6] DX2000: [1] to [12]	Display on the builder screen of the DX recorder is made as “Group No.”. The group selection range differs according to the batch.
Kind	[Off], [On], [Bmp]	This is the scale plate kind. Off: A simple scale plate without scale values On: Display with the scale plate display divided into the set number of divisions and drawing of scale values at fixed intervals. Bitmap: A bitmap designed by the user is used for the scale plate.
Bitmap filename	Input is possible for max. 51 single-byte alphanumeric characters.	This specifies the file name of the bitmap to be displayed. This is effective when “Kind” is [Bmp]. This is the name of the bitmap file to be pasted onto the scale plate. The bitmap file read destination is the folder that the latest display data (.CDC) has saved.
Form	[Small], [Large]	This is the scale plate form. Small: A small scale plate The same image as for 4-screen display with DX2000 or the scale plate with DX1000. Large: A large scale plate This is the same image as for the scale plate at the time of other than 4-screen display with DX2000.
Indicator	[SET], [Mark], [Bar]	This is the indicator displayed on the scale plate. Setting is not possible when “Kind” is [Off]. SET: Setting of the DX recorder Mark: Present value marks are displayed for the number of channels registered to the group. Bar: Bars are displayed for the number of channels registered to the group.

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

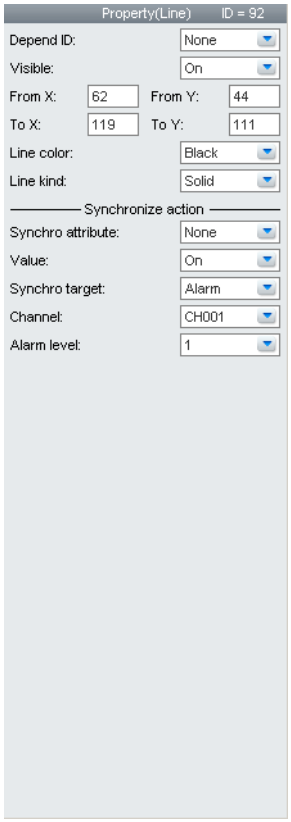
*3 DX1000 max. height = 216, DX2000 max. height = 440

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Digit	[SET], [Normal], [Detail]	This is the number of display digits of the scale value displayed on the scale plate. Setting is not possible when “Kind” is [Off]. SET: Setting of the DX recorder Normal: Effective digits of the scale value: 2 digits Details: Effective digits of the scale value: 3 digits
Trend direction	[SET], [Vertical], [Horizontal]	This is the waveform flow direction. SET: Setting of the DX recorder Vertical: Vertical waveform direction Horizontal: Horizontal waveform direction
Alarm mark display	[Off], [On], [SET]	Selection of alarm mark display/no display Setting is not possible when “Kind” is [Off]. Off: No alarm mark display On: Alarm mark display SET: Setting of the DX recorder
Alarm mark	[Alarm], [Fixed], [SET]	This selects the alarm mark style. Setting is not possible when “Kind” is [Off] or “Alarm mark display” is [Off] Alarm: Color change may occur at the time of trapezoid display and at the time of alarm ON. Fixed: No color change at the time of trapezoid display and at the time of alarm ON. SET: Setting of the DX recorder
2nd span	[Off], [On]	This selects effective/disabled for 2nd span. On: Effective Off: Disabled
2nd span Lower	[0] to [90]	The 2nd span lower limit is set between setting span lower limit (0 %) and upper limit (100 %). Setting is not possible when “2nd span” is [Off].
2nd span Upper	[10] to [100]	The 2nd span lower limit is set between setting span lower limit (0 %) and upper limit (100 %). Setting is not possible when “2nd span” is [On].

Synchronize action

►Section 3.3

3.23 Attributes of Line Components



The following limitations exist for setting of attributes of line component attributes.

- Setting to Visible is possible only when Depend ID is [None].

List of Settings

Refer to Section 3.3 for attributes without explanations in the list of settings.

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
From X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the start point for component creation. From X = 0 for From X < 0 From X = (Max. width[*1] – 1) for From X > (Max. width[*1 – 1)]
From Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the start point for component creation. From Y = Min. Y[*2] for From Y < Min. Y[*2] From Y = (Min. Y*2 + Max. height[*3] – 1) for From Y > (Min. Y[*2] + Max. height[*3] – 1)
To X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the end point for component creation. To X = 0 for To X < 0 To X = (Max. width[*1] – 1) for To X > (Max. width[*1] – 1)
To Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the end point for component creation. To Y = Min. Y[*2] for To Y < Min. Y[*2] To Y = (Min. Y[*2] + Max. height[*3] – 1) for To Y > (Min. Y[*2] + Max. height[*3] – 1)

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

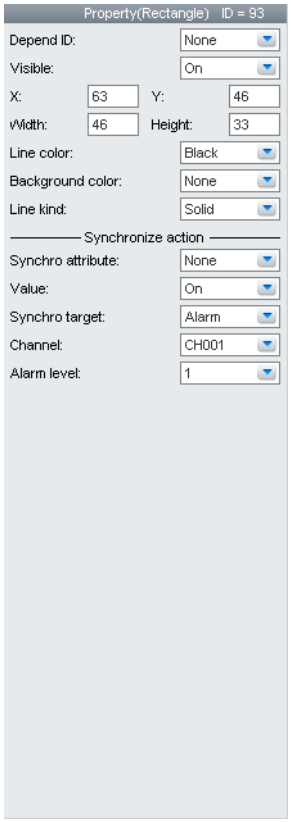
*3 DX1000 max. height = 216, DX2000 max. height = 440

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Line color	[Red], [Green], [Blue], [B.violet], [Brown], [Orange], [Y.green], [Light blue], [Violet], [Gray], [Lime], [Cyan], [Dark blue], [Yellow], [Light gray], [Purple], [Pink], [L.brown], [L.green], [Dark gray], [Olive], [Dark cyan], [S.green], [Black], [White], [BASE]	This is the line color. BASE: Base color (background color of the screen)
Line kind	[Solid], [Dotted], [Dash], [Longdash]	The line kind is set. Solid: A solid line Dotted: A line with continuous repetition of two dots and two blank spaces. Dash: A line with continuous repetition of four dots and four blank spaces. Longdash: A line with continuous repetition of six dots and two blank spaces.

Synchronize action

►Section 3.3

3.24 Attributes of Rectangle Components



The following limitations exist for setting of attributes of rectangle components.

- Setting to Visible is possible only when Depend ID is [None].

List of Settings

Refer to Section 3.3 for attributes without explanations in the list of settings.

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the left side of the component. X = 0 for X < 0 X = (Max. width*1 – Width) for (X + Width) > Max. width*1
Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the upper side of the component. Y = Min. Y*2 for Y < Min. Y*2 Y = (Min. Y*2 + Max. height*3 – Height) for (Y + Height) > (Min. Y*2 + Max. height*3)
Width	DX1000: 1 to 320 DX2000: 1 to 640	This is the component width. Width = 1 for width < 1 X = (Max. width*1 – Width) for width < Max. width*1 and (X + Width) > Max. width*1 Width = Max. width*1, X = 0 for width ≥ Max. width*1
Height	DX1000: 1 to 216 DX2000: 1 to 440	This is the component height. Height = 1 for height < 1 Y = (Max. height*3 – Height) for height < Max. height*3 and (Y + Height) > Max. height*3 Height = Max. height*3, Y = 0 for height ≥ Max. height*3

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

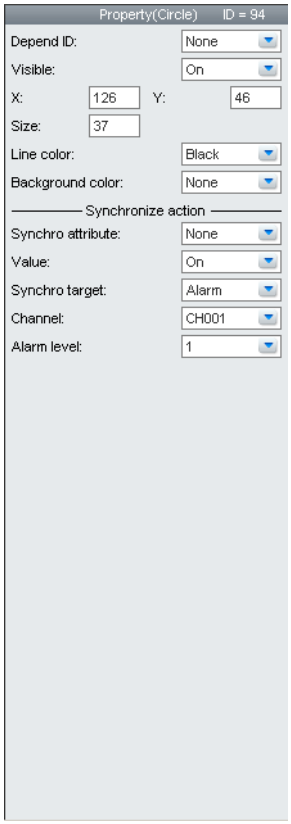
*3 DX1000 max. height = 216, DX2000 max. height = 440

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Line color	[Red], [Green], [Blue], [B.violet], [Brown], [Orange], [Y.green], [Light blue], [Violet], [Gray], [Lime], [Cyan], [Dark blue], [Yellow], [Light gray], [Purple], [Pink], [L.brown], [L.green], [Dark gray], [Olive], [Dark cyan], [S.green], [Black], [White], [BASE], [None]	This is the line color. BASE: Base color (background color of the screen) None: No line (outer frame)
Background color	Same choice as for “Line”, [None]	This is the color inside the rectangle. None: No background color
Line kind	[Solid], [Dotted], [Dash], [Longdash]	This is the kind of line for drawing the rectangle. Solid: A solid line Dotted: A line with continuous repetition of two dots and two blank spaces. Dash: A line with continuous repetition of four dots and four blank spaces. Longdash: A line with continuous repetition of six dots and two blank spaces.

Synchronize action

►Section 3.3

3.25 Attributes of Circle Components



The following limitations exist for setting of attributes of circle components.

- Setting to Visible is possible only when Depend ID is [None].

List of Settings

Refer to Section 3.3 for attributes without explanations in the list of settings.

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the left side of the square enclosing the component. X = 0 for X < 0 X = (Max. width*1 – size) for (X + size) > Max. width*1
Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the top of the square enclosing the component. Y = Min. Y*2 for Y < Min. Y*2 Y = (Min. Y*2 + Max. height*3 – size) for (Y + size) > (Min. Y*2 + Max. height*3)
Size	DX1000: 1 to 216 DX2000: 1 to 440	This is the size of the square enclosing the component. Size = 1 for Size < 1 X = (Max. height*3 – Size) for height < Max. height*3 and (Y + Size) > Max. height*3 Y = (Min. Y*2 + Max. height*3 – Size) for Size < Max. height*3 and (Y + Size) > (Min. Y*2 + Max. height*3) Size = Max. height*3, Y = Min. Y*2 for Size ≥ Max. height*3 Size = Max. height*3, X = (Max. width*1 – Max. height*3) for Size ≥ Max. height*3 and (X + Max. height*3) > Max. width*1

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

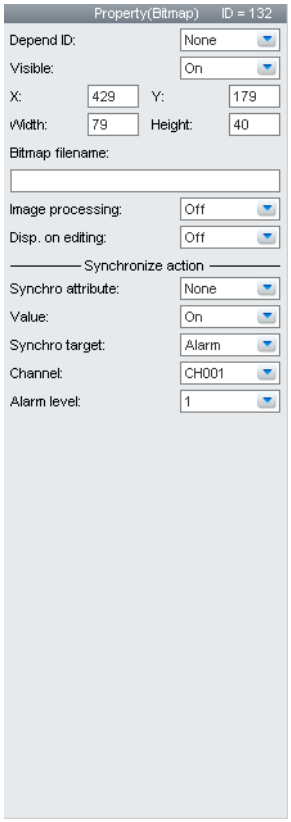
*3 DX1000 max. height = 216, DX2000 max. height = 440

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
Line color	[Red], [Green], [Blue], [B.violet], [Brown], [Orange], [Y.green], [Light blue], [Violet], [Gray], [Lime], [Cyan], [Dark blue], [Yellow], [Light gray], [Purple], [Pink], [L.brown], [L.green], [Dark gray], [Olive], [Dark cyan], [S.green], [Black], [White], [BASE], [None]	This is the line color. BASE: Base color (background color of the screen) None: No line (outer frame)
Background color	Same choice as for “Line”, [None]	This is the color inside the circle. None: No background color

Synchronize action

►Section 3.3

3.26 Attributes of Bitmap Components



The following limitations exist for setting of attributes of bitmap components.

- Setting to Visible is possible only when Depend ID is [None].

Note

- When “Image processing” is [On], some time may be required until display of display data at the DX recorder. Set to [Off] if you want to shorten the time.
- Place bitmap files into the same directory as display data (.CDC). The bitmap files cannot be displayed when the data are in a different directory.
- When display data using bitmap components are sent to the internal memory of the DX recorder, the bitmap image is not displayed on the execution screen. For display of bitmap images which have not been displayed even once, the external storage media (CF card) where these bitmap files are stored, must be inserted into this unit.
- For arrangement of bitmap components overlapping each other and using them with display switching, the external storage media (CF card) where these bitmap files are stored must be inserted into the DX recorder.

List of Settings

Refer to Section 3.3 for attributes without explanations in the list of settings.

Attribute	Set value/choice (Underlined items are initial set values)	Description, conditions
X	DX1000: 0 to 319 DX2000: 0 to 639	This is the X-coordinate of the left side of the component. X = 0 for X < 0 X = (Max. width*1 – Width) for (X + Width) > Max. width*1
Y	DX1000: 24 to 239 DX2000: 40 to 479	This is the Y-coordinate of the upper side of the component. Y = Min. Y*2 for Y < Min. Y*2 Y = (Min. Y*2 + Max. height*3 – Height) for (Y + Height) > (Min. Y*2 + Max. height*3)
Width	DX1000: 1 to 320 DX2000: 1 to 640	This is the component width. Width = 1 for width < 1 X = (Max. width*1 – Width) for width < Max. width*1 and (X + Width) > Max. width*1 Width = Max. width*1, X = 0 for width ≥ Max. width*1
Height	DX1000: 1 to 216 DX2000: 1 to 440	This is the component height. Height = 1 for height < 1 Y = (Min. Y*2 + Max. height*3 – Height) for height < Max. height*3 and (Y + Height) > (Min. Y*2 + Max. height*3) Height = Max. height*3, Y = Min. Y*2 for height ≥ Max. height*3
Bitmap filename	Input is possible for max. 51 single-byte alphanumeric characters.	This specifies the bitmap file name. The bitmap file read destination is the folder that the latest display data (.CDC) has saved.
Image processing	[Off], [On]	This sets image processing conversion at the time of bitmap file reading to [On] or [Off]. When this is set to On, some time is required until display. This time is approximately 30 sec when the image size is 640 x 480 pixel. On: When a bitmap is read in on the DX recorder, display is made after optimizing for the display of the DX recorder. Off: No image processing
Disp. On editing	[Off], [On]	On: Bitmap images are displayed on the execution screen of the DX recorder. Off: Dotted line frames and characters indicating that these are bitmap components are displayed.

*1 DX1000 max. width = 320, DX2000 max. width = 640

*2 DX1000 min. Y = 24, DX2000 min. Y = 40

*3 DX1000 max. height = 216, DX2000 max. height = 440

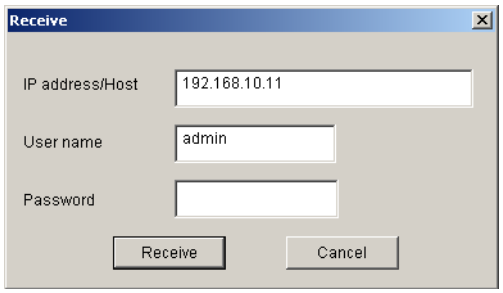
Synchronize action

►Section 3.3

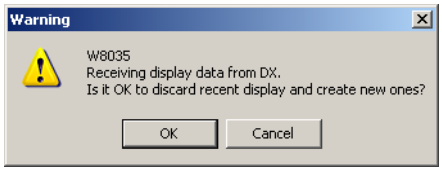
4.1 Receiving Display Data from DX Recorder

Procedure

1. Select **Communication > Receive**.
   "Receive" dialog box appears.



2. Enter the IP address/Host name of the DX recorder, the user name, and the password.
   Host name: Up to 64 single-byte alphanumeric characters can be entered. The initial setting is "admin."
   Password: Up to 20 single-byte alphanumeric characters can be entered.
3. Click **[Receive]**.
   A message is displayed.



4. Click **[OK]**.
   All custom display screen data in the internal memory of the DX recorder and on the CF card are received to the save object folder.
5. Save the file. (►Section 2.5)

Explanation

Only the items set for the DX recorder are entered for IP address/host name, user name, and password. The IP address/host name and user name entered at this time are saved, and they are displayed when the software is started the next time. The password is deleted when exiting the software.

The extension of data which can be received by the software from the DX recorder is CDC. The file name is as shown below.

Internal1.CDC to Internal3.CDC:	Saved in the root directory of the internal memory of the DX recorder.
External1.CDC to External25.CDC:	Saved in the root directory of the CF card inserted to the DX recorder.

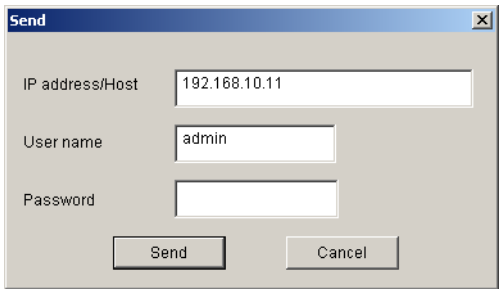
All custom display screen data (Internal1.CDC to Internal3.CDC and External1.CDC to External25.CDC) in the root directory of the internal memory of the DX recorder and in the root directory of the CF card are received to the folder that the latest display data has saved.
The display data and bitmap data must be saved every time they have been received from DX recorder.

Custom display screen data (.CDC) can be received to DX recorders with a release number from R3 on.

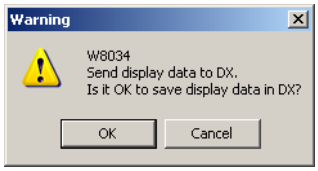
4.2 Sending Display Data to DX Recorder

Procedure

1. Select **Communication > Send**.
   "Send" dialog box appears.



2. Enter the IP address/host name of the DX recorder, the user name, and the password.
   Host name: Up to 64 single-byte alphanumeric characters can be entered. The initial setting is "admin."
   Password: Up to 20 single-byte alphanumeric characters can be entered.
3. Click **[Send]**.
   A message is displayed.



4. Click **[OK]**.
   The opening display data (including editing display data) and bitmap files used for the display data are sent to the DX recorder.

Explanation

Only the items set for the DX recorder are entered for IP address/host name, user name, and password. The IP address/host name and user name entered at this time are saved, and they are displayed when the software is started the next time. The password is deleted when exiting the software.

The extension of data which are sent from this software to the DX recorder is CDC. The file name is as shown below.

Internal1.CDC to Internal3.CDC:	Written to the root directory of the internal memory of the DX recorder.
External1.CDC to External25.CDC:	Written to the root directory of the CF card inserted to the DX recorder.

Display data can be sent from DAQStudio to DX recorders with a release number of R3 or higher.
Display data for DX1000 cannot be sent to DX2000. In the same way, Display data for DX2000 cannot be sent to DX1000. Please send display data corresponding to the equipment.

Cautions in regard to the display processing time by the DX recorder

Some time may be required until the created display data are displayed by the DX recorder. In such a case, saving of measuring data and output of communication data are performed normally, but attention should be paid to the following.

- Do not operate keys until display processing has been completed.
- Even if event phenomena of event actions occur, event processing may not be started until completion of display processing.
- Web screen updating may be delayed.

5.1 List of Messages

Messages may be displayed on the screen during use.

Error message

Code	Message	Handling Methods/Explanation	Refer to
E0004	Invalid License number.	Please enter a correct license number.	—
E8001	Connection error, please check communication setting!	Please use System environment to confirm that the communication settings (IP address/host name, user name, password) with the connection object equipment are correct.	Section 4.1, Section 4.2
E8002	The connected device is not supported!	The following causes can be assumed. Please confirm the connected equipment. • The equipment is not DX1000/DX1000N/DX2000. • The release number of DX1000/DX1000N/DX2000 is not R3 or higher.	Section 4.1, Section 4.2
E8003	Receive failed!	Please confirm normal communication with DX.	—
E8004	Send failed!	Please confirm normal communication with DX.	—
E8005	Failed to save graphic file!	The following causes can be assumed. Please check. • The save object disk is broken. • No permission has been given for file and folder writing/ reading. • The empty capacity of the disk is not sufficient.	—
E8006	Failed to read graph file!	The following causes can be assumed. • The object data are being used for another program. • The present user does not have the authority to access the file. Confirm the file attributes. • The file is broken. Confirm the file attributes.	—
E8007	Invalid folder name!	The entered folder name is not correct. Enter a correct folder name.	Section 2.12
E8008	Failed to send! The machine's hardware is different.	Check if a DX1000 screen construction file has been sent to DX2000 or vice versa.	Section 4.1
E8009	Login failed!	The following causes can be assumed. Please check. • Wrong user name or password. • The DX unit is connected by different software.	—
E8010	Failed to paste all or some parts.	The following causes can be assumed. Please check. The max. number of components which can be created on one screen has been exceeded at the time of pasting.	Section 3.2
E8011	Failed to create folder!	Check for normal disk capacity and file system.	—
E8012	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.	—

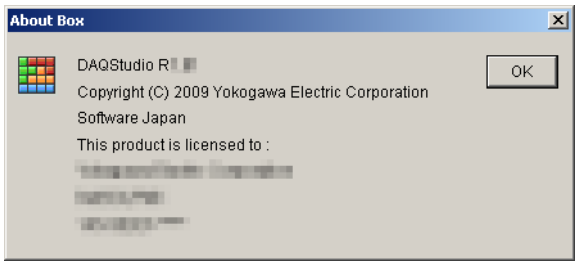
Warning message

Code	Message	Description	Refer to
W8031	Do you want to save the changes of display?	The screen changes have not been saved. Select Save (OK)/ Don't save (Cancel).	Section 2.1
W8032	Is it OK to discard recent display and open selected one?	Select discarding of the present screen and creation of a new screen (OK)/No (Cancel).	Section 2.5
W8033	Is it OK to delete [displayname]?	Select Delete screen/No. The [Screen name] is the deletion object data name selected in the Screen list.	Section 2.9
W8034	Send display data to DX. Is it OK to save display data in DX?	Screen construction data are sent to the DX unit.	Section 2.9
W8035	Receiving display data from DX. Is it OK to discard recent display and create new ones?	Screen construction data are received from the DX unit.	Section 4.1
W8036	Is it OK to discard [displayname], and paste another one to here.	Screen name is the Screen name selected in the Screen list. This screen is discarded and the screen is pasted to this position.	Section 2.9

5.2 Version Information

Procedure

1. Select **Help > Version Information** from the menu bar or click the **Version Information** icon.
   The version information is displayed.



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