9 Working with the display unit's Log Data in Excel

9.1 Writing the display unit's Log Data to Excel 9-2
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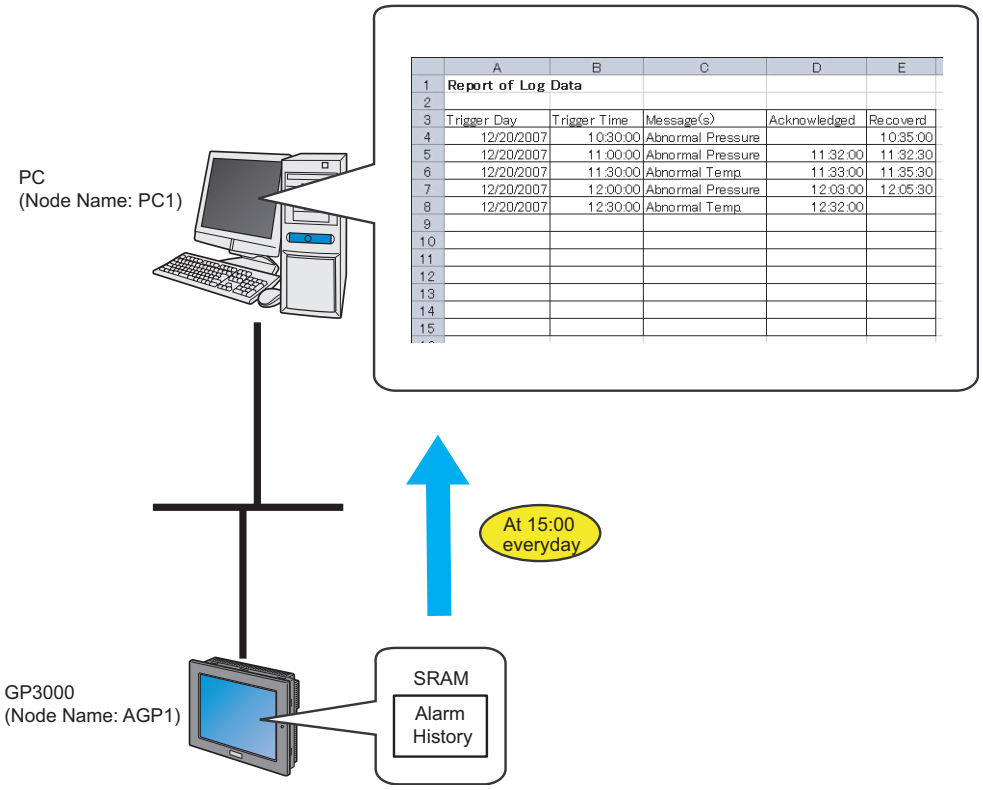
9.3 Restrictions 9-32

9.1 Writing the display unit's Log Data to Excel

[Action Example]

Write the alarm log data stored in SRAM of display unit in an Excel file at 15:00 every day.



This section describes the setting procedures for executing the above action (ACTION) as an example.

NOTE

- Refer to the "GP-Pro Ex Reference Manual" for more details about alarms.

[Setting Procedure]

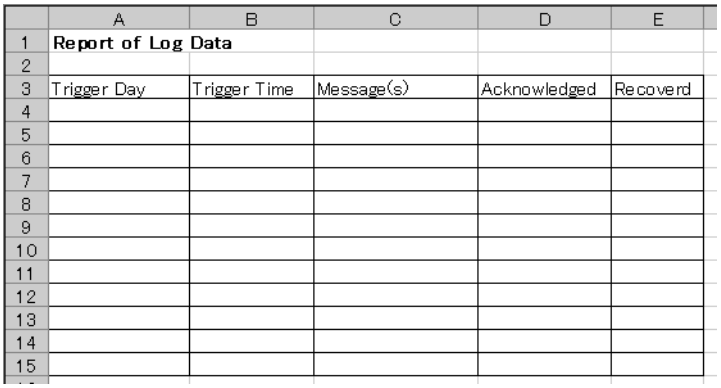
1	Creating a Template (page9-4)	This step creates a template to write log data on.
2	Starting 'Pro-Studio EX' (page9-5)	This step starts 'Pro-Studio EX'.
3	Registering Entry Nodes (page9-5)	This step registers the PC and the display units as entry nodes.
4	Specifying an Excel Template and its Output Book (page9-6)	This step sets the following items: • Specify a template • Specify an output file
5	Setting Content of an Excel Template (page9-10)	This step sets the following items: • Log data type • Data specification method
6	Setting ACTION Node/Process Completion Notification (page9-19)	This step sets the name of an ACTION node and the alert setting whether it should be tuned on or off
7	Verifying Setting Result (page9-21)	This step verifies setting results on the setting content list screen.
8	Saving a Network Project File (page9-23)	This step saves the current settings as a network project file and reloads.
9	Transferring a Network Project File (page9-24)	This step transfers a saved network project file to the display unit.
10	Executing ACTION (page9-25)	This step verifies that the log data of the display unit is written in the specified area of Excel when the preset trigger condition has become effective.

9.1.1 Creating a Template

This step creates a template to write log data on.

1 Start 'Microsoft Excel' and create the sheet below in Sheet 1.

When you execute ACTION, log data will be written in.



	A	B	C	D	E
1	**Report of Log Data**				
2					
3	Trigger Day	Trigger Time	Message(s)	Acknowledged	Recoverd
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

2 Save the file on PC desktop naming "template.xlt".

9.1.2 Starting 'Pro-Studio EX'

This step starts 'Pro-Studio EX'.

Refer to "3 Trial of Pro-Server EX" for details about starting method.

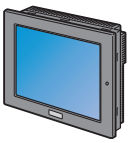
9.1.3 Registering Entry Nodes

This step registers the PC and the display unit connected with network as nodes.

Refer to "31 Node Registration" for details about entry nodes.

Node Name :PC1

IP Address :192.168.0.1



Node Name :AGP1

IP Address :192.168.0.100

Device/PLC Information

Ex.

Entry node	Setting item	Setting example
PC	Node Name	PC1
	IP Address	192.168.0.1
Display Unit	Type	GP3000 series
	Node Name	AGP1
	IP Address	192.168.0.100

9.1.4 Specifying an Excel Template and its Output Book

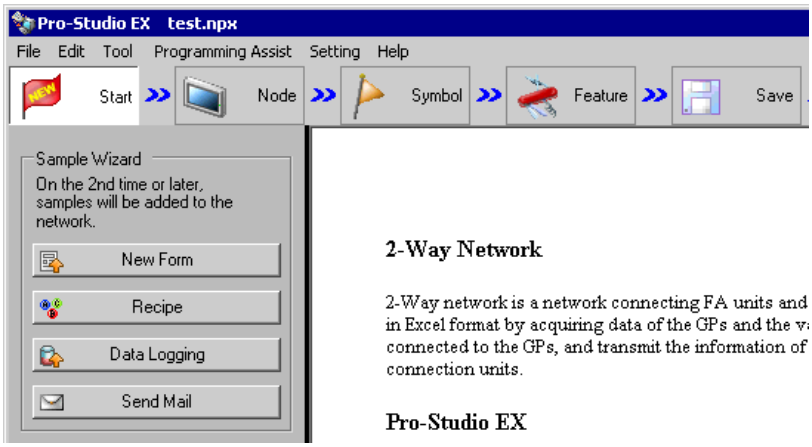
Specify the form template and output book created in (1).

Refer to "9.2 Setting Guide" for more details.

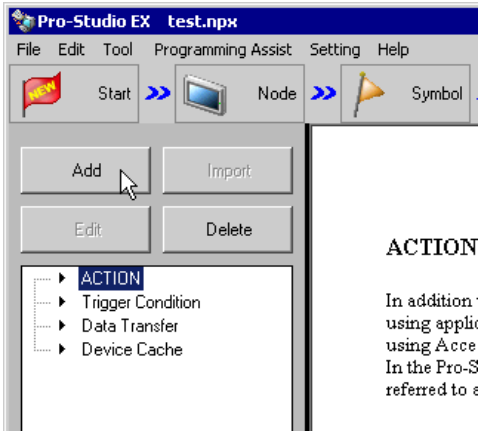
Ex.

Setting item		Setting content
Specify a Template	Template File	C:\Documents and Settings\Administrator\Desktop\templete.xls
Output File	Folder Name	C:\Documents and Settings\Administrator\Desktop
	File Name	GP log data.xls
	Start with the output file displayed	Checked
	Do not save the output file when ACTION runs.	Not checked

1 Click the [Feature] icon on the status bar.



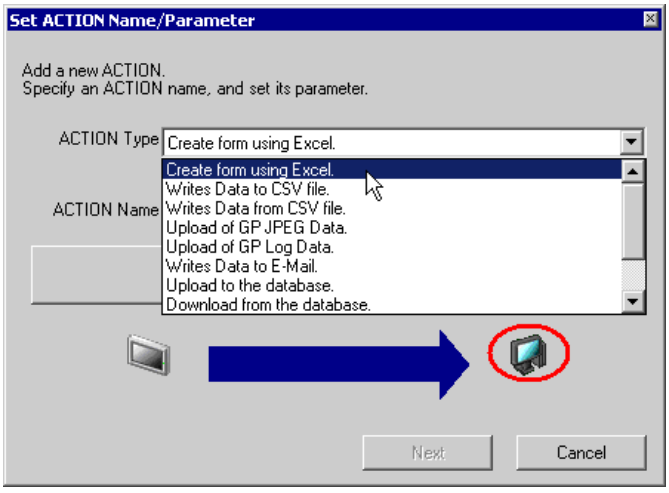
2 Select [ACTION] from the tree display on the left of the screen, then click the [Add] button.



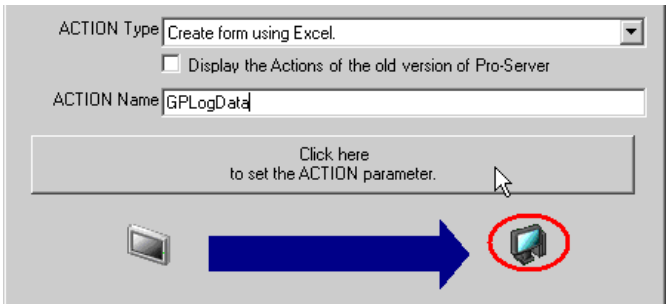
3 Click the [ACTION Type] list button, and select "Create form using Excel.".

Then, enter the name of ACTION to set in the [ACTION name] field. In this example, enter "GP Log Data".

NOTE • [ACTION Name] can be an arbitrary name.

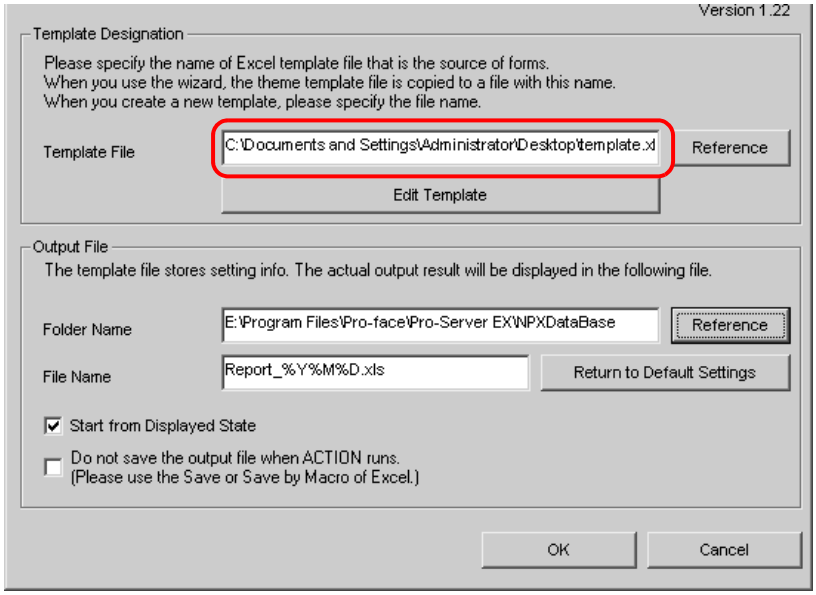


4 Click the [Click here to set the ACTION parameter] button.

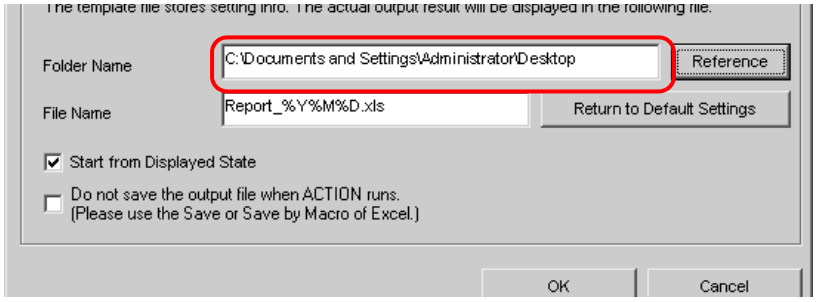


5 Make settings regarding an Excel template and its output file.

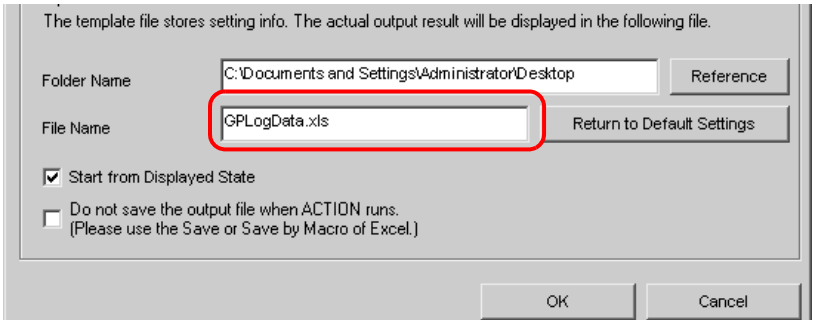
1) Click the [Reference] button of [Template File] to set the template file "templete.xlt" which you created.



2) Click the [Reference] button of [Folder Name] and specify "Desktop" as a folder to save the output file.



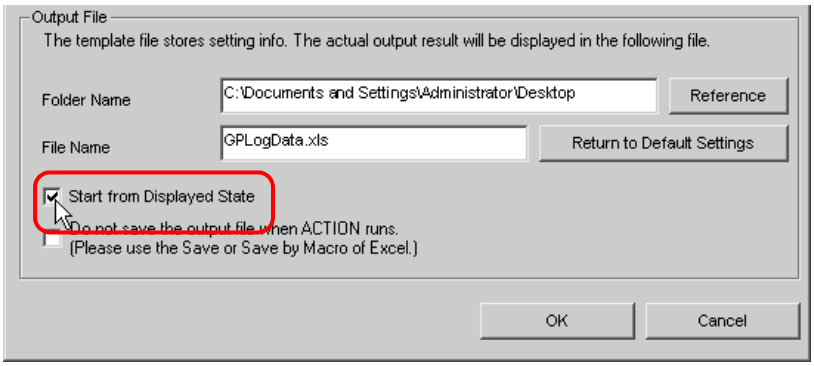
3) Set the file name "GP Log Data.xls" in the [File Name] field for the output file to set.



NOTE

- "%Y%M%D" is preset as "Year/Month/Date". For more details, refer to "37.1 Restrictions on Names".

4) Check the [Start from Displayed State] check box.



NOTE

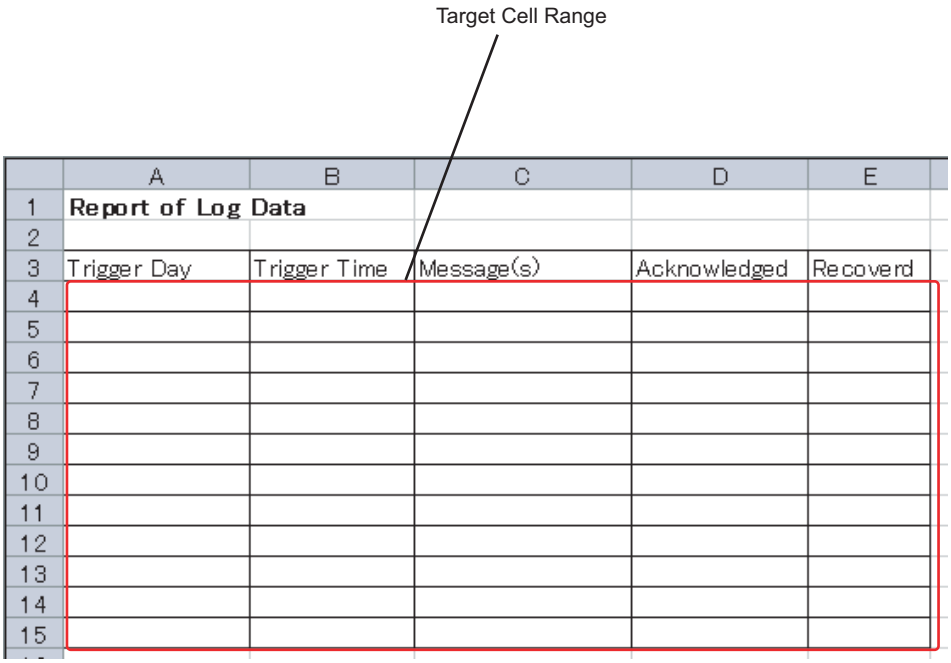
- If you check [Start from Displayed State], you can read/write data with an output file displayed. This is useful if you need to confirm data immediately.

9.1.5 Setting Content of an Excel Template

This step sets the content of the Excel template for writing log data in Excel.

The example below shows the setting of data write area (Log data area in GP) in a template.

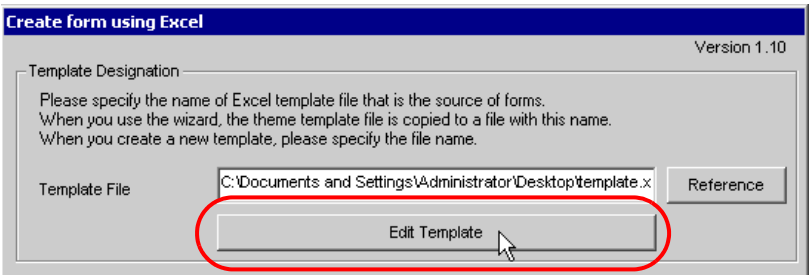
Refer to "9.2 Setting Guide" for more details.



Ex.

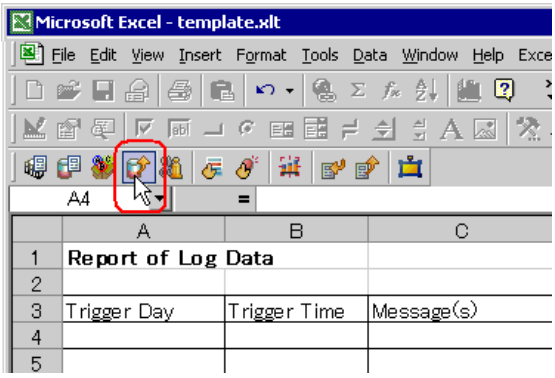
Setting item	Setting content
Target Cell Range	A4 to E13
Entry Node	AGP1
Data Type	Block 1 Data
Alarm Type	Alarm History
Specification Method of File No.	Current Data (Data in SRAM)
Action when cell gets full	Clear and Overwrite
Trigger Condition	Specified Time (15:00)

1 Click the [Edit Template] button.

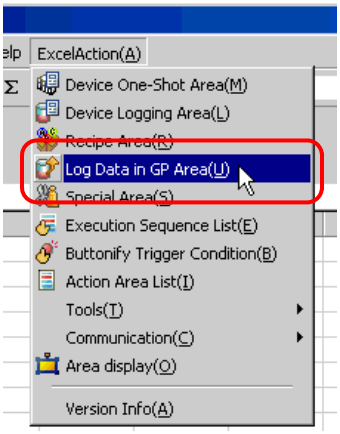


2 Set a data write area.

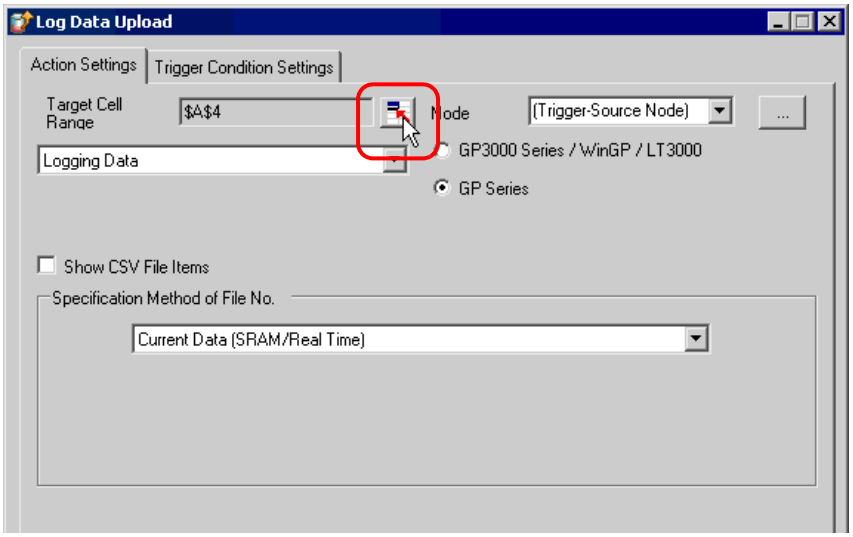
1) Click the [Log Data in GP Area] icon on Excel.



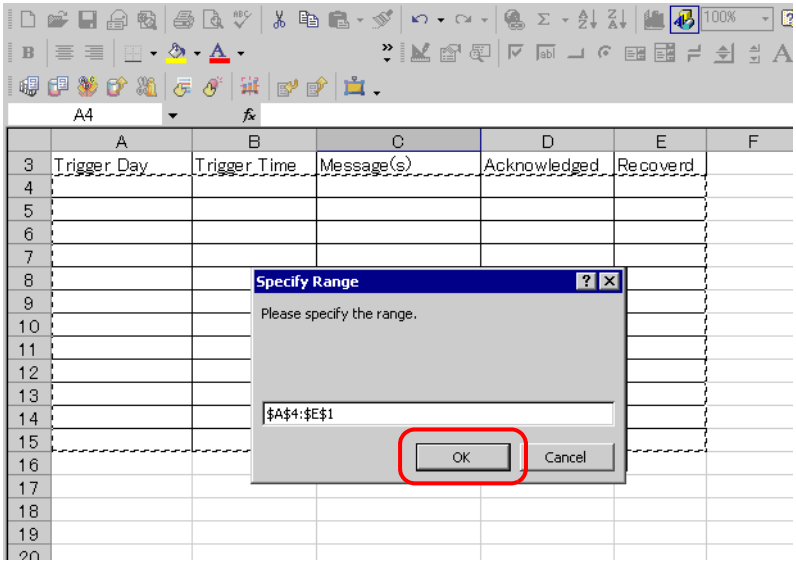
NOTE • Selecting [Log Data in GP Area] from [Excel Action] of the menu displays the same screen.



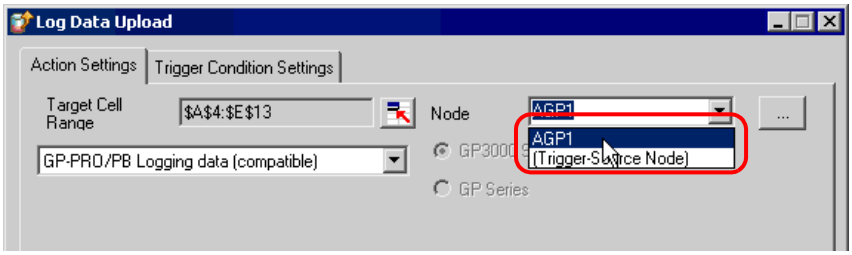
2) Click the cell range specify button of [Target Cell Range].



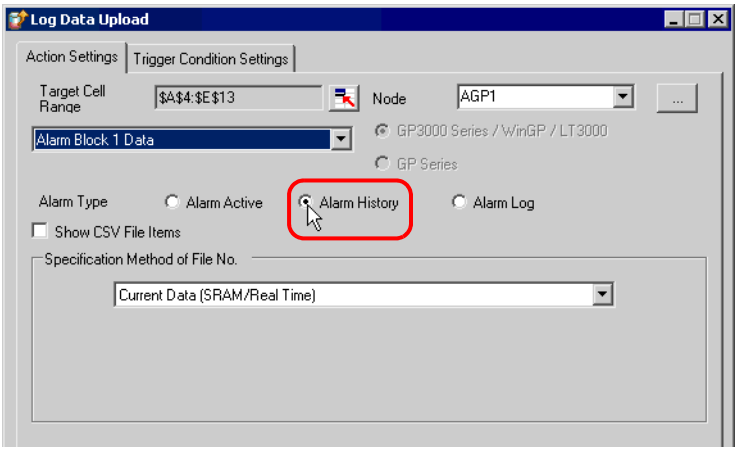
3) Drag the mouse to specify the area to use for data logging (cells A4 to E15). Then click the [OK] button.



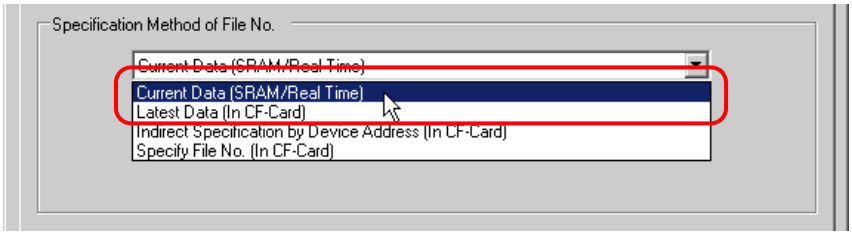
4) Click the list button of [Node] and select "AGP1" as a data transfer source node.



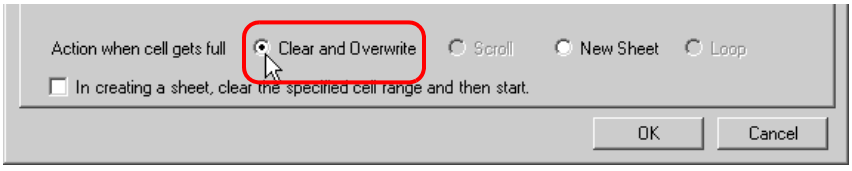
5) Select "Alarm Block 1 Data" for the data type and "Alarm History" for the alarm type.



6) Select "Current Data (SRAM/Real Time)" in [Specification Method of File No.].

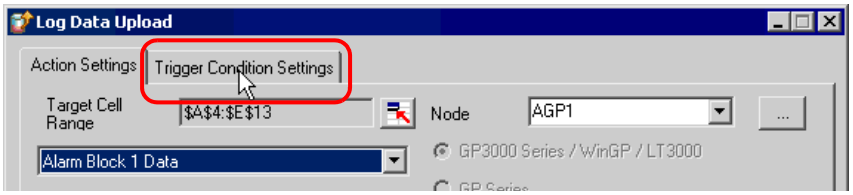


7) Select "Clear and Overwrite" in [Action when cell gets full].

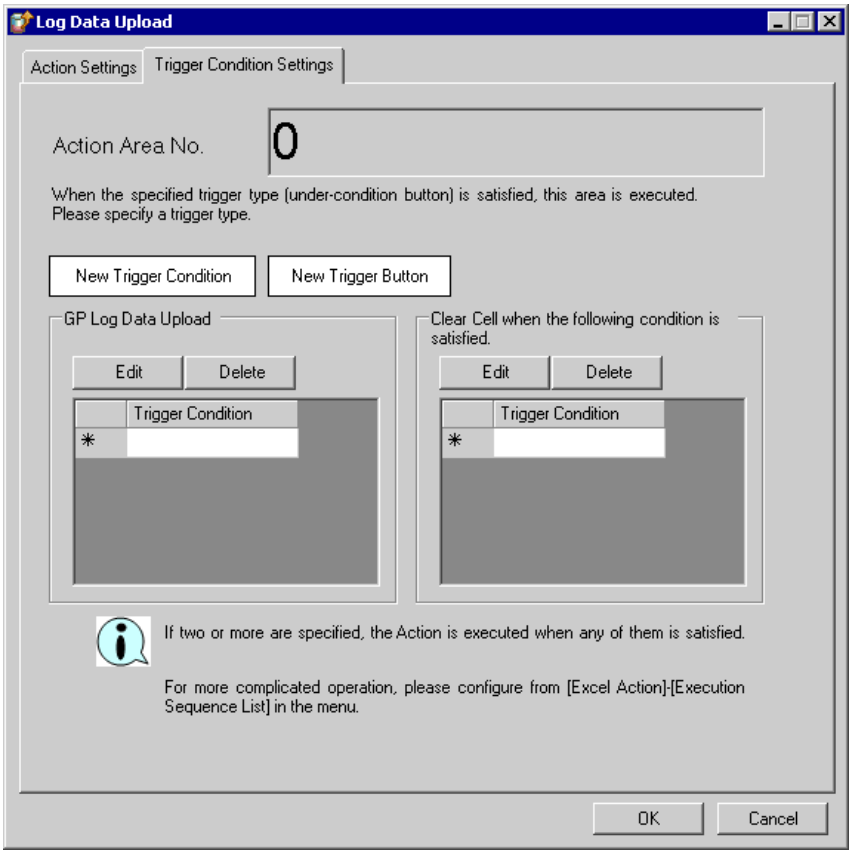


3 Set trigger conditions.

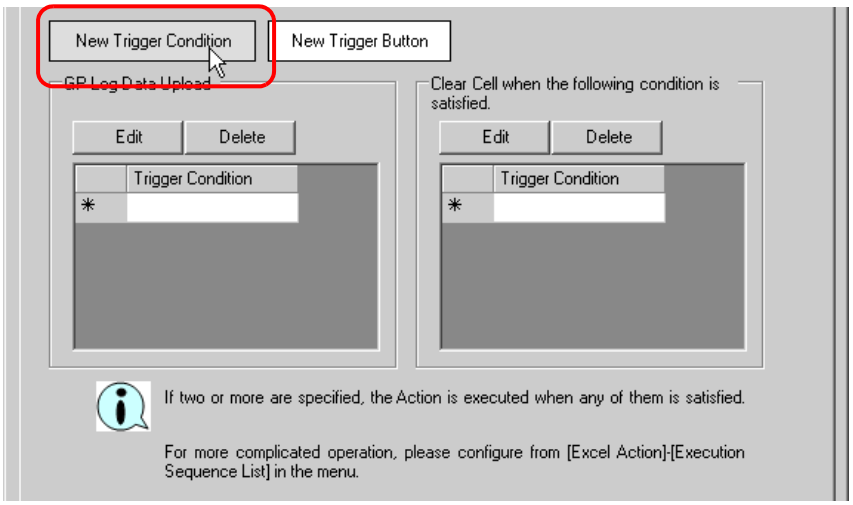
1) Click the [Trigger Condition Settings] tab.



The "Trigger Condition Settings" screen will appear.



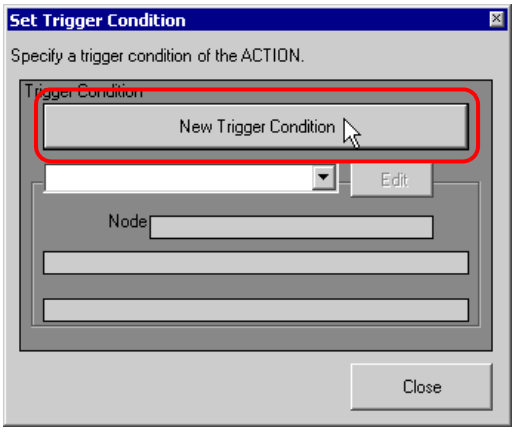
2) Click the [New Trigger Condition] button.



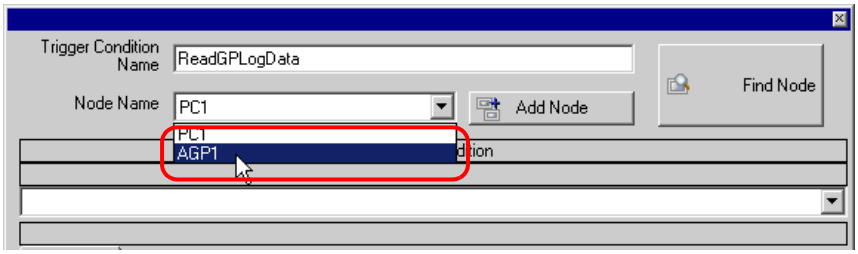
NOTE

- You can create a button on the Excel sheet, and use this as a trigger condition to execute ACTION. Refer to "5.6 Creating Trigger Buttons in a Form" for details.

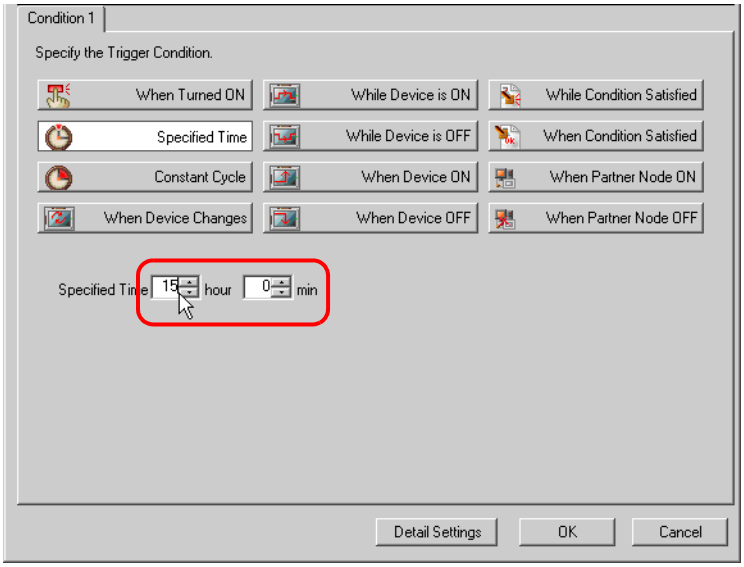
3) Click the [New Trigger Condition] button.



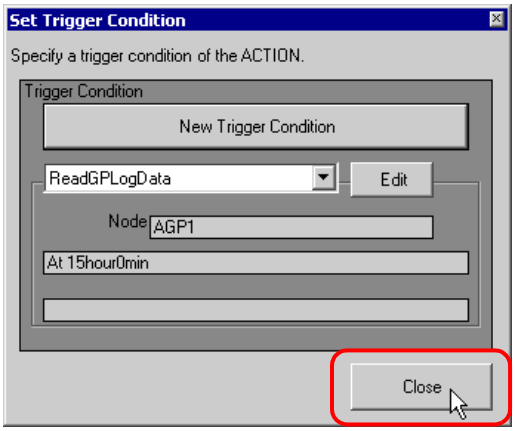
4) Enter the trigger condition name "Read GP Log Data" in [Trigger Condition Name], and select "AGP1" in [Node Name] as a name of the data transfer source.



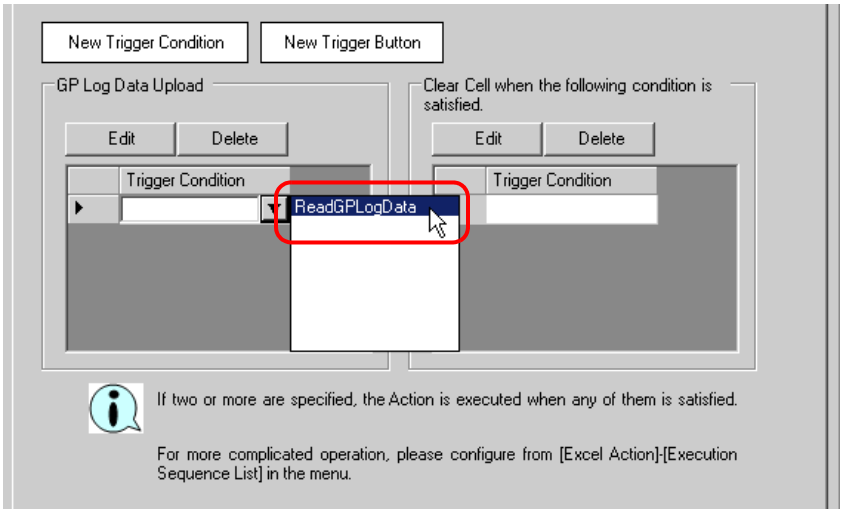
5) Click the [Specified Time] button in the [Condition 1] tab, and enter "15" and "0" in [Specified Time]. Then click the [OK] button.



6) Click the [Close] button.



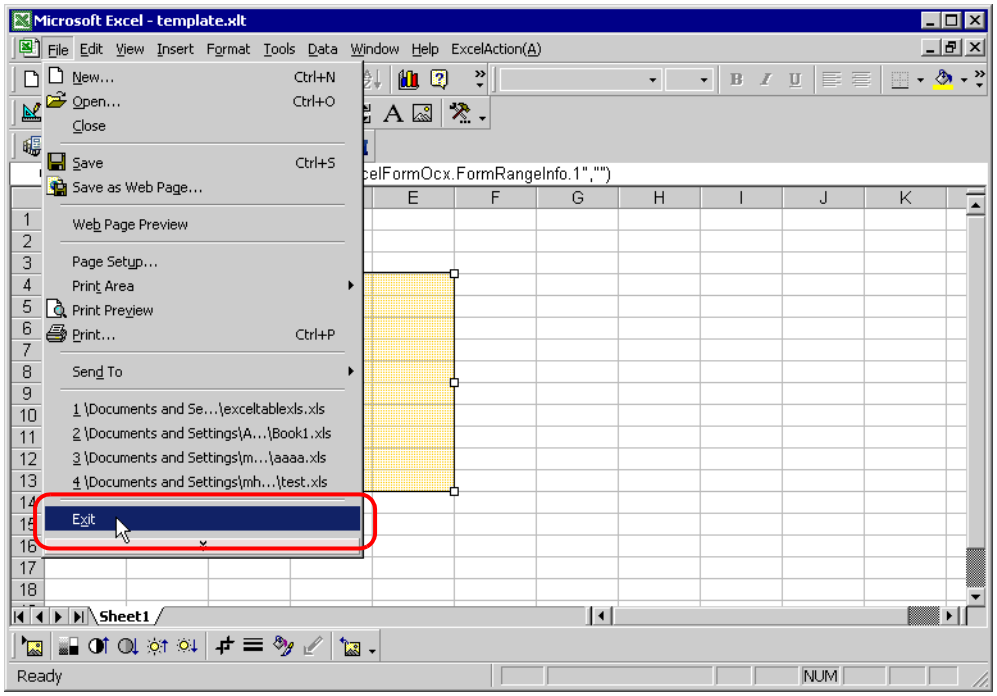
7) In [GP Log Data Upload], click the blank line of [Trigger Condition] and select "ReadGPLogData" as a trigger condition.



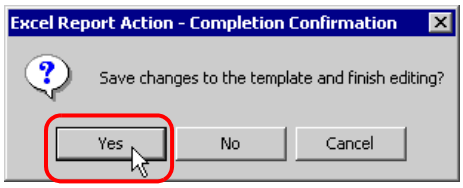
8) Click the [OK] button.

This is the end of the content settings of an Excel template.

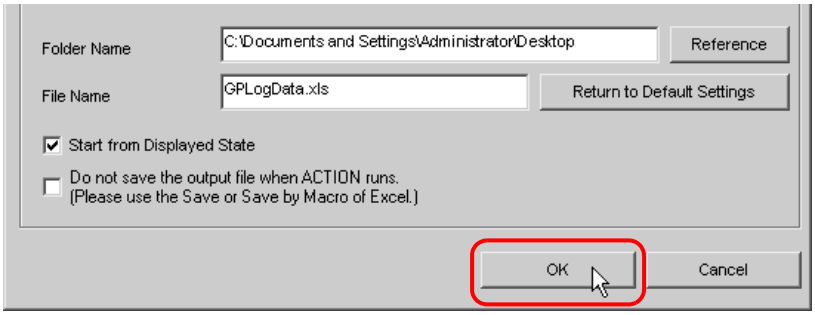
4 Close 'Excel'.



The following dialog box will appear, asking you if you want to save changes before closing. Click the [Yes] button.



5 On the "Create form using Excel" screen, click the [OK] button.



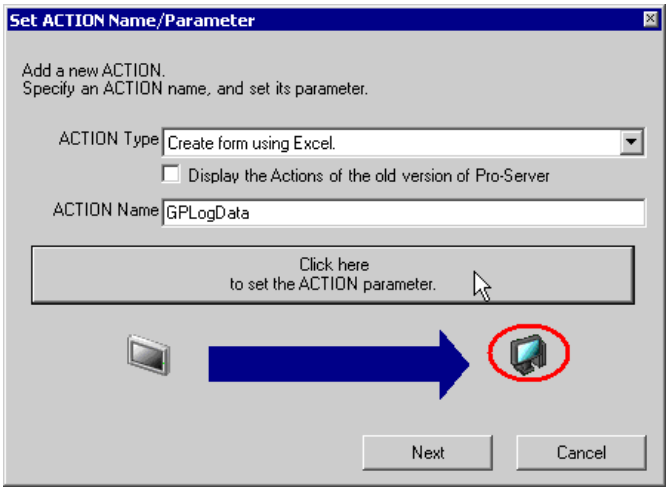
9.1.6 Setting ACTION Node/Process Completion Notification

This step sets the name of an ACTION node and the alert setting whether it should be tuned on or off when the ACTION is completed.

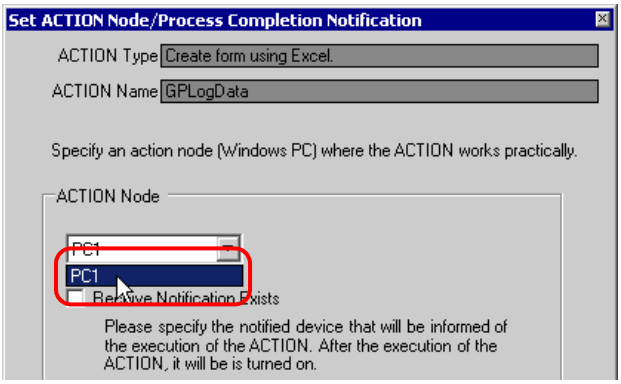
Ex.

- ACTION Node : PC1
- Receive Notification: OFF

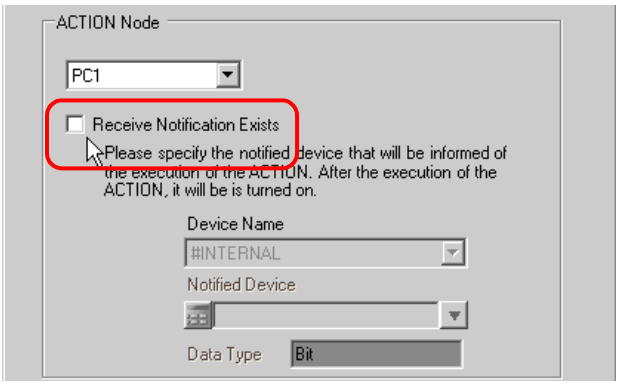
1 On the "Set ACTION Name/Parameter" screen, click the[Next] button.



2 Click the list button of [ACTION Node] and select "PC1" as a node where ACTION operates.



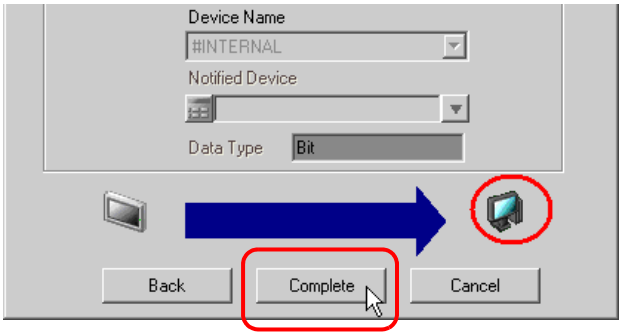
3 Turn off the check box of [Receive Notification Exists], if checked.



NOTE • Do not check "Receive Notification Exists".

4 Click the [Complete] button.

The "Set ACTION Node/Process Completion Notification" screen will disappear. On the left of the screen, the name of ACTION you set will appear.



This is the end of the settings of the ACTION node and process completion notification.

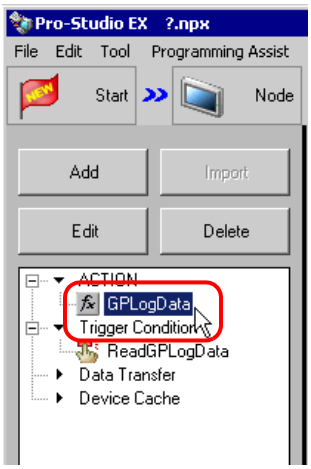
9.1.7 Verifying Setting Result

This step verifies setting results on the setting content list screen.

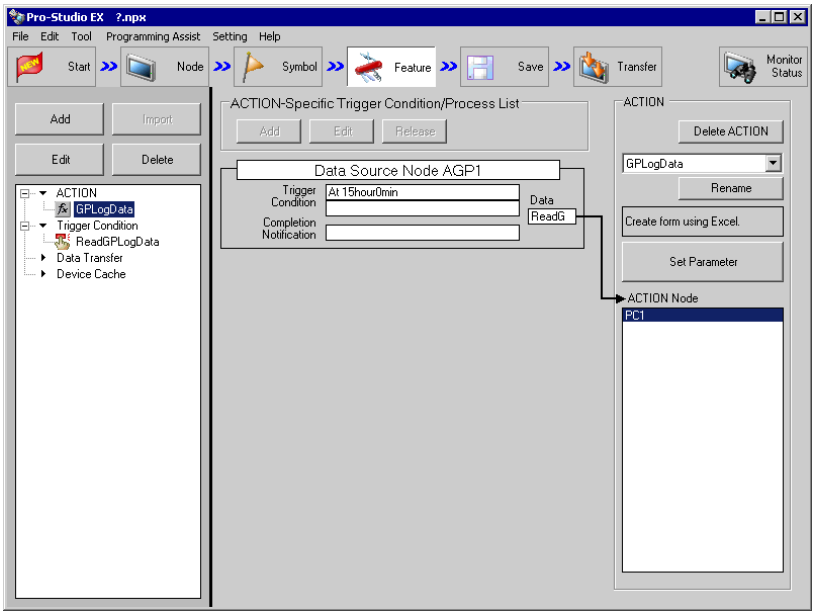
NOTE

- In case of the "Excel Report" ACTION, you cannot add, edit or delete trigger conditions from "Trigger Condition/Process List per ACTION". To change the settings, click the [Parameters Settings] button and change the settings in [Edit Template] on Excel.

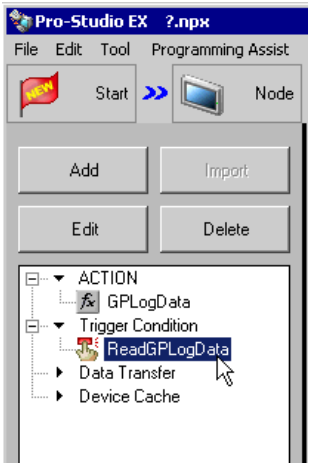
1 Select the ACTION name "GP Log Data" from the tree display on the left of the screen.



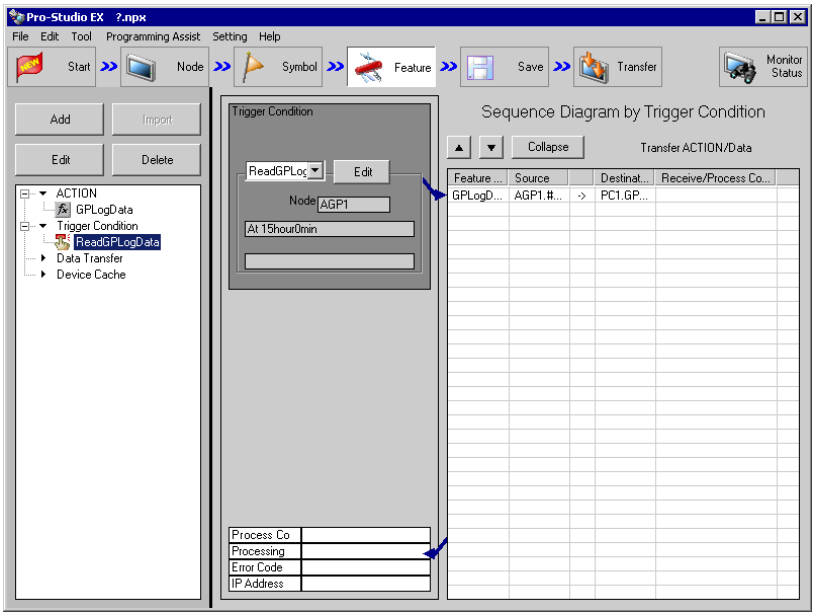
Confirm that the setting content appears on the right of the screen.



2 Select the trigger condition name "ReadGPLogData" from the tree display on the left of the screen.



Confirm that the setting content appears on the right of the screen.



This is the end of the verification of the settings.

9.1.8 Saving a Network Project File

This step saves the current settings as a network project file and reloads to 'Pro-Server EX'.

Refer to "25 Saving" for details about saving a network project file.

IMPORTANT
- "Pro-Server EX" reads a created network project file, and then executes ACTION according to the settings in the file. The settings therefore need be saved in the network project file.
- Be sure to reload the network project file to 'Pro-Server EX'. If not, ACTION will not work.

Ex.

- Path of network project file : Desktop\monitor.npx
- Title : EXCEL Report ACTION

9.1.9 Test Read

You can check if the settings are correct before transferring a created network project file to entry nodes.

When executing ACTION, the setting data is output to an output file. However, when executing a test read, it is reflected in a template file.

NOTE
- You do not necessarily have to perform a test read.
  If you skip this, proceed to "9.1.10 Transferring a Network Project File".

IMPORTANT
- To perform a test read, it is necessary that 'Pro-Server EX', to which a created network project file has been loaded, is running.

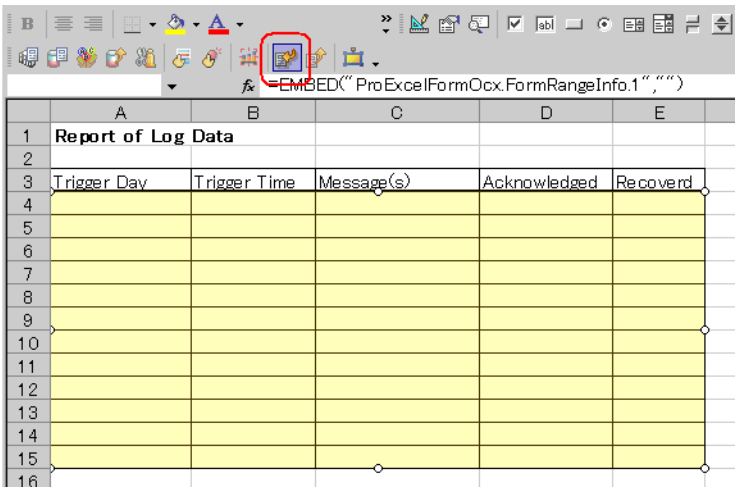
1 Click the [Feature] button.

2 Click "ACTION" from the tree display on the left of the screen, then click the [Edit] button.

3 On the "Set ACTION Name/Parameter" screen, click the [Click here to set the ACTION parameter] button.

4 On the "Create form using Excel" screen, click the [Edit Template] button.

5 With the ACTION area selected, click the [Test Read] icon.



The setup contents will be read in the template.

NOTE
- Refer to "9.3 Restrictions" for details about the restrictions on test reads.

9.1.10 Transferring a Network Project File

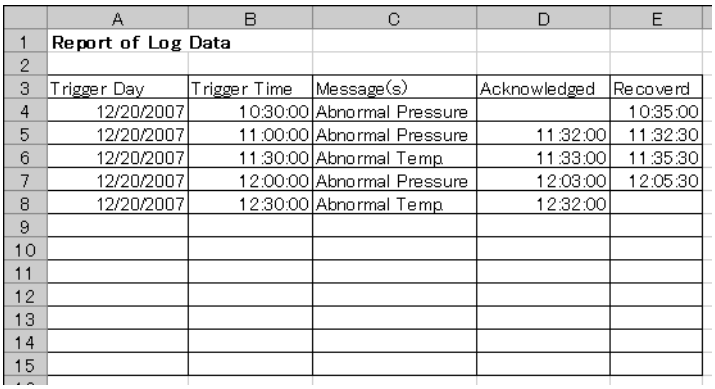
This step loads a saved network project file to 'Pro-Server EX' and then transfers to entry nodes.

Refer to "26 Transferring" for details about transferring a network project file.

NOTE
- Be sure to transfer a network project file. If not, ACTION will not work.

9.1.11 Executing ACTION

This step verifies that enabling a trigger condition activates ACTION, opens an Excel book (file name: "GP error log.xls"), and then writes the log data of display unit in the specified location in Excel.



	A	B	C	D	E
1	**Report of Log Data**				
2					
3	Trigger Day	Trigger Time	Message(s)	Acknowledged	Recoverd
4	12/20/2007	10:30:00	Abnormal Pressure		10:35:00
5	12/20/2007	11:00:00	Abnormal Pressure	11:32:00	11:32:30
6	12/20/2007	11:30:00	Abnormal Temp.	11:33:00	11:35:30
7	12/20/2007	12:00:00	Abnormal Pressure	12:03:00	12:05:30
8	12/20/2007	12:30:00	Abnormal Temp.	12:32:00	
9					
10					
11					
12					
13					
14					
15					

NOTE

- If error occurs, you can check the log in the Log Viewer. For more details, refer to "28.5 Monitoring System Event Logs".
- If you want to achieve faster communication during ACTION, refer to "29 Tips for Faster Communication".

This is the end of the explanation of this ACTION.

9.2 Setting Guide

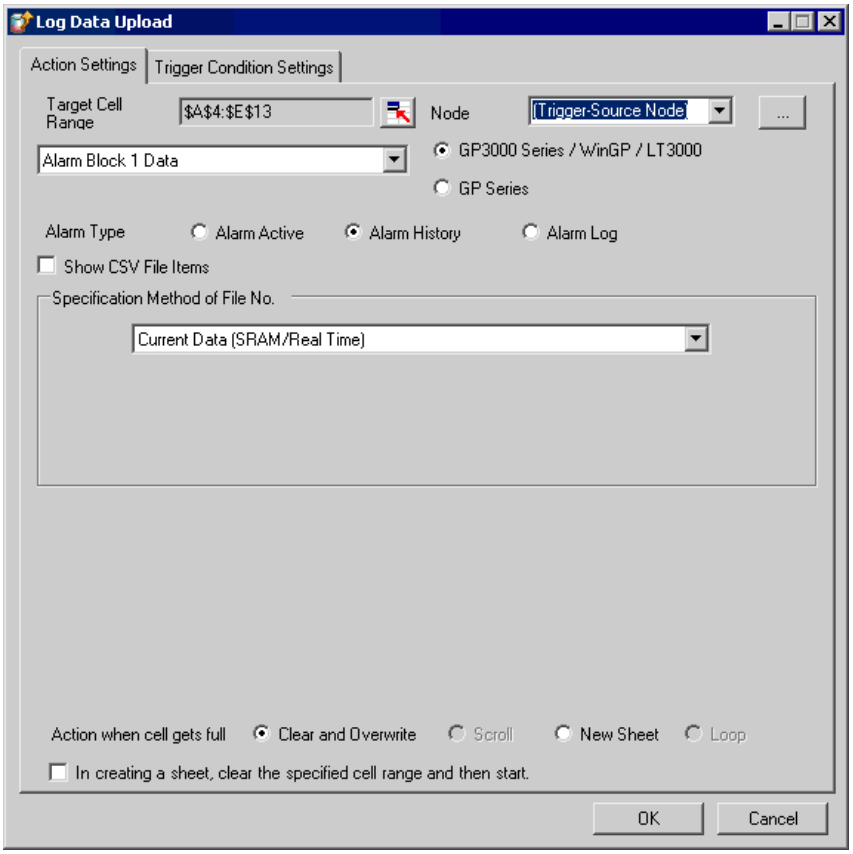
This section explains how to set the parameters of ACTION.

9.2.1 "Creating form using Excel" Screen

☞"5.1.2 Setting Guide"

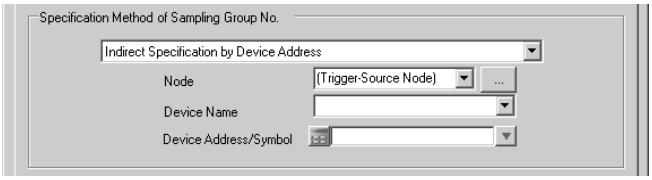
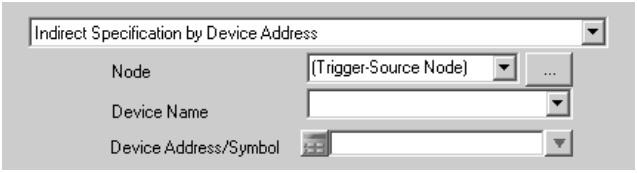
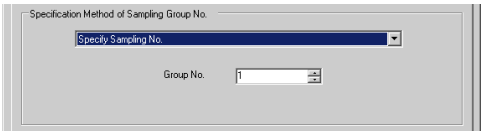
9.2.2 "Log Data Upload" Screen

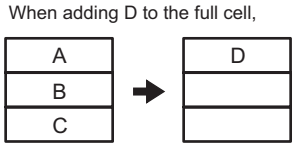
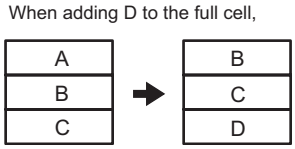
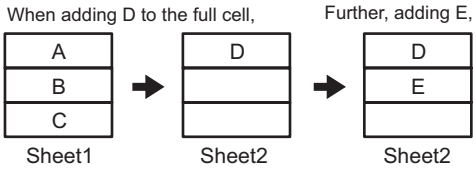
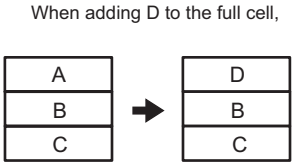
■ "Action Settings" Tab



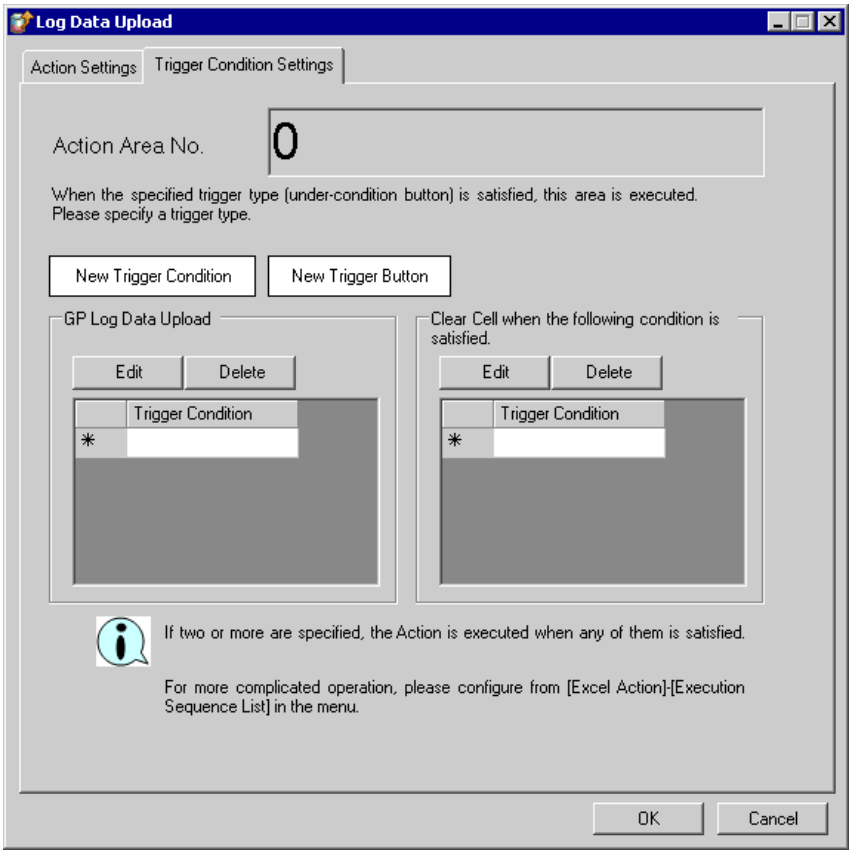
Setting item	Setting content
Target Cell Range	Specifies the cell range to which data will be written. Clicking the button can select the cell range on Excel. **NOTE** • For the process on how to select cell ranges, refer to "■Action Area Settings" in "5.1.2 Setting Guide". • The useful function is available to check the specified cell range (Action Area). Refer to "■ Action Area List" in "5.1.2 Setting Guide".

Setting item	Setting content
Node	Selects a node to read log data. **NOTE** • Clicking the [...] button can retrieve or add entry nodes. • Selecting "(Trigger-Source Node)" will select the entry node that has triggered the action.
Data Type	Selects a log data type to write in a form. Selectable log data depends on the type of display units. GP4000/LT4000 Series / GP3000 Sereies / WinGP / LT3000 • CSV Data (Recipe) • Alarm Block 1 Data - Alarm Block 8 Data • GP Screen Data (Jpeg) • Sampling Data • GP-PRO/PB Logging data (compatible) • GP-PRO/PB Trend graph data (compatible) • GP-PRO/PB Sampling data (compatible) **NOTE** • To upload line graph data, sampling data and logging data in a project file converted from 'GP-PRO/PB III for Windows', specify "compatible" of the corresponding data. • You cannot write the "GP Screen Data (Jpeg)" log data to models without a CF/SD card slot. GP Series • Logging Data • Trend Data • Alarm Active • Alarm History • Alarm Log • CSV Data (Recipe) • Sampling Data • Alarm Block 4 Data - Alarm Block 8 Data • GP Screen Data (Jpeg) **NOTE** • You cannot write the "GP Screen Data (Jpeg)" log data to models without a CF card slot.
Alarm Type	For GP4000/LT4000 Series, GP3000 Series, WinGP, and LT3000, when you select "Alarm Block * Data", you can select the alarm type from "Alarm Active", "Alarm History", or "Alarm Log".
No. of JPEGs (Figures)	When you select "GP Screen Data (Jpeg)", set the number of screens to read into the area.
Show CSV File Items	Check if you want to display the title content in Excel. **NOTE** • This does not appear if you select "CSV Data" or "GP Screen Data (Jpeg)".

Setting item	Setting content
Specification Method of File No.	Selects where log data to read is stored. • Current Data (SRAM/Real Time) Reads out current data stored in SRAM of the display unit. • Latest Data (in CF-Card) Reads out the latest data from those stored in a CF card (or SD card) of the display unit. • Indirect Specification by Device Address (In CF-Card) Reads out a specified number file from data stored in a CF card (or SD card) of the display unit. In this case, the number is specified by device indirectly . Specify Node, Device Name, and Device Address.  • Specify File No. (In CF-Card) Reads out a specified number file from data stored in a CF card (or SD card) of the display unit. In this case, specify the file number of the CF card (or SD card).
Specification Method of Sampling Group No.	If you select "Sampling Data" in GP4000/LT4000 Series, GP3000 Series, WinGP, or LT3000, set how to specify a sampling group No. • Indirect Specification by Device Address Specify a sampling group No. by device indirectly. In this case, specify Node, Device Name, and Device Address/Symbol.  • Specify Sampling No. Fix and specify a sampling group No. In this case, specify a group No. 

Setting item	Setting content
Action when cell gets full	Sets the action when the specified cells have got full. • Clear and Overwrite Clears data write cells to start writing from first.  • Scroll Scroll up as a whole to write new data at the bottom. At this time, data at the top will be deleted. You can specify this option when selecting "GP Screen Data" for the data type.  • New Sheet Continues writing on a new sheet. All the features being output on the sheet will be copied to the new sheet.  • Loop Overwrites from top in sequence. You can specify this option when selecting "GP Screen Data" for the data type. 
In creating a sheet, clear the specified cell range and then start.	Before copying a sheet from the template file, if data are written in the cell range of the sheet, clears the data and starts copying.

■ "Trigger Condition Settings" tab



Setting item	Setting content
Action Area No.	Displays No. allocated to each ACTION area by template.
New Trigger Condition	Displays the "Trigger Condition Settings" dialog box. Click here to set a new trigger condition.
New Trigger Button	Displays the "Create Trigger Button" dialog box. Refer to "5.6.2 Setting Guide" for more details.
GP Log Data Upload	Selects a trigger condition to read log data. Click the blank line of [Trigger Condition] and then the list button to display the registered trigger condition. **NOTE** • When plural trigger conditions have been specified, satisfying at least one of those conditions executes ACTION. • Clicking the [Edit] button can edit the specified trigger conditions. • Clicking the [Delete] button deletes the specified trigger conditions.

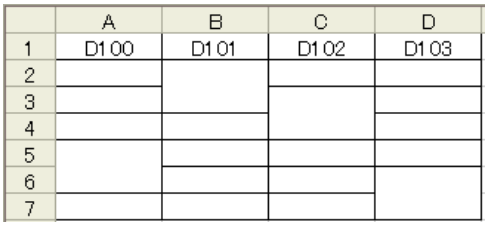
Setting item	Setting content
Clear Cells when the following condition is satisfied	Clears cells if a set trigger condition is satisfied. Click the blank line of [Trigger Condition] and then the list button to display the registered trigger condition. **NOTE** • When plural trigger conditions have been specified, satisfying at least one of those conditions clears cells. • Clicking the [Edit] button can edit the specified trigger conditions. • Clicking the [Delete] button deletes the specified trigger conditions.

9.3 Restrictions

■ Combined Cells

Do not set an ACTION area on combined cells.

For example, if you set an ACTION area in the cells as shown below, correct operation cannot be guaranteed.



	A	B	C	D
1	D1 00	D1 01	D1 02	D1 03
2				
3				
4				
5				
6				
7				

■ Over-pasted ACTION Areas

When you over-paste plural ACTION areas of different size, read/write will be executed in the pasted order.

■ Excel Window

If the setting screen is hidden behind the Excel window, the screen and task tray windows will blink and notify the user. Blinking will stop automatically when the setting screen comes forward.

■ Operation in ACTION area when error occurs

When you actually write/read in "GP Log" function and exceed the ACTION area, perform the common operation as follows:

1) When performing a test read/ a test write

Error screen is displayed.

2) When executing ACTION in runtime

It will be recorded as ACTION error in the Log Viewer of the 'Pro-Server EX'.

■ Functions which are not executed by a Test Read

The following functions are not executed by a Test Read.

"Action when cell gets full"

"Clear the cell range specified in creating a sheet to start"

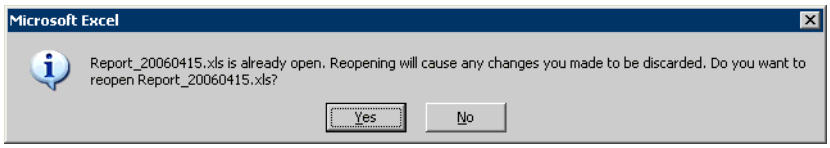
■ In the case of closing the displayed output book

If you have mistakenly closed an output book of Excel Report ACTION, follow these steps to open it again:

Dragging and dropping the book to open will make it read-only and the start button etc. invalid.

1. Double-click the output book.

2. When the following dialog box appears, select "No" to open it.



■ Receive notification

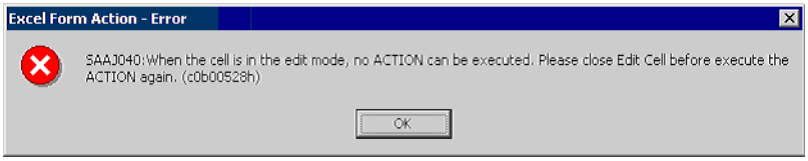
You cannot set the receive notification which indicates the completion of ACTION.

■ When setting “Trigger-Source Node”

When setting "Trigger-Source Node" at node in Excel Report action, node type and device are uncertain. Therefore, the device address is displayed in red.But, it is no problem.

■ Edit the output file

While Excel Report Action is executing, you can not edit the output file.
Therefore, it becomes very difficult to operate Excel at the setting in which the Trigger condition satisfies at a short cycle.Moreover, the following error message is displayed when the Action is executed during editing the output file.



■ Save the output file Do not use

Do not use multiple Excel form actions to save output files to the same destination.
If you set the same destination for file outputs, Pro-Studio and Pro-Server EX may not be able to run.

■ Restrictions on reading Alarm and Sampling Data on the CF Card

- In GP-Pro EX, use "yy/mm/dd" for the date format. When the CSV file on the CF card does not use "yy/mm/dd" for the date format, the wrong date may be output.
  When output to Excel, the date uses the "20yy/mm/dd" (or "19yy/mm/dd") format.
- When using a version of GP-Pro EX before V3.12, or a version of Pro-Server EX before V1.32, do not use the [Set number of files in destination folder on external storage] option in GP-Pro EX. You cannot read files stored [Alarm] or [SAMP**] sub-folders.

■ Restrictions on reading Alarm and Sampling Data in SRAM

- Regardless of the date format defined in GP-Pro EX, dates are handled with the "yy/mm/dd" format. When outputting to Excel, the date format is "20yy/mm/dd" (or "19yy/mm/dd").

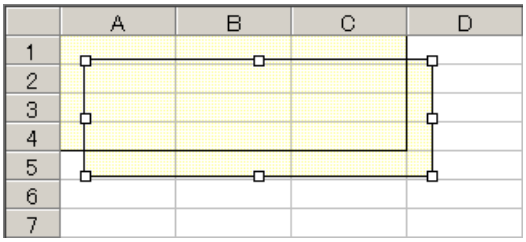
■ About the 1500 row limit for Action Area settings

Exceeding 1500 rows for the Action Area could cause the action to run longer. If you use Device One Shot or Device Logging's text conversion, the action could take even longer.

■ Restrictions on Copying or Cutting and Pasting the Action Area

When you paste the Action area using Ctrl+C & Ctrl+V or Ctrl+X & Ctrl+V, specify [Target Cell Range] for the copied Action area.

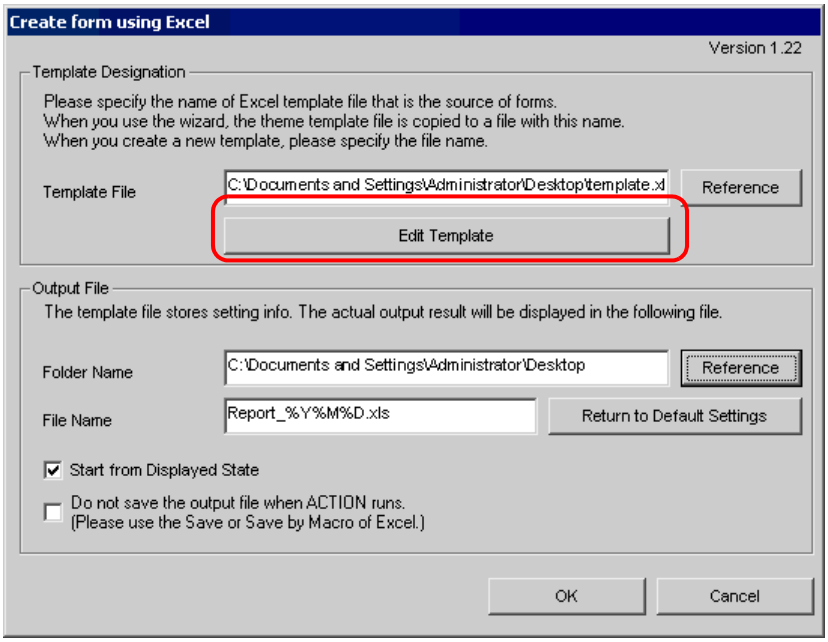
The Action area just after pasting remains the same [Target Cell Range] as that for the original Action area.



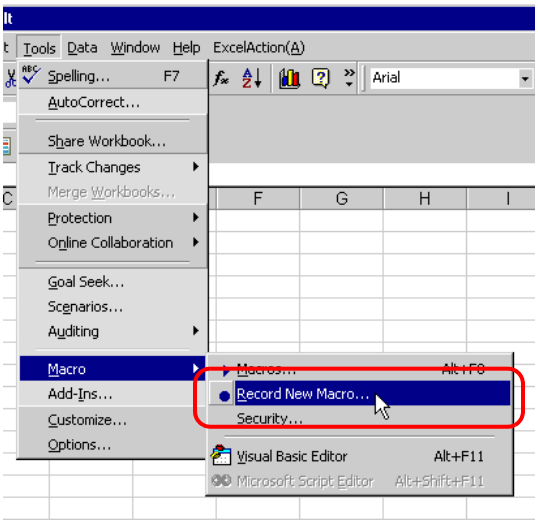
■ Excel Auto Save Function

The Excel auto save function does not operate due to the Excel restrictions.To save automatically, create the Excel save macro using the following procedure and execute the created save macro by Action.

1 Open a template you want to save automatically using 'Pro-Studio EX'.

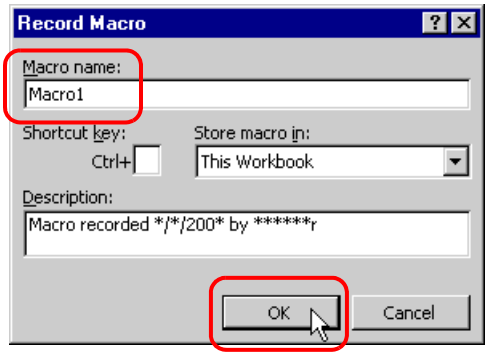


2 Select "Macro" and "Record New Macro" from the "Tools" menu.



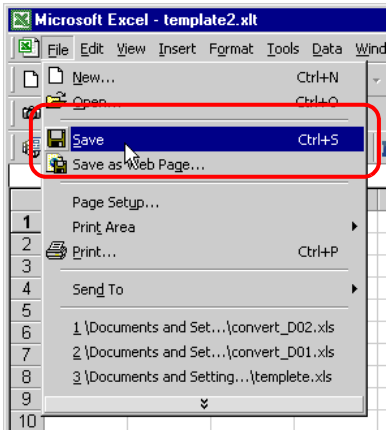
3 Enter the macro name "Macro1" and click the [OK] button.

Recording the macro starts.



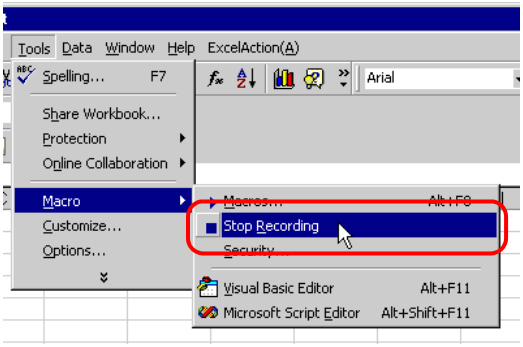
4 Select "Save" from the "File" menu.

"Macro1" is recorded in the macro.

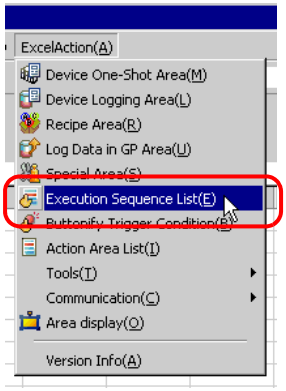


5 Select "Macro" and "Stop Recording" from the "Tools" menu.

Recording the macro is complete.

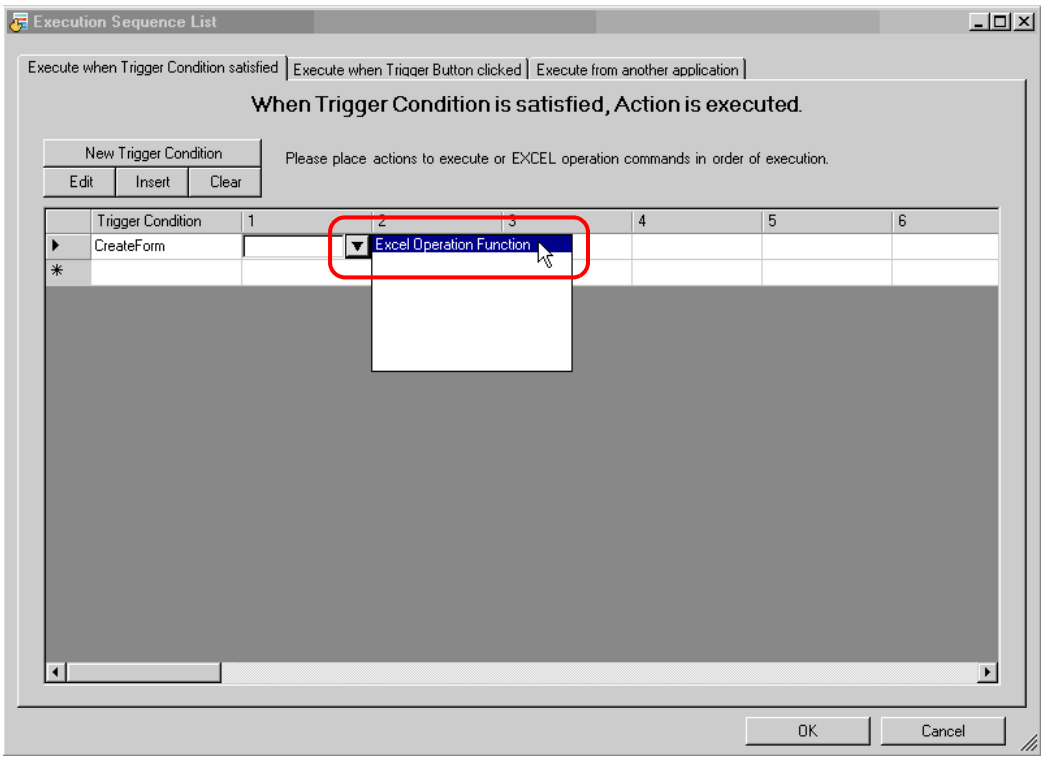


6 Select "Execution Sequence List" from the "Excel Action" menu.

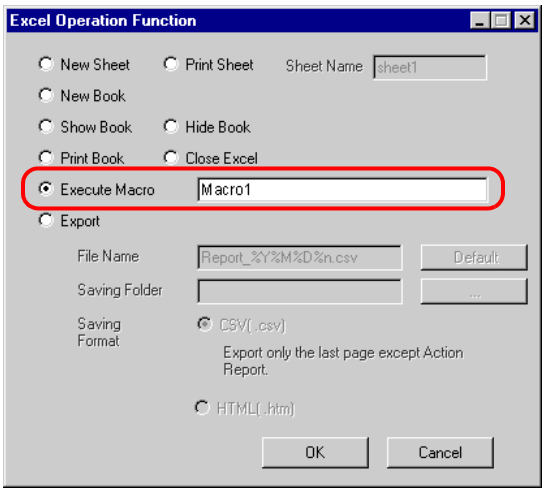


7 Create the trigger condition save automatically.

8 Select the created trigger condition and "Excel Operation Function".



9 Select "Execute Macro" and enter the macro name "Macro1".



10 Click the [OK] button.

11 Finish editing the template.

12 Save/Reload the setting contents.

According to the created trigger condition, the template is automatically saved.