

PATLITE Network Signal Tower
NH Series
NHL-3FB1

Sample Screen Manual

Mitsubishi Electric Corporation

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CONTENTS

REVISIONS	4
1. OUTLINE.....	5
2. SYSTEM CONFIGURATION	6
3. GOT.....	6
3.1 System Applications That Are Automatically Selected	6
3.2 Controller Setting of Screen Design Software	7
3.3 Ethernet Setting of Screen Design Software	7
3.4 Overlap Window Setting of Screen Design Software	7
4. NETWORK SIGNAL TOWER	8
4.1 Network Signal Tower Settings.....	8
5. SCREEN SPECIFICATIONS	9
5.1 Display Language	9
5.2 Screen List/Transition	9
5.3 Explanation of Screens.....	11
5.3.1 Menu (B-30001).....	11
5.3.2 Network Signal Tower Monitor (B-30002)	12
5.3.3 Network Signal Tower History (B-30003).....	13
5.3.4 Network Signal Tower Test (B-30004)	14
5.3.5 Equipment Alarm (B-30005)	15
5.3.6 Manual Display (B-30500)	16
5.3.7 Alarm Reset (W-30001)	18
5.3.8 Language Setting (W-30002).....	19
5.3.9 Clock Setting (W-30003).....	20
5.4 Device List	21
5.5 Comment List	22
5.6 Script List	22
6. MANUAL DISPLAY	28
6.1 Preparing Document Data for Manual Display	28
7. OTHERS	29
7.1 Ladder Program.....	29

REVISIONS

Sample Screen Manual

Date	Control No.*	Description
2013/10	BCN-P5999-0115	First edition
2015/6	BCN-P5999-0115-2	Device Specification for Document ID
2015/9	BCN-P5999-0115-3	The ladder program has been converted into the format of GX Works2. The comment has been added in the ladder program. The storage locations for the ladder program and configuration data have been added. [5.4 Device List] has been modified. [7.1 Ladder Program] has been updated.

* The Control No. is noted at the lower right of each page.

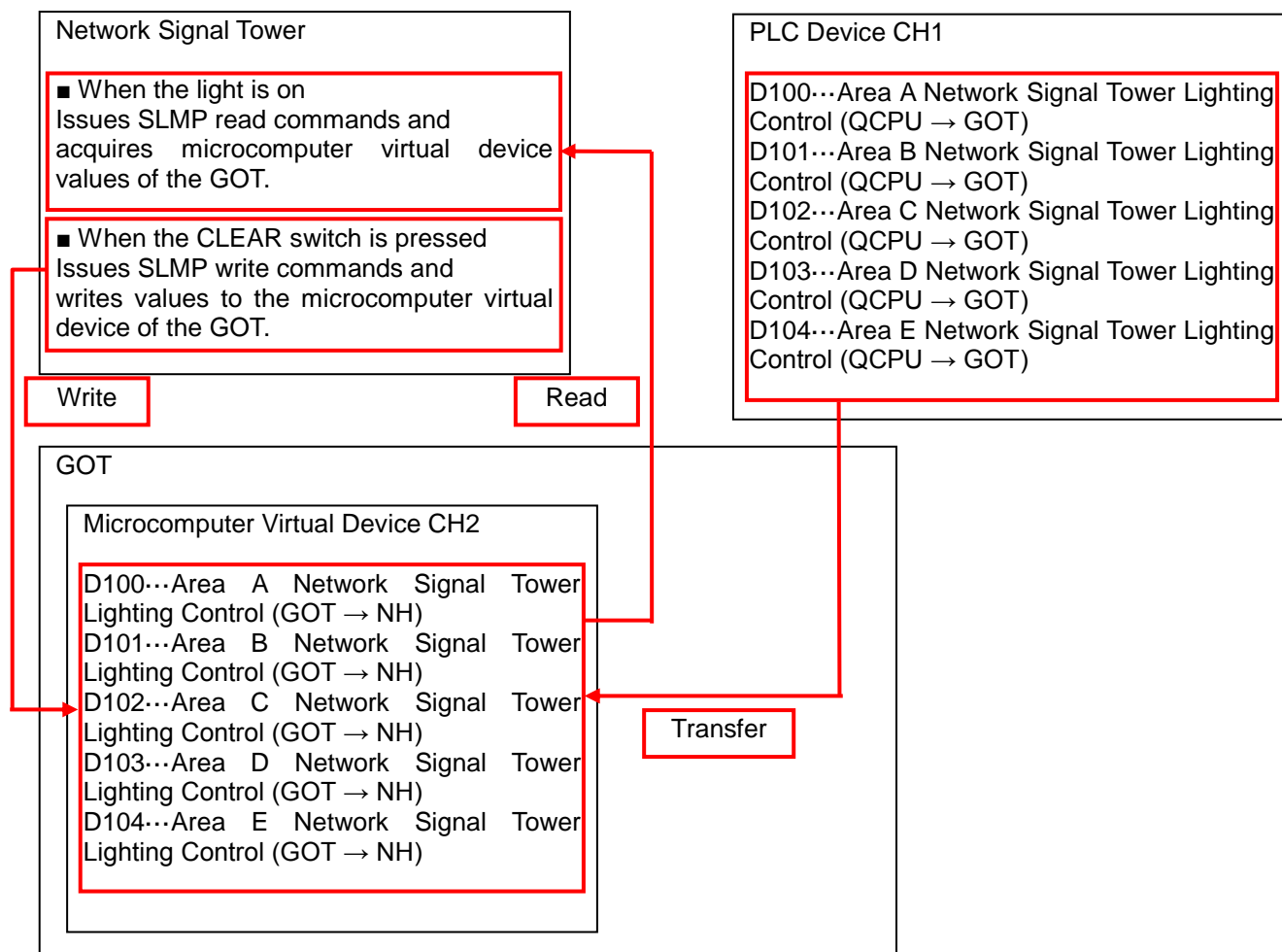
Project Data

Date	Project data	GT Designer3*	Description
2013/10	PATLITE_NH_V_Ver1_E.GTX	1.100E	First edition
2015/6	PATLITE_NH_V_Ver2_E.GTX	1.128J	Device Specification for Document ID
2015/9	PATLITE_NH_V_Ver3_E.GTX	1.136S	Version updated

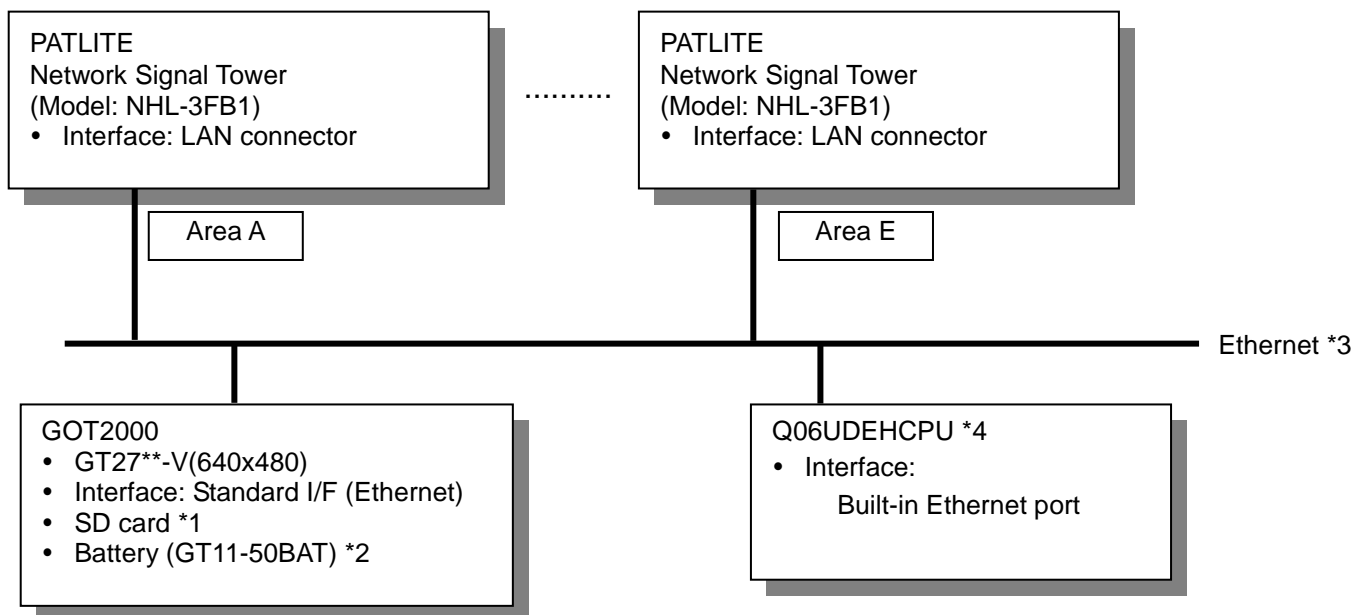
* The version number of screen design software used to create the project data is listed. Please use the screen design software with the listed version or later.

1. OUTLINE

This manual explains the sample screens of GOT2000 connected to PATLITE Network Signal Towers and a PLC via Ethernet. The sample can be used for controlling lighting of PATLITE Network Signal Towers at the occurrence of an alarm in the equipment. The details of lighting control are described below.



2. SYSTEM CONFIGURATION



*1: The SD card is used for the document display and sequence program monitor functions.

*2: The battery is used for the clock data, the alarm function, and the time notification function. (The battery is provided with the GOT as standard.)

*3: For more details about the cable, please refer to the "GOT2000 Series Connection Manual (Microcomputer, MODBUS Products, Peripherals)".

*4: The ladder program is included in the following folder.

<Installation path for screen design software>\GTD3_2000\App\SampleProject\PATLITE_NH_V_Ver3

3. GOT

3.1 System Applications That Are Automatically Selected

Type	System application name	
Standard Function	Standard System Application	
	Standard Font	Japanese
Communication Driver	Ethernet Connection	Ethernet (MELSEC), Q17nNC, CRnD-700, Gateway
		Ethernet (MICROCOMPUTER)
Extended Function	Standard Font	
	Chinese (Simplified)	
	Outline Font	Gothic
		Alphanumeric/Kana
		Japanese (Kanji)
	Chinese (Simplified)	
	Sequence Program Monitor	
	Sequence Program Monitor (Ladder)	
	Document Display	
	GOT Platform Library	
	GOT Function Expansion Library	

3.2 Controller Setting of Screen Design Software

CH1 setting (Programmable controller CPU, Ethernet connection)

Item	Set value	Remarks
GOT NET No.	1	
GOT Station No.	1	
GOT Ethernet Setting	Refer to Table 1 below	
GOT Communication Port No.	5001	
Retry (Times)	3	
Startup Time (Sec)	3	
Timeout Time (Sec)	3	
Delay Time (ms)	0	

CH2 setting (Network signal tower, Microcomputer connection)

Item	Set value	Remarks
GOT NET No.	1	
GOT Station No.	1	
GOT Ethernet Setting	Refer to Table 1 below	
GOT Communication Port No.	5021	
Startup Time (Sec)	3	
Delay Time (ms)	0	
32bit Storage	LH Order	
Protocol	UDP/IP	
Format	7	
Interrupt Data Byte	1	
Special Interrupt Code	No	
Living Confirmation	No	
Living Confirmation Cycle (Sec)	20	

Table 1 GOT Ethernet Setting

Item	Set value	Remarks
Reflect GOT Ethernet setting in the GOT	Checked	
GOT IP Address	192.168.3.18	
Subnet Mask	255.255.255.0	
Default Gateway	0.0.0.0	
Peripheral S/W Communication Port No.	5015	
Transparent Port No.	5014	

3.3 Ethernet Setting of Screen Design Software

	Host	Net No.	Station	Unit Type	IP Address	Port No.	Communication
1	*	1	2	QnUD(P)V/QnUDEH	192.168.3.39	5006	UDP

3.4 Overlap Window Setting of Screen Design Software

To close the window screen when switching base screens, the [Close the window when switching base screens] checkbox is checked in [Detail Setting] of Overlap Window in the [Screen Switching/Window] setting.

4. NETWORK SIGNAL TOWER

4.1 Network Signal Tower Settings

Write the network signal tower configuration data (config.ini file *1) to the network signal towers from a Web browser. Some of the settings are listed below.

System setting

Item	Set value	Remarks
Unit IP address	192.168.3.1	

SLMP read and write command setting

Item	Set value	Remarks
Connection port	5021	
Protocol	UDP	
Serial number	Add	

Operation pattern setting

Item	Lighting setting	SLMP command
Pattern 1	Read D100 = 1	Red Light On
Pattern 2	Read D100 = 2	Red Lighting Pattern 1
Pattern 3	Read D100 = 3	Red Lighting Pattern 2
Pattern 4	Read D100 = 4	Yellow Light On
Pattern 5	Read D100 = 5	Yellow Lighting Pattern 1
Pattern 6	Read D100 = 6	Yellow Lighting Pattern 2
Pattern 7	Read D100 = 7	Green Light On
Pattern 8	Read D100 = 8	Green Lighting Pattern 1
Pattern 9	Read D100 = 9	Green Lighting Pattern 2
Pattern 10	Read D100 = A	Blue Light On
Pattern 11	Read D100 = B	Blue Lighting Pattern 1
Pattern 12	Read D100 = C	Blue Lighting Pattern 2
Pattern 13	Read D100 = D	White Light On
Pattern 14	Read D100 = E	White Lighting Pattern 1
Pattern 15	Read D100 = F	White Lighting Pattern 2
Pattern 16	Read D100 = 10	All Lights Off
Clear Operation	Write D100 = 10	-

*1 The configuration data is included in the following folder.

<Installation path for screen design software>\GTD3_2000\App\SampleProject\PATLITE_NH_V_Ver3

5. SCREEN SPECIFICATIONS

5.1 Display Language

The language of the text displayed on the screen can be switched between Japanese, English, and Chinese (Simplified). The text strings in each language are registered in the columns No. 1 to No. 3 in the comment groups No.498, No.499 and No.500 as shown below. When the column No. is set in the language switching device, the language corresponding to the column No. will appear.

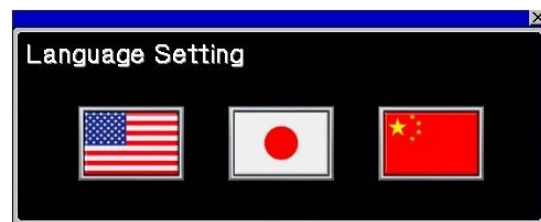
Column No.	Language
1	English
2	Japanese
3	Chinese (Simplified)

5.2 Screen List/Transition

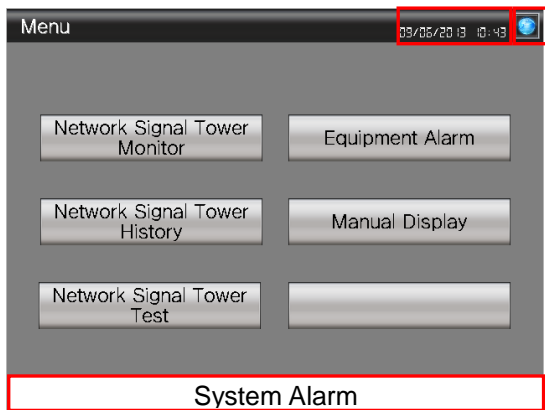
5.2.1 Screen list/transition (common)



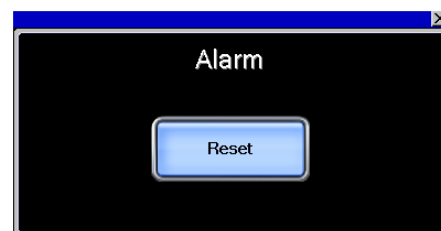
Window screen W-30003:Clock Setting



Window screen W-30002: Language Setting

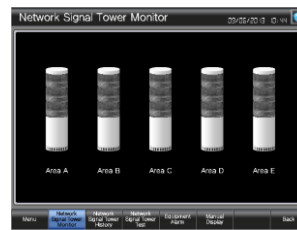


Base screen
(B-30001 Menu and other base screens)

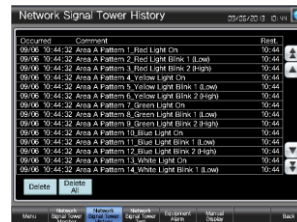


Window screen W-30001: Alarm Reset

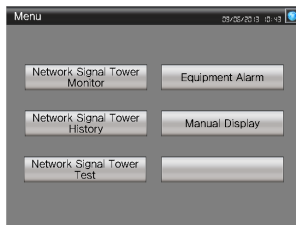
5.2.2 Screen list/transition (individual)



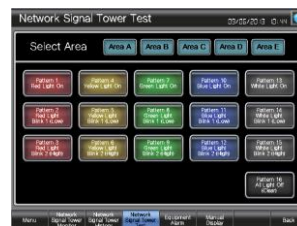
Base screen B-30002: Network Signal Tower Monitor



Base screen B-30003: Network Signal Tower History



Base screen B-30001: Menu



Base screen B-30004: Network Signal Tower Test



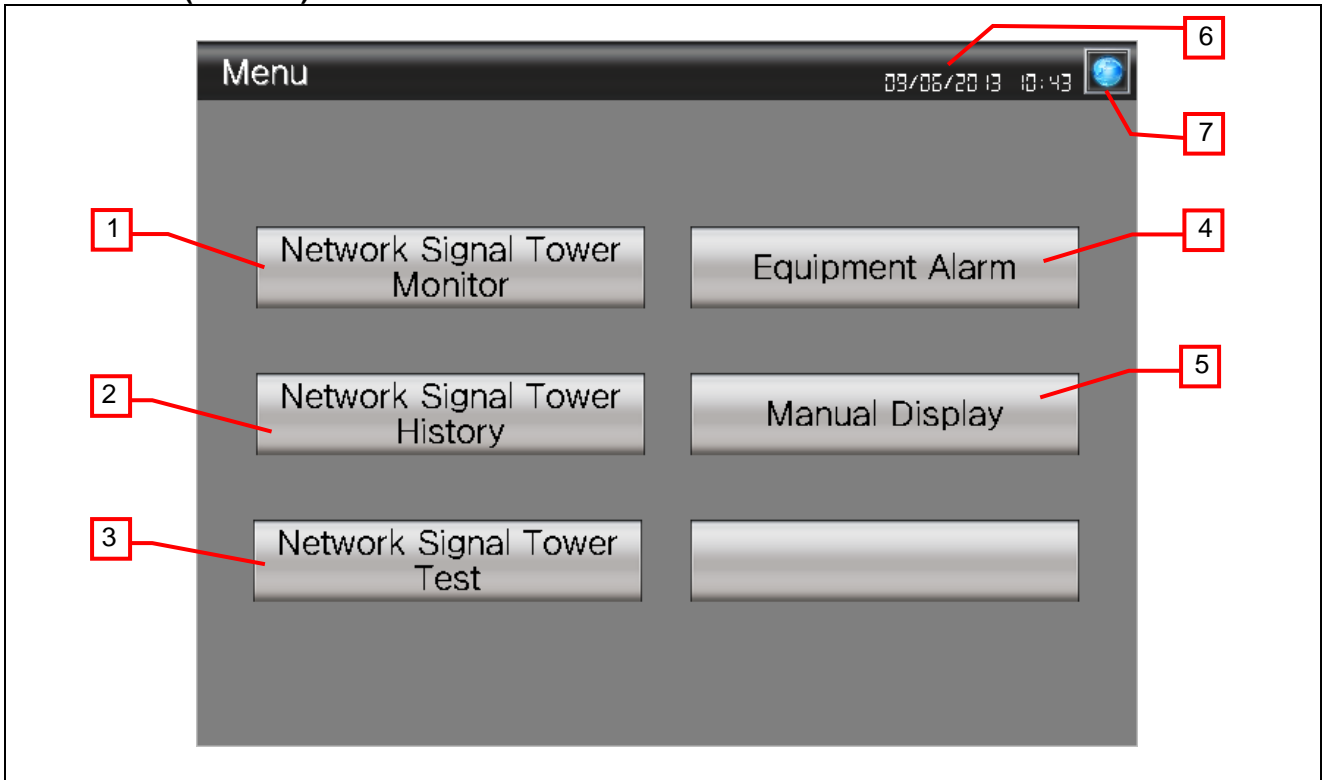
Base screen B-30005: Equipment Alarm



Base screen B-30500: Manual Display

5.3 Explanation of Screens

5.3.1 Menu (B-30001)



Outline

This is the Menu screen.

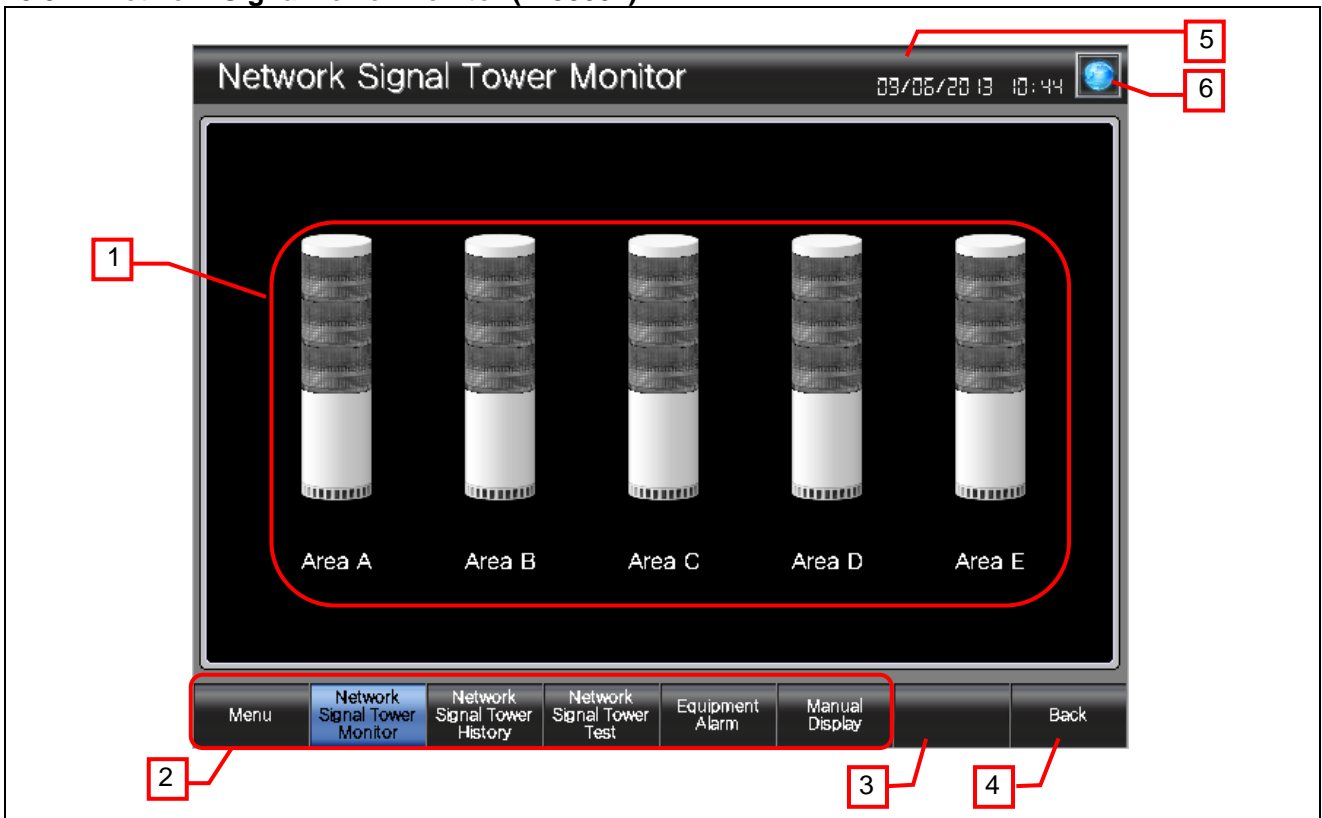
Description

1. Switches to the [Network Signal Tower Monitor] screen.
2. Switches to the [Network Signal Tower History] screen.
3. Switches to the [Network Signal Tower Test] screen.
4. Switches to the [Equipment Alarm] screen.
5. Switches to the [Manual Display] screen.
6. Displays the current date and time. Touch the button to open the [Clock Setting] window.
7. Opens the [Language Setting] window.

Remarks

- Project scripts control the network signal towers. For more details about scripts, please refer to "5.6 Script List".
- If a system alarm occurs, the alarm message will appear at the bottom of the screen. When touching the left end of the message, the display position of the message changes in the order of upper, center, and lower. When touching the other part of the message, the [Alarm Reset] window appears.

5.3.2 Network Signal Tower Monitor (B-30002)



Outline

This screen displays the lighting status of the network signal towers installed in each area.

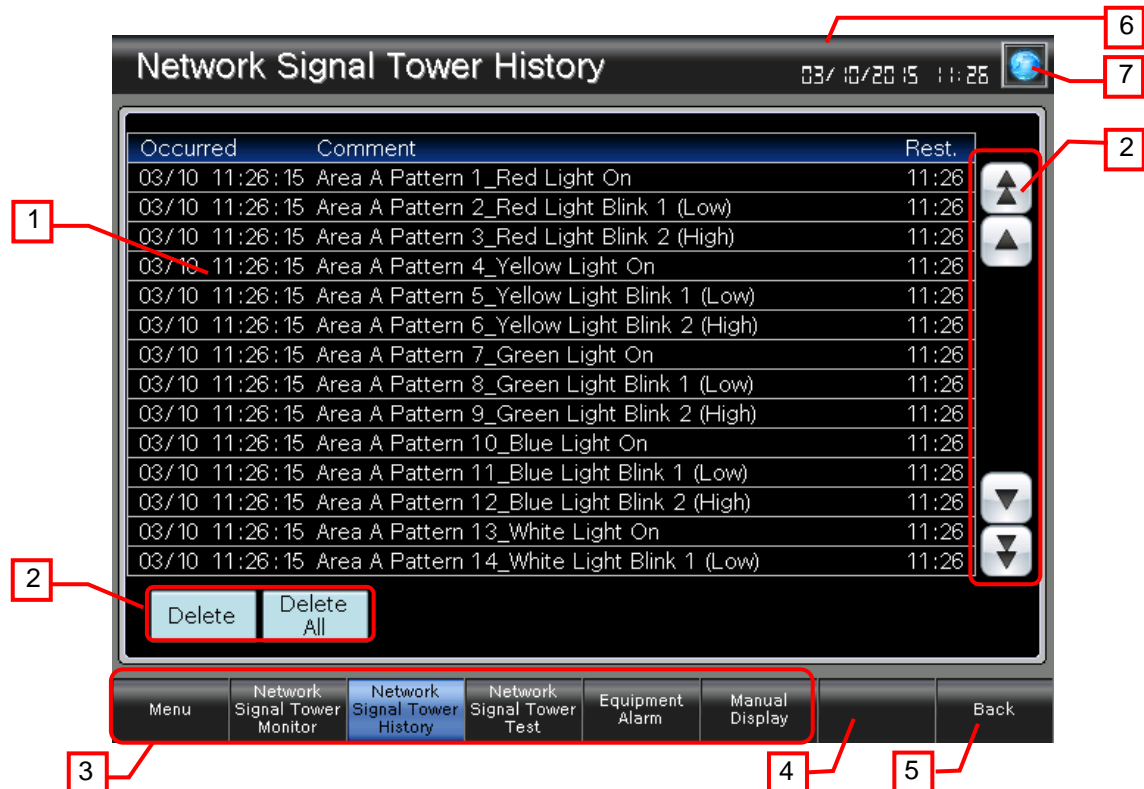
Description

1. Displays the lighting status.
2. Switches to each screen. The blue switch indicates the currently displayed screen, thus selecting this switch will not switch the screen.
3. Shows unused switches for base screen switching.
4. Switches to the previously opened screen.
5. Displays the current date and time. Touch the button to open the [Clock Setting] window.
6. Opens the [Language Setting] window.

Remarks

- Project scripts control the network signal towers. For more details about scripts, please refer to "5.6 Script List".
- If a system alarm occurs, the alarm message will appear at the bottom of the screen. When touching the left end of the message, the display position of the message changes in the order of upper, center, and lower. When touching the other part of the message, the [Alarm Reset] window appears.



5.3.3 Network Signal Tower History (B-30003)



Outline

This screen displays the network signal tower history.

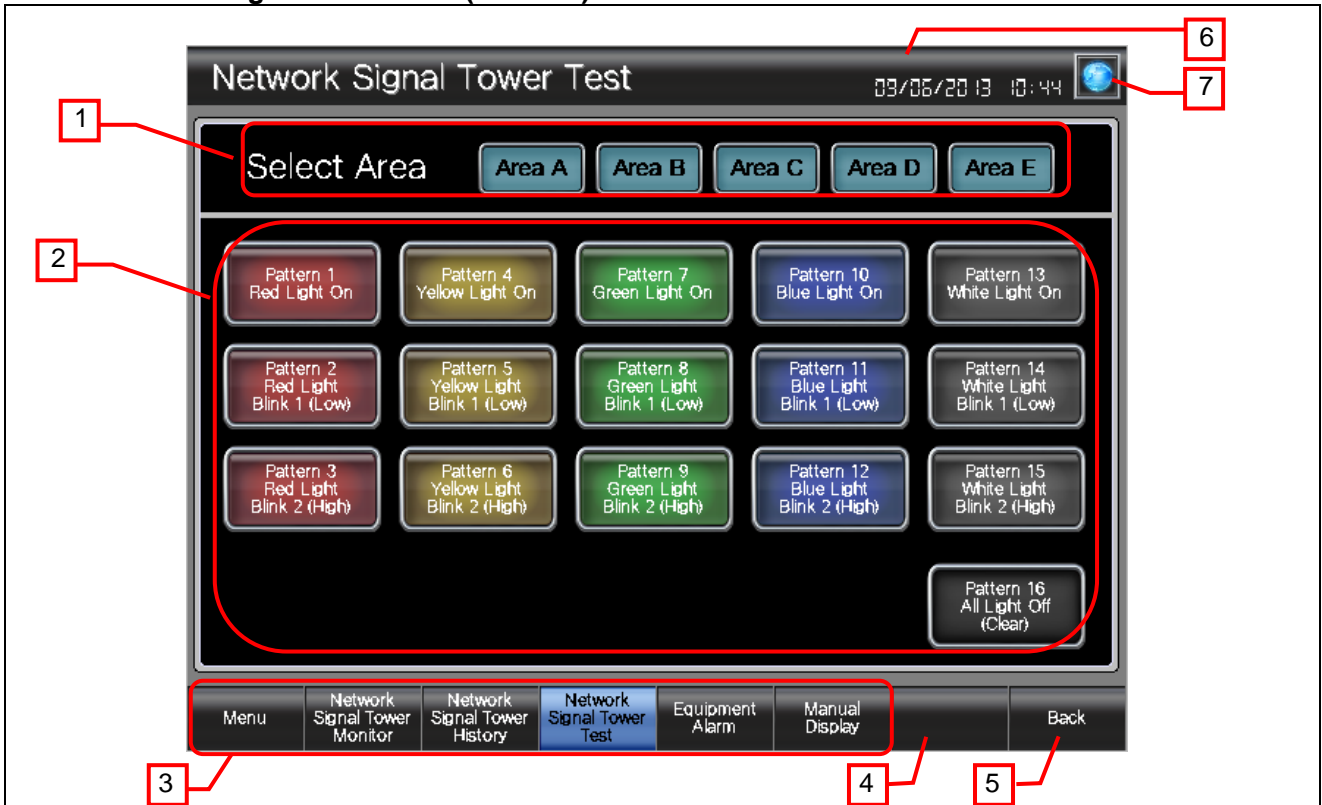
Description

- Displays the network signal tower history. Touch an alarm to display/hide the cursor. While touching the alarm display area, flicking the area will scroll the alarms up and down.
- Operates the operation history display.
 -  : Scrolls the page up and down.
 -  : Scrolls alarms up and down line by line.
 - Delete : Deletes the selected restored operation history.
 - Delete All : Deletes all of the restored operation history.
- Switches to each screen. The blue switch indicates the currently displayed screen, thus selecting this switch will not switch the screen.
- Shows unused switches for base screen switching.
- Switches to the previously opened screen.
- Displays the current date and time. Touch the button to open the [Clock Setting] window.
- Opens the [Language Setting] window.

Remarks

- Project scripts control the network signal towers. For more details about scripts, please refer to "5.6 Script List".
- If a system alarm occurs, the alarm message will appear at the bottom of the screen. When touching the left end of the message, the display position of the message changes in the order of upper, center, and lower. When touching the other part of the message, the [Alarm Reset] window appears.

5.3.4 Network Signal Tower Test (B-30004)



Outline

This screen allows execution of the network signal tower test for each area.

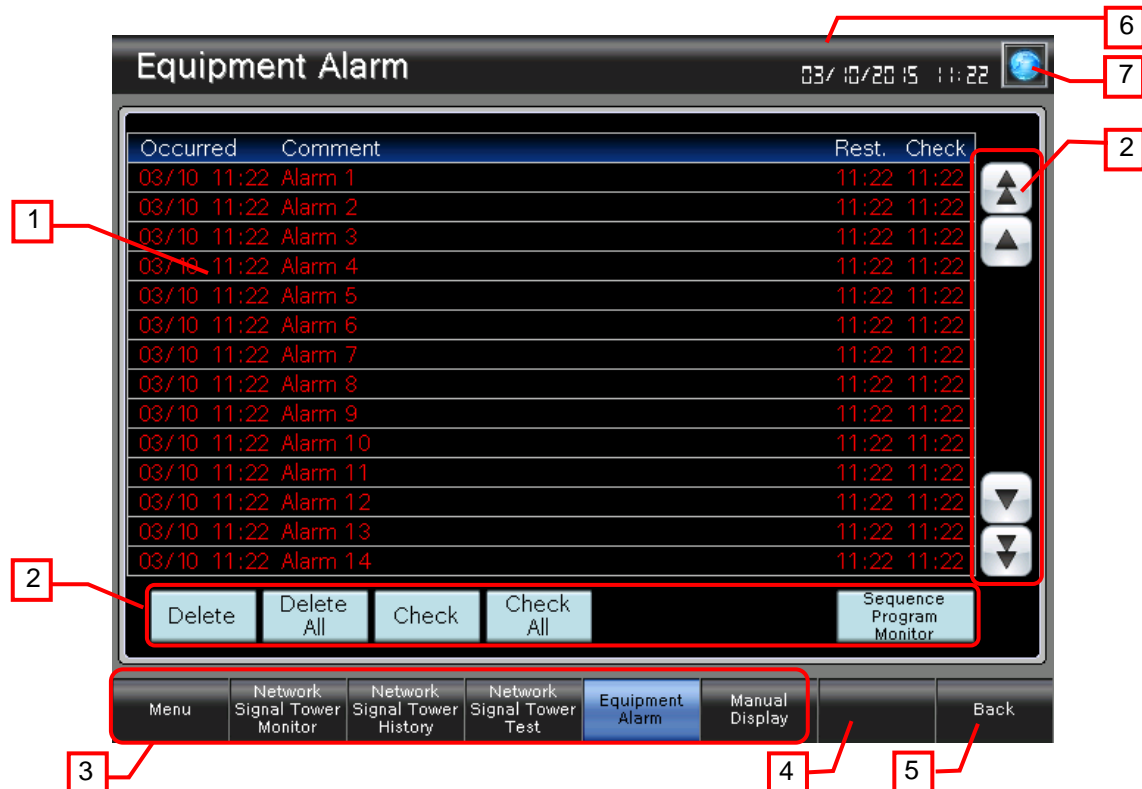
Description

1. Selects an area.
2. Selects an operation test pattern.
3. Switches to each screen. The blue switch indicates the currently displayed screen, thus selecting this switch will not switch the screen.
4. Shows unused switches for base screen switching.
5. Switches to the previously opened screen.
6. Displays the current date and time. Touch the button to open the [Clock Setting] window.
7. Opens the [Language Setting] window.

Remarks

- Project scripts control the network signal towers. For more details about scripts, please refer to "5.6 Script List".
- If a system alarm occurs, the alarm message will appear at the bottom of the screen. When touching the left end of the message, the display position of the message changes in the order of upper, center, and lower. When touching the other part of the message, the [Alarm Reset] window appears.

5.3.5 Equipment Alarm (B-30005)



Outline

This screen displays the alarm history of the equipment.

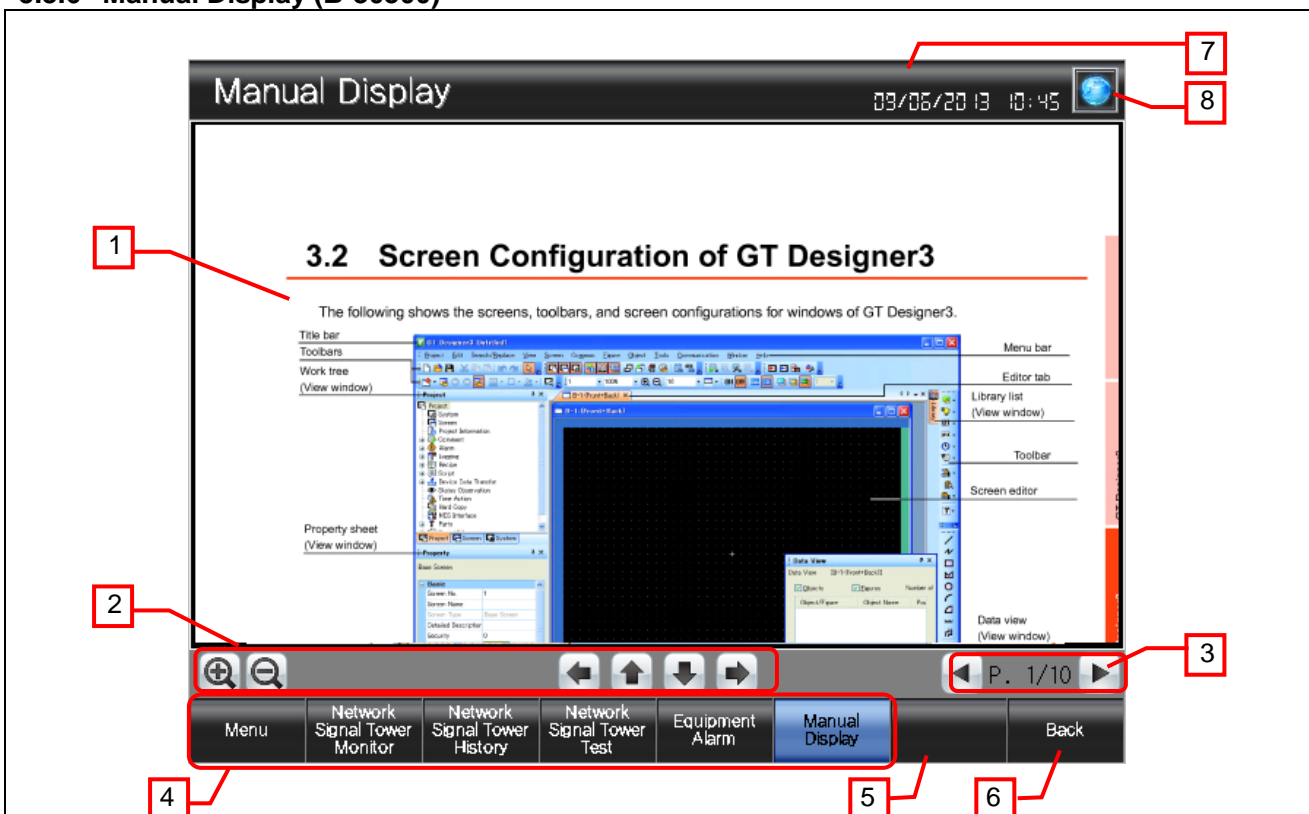
Description

- Displays the alarm history of the equipment. Touch an alarm to display/hide the cursor. While touching the alarm display area, flicking the area will scroll the alarms up and down.
- Operates the alarm history of the equipment.
 - : Scrolls the page up and down.
 - : Scrolls alarms up and down line by line.
 - Delete : Deletes the restored and selected alarm.
 - Delete All : Deletes all the restored alarms.
 - Check : Displays the date and time of the selected alarm for checking.
 - Check All : Displays the date and time of all the alarms for checking.
 - Sequence Program Monitor : Displays the ladder of the selected alarm.
- Switches to each screen. The blue switch indicates the currently displayed screen, thus selecting this switch will not switch the screen.
- Shows unused switches for base screen switching.
- Switches to the previously opened screen.
- Displays the current date and time. Touch the button to open the [Clock Setting] window.
- Opens the [Language Setting] window.

Remarks

- Project scripts control the network signal towers. For more details about scripts, please refer to "5.6 Script List".
- If a system alarm occurs, the alarm message will appear at the bottom of the screen. When touching the left end of the message, the display position of the message changes in the order of upper, center, and lower. When touching the other part of the message, the [Alarm Reset] window appears.






5.3.6 Manual Display (B-30500)



Outline

This screen displays the manual of the currently displayed language.

Description

1. Manual Display displays a document with document ID (201 to 203) according to the language. The page 1 is displayed when the screen is displayed initially. While touching the document, flicking to 8 directions will scroll the document to 8 directions. While displaying the edge of the document, flicking the document will switch pages. Pinching out and in will zoom in and out the document in 3 steps (large, middle, and small).
2. These switches operate the displayed document.
 : Enlarges or reduces the displayed document.
 : Scrolls the displayed document to the left or right.
 : Scrolls the displayed document up and down.
3. These switches operate the displayed document page.
 : Displays the page number of the displayed document. Touch the value to change the page number.
 : Switches to the previous or next page of the displayed document.
4. Switches to each screen. The blue switch indicates the currently displayed screen, thus selecting this switch will not switch the screen.
5. Shows unused switches for base screen switching.
6. Switches to the previously opened screen.
7. Displays the current date and time. Touch the button to open the [Clock Setting] window.
8. Opens the [Language Setting] window.

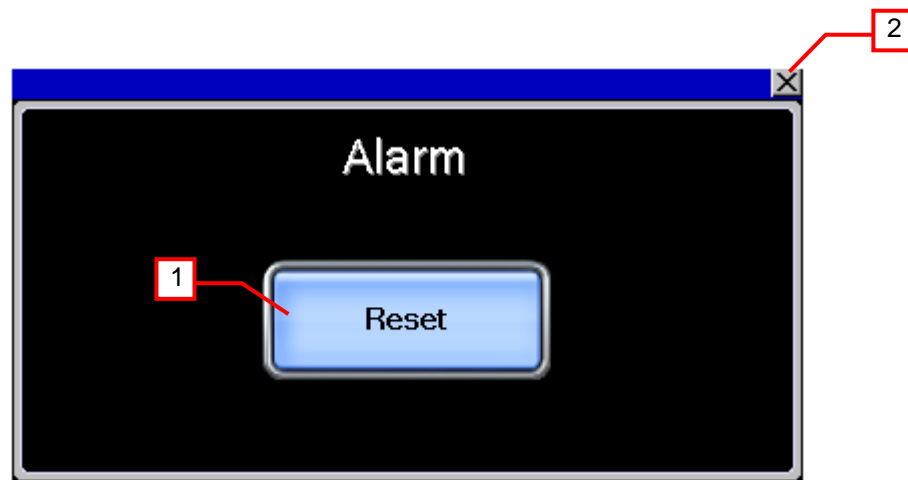
Remarks

- The language setting reflect documents for Manual display. The relation of the column No. of the comment group No., languages and document (Document ID) is shown below.

Column No. of the comment group No	Language	Document ID
1	English	201
2	Japanese	202
3	Chinese (Simplified)	203

- When GOT is started, the document page is set to No. "1" and the Document ID is set to "201" with the project script. For more details about scripts, please refer to "5.6 Script List".
- The page feed switches are set not to exceed the total number of document pages by object script. For more details about scripts, please refer to "5.6 Script List".
- The document data for the manual display should be prepared by the customers. For more details, please refer to "6. MANUAL DISPLAY".
- If a system alarm occurs, the alarm message will appear at the bottom of the screen. When touching the left end of the message, the display position of the message changes in the order of upper, center, and lower. When touching the other part of the message, the [Alarm Reset] window appears.

5.3.7 Alarm Reset (W-30001)



Outline

This window screen allows resetting the system alarm.

Description

1. Resets the system alarm, and closes the window screen after 1 second.
2. Closes the window screen.

Remarks

5.3.8 Language Setting (W-30002)



Outline

This window screen allows selecting the GOT language.

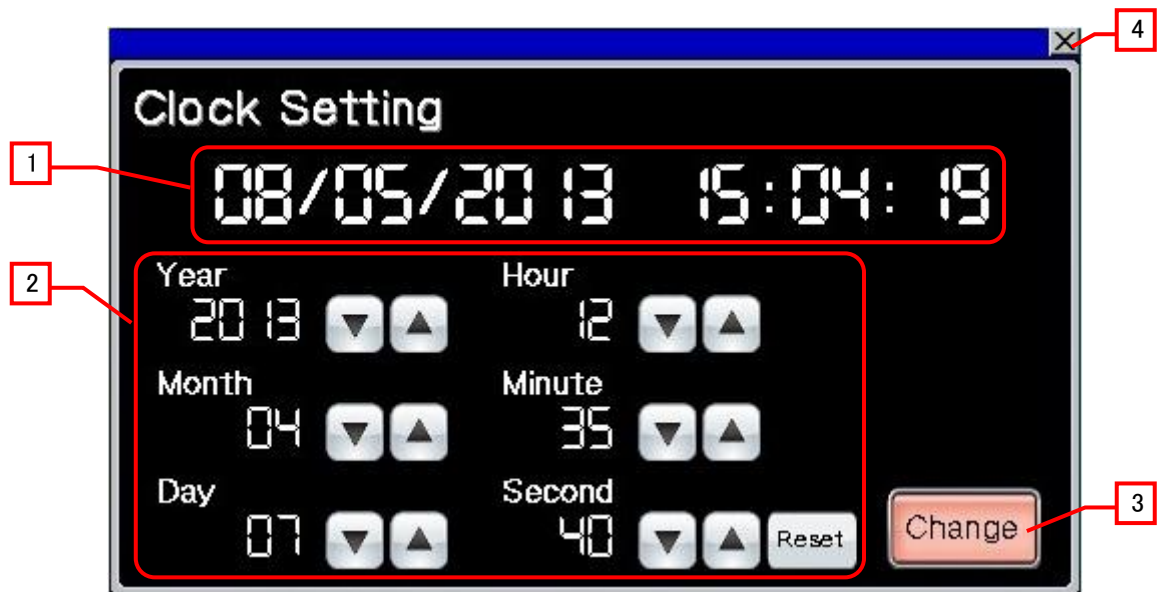
Description

1. Switches the language, and closes the window screen.
2. Closes the window screen.

Remarks

- The system language and Document ID for manual display also switched corresponding to the display language.



5.3.9 Clock Setting (W-30003)



Outline

This window screen allows changing the GOT clock data.

Description

1. Displays the current date and time.
2. Use   switches to change the date and time. Hold down the switches to increment or decrement the value continuously. The [Reset] switch resets the seconds.
3. Applies the set date and time to the GOT clock data, and closes the window screen after 1 second.
4. Closes the window screen.

Remarks

- The date and time at window opening are initially set as the clock data to be newly set.
- Object scripts are set for the numerical display of the year, month, date, hour, minute and second in the clock data to be newly set. For more details about scripts, please refer to "5.6 Script List".

5.4 Device List

Some of the devices specified for the on-screen switches, lamps, or others are also used for common settings of functions such as scripts. Using [Batch Edit] is recommended to change these devices in a batch. For more details about using [Batch Edit], please refer to the "GT Designer3 (GOT2000) Help".

5.4.1 Devices of the controller

(1) CH1 programmable controller device

Type	Device No.	Application
Bit	M0 to M19	User Alarm Observation
	M100 + 20n (n = 0 to 4) *1	Network Signal Tower Red Light On
	M101 + 20n (n = 0 to 4) *1	Network Signal Tower Red Lighting Pattern 1
	M102 + 20n (n = 0 to 4) *1	Network Signal Tower Red Lighting Pattern 2
	M103 + 20n (n = 0 to 4) *1	Network Signal Tower Yellow Light On
	M104 + 20n (n = 0 to 4) *1	Network Signal Tower Yellow Lighting Pattern 1
	M105 + 20n (n = 0 to 4) *1	Network Signal Tower Yellow Lighting Pattern 2
	M106 + 20n (n = 0 to 4) *1	Network Signal Tower Green Light On
	M107 + 20n (n = 0 to 4) *1	Network Signal Tower Green Lighting Pattern 1
	M108 + 20n (n = 0 to 4) *1	Network Signal Tower Green Lighting Pattern 2
	M109 + 20n (n = 0 to 4) *1	Network Signal Tower Blue Light On
	M110 + 20n (n = 0 to 4) *1	Network Signal Tower Blue Lighting Pattern 1
	M111 + 20n (n = 0 to 4) *1	Network Signal Tower Blue Lighting Pattern 2
	M112 + 20n (n = 0 to 4) *1	Network Signal Tower White Light On
	M113 + 20n (n = 0 to 4) *1	Network Signal Tower White Lighting Pattern 1
	M114 + 20n (n = 0 to 4) *1	Network Signal Tower White Lighting Pattern 2
	M115 + 20n (n = 0 to 4) *1	Network Signal Tower All Lights Off
Word	D100	Area A Network Signal Tower Lighting Control (QCPU → GOT)
	D101	Area B Network Signal Tower Lighting Control (QCPU → GOT)
	D102	Area C Network Signal Tower Lighting Control (QCPU → GOT)
	D103	Area D Network Signal Tower Lighting Control (QCPU → GOT)
	D104	Area E Network Signal Tower Lighting Control (QCPU → GOT)

*1: The device number differs depends on the area. For area A, n = 0, and for area E, n = 4.

(2) CH2 microcomputer virtual device

Type	Device No.	Application
Word	D100 (CH2)	Area A Network Signal Tower Lighting Control (GOT → NH)
	D101 (CH2)	Area B Network Signal Tower Lighting Control (GOT → NH)
	D102 (CH2)	Area C Network Signal Tower Lighting Control (GOT → NH)
	D103 (CH2)	Area D Network Signal Tower Lighting Control (GOT → NH)
	D104 (CH2)	Area E Network Signal Tower Lighting Control (GOT → NH)

5.4.2 GOT internal devices

Type	Device No.	Application
Bit	GB40	Script Trigger (Always ON)
	GB61000	Network Signal Tower Test Screen Flag
	GD60031.b13	GOT Error Reset Signal
	GS512.b0	Time Change Signal
Word	GD60000	Base Screen Switching
	GD60001	Overlap Window 1 Screen Switching
	GD60004	Overlap Window 2 Screen Switching
	GD60021	Language Switching
	GD60022	System Language Switching
	GD60031, GD60041	System Information
	GD60080 to GD60082	Document Display
	GD61000	Area switching
	GD63990 to GD63995	Clock Digital Switch
	GS513 to GS516	Changed Time
	GS650 to GS652	Current Time
	TMP800 to TMP996	For Script Operation

5.5 Comment List

Comment group No.	Comment No.	Where comments are used
489	No. 1 to No. 20	User Alarm Observation ID 30001
499	No. 1 to No. 80	Alarm History
500	No. 1 to No. 12	B-30001 to B-30500
	No.21 to No. 26	B-30002
	No.31 to No. 48	B-30004
	No. 51 to No. 60	B-30003, B-30005
	No.100	W-30001
	No.101	W-30001, W-30003
	No.102	W-30002
	No. 103 to No. 110	W-30003

5.6 Script List

Item	Settings
Project script	Specified
Screen script	B-30004, B-30500
Object script	B-30500, W-30003

5.6.1 Project script

Script No.	30001	Script name	Script30001
Comment	Initial Setting		
Data type	Signed BIN16	Trigger type	Rise, GB40
[w:GD60080]=201; //Set Document ID to 201 [w:GD60081]=1; //Set Document page No. to 1			
Script No.	30101	Script name	Script30101
Comment	NW Signal Tower Test Screen Flag		
Data type	Signed BIN16	Trigger type	Ordinary
<pre> if([w:GD60000] == 30004)//Base Screen 30004 { [b:GB61000] = ON;//Turn On GB61000 } else//Base Screen Not 30004 { [b:GB61000] = OFF;//Turn Off GB61000 } </pre>			
Script No.	30102	Script name	Script30102
Comment	NW Signal Tower Lighting Control		
Data type	Signed BIN16	Trigger type	OFF, GB61000
<pre> //Area A Network Signal Tower Lighting Control if([w:D100] != [w:TMP800]){ [w:TMP800] = [w:D100]; [@2:w:D100] = [w:D100]; //Transfer Lighting Information to Notify Network Signal Tower to GOT Microcomputer Device } //Area B Network Signal Tower Lighting Control if([w:D101] != [w:TMP801]){ [w:TMP801] = [w:D101]; [@2:w:D101] = [w:D101]; //Transfer Lighting Information to Notify Network Signal Tower to GOT Microcomputer Device } //Area C Network Signal Tower Lighting Control if([w:D102] != [w:TMP802]){ [w:TMP802] = [w:D102]; </pre>			

```

[@2:w:D102] = [w:D102]; //Transfer Lighting Information to Notify Network Signal Tower to GOT
Microcomputer Device
}

//Area D Network Signal Tower Lighting Control
if([w:D103] != [w:TMP803]){
[w:TMP803] = [w:D103];
[@2:w:D103] = [w:D103]; //Transfer Lighting Information to Notify Network Signal Tower to GOT
Microcomputer Device
}

//Area E Network Signal Tower Lighting Control
if([w:D104] != [w:TMP804]){
[w:TMP804] = [w:D104];
[@2:w:D104] = [w:D104]; //Transfer Lighting Information to Notify Network Signal Tower to GOT
Microcomputer Device
}

```

5.6.2 Screen script

Base screen 30004

Script No.	30103	Script name	Script30103
Comment	Reread LTG INFO to Notify SIGTWR		
Data type	Signed BIN16	Trigger type	When closing a screen
<pre> //Clear Flag to Judge Network Signal Tower Lighting Control [w:TMP800] = 0; [w:TMP801] = 0; [w:TMP802] = 0; [w:TMP803] = 0; [w:TMP804] = 0; </pre>			

Base screen 30500

Script No.	30002	Script name	Script30002
Comment	DocumentDisplayProcessOfLastPage		
Data type	Unsigned BIN16	Trigger type	Ordinary
<pre> //Check the total number of document pages is not 0. if([w:GD60082] != 0){ //Compare the current page number to the total number of document pages to see if the current page number exceeds the total number. if([w:GD60081] > [w:GD60082]){ //Set the last page to display. [w:GD60081] = [w:GD60082]; } } </pre>			

5.6.3 Object script

Base screen 30500

Object	Switch	Object ID *1	20042
Script user ID	1		
Data type	Unsigned BIN16	Trigger type	Device Writing
<pre> //Do not exceed the total number of the document pages. if([u16:GD60081] >= [u16:GD60082]){ [u16:GD60081] = [u16:GD60082] - 1; } </pre>			

Window screen 30003

Object	Numerical Display	Object ID *1	20018
Script user ID	1		
Data type	Unsigned BIN16	Trigger type	Rise, GB40
<pre> //Obtain Today's Year & Month from Clock Data [w:TMP950] = [w:GS650] & 0xF000; //Obtain Tenths Digit of "Last 2-Digits of Year" from Clock Data for Setting [w:TMP960] = [w:TMP950] >> 12; //Decimal Alignment </pre>			

```

[w:TMP968] = [w:TMP960] * 10; //BCD->BIN
[w:TMP951] = [w:GS650] & 0x0F00; //Obtain Ones Digit of "Last 2-Digits of Year" from Clock Data for Setting
[w:TMP961] = [w:TMP951] >> 8; //BCD->BIN
[w:TMP973] = 2000 + [w:TMP968] + [w:TMP961]; //Set Year to TMP973 as BIN
[w:GD63990] = [w:TMP973]; //Set Year

[w:TMP952] = [w:GS650] & 0x00F0; //Obtain Tenths Digit of Month from Clock Data for Setting
[w:TMP962] = [w:TMP952] >> 4; //Decimal Alignment
[w:TMP969] = [w:TMP962] * 10; //BCD->BIN
[w:TMP953] = [w:GS650] & 0x000F; //Obtain Ones Digit of Month from Clock Data for Setting
[w:TMP974] = [w:TMP969] + [w:TMP953]; //Set Month to TMP974 as BIN
[w:GD63991] = [w:TMP974]; //Set Month

[w:TMP954] = [w:GS651] & 0xF000; //Obtain Tenths Digit of "Last 2-Digits of Day" from Clock Data for Setting
[w:TMP963] = [w:TMP954] >> 12; //Decimal Alignment
[w:TMP970] = [w:TMP963] * 10; //BCD->BIN
[w:TMP955] = [w:GS651] & 0x0F00; //Obtain Ones Digit of "Last 2-Digits of Day" from Clock Data for Setting
[w:TMP964] = [w:TMP955] >> 8; //BCD->BIN
[w:TMP975] = [w:TMP970] + [w:TMP964]; //Set Day to TMP975 as BIN
[w:GD63992] = [w:TMP975]; //Set Day

[w:TMP956] = [w:GS651] & 0x00F0; //Obtain Tenths Digit of Hour from Clock Data for Setting
[w:TMP965] = [w:TMP956] >> 4; //Decimal Alignment
[w:TMP971] = [w:TMP965] * 10; //BCD->BIN
[w:TMP957] = [w:GS651] & 0x000F; //Obtain Ones Digit of Hour from Clock Data for Setting
[w:TMP976] = [w:TMP971] + [w:TMP957]; //Set Hour to TMP976 as BIN
[w:GD63993] = [w:TMP976]; //Set Hour

[w:TMP958] = [w:GS652] & 0xF000; //Obtain Tenths Digit of "Last 2-Digits of Minute" from Clock Data for Setting
[w:TMP966] = [w:TMP958] >> 12; //Decimal Alignment
[w:TMP972] = [w:TMP966] * 10; //BCD->BIN
[w:TMP959] = [w:GS652] & 0x0F00; //Obtain Ones Digit of "Last 2-Digits of Minute" from Clock Data for Setting
[w:TMP967] = [w:TMP959] >> 8; //BCD->BIN
[w:TMP977] = [w:TMP972] + [w:TMP967]; //Set Minute to TMP977 as BIN
[w:GD63994] = [w:TMP977]; //Set Minute

[w:TMP993] = [w:GS652] & 0x00F0; //Obtain Tenths Digit of Second from Clock Data for Setting
[w:TMP995] = [w:TMP993] >> 4; //Decimal Alignment
[w:TMP996] = [w:TMP995] * 10; //BCD->BIN
[w:TMP994] = [w:GS652] & 0x000F; //Obtain Ones Digit of Second from Clock Data for Setting
[w:TMP978] = [w:TMP996] + [w:TMP994]; //Set Second to TMP978 as BIN
[w:GD63995] = [w:TMP978]; //Set Second

```

Object	Numerical Display	Object ID *1	20019
Script user ID	2		
Data type	Unsigned BIN16	Trigger type	Ordinary

//BIN -> BCD Conversion

```

[w:TMP979] = [w:GD63990] - 2000; //Last 2-Digits of Year

```

```

[w:TMP980] = (([w:TMP979] / 10) << 4) + ([w:TMP979] % 10); //Year BIN -> BCD
[w:TMP981] = (([w:GD63991] / 10) << 4) + ([w:GD63991] % 10); //Month BIN -> BCD
[w:TMP982] = (([w:GD63992] / 10) << 4) + ([w:GD63992] % 10); //Day BIN -> BCD
[w:TMP983] = (([w:GD63993] / 10) << 4) + ([w:GD63993] % 10); //Hour BIN -> BCD
[w:TMP984] = (([w:GD63994] / 10) << 4) + ([w:GD63994] % 10); //Minute BIN -> BCD
[w:TMP985] = (([w:GD63995] / 10) << 4) + ([w:GD63995] % 10); //Second BIN -> BCD

```

Object	Numerical Display	Object ID *1	20020
Script user ID	3		
Data type	Unsigned BIN16	Trigger type	Ordinary

//Year & Month Setting

```

[w:GS513] = ([w:TMP980] << 8) + [w:TMP981]; //Set Year & Month to Change Time Device

```


Object	Numerical Display	Object ID *1	20021
Script user ID	4		
Data type	Unsigned BIN16	Trigger type	Ordinary
//Date & Time Setting			
[w:GS514] = ([w:TMP982] << 8) + [w:TMP983]; //Set Date & Time to Change Time Device			
Object	Numerical Display	Object ID *1	20022
Script user ID	5		
Data type	Unsigned BIN16	Trigger type	Ordinary
//Minute & Second Setting			
[w:GS515] = ([w:TMP984] << 8) + [w:TMP985]; //Set Minute & Second to Change Time Device			
Object	Numerical Display	Object ID *1	20023
Script user ID	6		
Data type	Unsigned BIN16	Trigger type	Ordinary
//Day of Week Setting			
[w:TMP986] = [w:GD63990]; //Year (BIN) [w:TMP987] = [w:GD63991]; //Month (BIN) [w:TMP988] = [w:GD63992]; //Day (BIN) if([w:TMP987] == 1) ([w:TMP987] == 2){ //Correction Processing to Calculate January and February as 13th/14th Month [w:TMP986] = [w:TMP986] - 1; //Subtract 1 from Year [w:TMP987] = [w:TMP987] + 12; //Add 12 to Month } [w:TMP989] = [w:TMP986]/4; //Create Items Required for Zeller's Congruence [w:TMP990] = [w:TMP986]/100; //Create Items Required for Zeller's Congruence [w:TMP991] = [w:TMP986]/400; //Create Items Required for Zeller's Congruence [w:TMP992] = (13*[w:TMP987]+8)/5; //Create Items Required for Zeller's Congruence //Calculate Day of Week Using Zeller's Congruence and Set the Day to Change Time Device [w:GS516] = ([w:TMP986]+[w:TMP989]-[w:TMP990]+[w:TMP991]+[w:TMP992]+[w:TMP988])%7;			
Object	Numerical Display	Object ID *1	20018
Script user ID	1		
Data type	Unsigned BIN16	Trigger type	Rise, GB40
//Obtain Today's Year & Month from Clock Data			
[w:TMP950] = [w:GS650] & 0xF000; //Obtain Tenths Digit of "Last 2-Digits of Year" from Clock Data for Setting [w:TMP960] = [w:TMP950] >> 12; //Decimal Alignment [w:TMP968] = [w:TMP960] * 10; //BCD->BIN [w:TMP951] = [w:GS650] & 0x0F00; //Obtain Ones Digit of "Last 2-Digits of Year" from Clock Data for Setting [w:TMP961] = [w:TMP951] >> 8; //BCD->BIN [w:TMP973] = 2000 + [w:TMP968] + [w:TMP961]; //Set Year to TMP973 as BIN [w:GD63990] = [w:TMP973]; //Set Year [w:TMP952] = [w:GS650] & 0x00F0; //Obtain Tenths Digit of Month from Clock Data for Setting [w:TMP962] = [w:TMP952] >> 4; //Decimal Alignment [w:TMP969] = [w:TMP962] * 10; //BCD->BIN [w:TMP953] = [w:GS650] & 0x000F; //Obtain Ones Digit of Month from Clock Data for Setting [w:TMP974] = [w:TMP969] + [w:TMP953]; //Set Month to TMP974 as BIN [w:GD63991] = [w:TMP974]; //Set Month [w:TMP954] = [w:GS651] & 0xF000; //Obtain Tenths Digit of "Last 2-Digits of Day" from Clock Data for Setting [w:TMP963] = [w:TMP954] >> 12; //Decimal Alignment [w:TMP970] = [w:TMP963] * 10; //BCD->BIN [w:TMP955] = [w:GS651] & 0x0F00; //Obtain Ones Digit of "Last 2-Digits of Day" from Clock Data for Setting [w:TMP964] = [w:TMP955] >> 8; //BCD->BIN [w:TMP975] = [w:TMP970] + [w:TMP964]; //Set Day to TMP975 as BIN [w:GD63992] = [w:TMP975]; //Set Day			

```
[w:TMP956] = [w:GS651] & 0x00F0; //Obtain Tenths Digit of Hour from Clock Data for Setting
[w:TMP965] = [w:TMP956] >> 4; //Decimal Alignment
[w:TMP971] = [w:TMP965] * 10; //BCD->BIN
[w:TMP957] = [w:GS651] & 0x000F; //Obtain Ones Digit of Hour from Clock Data for Setting
[w:TMP976] = [w:TMP971] + [w:TMP957]; //Set Hour to TMP976 as BIN
[w:GD63993] = [w:TMP976]; //Set Hour
```

```
[w:TMP958] = [w:GS652] & 0xF000; //Obtain Tenths Digit of "Last 2-Digits of Minute" from Clock Data for Setting
[w:TMP966] = [w:TMP958] >> 12; //Decimal Alignment
[w:TMP972] = [w:TMP966] * 10; //BCD->BIN
[w:TMP959] = [w:GS652] & 0x0F00; //Obtain Ones Digit of "Last 2-Digits of Minute" from Clock Data for Setting
[w:TMP967] = [w:TMP959] >> 8; //BCD->BIN
[w:TMP977] = [w:TMP972] + [w:TMP967]; //Set Minute to TMP977 as BIN
[w:GD63994] = [w:TMP977]; //Set Minute
```

```
[w:TMP993] = [w:GS652] & 0x00F0; //Obtain Tenths Digit of Second from Clock Data for Setting
[w:TMP995] = [w:TMP993] >> 4; //Decimal Alignment
[w:TMP996] = [w:TMP995] * 10; //BCD->BIN
[w:TMP994] = [w:GS652] & 0x000F; //Obtain Ones Digit of Second from Clock Data for Setting
[w:TMP978] = [w:TMP996] + [w:TMP994]; //Set Second to TMP978 as BIN
[w:GD63995] = [w:TMP978]; //Set Second
```

Object	Numerical Display	Object ID *1	20019
Script user ID	2		
Data type	Unsigned BIN16	Trigger type	Ordinary

//BIN -> BCD Conversion

```
[w:TMP979] = [w:GD63990] - 2000; //Last 2-Digits of Year
```

```
[w:TMP980] = (([w:TMP979] / 10) << 4) + ([w:TMP979] % 10); //Year BIN -> BCD
[w:TMP981] = (([w:GD63991] / 10) << 4) + ([w:GD63991] % 10); //Month BIN -> BCD
[w:TMP982] = (([w:GD63992] / 10) << 4) + ([w:GD63992] % 10); //Day BIN -> BCD
[w:TMP983] = (([w:GD63993] / 10) << 4) + ([w:GD63993] % 10); //Hour BIN -> BCD
[w:TMP984] = (([w:GD63994] / 10) << 4) + ([w:GD63994] % 10); //Minute BIN -> BCD
[w:TMP985] = (([w:GD63995] / 10) << 4) + ([w:GD63995] % 10); //Second BIN -> BCD
```

Object	Numerical Display	Object ID *1	20020
Script user ID	3		
Data type	Unsigned BIN16	Trigger type	Ordinary

//Year & Month Setting

```
[w:GS513] = ([w:TMP980] << 8) + [w:TMP981]; //Set Year & Month to Change Time Device
```

Object	Numerical Display	Object ID *1	20021
Script user ID	4		
Data type	Unsigned BIN16	Trigger type	Ordinary

//Date & Time Setting

```
[w:GS514] = ([w:TMP982] << 8) + [w:TMP983]; //Set Date & Time to Change Time Device
```

Object	Numerical Display	Object ID *1	20022
Script user ID	5		
Data type	Unsigned BIN16	Trigger type	Ordinary

//Minute & Second Setting

```
[w:GS515] = ([w:TMP984] << 8) + [w:TMP985]; //Set Minute & Second to Change Time Device
```

Object	Numerical Display	Object ID *1	20023
Script user ID	6		
Data type	Unsigned BIN16	Trigger type	Ordinary
<pre>//Day of Week Setting [w:TMP986] = [w:GD63990]; //Year (BIN) [w:TMP987] = [w:GD63991]; //Month (BIN) [w:TMP988] = [w:GD63992]; //Day (BIN) if((([w:TMP987] == 1) ([w:TMP987] == 2)){ //Correction Processing to Calculate January and February as 13th/14th Month [w:TMP986] = [w:TMP986] - 1; //Subtract 1 from Year [w:TMP987] = [w:TMP987] + 12; //Add 12 to Month } [w:TMP989] = [w:TMP986]/4; //Create Items Required for Zeller's Congruence [w:TMP990] = [w:TMP986]/100; //Create Items Required for Zeller's Congruence [w:TMP991] = [w:TMP986]/400; //Create Items Required for Zeller's Congruence [w:TMP992] = (13*[w:TMP987]+8)/5; //Create Items Required for Zeller's Congruence //Calculate Day of Week Using Zeller's Congruence and Set the Day to Change Time Device [w:GS516] = ([w:TMP986]+[w:TMP989]-[w:TMP990]+[w:TMP991]+[w:TMP992]+[w:TMP988])%7;</pre>			

*1 The Object ID might be changed when a screen is utilized.

6. MANUAL DISPLAY

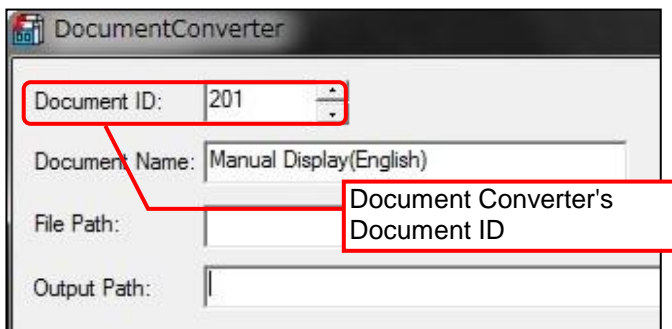
Manuals can be displayed using the document display function. For more details about the document display function, please refer to the "GT Designer3 (GOT2000) Help". Please note that the document display function does not support language switching. Therefore, in the sample screens, the language of document is switched by switching the document (Document ID) specified for a display language.

6.1 Preparing Document Data for Manual Display

Example: Displaying a English manual (document) for Manual Display on the base screen B-30500

- (1) Convert the manual (Word or Excel, etc.) to be displayed into the document data (JPEG file) that can be used with the document display function by using Document Converter. Set the Document Converter's [Document ID] to 201.

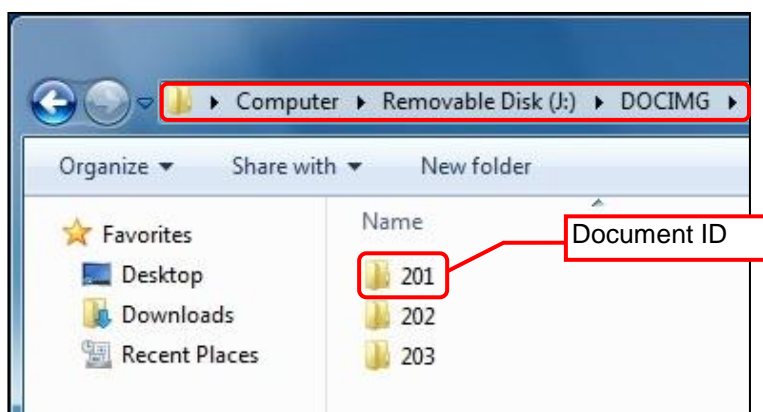
*For details of the relation between Document ID and Display language, please refer to the table below.



Column No. of the comment group No	Language	Document ID
1	English	201
2	Japanese	202
3	Chinese (Simplified)	203

*Please use Document Converter 2.09k or later. The total number pages and pages switches cannot work properly with 2.08 or older versions.

- (2) The document data is generated in the 201 folder in the DOCIMG. Save the entire DOCIMG folder into the SD card root directory without changing the folder configuration inside the DOCIMG folder.



SD card folder configuration

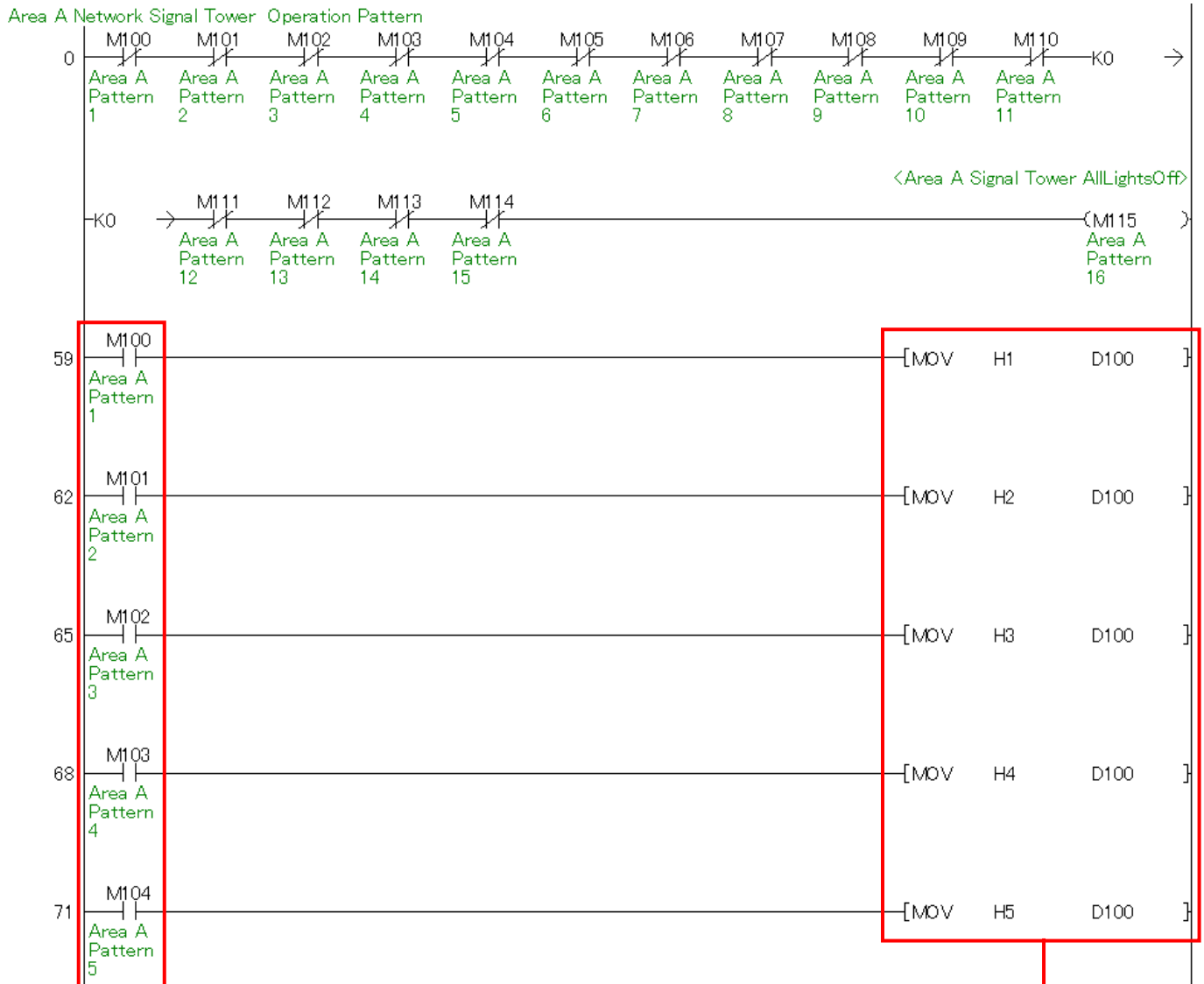
Note: In case the total number of pages is 100 or more.

This sample is made with the assumption that the total number of pages is up to 99 pages. If it exceeds 99 pages, please modify the format of numerical input (the number of "#") that displays the total number of pages and the page number of the currently displayed page

7. OTHERS

7.1 Ladder Program

A bit device is prepared for each operation pattern of the network signal tower in each area. When an alarm occurs in the equipment, turn on the bit device for the corresponding operation pattern of the network signal tower to be turned on. The sample ladder program stores the value for each operation pattern, which has been set in the network signal tower, in the device so as to notify of the network signal tower operation patterns.



M100 to M115 are bit devices for the area A network signal tower operation patterns.

M100: Area A Network Signal Tower Pattern 1

·
·
·

M115: Area A Network Signal Tower Pattern 16

D100 is the lighting information to be notified to the area A network signal tower.

The values are the same as those in the config.ini file set in the network signal towers because the value stored in D100 by the GOT is transferred to the GOT virtual microcomputer device.

D100 = H1: Red Light On

D100 = H2: Red Light Blink 1

·
·
·

D100 = H10: All Lights Off