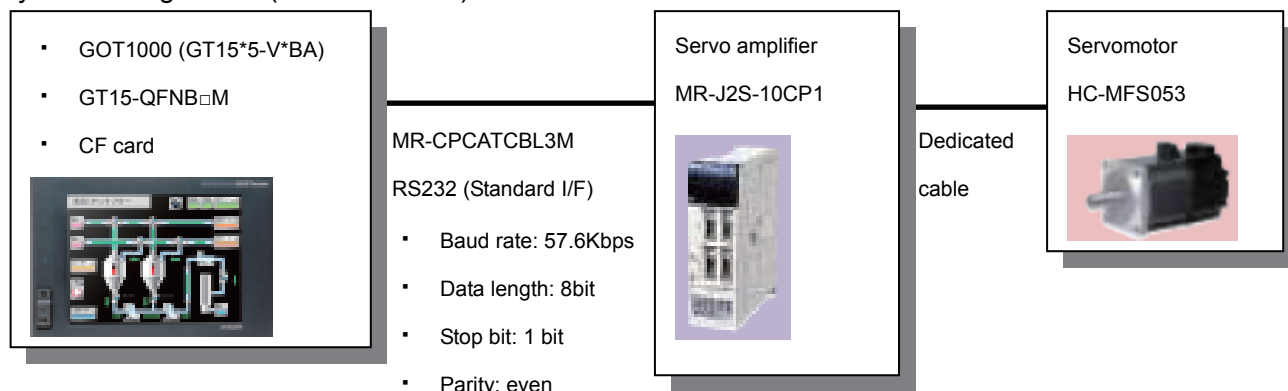


# **Servo Amplifier: MR-J2S-□CP Sample Screen Instructions Ver.2**

## 1. Overview

This document explains how to use the sample screens such as point table settings, JOG operation, positioning operation, monitoring data display by connecting GOT1000 and the servo amplifier MR-J2S-□CP via serial connection (RS232).

## 2. System configuration (1:1 connection)



## 3. Screen descriptions

### 1) Startup screen

Display this screen when starting up GOT. Select a language to change to the Main Menu screen.

### 2) Main Menu screen

Touch each button to display the relevant screen.

### 3) JOG Operation screen

Execute JOG operation command (inching) and display the status of the servo amplifier and the servomotor in operation. In addition, point table settings are available with the Teaching Function.

### 4) Forward/Reverse Operation screen

Execute forward/reverse operation command and display the status of the servo amplifier and the servomotor in operation. (For safety reasons, the motor will be forcibly stopped when switching to other screens)

### 5) Positioning Operation screen

Execute positioning operation command and display the status of the servo amplifier and the servomotor in operation. In addition, point table settings are available with the Teaching Function. (For safety reasons, the motor will be forcibly stopped when switching to other screens)

### 6) DO Forced Output screen

Forcibly turn on or off the external output signal of the servo amplifier.

### 7) Point Table Settings screen

Set each data of the Point Table. (Up to 31 tables. Feed length multiplication (STM): x1)

### 8) Monitor Batch Display screen

Display the status of the servo amplifier and the servomotor. Display the following data.

(Current position, command position, command remaining distance, point table No., cumulative feedback pulses, servo motor speed, droop pulses, override, torque limit voltage, regenerative

load ratio, effective load ratio, peak load ratio, instantaneous torque, within one-revolution position, ABS counter, load inertia moment ratio, bus voltage)

9) Function Device Display screen

Display the input/output device status of the servo amplifier.

10) DO/DI Display screen

Display the status of external input pin (DI) and external output pin (DO) of the servo amplifier.

11) Parameter screen

Set parameter information and display the set values.

12) Alarm Display screen

Display alarm codes of the currently occurring alarms in addition to six alarms from the latest.

Also display the servo amplifier's status when alarm occurred.

13) Alarm Document Display screen

As a troubleshooting screen, display name, content, cause of occurrence, and recovery method that are corresponding to each alarm code. (Document files must be prepared in a CF card in order to use this function. For details, refer to Chapter 4.)

4. Instructions for use

4. 1. Preparation of Alarm Document Display screen

The Alarm Document Display screen in this sample uses the Document Display function of GOT1000. In order to use the Document Display function, the following 4.1.1 and 4.1.2 procedures are required.

4. 1. 1. Alarm document files

In order to display documents on the Alarm Document Display screen, the document files must be stored in a specified folder in a CF card. The DOCIMG folder will be created when you extract the EXE file that is downloaded from MELFANSWeb. Copy this whole folder (all the folders and files under the DOCIMG folder) to the root directory of a CF card, which is inserted in your personal computer.

- File structure in a CF card for Alarm Document Display screen (In case of Japanese)

<pre>A:\¥ DOCIMG¥001¥L¥IMG00001.jpg                         IMG00002.jpg                         IMG00003.jpg                         : A:\¥ DOCIMG¥001¥M¥IMG00001.jpg                         IMG00002.jpg                         IMG00003.jpg                         : A:\¥ DOCIMG¥001¥S¥IMG00001.jpg                         IMG00002.jpg                         IMG00003.jpg                         : A:\¥ DOCIMG¥001¥001.ini</pre>	<p>[Caution]</p> <p>Alarm document files cannot be displayed correctly if the folder and file structure is different from the left. Be sure to use the structure on the left.</p> <p>When displaying in English, the folder structure is different.</p> <p>&lt;Japanese&gt; A:\¥ DOCIMG¥001¥....</p> <p>&lt;English&gt; A:\¥ DOCIMG¥002¥....</p>
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#### 4. 1. 2. Optional OS installation

In order to display alarm documents, the optional OS for document display must be installed.

In addition, the optional board (GT15-QFNB□M or GT15-MESB48M) is required.

#### 4. 2. Others

- To communicate with servo amplifiers, the communication driver (MELSERVO-J3, J2S/M) must be installed.
- To use the sample screen data, GT-Designer2 Version 2.92W or later must be used.
- Document Display function is not available on the GT11 series.
- Input data of the point table must be written to the ROM area of the servo amplifier. (Writing to RAM area is not allowed)

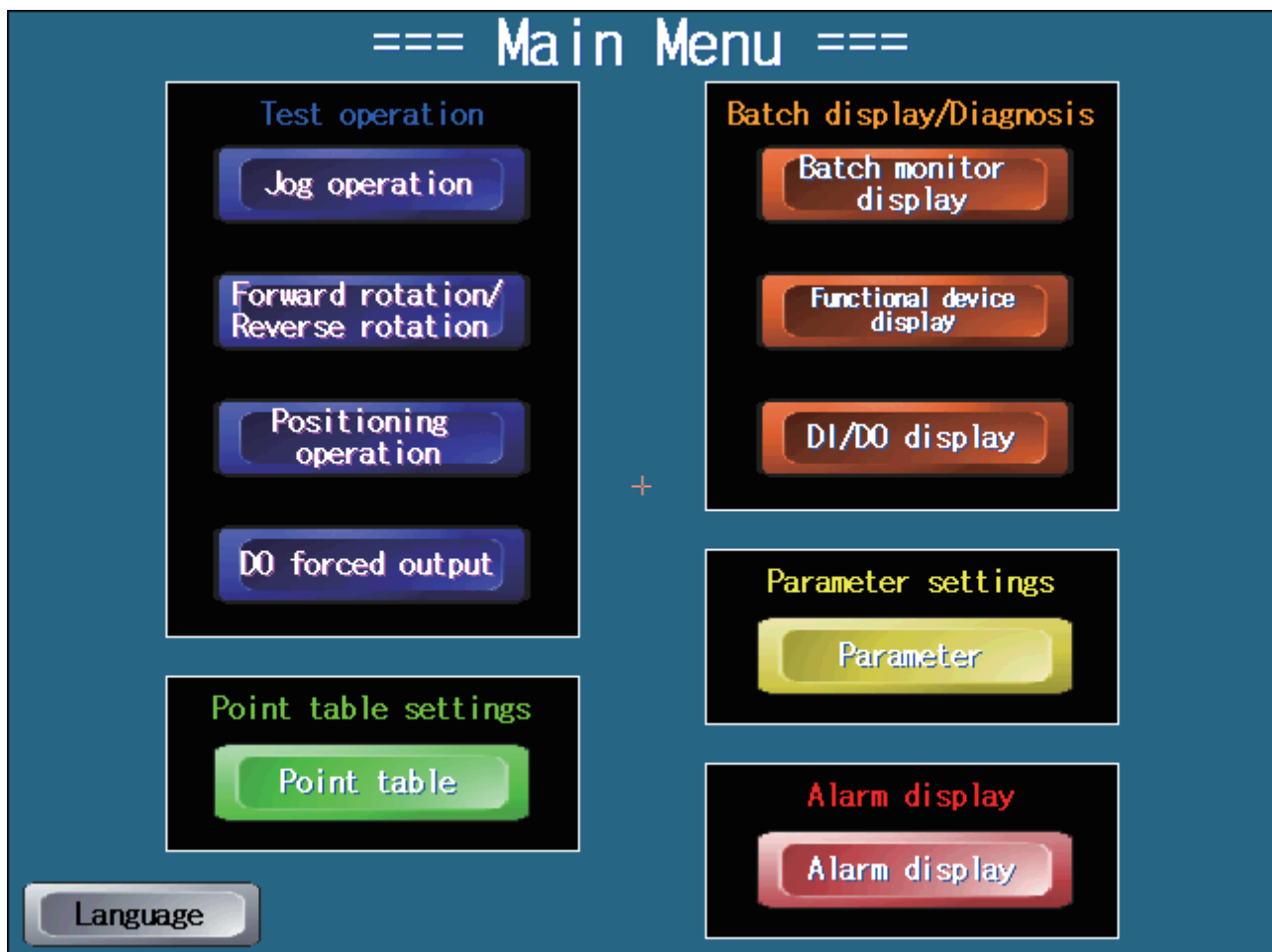
## 5. Screen contents descriptions

### 5. 1. Startup screen



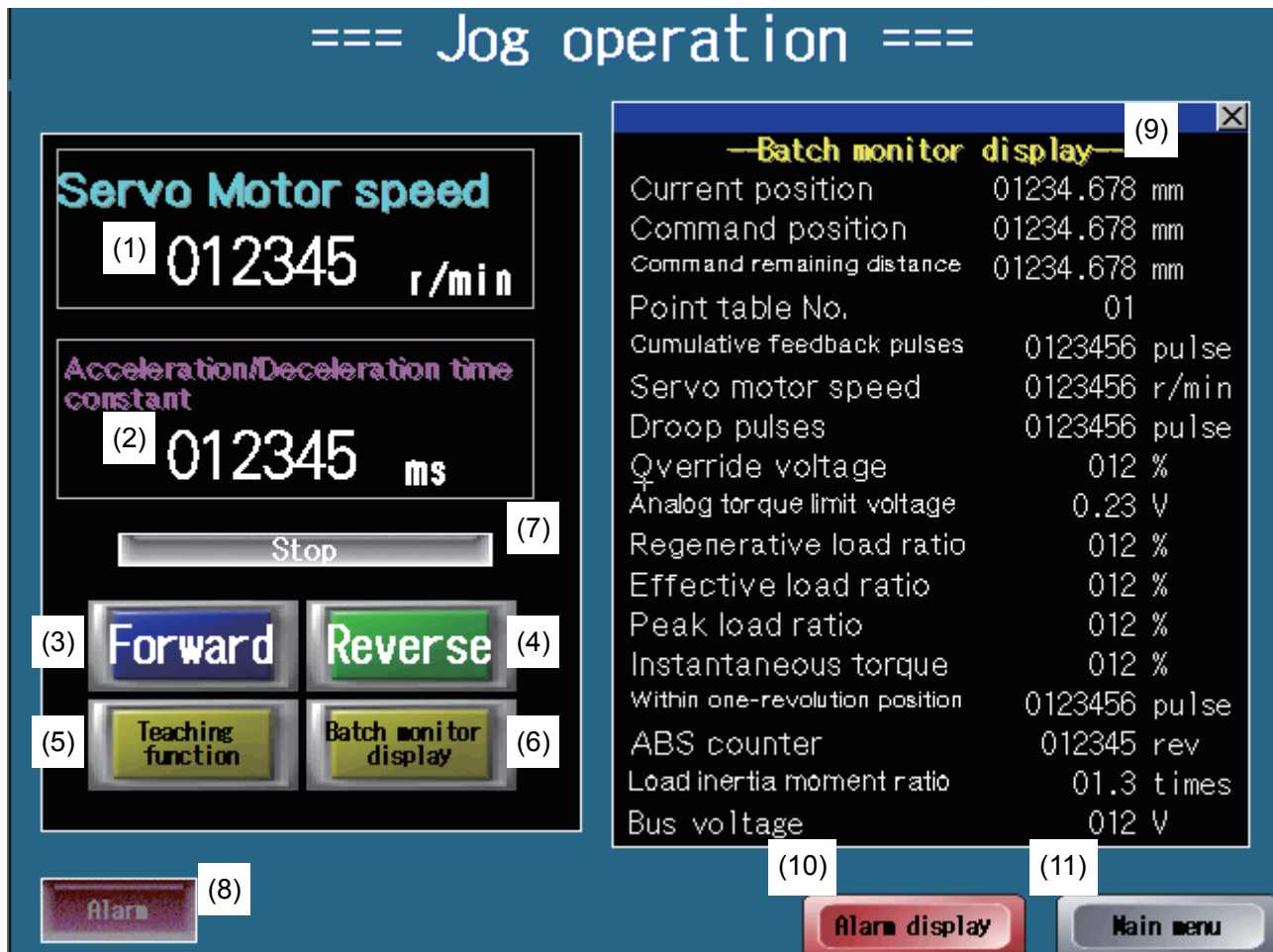
This screen is displayed when starting up the sample screen.

Select a language ("Japanese" or "English" or "Chinese") to move to the Main Menu screen.



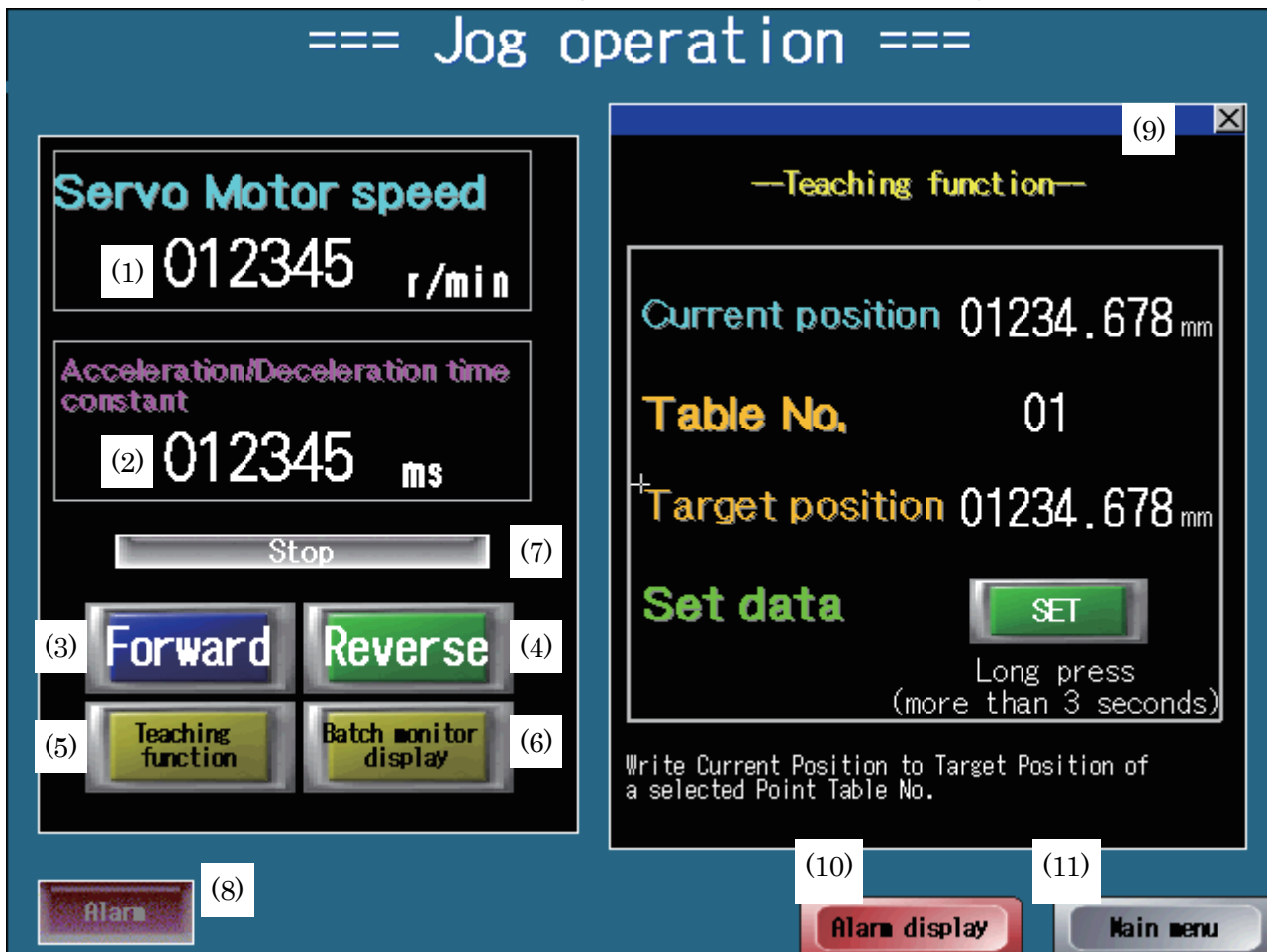
Touch a menu button to switch to the relevant screen.

5. 3. JOG Operation screen (With Monitor Batch Display window screen displayed)



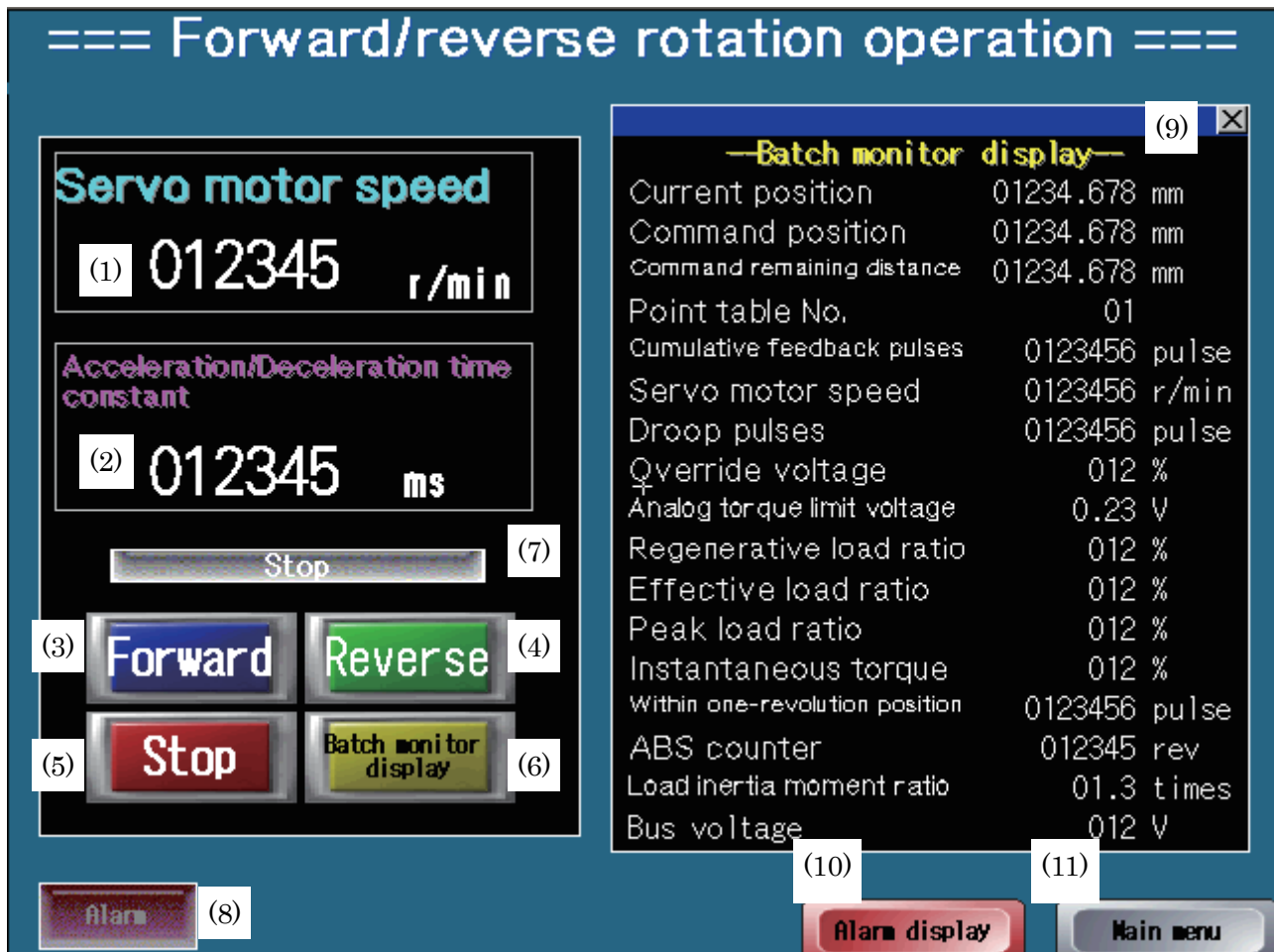
- 1) Enter motor speed.
- 2) Enter acceleration/deceleration time constant.
- 3) Touch the switch to start forward rotation with entered values 1) and 2); release the switch to stop the motor. (Inching)
- 4) Touch the switch to start reverse rotation with entered values 1) and 2); release the switch to stop the motor. (Inching)
- 5) Touch the switch to display the Teaching Function window screen. (Refer to Chapter 5.4)
- 6) Touch the switch to display the Monitor Batch Display window screen of the servo amplifier and the motor.
- 7) Display the motor operation status (running in forward rotation, running in reverse rotation, off).
- 8) Blink when alarms occur.
- 9) Display the status of the servo amplifier and the motor. (In a window screen)
- 10) Switch to the Alarm Display screen.
- 11) Switch to the Main Menu screen.

5. 4. JOG Operation screen (With Teaching Function window screen displayed)



- 1) Enter motor speed.
- 2) Enter acceleration/deceleration time constant.
- 3) Touch the switch to start forward rotation with entered values 1) and 2); release the switch to stop motor. (Inching)
- 4) Touch the switch to start reverse rotation with entered values 1) and 2); release the switch to stop motor. (Inching)
- 5) Touch the switch to display Teaching Function window screen.
- 6) Touch the switch to display the Monitor Batch Display window screen of the servo amplifier and the motor. (Refer to Chapter 5.3)
- 7) Display the motor operation status (running in forward rotation, running in reverse rotation, off).
- 8) Blink when alarms occur.
- 9) Write the current position value to the target position of a selected point table (No.1 to No.31). The target position data should be within the range of from -999.999 to 999.999. (The range will be shown in a window screen)
- 10) Switch to the Alarm Display screen.
- 11) Switch to the Main Menu screen.

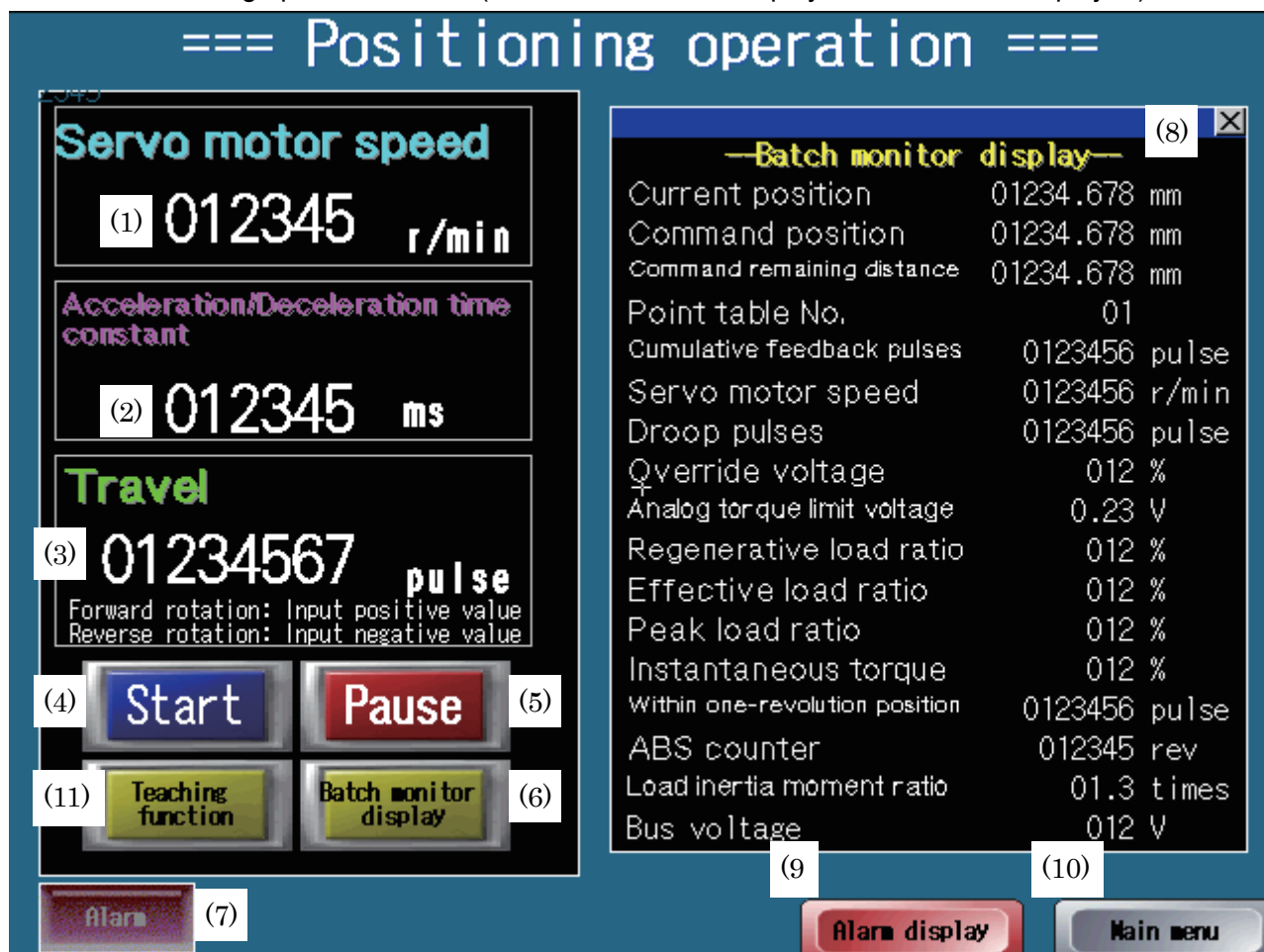
5. 5. Forward/Reverse Operation screen (With Monitor Batch Display window screen displayed)



- 1) Enter motor speed.
- 2) Enter acceleration/deceleration time constant.
- 3) Touch the switch to start forward rotation with entered values 1) and 2); release the switch to stop.  
(Inching)
- 4) Touch the switch to start reverse rotation with entered values 1) and 2); release the switch to stop.  
(Inching)
- 5) Touch the switch to stop motor.
- 6) Touch the switch to display the Monitor Batch Display window screen of the servo amplifier and the motor.
- 7) Display the motor operation status (running in forward rotation, running in reverse rotation, off).
- 8) Blink when alarms occur.
- 9) Display the status of the servo amplifier and the motor. (In a window screen)
- 10) Switch to the Alarm Display screen.
- 11) Switch to the Main Menu screen.



5. 6. Positioning operation screen (With Monitor Batch Display window screen displayed)



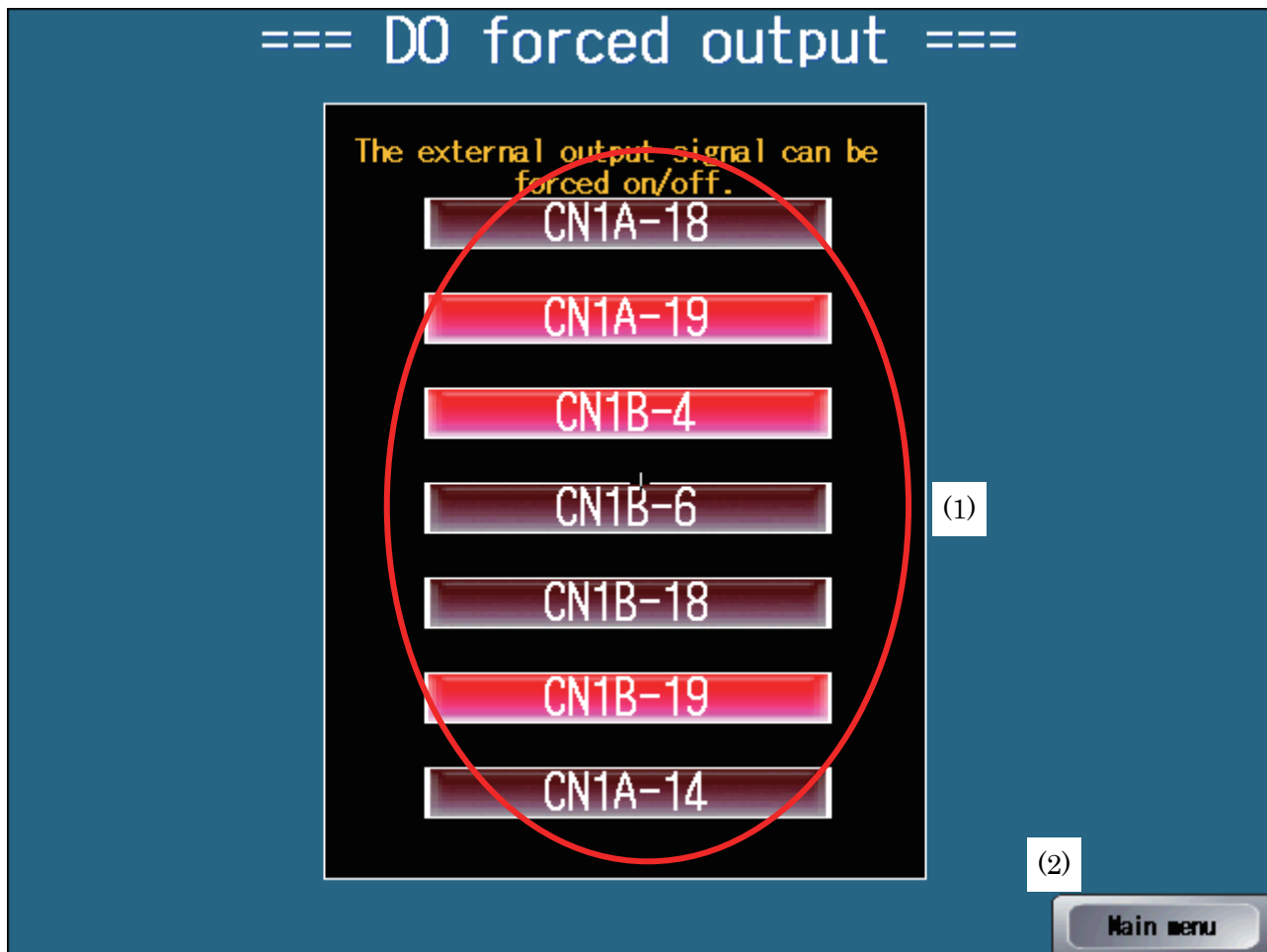
- 1) Enter motor speed.
- 2) Enter acceleration/deceleration time constant.
- 3) Enter travel. (Positive value for forward rotation; negative value for reverse rotation.)
- 4) Touch the switch to start positioning operation with entered values 1), 2) and 3).
- 5) Touch the switch to pause the motor. It is possible to restart operation from where it is paused.
- 6) Touch the switch to display Monitor Batch Display window screen of the servo amplifier and the motor.
- 7) Blink when alarms occur.
- 8) Display the status of the servo amplifier and the motor. (In a window screen)
- 9) Switch to the Alarm Display screen.
- 10) Switch to the Main Menu screen.
- 11) Touch the switch to display the Teaching Function window screen. (Refer to Chapter 5.7)

5. 7. Positioning Operation screen (With Teaching Function window screen displayed)



- 1) Enter motor speed.
- 2) Enter acceleration/deceleration time constant.
- 3) Enter travel. (Positive value for forward rotation; negative value for reverse rotation.)
- 4) Touch the switch to start positioning operation with entered values 1), 2) and 3).
- 5) Touch the switch to pause the motor. It is possible to restart operation from where it is paused.
- 6) Touch the switch to display Monitor Batch Display window screen of the servo amplifier and the motor. (Refer to Chapter 5.6)
- 7) Blink when alarms occur.
- 8) Write the current position value to the target position of a selected point table (No.1 to No.31). The target position data should be within the range of from -999.999 to 999.999. (The range will be shown in a window screen.)
- 9) Switch to the Alarm Display screen.
- 10) Switch to the Main Menu screen.
- 11) Touch the switch to display Teaching Function window screen.

5. 8. DO Forced Output screen



- 1) Touch these buttons to forcibly turn on or off the external output signal.
- 2) Switch to the Main Menu screen.

## 5. 9. Point Table Settings screen

**=== Point table (1/2) ===**

No	Target position mm	Rotation speed r/min	Acceleration TC ms	Deceleration TC ms	Dwell ms	Auxiliary function
(1) 1	0123.567	01234	01234	01234	01234	0
2	0123.567	01234	01234	01234	01234	0
3	0123.567	01234	01234	01234	01234	0
4	0123.567	01234	01234	01234	01234	0
5	0123.567	01234	01234	01234	01234	0
6	0123.567	01234	01234	01234	01234	0
7	0123.567	01234	01234	01234	01234	0
8	0123.567	01234	01234 +	01234	01234	0
9	0123.567	01234	01234	01234	01234	0
10	0123.567	01234	01234	01234	01234	0
11	0123.567	01234	01234	01234	01234	0
12	0123.567	01234	01234	01234	01234	0
13	0123.567	01234	01234	01234	01234	0
14	0123.567	01234	01234	01234	01234	0
15	0123.567	01234	01234	01234	01234	0
16	0123.567	01234	01234	01234	01234	0

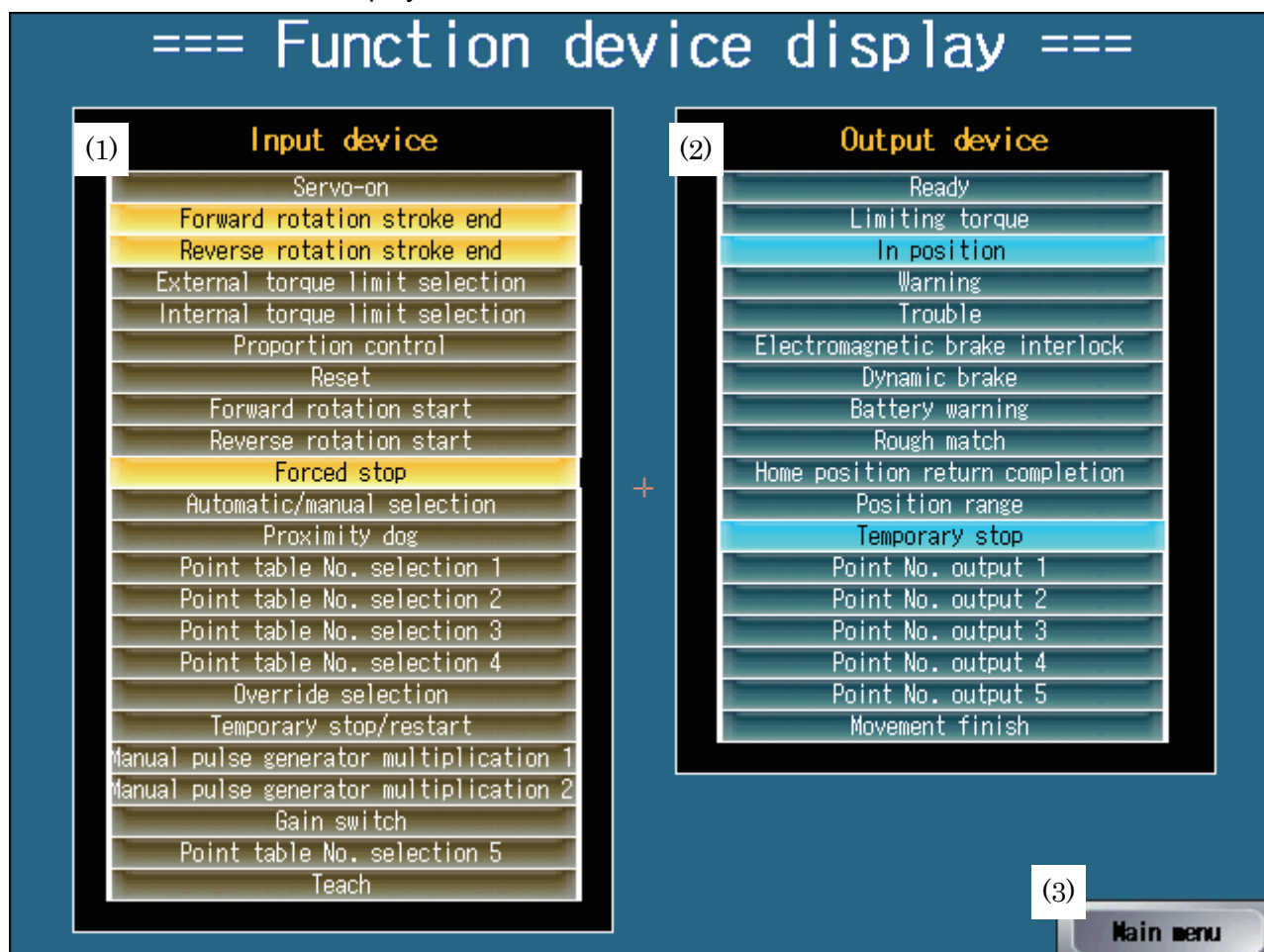
Feed length multiplication factor (STM) = 1 time

(2) **Next page** (3) **Main menu**

- 1) Enter data in each point table. (Tables from No.1 to No.31 can be set)  
 Touch a Numeric Display area to display a numeric keypad in order to enter each point table data.  
 Each data has its input range and it is not allowed to enter values outside of the range.
- 2) Switch to the next page. (Screen 1/2 includes point tables 1 to 16; screen 2/2 includes point tables 17 to 31)
- 3) Switch to the Main Menu screen.

=== Batch monitor display ===		
(1) Current position	01234.678	mm
Command position	01234.678	mm
Command remaining distance	01234.678	mm
Point table No.	01	
Cumulative feedback pulses	0123456	pulse
Servo motor speed	0123456	r/min
Droop pulses	0123456	pulse
Override voltage	012	%
Analog torque limit voltage	0.23	V
Regenerative load ratio	012	%
Effective load ratio	012	%
Peak load ratio	012	%
Instantaneous torque	012	%
Within one-revolution position	0123456	pulse
ABS counter	012345	rev
Load inertia moment ratio	01.3	times
Bus voltage	012	V
		(2)
		Main menu

- 1) Display the status of the servo amplifier and the motor.
- 2) Switch to the Main Menu screen.



- 1) Display the input device status of the servo amplifier.
- 2) Display the output device status of the servo amplifier.
- 3) Switch to the Main Menu screen.



- 1) Display the status of the servo amplifier external input pin.
- 2) Display the status of the servo amplifier external output pin.
- 3) Switch to the Main Menu screen.

## 5. 13. Parameter screen

**=== Basic parameters ===**

After setting parameter values, write them to the RAM.

Abbr.	Name	Set value	Unit	Abbr.	Name	Set value	Unit
(1) STY	Command system/ regenerative brake option selection	0123		JOG	Jog speed	01234	r/min
FTY	Feeding function selection	0123		STC	S-shape acceleration/ deceleration TC	012	ms
OP1	Function selection 1	0123		SNO	Station No. setting	01	station
ATU	Auto tuning	0123		BPS	Serial comm. function selection, alarm history clear	0123	
CMX	Electronic gear numerator	012345		MOD	Analog monitor output	0123	
CDV	Electronic gear denominator	012345		DMD	Status display selection	0123	
INP	In-position range	012345	μm	BLK	Parameter write inhibition	0123	
PG1	Position loop gain 1	0123					
ZTY	Home position return type	0123	rad/s				
ZRF	Home position return speed	012345	r/min				
CRF	Creep speed	012345	r/min				
ZST	Home position shift distance	012345	μm				
CRP	Rough match output range	012345	$\times 10^{\text{STM}} \mu\text{m}$				

**Change parameter write destination**

To EEPROM

(2)

(3)

Main menu

1) Set parameter information and display the set values.

After setting parameter values, the data will be written in the destination memory (RAM or EEPROM).

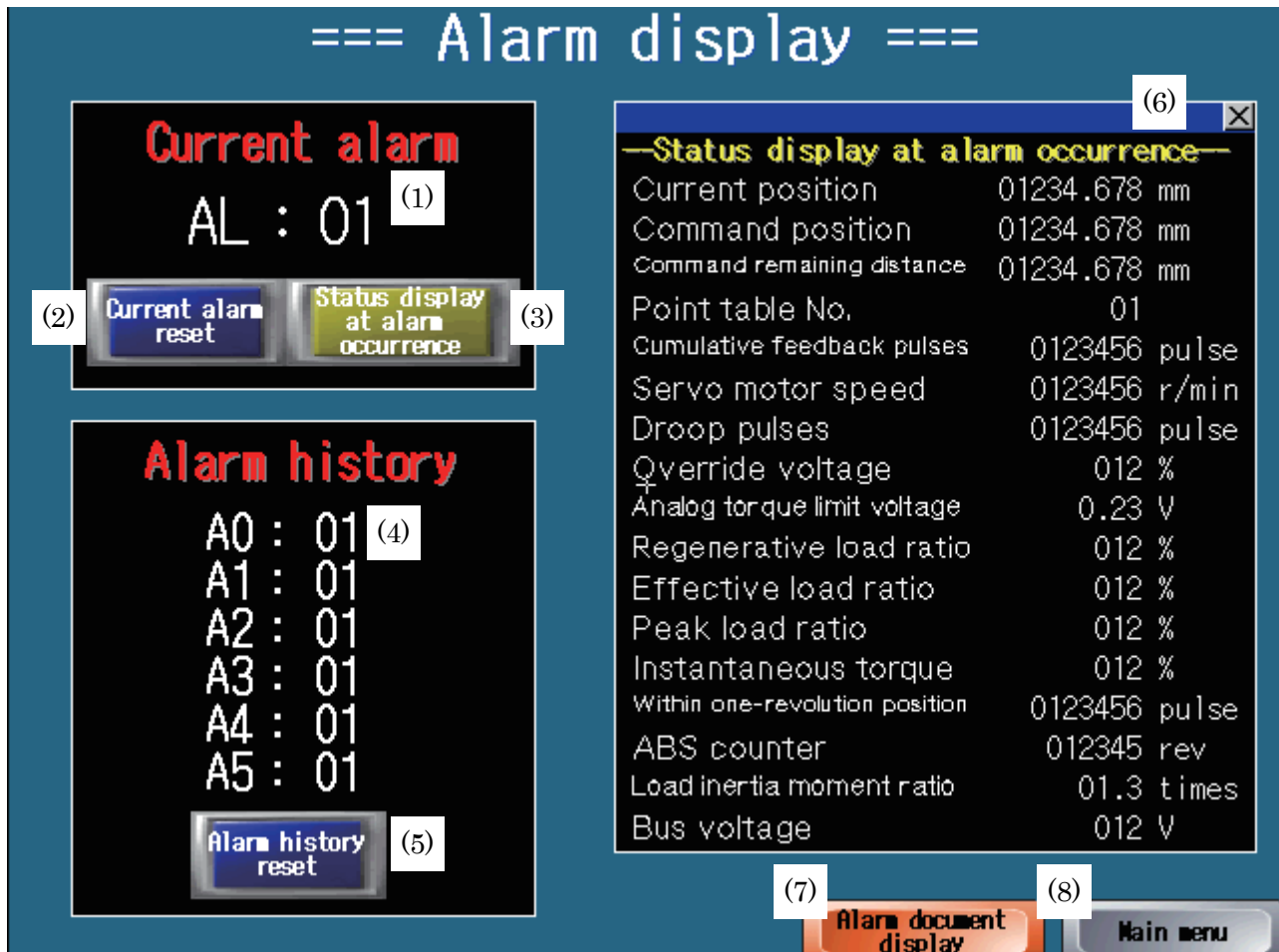
When setting parameter values, check the destination to write parameter values.

The data written to RAM will be deleted when turning off the servo amplifier.

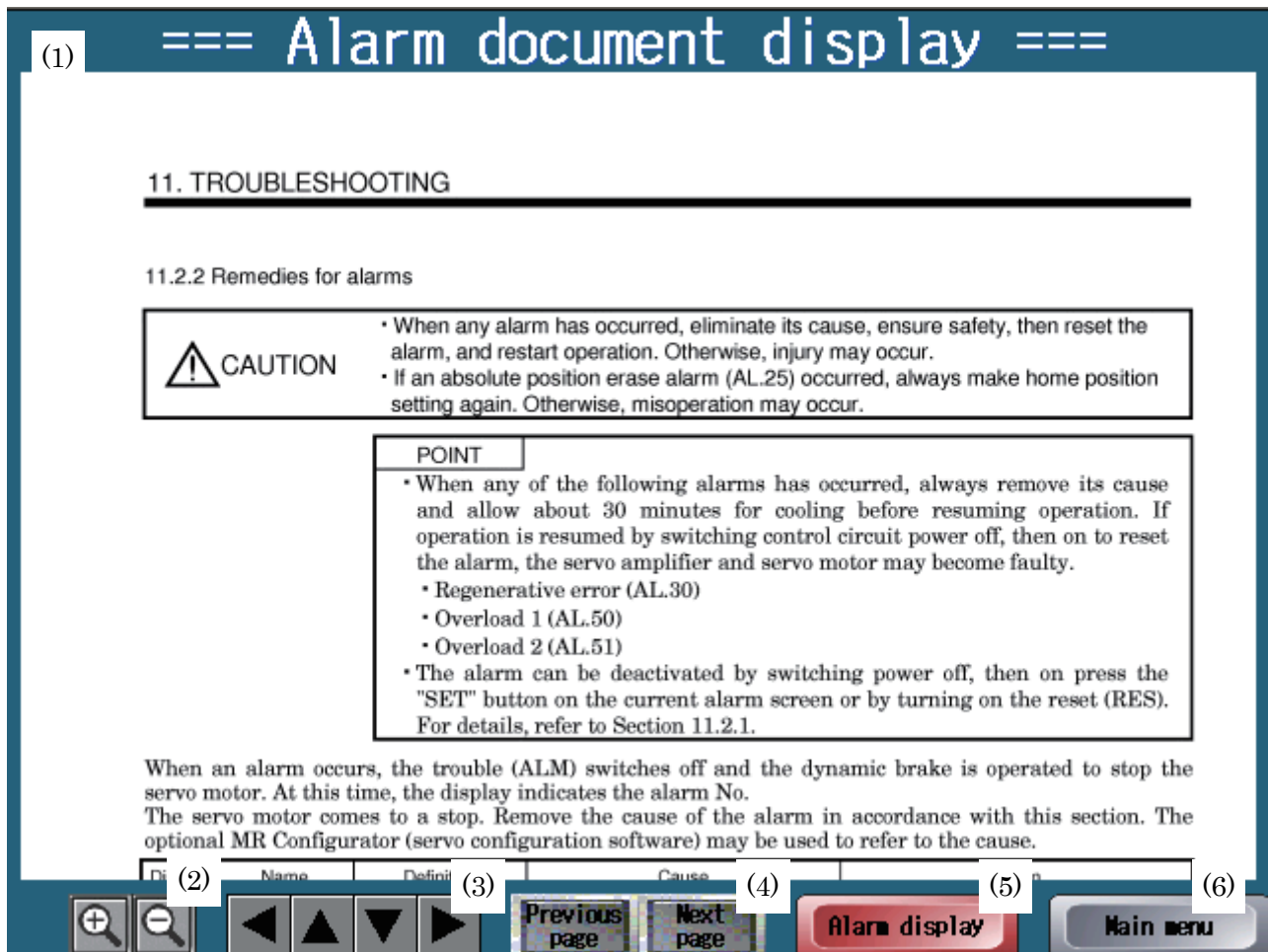
2) Switch the destination to write parameters. (RAM/EEPROM)

3) Switch to the Main Menu screen.





- 1) Display alarm codes of the currently occurring alarms. (No display when there are no alarms)
- 2) Touch the switch to reset the currently occurring alarms. (Some of the alarms cannot be reset from GOT)
- 3) Touch the switch to display Monitor Batch Display window screen of the servo amplifier and the motor when alarms occur.
- 4) Display alarm codes of past six alarms from new to old. (No alarm code display when there are no alarms)
- 5) Touch the switch to reset the Alarm History data.
- 6) Display the status of the servo amplifier and the motor when alarms occur. (In a window screen)
- 7) Switch to the Alarm Document Display screen. (You can view the name, content, cause of occurrence, and recovery method that are corresponding to each alarm code.)
- 8) Switch to the Main Menu screen.



- 1) Display the troubleshooting manual. (Display the alarm code, name, content, cause of occurrence, and recovery method.)
- 2) Touch the switch to enlarge/reduce the size of document display. (Large, medium, small)
- 3) Touch the switch to move the document display. (Up, down, left, right)
- 4) Touch the switch to go to the previous/next page of the document.
- 5) Switch to the Alarm Display screen.
- 6) Switch to the Main Menu screen.

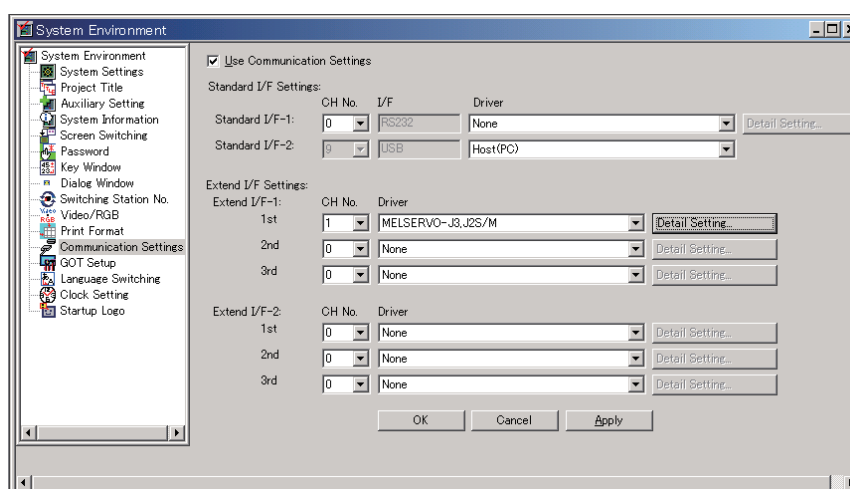
## 6. Instructions for user customization

### 6. 1. When changing feed length multiplication (STM)

The sample screen is set to “feed length multiplication (STM) = 1.” If you change the feed length multiplication of the servo amplifier, adjust the decimal point of “position data” in the sample screen in order to fit the changed feed length multiplication.

### 6. 2. When changing communication I/F

The sample screen uses the standard I/F for RS232 connection. In order to change to the extend I/F, use the GT Designer2 or the GOT utility menu to set “CH No.,” “communication driver,” and “detail of communication settings” for where you installed the extend I/F. Note that the communication unit “GT15-RS2-9P” is required to use the extend I/F. (The following is the example of settings for the extend I/F-1, 1st.)



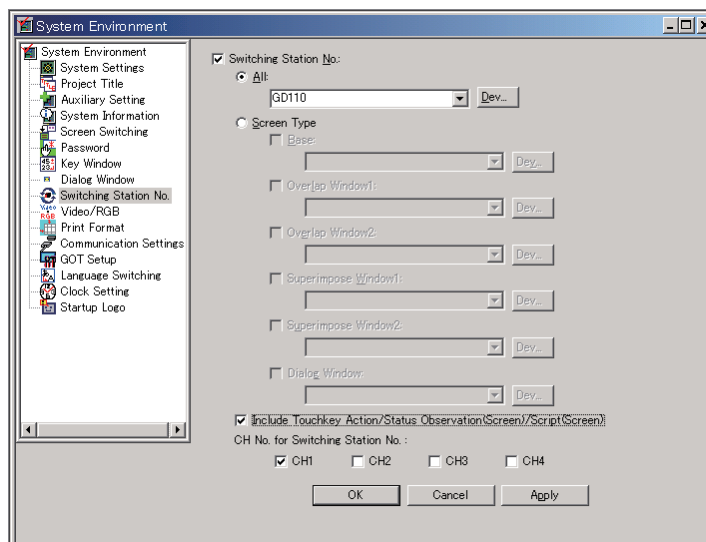
### 6. 3. When changing communication method (RS422)

When changing communication method to RS422, the following communication unit is required.

- When using the standard I/F: GT15-RS2T4-9P
- When using the extend I/F: GT15-RS4-9S

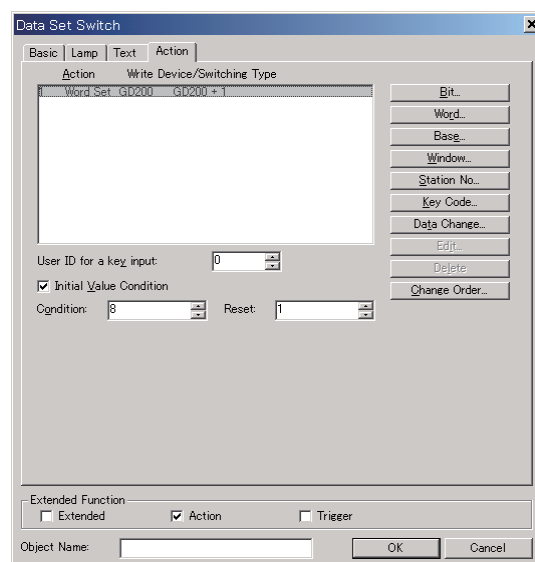
### 6. 4. Connecting multiple servo amplifiers

When using RS422 connection, in order to connect and use multiple servo amplifiers by switching station numbers, select the menu [Common Settings]-[System Environment]-[Switching Station No.] in the GT Designer2 and set the “Switching Station No. device” and mark the checkbox named “Include Touchkey Action/Status Observation(Screen)/Script(Screen).” In addition, No. 0 station is required to connect multiple servo amplifiers to GOT. (The following is the example of setting GD100 as a switching station No. device)



## 6. 5. Replacing document data

In order to replace documents in Alarm Document Display screen, convert the documents with DocumentConverter into a format that is accepted by the GOT. For how to use the DocumentConverter, refer to the GT Designer2 Version2 Screen Design Manual. The “document ID” should be “1” to display Japanese documents, and “2” to display English documents. To save the document data to a CF card, the folder structure must be the one that is specified in the section 4.1.1. Alarm document files. The number of documents is not fixed; however, be sure to set appropriate numbers to the items “Previous page” and “Next page” on the Alarm Document Display screen and “Condition value” and “Reset value” of Data Set Switch, in order to make the numbers the same as the actual document numbers. (The following is the example of setting eight as the number of documents”



## 6. 6. When changing servomotors

When changing the servomotor to connect, the servomotor speed entered from GOT must be less than the instantaneous permissible speed.

## Revision History

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### Sample Screen Instruction

Revision Date	Control Number*	Revision Contents
2009/2/6	BCN-86192	First edition
2012/7/6	BCN-86192-A	Corrected the connection cable model name

\* Control Number is written on the right bottom corner.

### Project Data

Revision Date	Project Data	GT Designer2*	Revision Contents
2009/2/6	MR-J2S-CP_VGAsample_ Ver2b_ecj.GTE	2.92W	First edition

\* The number indicates the version of the screen design software that was used to create the project data. Please be sure to use the same or later version of the software.