14 Console operation

By connecting a console when turning the power supply on, the position driver can perform the operation with the following functions using the console:
setting of various parameters, monitoring of the control state, referring to the alarm state, origin return, execution of jog operation and step operation, automatic gain tuning, etc.

14-1 Connection of console

(1) When using a console, plug the connector securely into the connector SER1 after confirming that the power supply of MSS*XP is cut.

(2) Check if the emergency stop switch of the console (Mushroom type switch) is not pushed into it. If the emergency stop switch is pushed into it, release the Emergency stop by turning the switch.

(3) Turn the power supply of the position driver on after the connection.
On the console, a display will be appeared. Now, the console can be used.

Main menu display

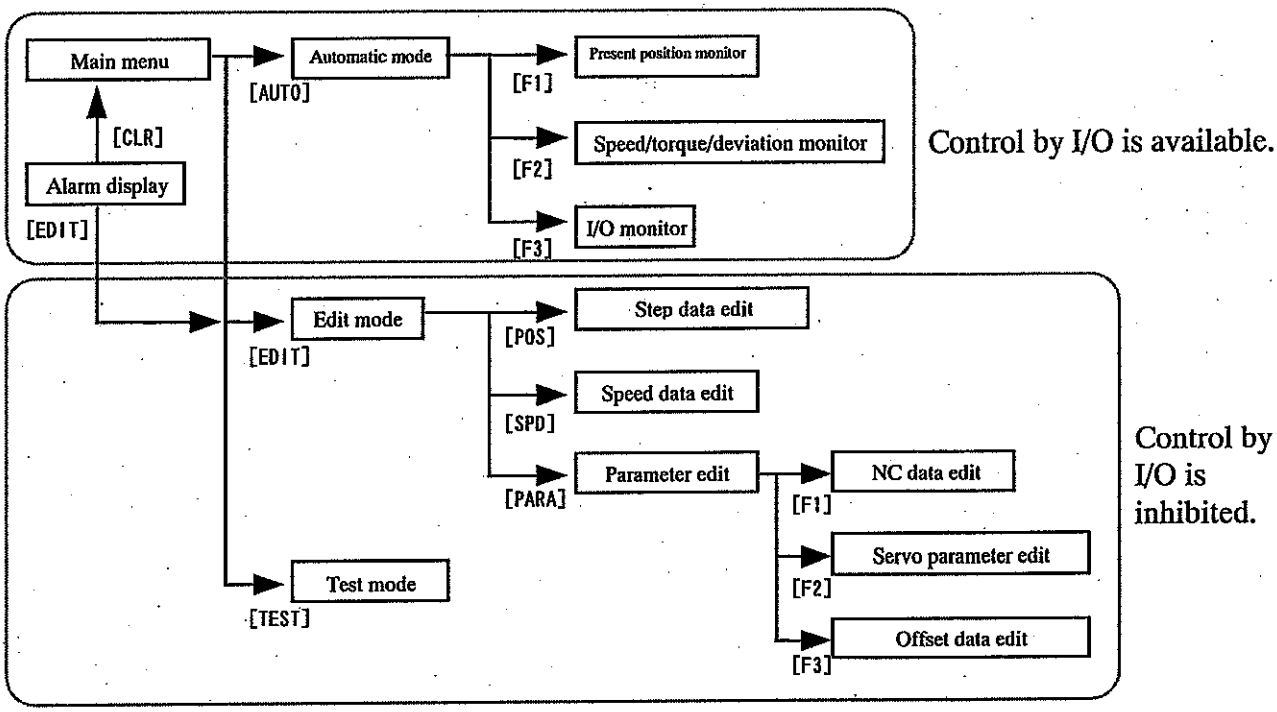
Position Driver
MSS*XP Ver1.00
Panasonic (c)1997
[AUTO][EDIT][TEST]

Note1) As connector SER2 cannot be used, do not connect a console to the connector SER2.
Note2) In case that the console is removed after turning the power supply on, emergency stop input error will be generated. Also, note that the console cannot be used even by connecting the console after turning the power supply on.

14-2 Description of each key

Key	Key name	Key function
[F1] - [F5]	Function key	☐ Selects a menu.
[AUTO]	Automatic mode key	☐ Moves from the main menu state to the automatic mode.
[EDIT]	Edit mode key	☐ Moves from the main menu state to the edit mode.
[TEST]	Test mode key	☐ Moves from the main menu state to the test mode.
[POS]	Position edit mode key	☐ Moves from the edit mode menu state to the step data edit.
[SPD]	Speed edit mode key	☐ Moves from the edit mode menu state to the speed data edit.
[PARA]	Parameter edit mode key	☐ Moves from the edit mode menu state to the parameter (Offset data, NC data, servo parameter) edit state.
[ABS/INC]	Positioning mode setting key	☐ A key for specifying positioning mode at the step data edit. ☐ ABS (Absolute positioning) and INC (Relative positioning) are switched every time the key is pressed.
[←H] [H→]	High speed jog key	☐ At the test mode Performs high speed jog operation. ☐ At the step data edit Performs teaching for coordinate data input. (Only when finishing the origin return.)
[←L] [L→]	Low speed jog key	☐ At the test mode Performs low speed jog operation. ☐ At the step data edit Performs teaching for coordinate data input. (Only when finishing the origin return.)
[ORG]	Origin return execution key	☐ Performs origin return operation at the test mode.
[STEP]	Step command key	☐ Performs step operation at the test mode.
[MOV]	Operation command key	☐ At the test mode A key for starting the operation actually after inputting the step No., when executing the step command with [STEP]. ☐ At the step data edit Moves to the position of step data which is displayed. (Only when finishing the origin return).
[←]	Cursor key	☐ Within the edit mode Moves to the cursor position of the previous input. ☐ At the value input Uses as back space (Deleting the value inputted at the last.).
[→]	Cursor key	☐ Moves the cursor position of the next input within the edit mode.
[↑] [↓]	Cursor key	☐ Switches displayed No. within the edit mode.
[CLR]	Clear key	☐ When displaying the menu Returns to one upper menu after finishing various settings. ☐ At the value input Cancels the value inputted.
[ENT]	Enter key	☐ At the value input Determines the value inputted. ☐ Within the edit mode Moves to the cursor position of the next input.
[0] - [9]	Ten key	☐ Inputs a value.
[+/-]	Sign switching key	☐ Switches between +sign and - sing at the value input.

14-3 Outline of operation



When returning to one upper level menu, press [CLR].

Mode	Item	Page	Function
Automatic mode	Present position monitor	77	☐ Displays the present position the motor.
	Speed/torque/deviation monitor	77	☐ Displays the present speed, torque and deviation monitor.
	I/O monitor	78	☐ Displays input/output signal state (ON/OFF).
Edit mode	Step data edit	80	☐ Sets and changes data for positioning.
	Speed data edit	83	☐ Sets and changes positioning speed, origin return speed, and jog speed.
	NC data edit	85	☐ Sets and changes acceleration data, operation direction setting, and input signal logic.
	Servo parameter edit	86	☐ Sets and changes servo parameters such as gain for the position driver.
	Offset data edit	88	☐ Sets and changes origin offset and software limit.
Test mode	Test mode	90	☐ Executes jog operation, origin return operation, step operation, etc. on the console.
Alarm display	Protection function (error) display	91	☐ Displays the error No. which is generated.

14-4 Automatic mode

(Main menu) → [AUTO]

The present position monitor, the speed/torque/deviation monitor, or the I/O monitor is selected.

```
-AUTO (MONITOR)-
F1...POS
F2...SPD/TRQ/ERR
F3...I/O      [CLR]
```

- If [F1] is pressed, moves to the present position monitor.
  If [F2] is pressed, moves to the speed/torque/deviation monitor.
  If [F3] is pressed, moves to the I/O monitor.
  If [CLR] is pressed, returns to the main menu.

14-4-1 Present position monitor

(Main menu) → [AUTO] → [F1]

Displays the present position of the motor.

```
-MON (POSITION)-
Position[pls]
                500000
                  [CLR]
```

- If the origin return is not finished, displays "Origin Unfinished."
- If [CLR] is pressed, returns to the automatic mode menu.

14-4-2 Speed/torque/deviation monitor

(Main menu) → [AUTO] → [F2]

Displays the rotation speed, the output torque, and the deviation counter of the motor.

```
-MON (SPD/TRQ/ERR)-
 SPEED  :     0kpps
 TORQUE :     0%
 ERR POS :    0 [CLR]
```

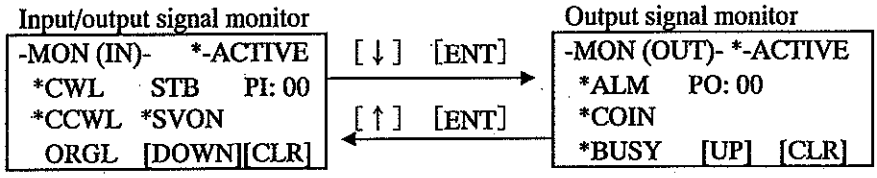
SPEED : Motor speed (kpps)
TORQUE : Output torque (%)
ERR POS : Deviation counter (pulse)

- If [CLR] is pressed, returns to the automatic mode menu.

14-4-3 I/O monitor

(Main menu) → [AUTO] → [F3]

Displays the input/output signal of the motor.



Note) By the option setting of NC parameter, positioning finish output (COIN) and decelerating output (DCLON) can be selected. On the output signal monitor display, it will be displayed with signal name which was set (COIN or DCLON).

- With [↑], switches from output signal monitor display to input signal monitor display.
- With [↓], switches from input signal monitor display to output signal monitor display.
- Every time [ENT] is pressed, switches between input signal monitor display and output signal monitor display.
- For the input signal monitor, signal with"* "mark indicates contact point close state.
  A value indicated with "PI: " displays the value inputted with the point assign input signal (5-bit) in decimal number.
- For the output signal monitor, signal with"* "mark indicates that the output transistor is turned on.
  A value indicated with "PO: " displays the value outputted with the present position output signal (5-bit) in decimal number.
- If [CLR] is pressed, returns to the automatic mode menu.

14-5 Edit mode

(Main menu) → [EDIT]

The step data edit, the speed data edit, or the parameter edit is selected.

Edit mode display

```
-EDIT-
POS ... Position
SPD ... Speed
PARA ... Parameter [CLR]
```

- If [POS] is pressed, moves to the step data edit.
  If [SPD] is pressed, moves to the speed data edit.
  If [PARA] is pressed, moves to the parameter edit menu.
  If [CLR] is pressed, returns to the main menu.

14-5-1 Step data edit

(Main menu) → [EDIT] → [POS]

Sets and changes the step data to be necessary for executing positioning.

Note) After setting the data, perform EEPROM writing process when leaving the menu with [CLR]. Therefore, if the power supply is cut before the writing, note that the step data will not be memorized.

Step data inputted

```
-EDIT (POSITION)-
No. 01 SPD: 01 MD: INC
POS:            10000000
[U/D][MOV][ENT][CLR]
```

Step data not inputted

```
-EDIT (POSITION)-
No. 01 SPD: -- MD: ---
POS: ----------
[U/D][MOV][ENT][CLR]
```

No. : Step No. presently indicated (Setting change)
SPD : Speed selection No.
MD : Positioning mode (ABS/INC)
POS : Positioning coordinate (Transfer amount)
For details of parameters, refer to section 10-2-1 "Step data" (Page 32).

- If [↑] is pressed, moves to one before the step No. and moves to the next step No. if [↓] is pressed.
- If [←] and [→] are pressed, moves the cursor to the position where input is available within the step data displayed.
- If [ENT] is pressed, moves the cursor to the position where the next input is available. The difference with [→] is that [→] moves the cursor only within the step data indicated. However, [END] moves it to the next step No.
- If [CLR] is pressed, returns to the edit mode menu. At the time, changed parameter will be written into EEPROM. If the power supply is cut before the writing, parameter after turning the power supply on will become inactive.

14-5-1-1 Input of speed selection No.

(1) The cursor should be moved to the position of speed selection No. for the step data you would like to set. (If the step data is not inputted yet, display step data to which you would like to input new data.)
(2) Using [0] - [9], input a value in the range of 1to 10.
If [←] is pressed, the value inputted at the last will be deleted. (Back space)
After inputting the speed selection No., determine the value with [ENT].
Cancel the value inputted with [CLR], and display the original value.

14-5-1-2 Selection of positioning mode

(1) The cursor should be moved to the position of positioning mode for the step data you would like to set.
(2) If [ABS/INC] is pressed, positioning mode will be switched between ABS (Absolute positioning mode) and INC (Relative positioning mode).

Note) If "Only use relative transfer" is selected for the option setting of NC parameter, it will be inactive.

14-5-1-3 Input of positioning coordinate

(1) The cursor should be moved to the position of positioning coordinate for the step data you would like to set.
(2) To input the positioning data, there are two methods: directly inputting transfer amount with a value and specifying the position by teaching with jog key of the console. (Teaching is available only when finishing the origin return.)

○ Value input

Using [0] - [9] and (+/-), input a value in the range of -1073741824 - 1073741823.

If [←] is pressed, the value inputted at the last will be deleted. (Back space) After inputting the transfer amount, determine the value with [ENT].

Cancel the value inputted with [CLR], and display the original value.

○ Teaching

If a jog key ([←H], [H→], [←L], or [L→]) is pressed, the motor will be operated, changing the coordinate value.

In case that high speed jog key ([←H], or [H→]) is pressed, the motor will be operated with the speed set with the jog speed (High speed), and it will be operated with the speed set with jog speed (Low speed) if ([←L], or [L→]) is pressed.

For the operation direction by the jog key, it will be changed depending on the parameter. For setting of the operation direction, refer to section 12-2 "Initial setting of NC parameter" (Page 41).

If the motor position is determined, determine the value with [ENT] key.

Cancel the value inputted with [CLR], and display the original value.

14-5-1-4 Execution of step operation

When finishing the origin return, it is possible to perform step operation to the step data displayed. (Only when finishing the origin return)

(1) Display the step data you would like to execute the step operation.
(2) If [MOV] is pressed, moves the motor to the step data position displayed. If [MOV] is pressed when not finishing the origin return, "Origin Unfinished" will be displayed, and the motor will not be operated.

○ Display during the operation

```
-EDIT (POSITION)-
No. 05 SPD: 03 MD: ABS
POS:            5352634
 Moving to Point 05
```

← Motor position during the operation (It will be changed in real time.)

○ When finishing the step operation

```
-EDIT (POSITION)-
No. 05 SPD: 03 MD: ABS
POS:           10000000
                   [CLR]
```

← The present motor position

(3) After finishing the step operation, if [CLR] is pressed, returns to the step data edit.

14-5-1-5 Deleting step data

It is possible to delete unnecessary step data.

(1) Display the step data you would like to delete.
(2) If [F1] is pressed, the following display will be appeared, asking if you delete the step data displayed.

```
-EDIT (POSITION)-
No. 11 SPD: 05 MD: INC
POS:              150000
DELETE OK?   [ENT: OK]
```

(3)If [ENT] is pressed, the step data displayed will be deleted.

If other key is pressed, the deletion will be canceled.

(4) As the data will be written into EEPROM when moving from the step data edit display to the edit menu by [CLR], the deleted contents will be invalid if the power supply of the position driver is cut before the writing.

14-5-2 Speed data edit

(Main menu) → [EDIT] → [SPD]

Sets and changes the reference speed, the origin return speed, the jog speed to be used for the step operation.

Note) After setting the data, perform writing processing into EEPROM when leaving the menu with [CLR]. Therefore, if the power supply is cut before the writing, note that the speed data will not be memorized.

Speed data inputted

```
-EDIT (SPEED)-   01/13
 ORIGIN SPEED
 SPEED:    50kpps
[UP][DOWN][ENT][CLR]
```

← Speed No.
← Speed data
← Setting speed

Speed data not inputted

```
-EDIT (SPEED)-   01/13
 ORIGIN SPEED
 SPEED:   ---kpps
[UP][DOWN][ENT][CLR]
```

The speed data are listed in the following order.

Speed No.	Speed data	Function	Setting range
1	ORIGIN SPEED	Origin return speed	5 - 500 (kpps)
2 - 11	STEP SPEED No. 01 - 10	Step operation reference speed 1-10	
12	JOG SPEED (LOW)	Jog speed (low speed)	
13	JOG SPEED (HIGH)	Jog speed (high speed)	

For details of parameters, refer to section 10-2-2 "Speed data" (Page 32).

- If [↑] is pressed, moves to one before the speed No. and moves to the next speed No. if [↓] (or [ENT]) is pressed.
- If [CLR] is pressed, returns to the edit mode menu.
  At the time, changed parameter will be written into EEPROM. If the power supply is cut before the writing, parameter after turning the power supply on again will be inactive.

14-5-2-1 Input of speed data

(1) Display the speed data you would like to set.
(2) Using [0] - [9], input a value in the range of 5 to 500.
If [←] is pressed, the value inputted at the last will be deleted. (Back space)
After inputting the speed, determine the value with [ENT].
Cancel the value inputted with [CLR], and display the original value.

14-5-2-2 Deleting speed data

It is possible to delete unnecessary speed data.

(1) Display the speed data you would like to delete.
(2) If [F1] is pressed, the following display will be appeared, asking if you delete the speed data displayed.

```
-EDIT (SPEED)-   05/13
 STEP SPEED No. 04
 SPEED:    50kpps
DELETE OK?   [ENT: OK]
```

(3) If [ENT] is pressed, the speed data indicated will be deleted.
If other key is pressed, the deletion will be canceled.
(4) As the data will be written into EEPROM when moving from the speed data edit display to the edit menu by [CLR], the deleted contents will be invalid if the power supply of the position driver is cut before the writing.

14-5-3 Parameter edit menu

(Main menu) → [EDIT] → [PAPA]

NC parameter edit, servo parameter edit, or offset data edit is selected.

```
-PARAMETER-
 F1...NC data
 F2...Servo
 F3...Off/Lmt [CLR]
```

- If [F1] is pressed, moves to the NC data edit.
  If [F2] is pressed, moves to the servo parameter edit .
  If [F3] is pressed, moves to the offset data edit.
  If [CLR] is pressed, returns to the edit mode menu.

14-5-4 NC data edit

(Main menu) → [EDIT] → [PAPA] → [F1]

Sets and changes the acceleration, the operation direction and the input logic.

Note) After setting the data, perform writing process into EEPROM when leaving the menu with [CLR]. Therefore, if the power supply is cut before the writing, note that the speed data will not be memorized.

```
-PARAMETER (NC)- 1/10
 STEP Acc Time[msec]
              100
[UP][DOWN][ENT][CLR]
```

NC data are listed in the following order.

Data No.	NC data	Function	Setting range
1	STEP Acc Time	Step operation acceleration/deceleration time	10 - 10000 (ms)
2	JOG Acc Time	Jog operation acceleration/deceleration time	10 - 10000 (ms)
3	ORG Acc Time	Origin return acceleration/deceleration time	10 - 10000 (ms)
4	JOG dir	Jog operation direction	0 - 1
5	ORG dir	Origin return direction	0 - 1
6	PLS dir	Pulse output direction setting	0 - 1
7	Teaching Step Pulse	Teaching transfer amount setting	0 - 32767
8	S-Curve rate	S-form acceleration/deceleration setting	0 - 10
9	INPUT Logical	Input logic setting	0 - 8063
10	Option	Option setting	0 - 123

For details of step operation acceleration/deceleration time, jog operation acceleration/deceleration time, origin return acceleration/deceleration time, input logic setting, and option setting, refer to section 10-2-4 "NC data " (Page 33). For details of S-form control setting, refer to section 12-7 "S-Form acceleration/deceleration function" (page 55). For settings of jog operation direction, origin return direction and pulse output direction, refer to section 12-2 "Initial setting of NC parameter" (Page 41).

- If [↑] s pressed, moves to one before the data No. and moves to the next data No. if [↓] (or [ENT]) is pressed.
- If [CLR] is pressed, returns to the edit mode menu.
  At the time, changed parameter will be written into EEPROM. If the power supply is cut before the writing, parameter after turning the power supply on again will be inactive.

14-5-4-1 Input of NC data

(1) Display NC data you would like to set.
(2) Using [0] - [9], input data value.
If [←]is pressed, the value inputted at the last will be deleted. (Back space)
After inputting the data, determine the value with [ENT].
Cancel the value inputted with [CLR], and display the original value.

14-5-5 Servo parameter edit

(Main menu) → [EDIT] → [PAPA] → [F2]

Sets and changes servo parameters.

Note) After setting the data, perform writing process into EEPROM when leaving the menu with [CLR]. Therefore, if the power supply is cut before the writing, note that the speed data will not be memorized.

```
-PARAMETER (Srv)- 1/8
 KP (0 - 1000)
                50
[F1: ATune][ENT][CLR]
```

Servo parameters are listed in the following order.

Data No.	Parameter data	Function	Setting range
1	KP	Position loop gain (No. 20)	0 - 1000
2	KV	Speed loop gain (No. 03)	25 - 3500
3	KVi	Speed loop integration time constant (No. 04)	1 - 1000
4	Kff	Speed feed forward (No. 21)	0 - 100
5	Kffi	Feed forward filter time constant (No. 2B)	0 - 6400
6	Vf	Speed detection filter (o. 05)	0 - 4
7	Tfil	Torque filter time constant (No. 2A)	0 - 2500
8	P-ON delay	Startup delay time (No. 10)	0 - 600
9	Coin range	Positioning end range (No. 22) (Note)	0 - 32766

Note) Positioning finish range parameter will be displayed only when selecting the positioning finish output (COIN) under the option setting of NC parameter. If decelerating output (DCLON) is selected, this parameter will be displayed as "Not Use."

For details of each parameter, refer to section 10-3 "Details of Servo Parameters (User parameters) " (Page 35).

- If [↑] is pressed, moves to one before the data No. and moves to the next data No. if [↓] (or [ENT]) is pressed.
- If [CLR] is pressed, returns to the edit mode menu.
  At the time, changed parameter will be written into EEPROM. If the power supply is cut before the writing, parameter after turning the power supply on again will be inactive.

14-5-5-1 Input of servo parameter

(1) Display servo parameter you would like to set.
(2) Using [0] - [9], input a data value.
If [←] is pressed, the value inputted at the last will be deleted. (Back space)
After inputting the parameter, determine the value with [ENT].
Cancel the value inputted with [CLR], and display the original value.

14-5-5-2 Automatic gain tuning function

The automatic gain tuning function can be executed on the console. For details of the automatic gain tuning function, refer to section 7-4 "Automatic Gain Tuning" (Page 21).

(1) On the servo parameter setting display, press [F1].

```
-AUTO TUNING-
Stiffness (L: 1 - H: 9)
                    5
[MOV: AT][CLR: Cancel]
```

(2) Using [0] - [9], input the value of the machine stiffness (1 - 9). (The larger the value you set, the stiffer the tuning you can get.)
If [←] is pressed, the value inputted at the last will be deleted. (Back space)
After inputting the machine stiffness, the automatic gain tuning operation will be started with [MOV].
Cancel the automatic gain tuning with [CLR].

(3) During executing the automatic gain tuning, the display will be such as the following:

```
-AUTO TUNING-
Stiffness (L: 1 - H: 9)
                    5
Auto Tuning Execute.
```

If alarm is generated during executing the automatic gain tuning, the following display will appear, and the gain will not be changed. If [CLR] is pressed, returns to the servo parameter setting display.

```
-AUTO TUNING-
 Auto Tuning Error

                    [CLR]
```

(4) When finishing the automatic gain tuning normally, the setting gain will be displayed.

```
-AUTO TUNING-
 KP:  70  KVi:  80
 KV: 200  Kff:   0
[ENT: Wr][CLR: Cancel]
```

If [ENT] is pressed, servo parameter required for the automatic gain tuning will be changed, and the servo parameter will be returned to the value found before executing the automatic gain tuning if [CLR] is pressed.

(5) After finishing the automatic gain tuning, the position driver state will be reset state. Execute the origin return command again to perform the step operation.

14-5-6 Offset data edit

(Main menu) → [EDIT] → [PARA] → [F3]

Sets and changes the origin offset and the software limit.

Note) After setting the data, perform writing process into EEPROM when leaving the menu with [CLR]. Therefore, if the power supply is cut before the writing, note that the speed data will not be memorized.

```
-PARAMETER (Off)- 1/3
 Origin Offset
                    0
[UP][DOWN][ENT][CLR]
```

Offset data are listed in the following order.

Data No.	Offset data	Function	Setting range
1	Origin Offset	Origin offset	-1073741824 - 1073741823 (pulse)
2	Soft Limit (PLUS)	+ direction software limit	0 - 1073741823 (pulse)
3	Soft Limit (MINUS)	- direction software limit	-1073741824 - 0 (pulse)

For details and setting range of each parameter , refer to section 10-2-3 "Offset data" (Page 32).

- If [↑] is pressed, moves to one before the data No. and moves to the next data No. if [↓] (or [ENT]) is pressed.
- If [CLR] is pressed, returns to the edit mode menu.
  At the time, changed parameter will be written into EEPROM. If the power supply is cut before the writing, parameter after turning the power supply on again will be inactive.

14-5-6-1 Data input

(1) Display data you would like to set.
(2) To input data, there are two methods: directly inputting amount with a value and specifying the position by teaching with a jog key of the console (Teaching is available only when finishing the origin return).

○ Value input

Using [0] - [9] and (+/-), input a data value.
If [←] is pressed, the value inputted at the last will be deleted (Back space).
After inputting the data, determine the value with [ENT].
Cancel the value inputted with [CLR], and display the original value.

○ Teaching

If a jog key ([←H], [H→], [←L], or [L→]) is pressed, the motor will be operated, changing the coordinate value.

In case that high speed jog key ([←H], or [H→]) is pressed, the motor will be operated with the speed set with the jog speed (High speed), and it will be operated with the speed set with the jog speed (Low speed) if low speed jog key ([←L], or [L→]) is pressed.

For the operation direction by the jog key, it will be changed depending on the parameter.

For setting of the operation direction, refer to section 12-2 "Initial setting of NC parameter" (Page 41).

The value for the present position when setting the origin off set will be displayed normally at the position from the machine origin position, making it as the reference point.

If the motor position is determined, set the value with [ENT] key.

Cancel the value inputted with [CLR], and display the original value.

14-6 Test mode

(Main menu) → [TEST]

Performs a test for jog operation, origin return operation, and step operation.

```
-TEST-

 Origin Unfinished.
[JOG][ORG][STP][CLR]
```

- "Origin Unfinished" is displayed if the origin return is not finished, displaying the present motor position (pulse unit) when finishing the origin return.
- If [CLR] is pressed, returns to the main menu.

14-6-1 Jog operation

If a jog key ([←H], [H→], [←L], or [L→]) is pressed, the jog operation will be operated. (The jog operation is executable even when not finishing the origin return.)

In case that high speed jog key ([←H], or [H→]) is pressed, the motor will be operated with the speed set with the jog speed (High speed), and it will be operated with the speed set with jog speed (Low speed) if ([←L], or [L→]) is pressed.

For the operation direction by the jog key, it will be changed depending on the parameter. For setting of the operation direction, refer to section 12-2 "Initial setting of NC parameter" (Page 41).

```
-TEST-
Jog Speed :  High
 Origin Unfinished.
[JOG][ORG][STP][CLR]
```

- On the display, it is displayed that high speed jog key (High) or low speed jog key (Low) is pressed, and the motor present position (Pulse unit) will be displayed when finishing the origin return.

14-6-2 Origin return operation

If [ORG] is pressed, the origin return operation will be started.

```
-TEST-
 Origin Proceeding

[JOG][ORG][STP][CLR]
```

- If the origin return operation is finished, the present position will be defined, and the motor present position (Pulse unit) will be displayed.

14-6-3 Step operation

If [STEP] is pressed, the step operation will be operated.

Note) If the origin return is not finished, [STEP] will be ignored.

```
-TEST-
 STEP No.>
[31]                0
            [MOV][CLR]
```

- Displays state of the present position and the present position output (within the [ ]).
- With [CLR], returns to the test mode menu.

(1) Using [0] - [9], input step No. in the range of 1 to 28.
If [←]is pressed, the value inputted at the last will be deleted. (Back space)
After inputting the step No., operation will be started with [MOV].
Cancel the value inputted with [CLR], and finish the step No. input.

(2) During the step operation, a display such as the following will appear, changing the present position.

```
-TEST-
 STEP No. > 5
[31]            233423
 Moving to Point 05
```

(3) If the step operation is finished, the present position output will be changed.

14-7 Alarm display

If servo alarm is generated at the automatic mode or the test mode, it will automatically moved to the alarm display.

Alarm No. and alarm name will be displayed.

```
-ALARM-
 ALARM No. 52
 Spd/Acc Undef. Err
            [EDIT][CLR]
```

- Execute alarm clear command with [CLR], and move to the main menu after clearing the alarm.
- Even during the alarm generated, parameter can be set or changed with [EDIT]. However, if under voltage protection is working, it will be invalid after turning the power supply off even with setting or change of the parameter.

14-8 Cautions when connecting a console

- In case that the position driver is controlled from I/O under the condition of connecting the console, timing chart shown in section 12-6 " Interface timing" (Page 48) will not be applicable. Especially, in case that MSS*XP is controlled by the sequencer, executing the console monitoring function, note that the response may be extremely delayed.
- Even if the console is connected after turning of the power supply on for MSS*XP, the console will not be recognized. When using the console, be sure to connect the console before turning the power supply on, and then turn the power supply on.
- Do not pull the connector section of the console. If the console is removed after turning the power supply on, Emergency stop error (53) will be generated, and the motor will be stopped by activating the protection function of the position driver.
- If undervoltage protection is working to the position driver, note that the changed parameter will not be written into EEPROM.