



FP3 Positioning Unit Setting Software

Control Configurator P3 **Operational Guide Book**

n Applicable Unit Type

- l FP3 Positioning Unit F-type (Line-driver type)
AFP3434/AFP3435/AFP3436
- l FP3 Positioning Unit F-type (Transistor type)
AFP3431/AFP3432
- l FP3 Positioning Unit E-type
AFP3431E/AFP3432E



Caution

Compact disks attached with the product never be play back with audio CD players and speakers of computers.

Lauder sound by the playback may injure your ears and break down your speakers of a computer.

Description of copyright and a registered trademark

- (1) The copyright of this product is reserved by Matsushita Electric Works, Ltd.
- (2) You may not legally copy, reprint, and rent this software and this manual in whole or part, without written consent of Matsushita Electric Works, Ltd.
- (3) The Specifications and the manual might be changed without notice.
- (4) Despite of Article (3), Matsushita Electric Works, Ltd. will not be liable for any results of executing the product.
Microsoft, MS-DOS, Windows 95, Windows 98, Windows Me, Windows NT, Windows 2000, Excel are registered trademarks of Microsoft Corporation.
The other names of corporations and products are each corporation's trademarks and/or registered trademarks.
This manual does not mention TMR in its body.

PREFACE

We appreciate your purchase of our software product.
This "Introduction guidance" is published to tell beginners about setup and operating outline of the product.
Please understand a content of this booklet very well to use the product correctly.
In addition, see the online help of the product for details of the way of use.

Would you please...

Tell us if you find something dubious or of errors in this manual despite our heed to publication of the booklet as possible.

Table of Contents

1. Preparation & Overview	1-1
1.1 Installing the Software	1-2
1.2 Setting Up a Desktop Shortcut	1-6
1.3 Starting and Exiting.....	1-8
2. Connection with PC	2-1
2.1 Connecting methods	2-2
2.1.1 E-type	2-3
2.1.2 F-type (Line-driver type).....	2-4
2.1.3 F-type (Transistor type).....	2-5
3. Name of each part.....	3-1
3.1 Screen and menus	3-2
4. Setting parameters.....	4-1
4.1 Setting parameters	4-2
4.2 List of Parameter Settings	4-4
4.3 Exiting parameter settings	4-6
5. Outline of data editing.....	5-1
5.1 Data view.....	5-2
5.2 Editing data.....	5-3
5.3 Contents of data	5-4

6.	LOCAL mode.....	6-1
6.1	Before beginning.....	6-2
6.2	Teaching (Trial operation)	6-4
6.3	Teaching (Data entry).....	6-6
6.4	Transferring data.....	6-7
6.5	Software homing operation	6-8
6.6	Positioning operation.....	6-9
7.	RUN mode	7-1
7.1	Setting mode to RUN	7-2
8.	Saving a file.....	8-1
8.1	Saving a file.....	8-2
9.	Printing a file	9-1
9.1	Printing a file.....	9-2
9.1.1	Printing	9-2
9.1.2	Setting print items	9-3

Prior to use ...

This manual gives brief explanations on Configurator P3 Installation.

As for the positioning unit itself and peripheral devices, refer to their hardware manuals.

Hardware Requirements:

Operation System	Windows95 OSR2(Ver.4.00.950B) or more, / 98 / Me WindowsNT(Ver.4.0 or later) / 2000
Required hard disk space.....	15MB or more
Available CPU grade	Pentium 200MHz or higher
Lowest-capacity memory.....	32MB or more
Available resolution	800 x 600 or higher
Color grade	256 colors or more

Applicable Positioning Unit Types:

All the unit types of FP3 positioning unit made by MEW.

F-type

- FP3 Line-driver type
 - AFP3434 (1-Axis unit)
 - AFP3435 (2-Axis unit)
 - AFP3436 (3-Axis unit)
- FP3 Transistor type
 - AFP3431 (1-Axis unit)
 - AFP3432 (2-Axis unit)

E-type

- FP3 Line-driver type
 - AFP3431E (1-Axis unit)
 - AFP3432E (2-Axis unit)

Applicable Networks:

- RS232C (C-NET) Connection
- Ethernet Connection
- Modem Connection

Chapter 1

Preparation & Overview

1.1	Installing the Software	1-2
1.2	Setting Up a Desktop Shortcut	1-6
1.3	Starting and Exiting Configurator P3	1-8

1.1 Installing the Software

Installing the Software on a personal computer

Descriptions on how to install Configurator P3 to PC are given here. Conduct installation based on the following procedure.

To logon to Windows NT·Windows 2000, please use an authorized user name of "Administrator".

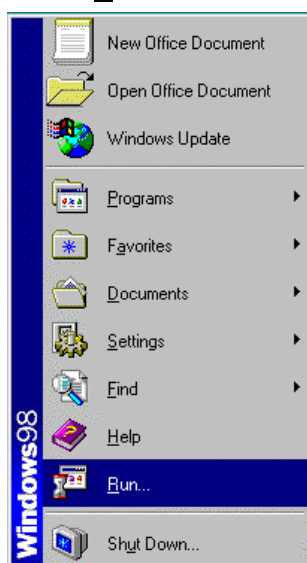
1. Exit any working applications.

Please exit all the working applications, if any.

2. Set the setup CD in place.

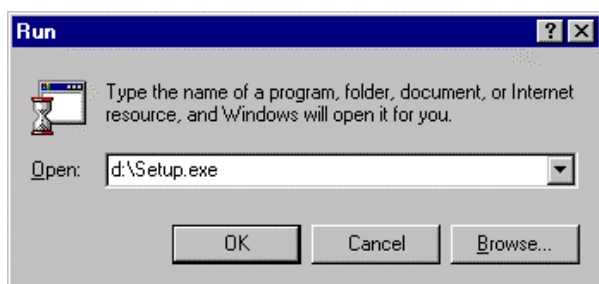
Please mount the Configurator P3 setup CD in the CD drive.

3. Select "Run...".



Either click "**S**tart" button at the lower left of the screen, or press [Ctrl] + [Esc] keys to display the Windows menu, and select "**R**un...".

4. Enter the name of the file to be run.

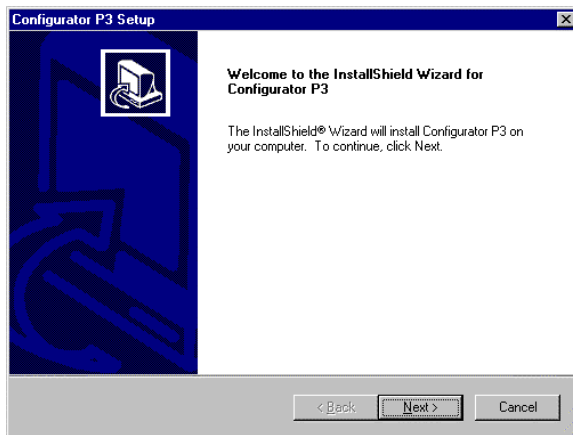


When "**R**un..." is selected, the dialog box shown at the left appears. Enter **d:\setup.exe** and click on "**O**K" button.

NOTE:

The drive name (d:) may vary depending on the computer environment.

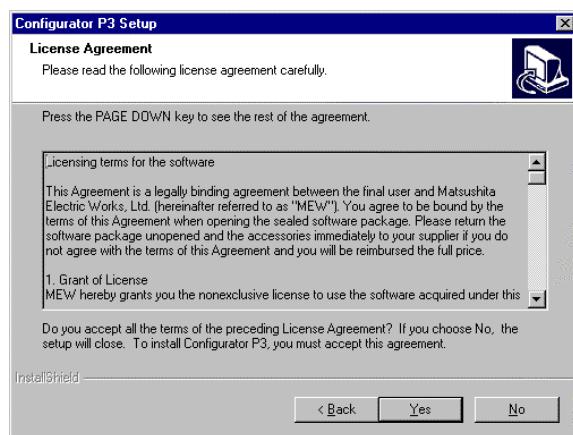
5. A confirmation message is displayed.



The setup program is started and a confirmation message is displayed.

Check the contents and click on "**N**ext >" button. To interrupt the operation, click "Cancel" button.

6. Confirm the licensing agreement.



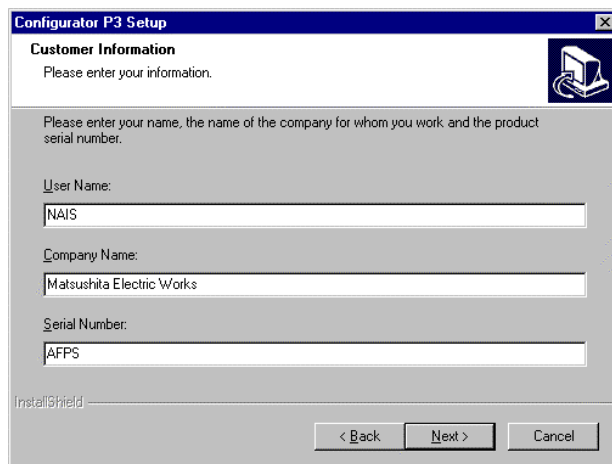
A dialog box is displayed in which the licensing agreement can be confirmed.

To indicate agreement with all of the licensing items, click "**Y**es" button.

The setup process begins.

Selecting "**N**o" cancels the Configurator P3 setup procedure.

7. Register your user information.



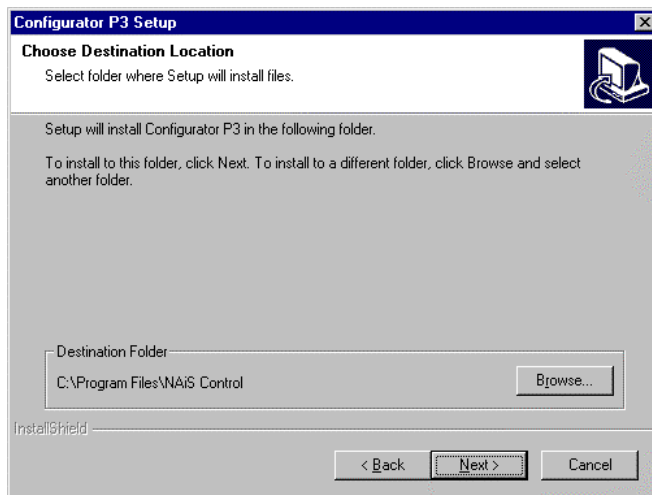
A user information dialog box is displayed. Fill in the data for the "Name", "Company Name", and "Serial No." items, and click on "**N**ext >" .

The serial number is printed on the user card included in the Configurator P3 package.

Make sure it is entered correctly.

The information entered here can be confirmed on the splash screen when the Configurator P3 is started, and under "**A**bout" in the "**H**elp" menu.

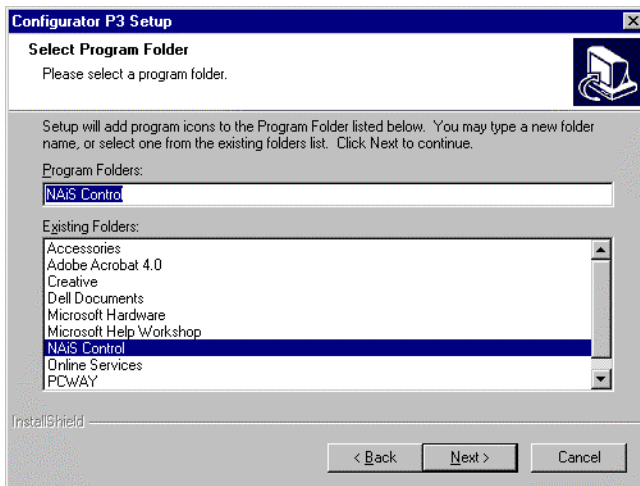
8. Select the destination to which the program is to be installed.



A confirmation dialog box is displayed, showing the folder in which the program is to be installed. In the displayed folder, click **"Next >"** button.

The folder displayed from the beginning, "C:\Program Files\NAiS Control", may be used. To install the program in a different folder, click **"Browse..."** button specify a folder.

9. Select the program folder.

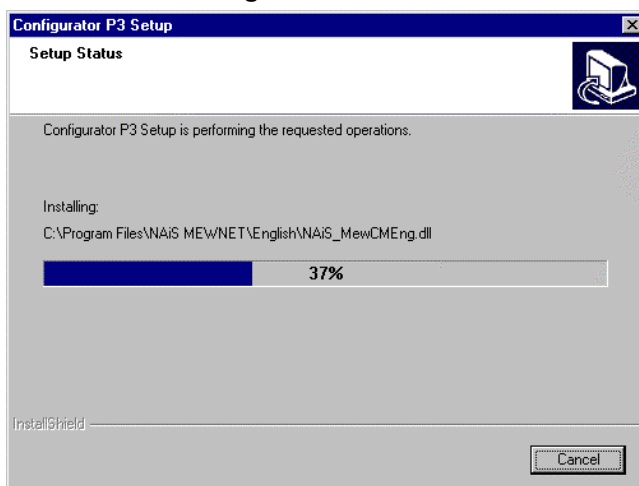


A confirmation dialog box is displayed, showing the program folder.

To use the displayed folder, click **"Next >"** button.

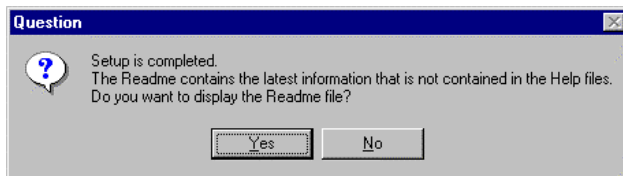
The "NAiS Control" folder displayed from the beginning may be used. To change to a different folder, enter the name of the folder.

10. The installation begins.



A message is displayed on the screen, indicating that installation is in progress, and the Configurator P3 setup begins.

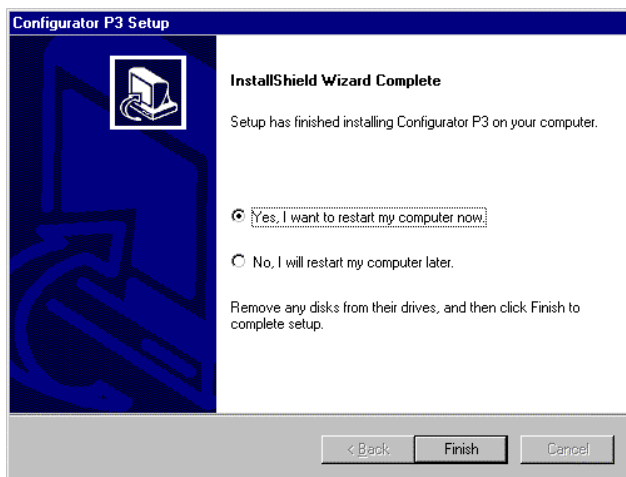
11. Confirm the Readme file display.



When the setup process is finished, a dialog box is displayed, indicating that the setup has been completed.

To display the Readme file, click on the "**Yes**" button.

12. Confirm rebooting of the computer.

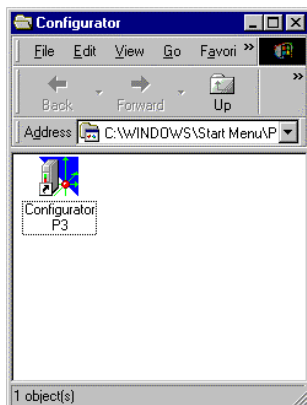


When the entire process has been completed, a dialog box is displayed, indicating that the computer should be rebooted.

Select either the "Yes, I want to restart my computer now" button, or the "No, I will restart my computer later" button, and click on the "**Finish**" button.

The computer must be rebooted before the Configurator P3 can be used, so rebooting is recommended at this point.

13. The Configurator P3 group icon is displayed.



If the setup process is concluded without rebooting the computer, the Configurator P3 group icon is displayed on the computer.

To start the Configurator P3, click group icon.



◆ REFERENCE

The group icon mentioned above is displayed only when the installation has just been completed. For information on starting the program, see section 1.3 "Starting and Exiting the Configurator P3", and section 1.2 "Setting Up a Desktop Shortcut".



◆ CAUTION

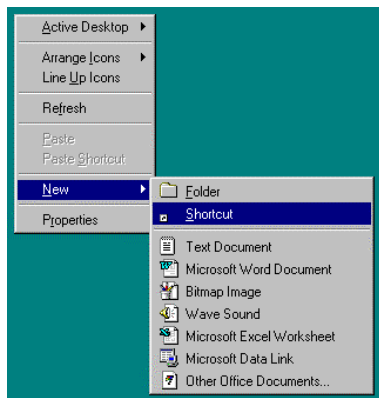
Never remove the CD while the installation is in progress.

1.2 Setting Up a Desktop Shortcut

If an icon called "Shortcut to Configurator P3" is created on the desktop, the Configurator P3 can be started simply by double-clicking on that icon. This is faster and simpler than the usual starting procedure.

The Configurator P3 shortcut icon is not automatically created as part of the usual installation process. To create the icon, follow the procedure below.

1. Select the shortcut creation menu.



Without selecting any icon, click the right button of the mouse on the desktop.

Then select "**N**ew" → "**S**hortcut" from the menu.

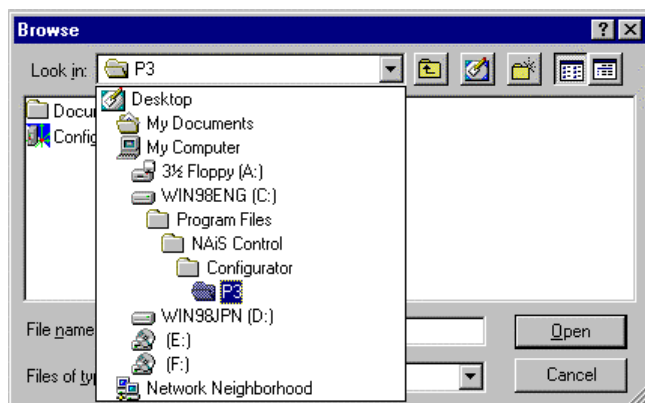
2. Enter the file name.



When the shortcut creation menu is selected, a dialog box like that shown at the left is displayed, so that the file name can be input.

In our explanation, we will proceed by clicking the "**B**rowse..." button.

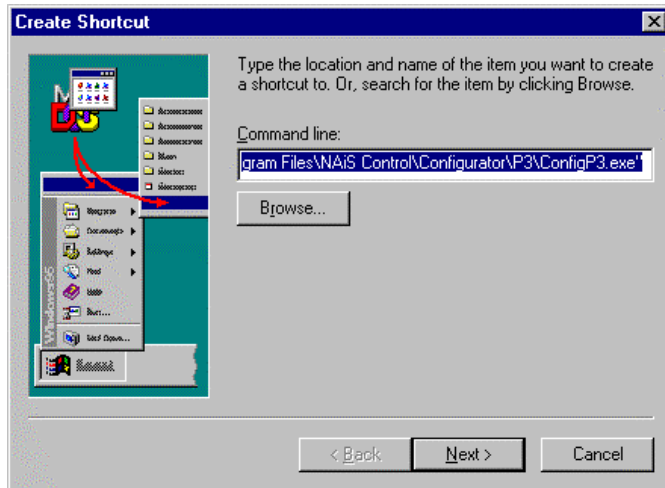
3. Search for the Configurator P3 file.



Clicking on the "**B**rowse..." button displays the file reference dialog box shown at the left. Open the folders in the following order : [Program Files] → [NAiS Control] → [Configurator] → [P3]

Select the installed Configurator P3 file, either by clicking on "**O**pen" button, or double-clicking with the mouse.

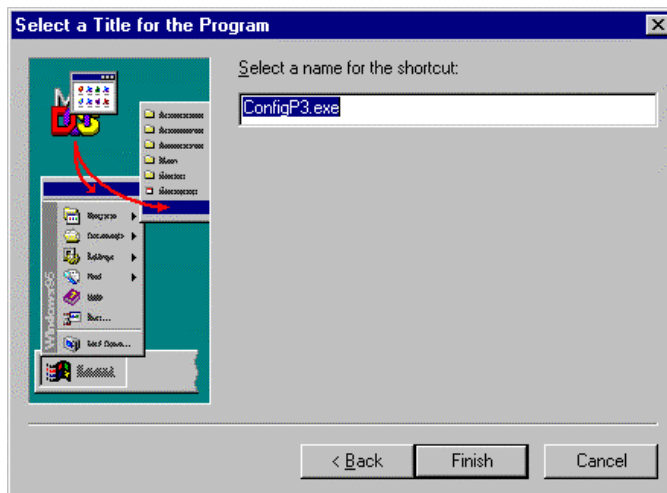
4. Click "**Next >**" button.



When the Configurator P3 is selected, the file name is input appears again.

Click on the "**Next >**" button to proceed.

5. Select the name of the shortcut.



Select a name to be displayed beneath the shortcut icon, and click on the "**Finish**" button.

■ The name "ConfigP3.exe", which is displayed from the beginning, may also be used. To change to another name, enter that name.

6. This completes creation of the shortcut icon.

You have now finished creating your shortcut icon to be displayed on the desktop.

If the procedure has been successfully completed, the icon showed at the left will be displayed.

Double-clicking on this icon starts the Configurator P3.

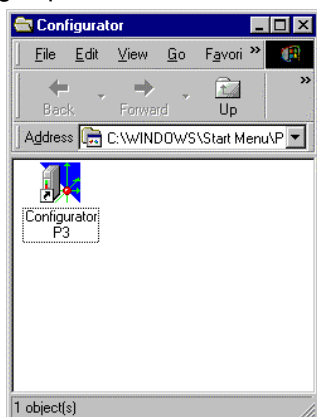
1.3 Starting and Exiting

Starting procedure

1. Start the Configurator P3

Using either of the methods described below to start the Configurator P3.

- Start from the Configurator group icon.



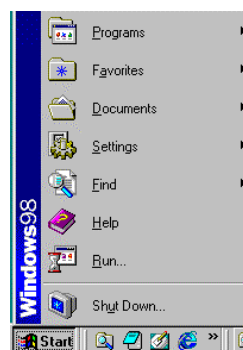
Double-click icon.

- Start from the shortcut icon you created.



Double-click icon.

- Start from the Windows Start menu.

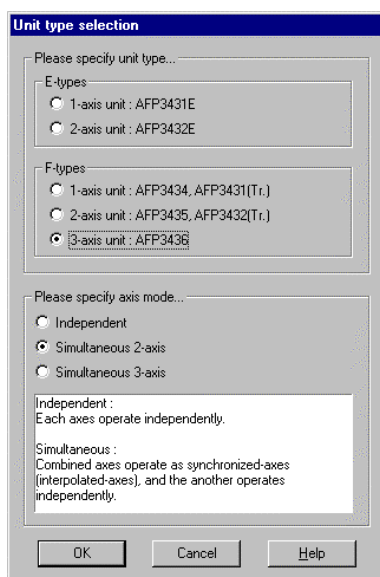


Click "Start" button, or press [Ctrl] + [Esc] keys to display the Windows menu and start from the "Programs" menu. Select [NAiS Control] → [Configurator] → [Configurator P3].

2. Select a unit type.

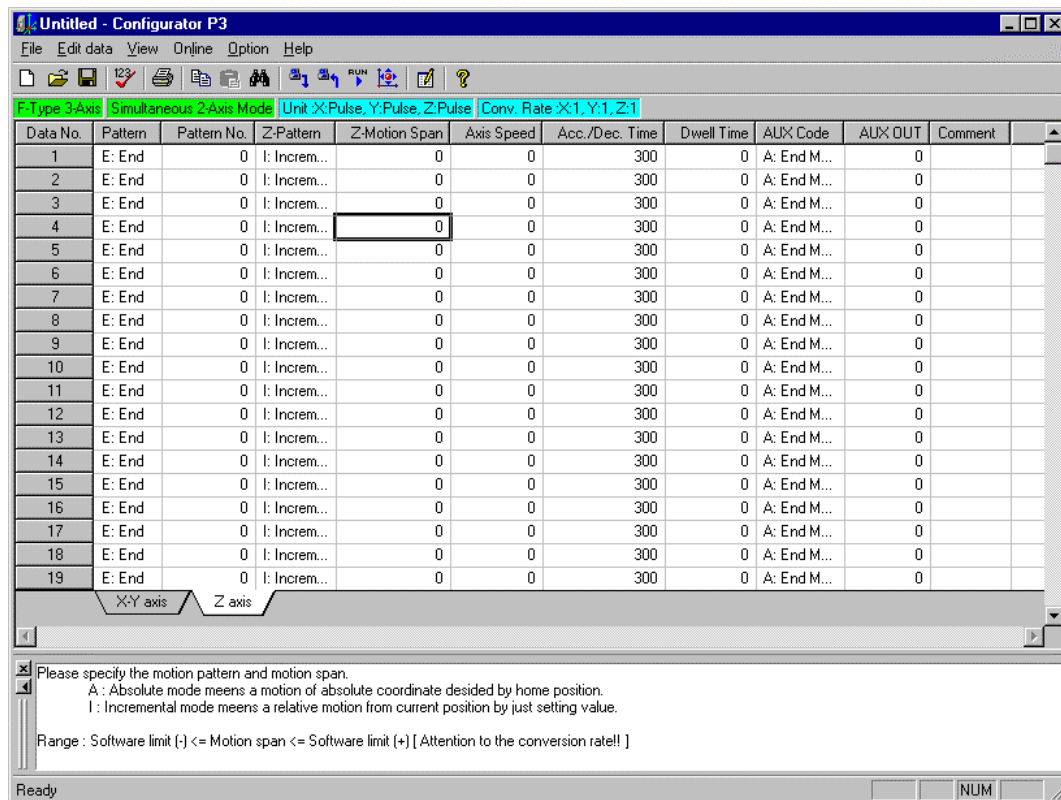
When Configurator P3 is started in one of the above ways, a dialog box to select a unit type appears on the screen.

Select an appropriate unit type and axis mode by clicking its radio button, and then click [OK] button.



3. The initial screen of Configurator P3 appears.

When Configurator P3 is started normally, the following initial screen is displayed.



■Hint

To upload parameters or positioning point data from the positioning unit, click [OK].

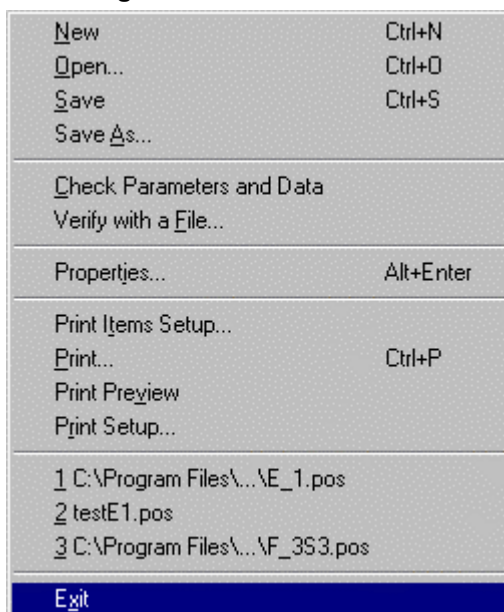
When Configurator P3 is started, select [Online] → [Upload from unit].

You may change the unit type later.

When Configurator P3 is started, select [Online] → [Unit type & Axis mode...].

A dialog box to select a unit type appears.

■Exit Configurator P3.



To exit Configurator P3, click [File] on the menu bar, and select [Exit] on the displayed menu.

You can also exit it by clicking  [Close] at the upper right corner of the screen.



Chapter 2

Connection with PC

2.1	Connecting methods	2-2
2.1.1	E-type	2-3
2.1.2	F-type (Line-Driver type)	2-4
2.1.3	F-type (Transistor type)	2-5

2.1 Connecting methods

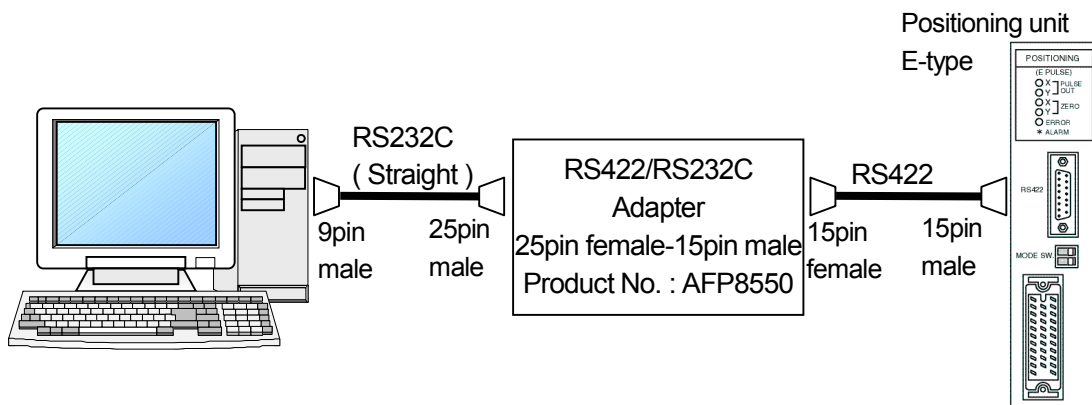
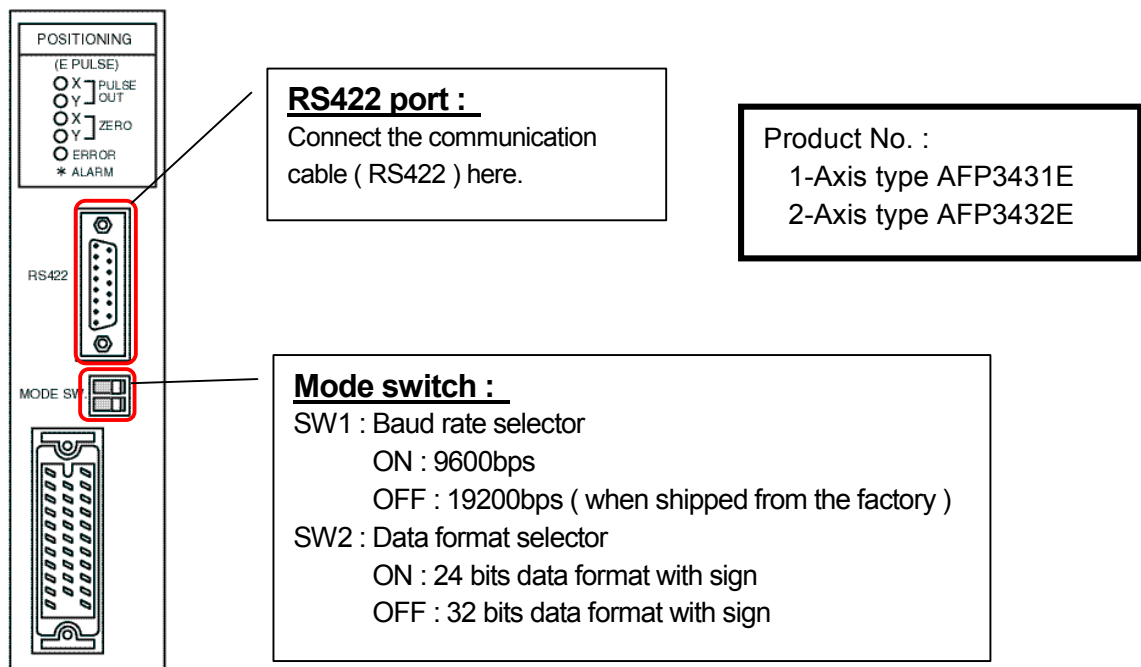
It is necessary to connect the positioning unit to PC to utilize its functions fully such as downloading data edited in Configurator P3 to the positioning unit, uploading data of the positioning unit from Configurator P3, and performing operation at LOCAL mode.

The followings describe methods to connect the positioning unit to PC under each communication type, supported by Configurator P3.



Do not connect the communication cable to the CPU unit.

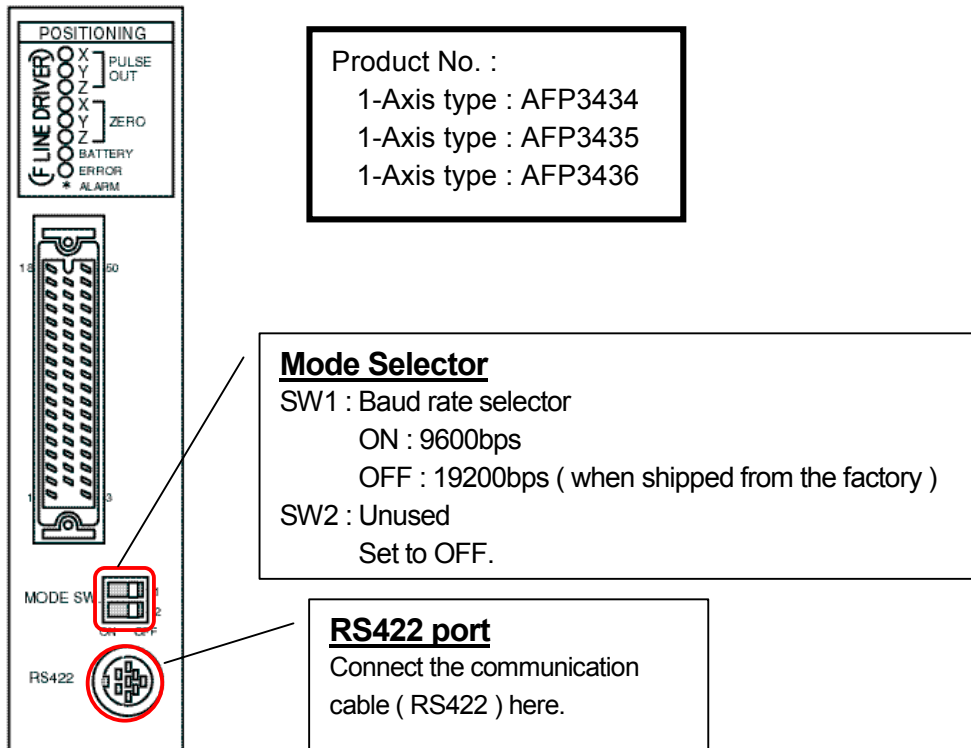
2.1.1 E-type



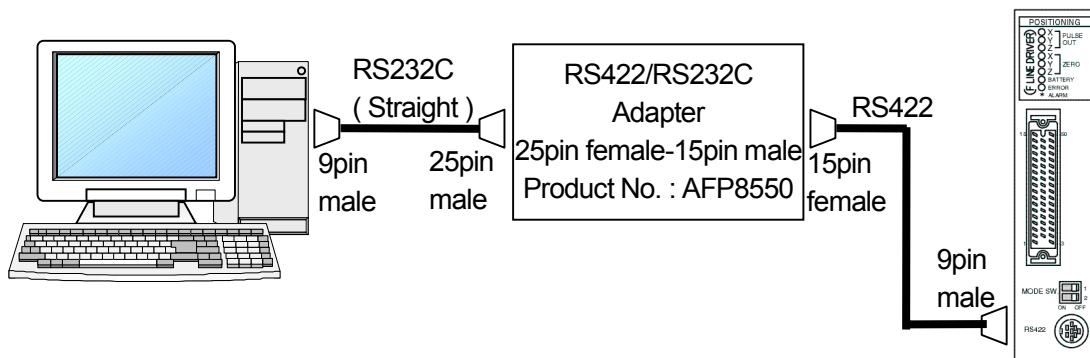
- **Connecting devices used in this example :**

- RS-422/232C Adapter : Adapter made by MEW (Product No. : AFP8550)
- RS422 cable : Cable made by MEW (Product No. : AFP5523)

2.1.2 F-type (Line-driver type)



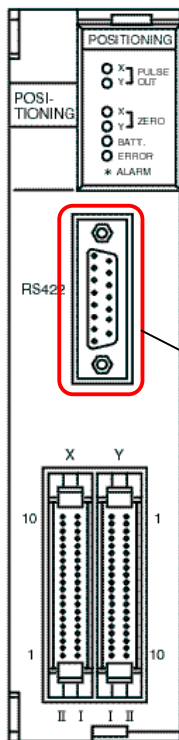
Positioning Unit
 F-type (Line-driver type)



- **Connecting devices used in this example :**

- RS-422/232C Adapter : Adapter made by MEW (Product No. : AFP8550)
- RS422 cable : Cable made by MEW (Product No. : AFP1523)

2.1.3 F-type (Transistor type)



Product No.

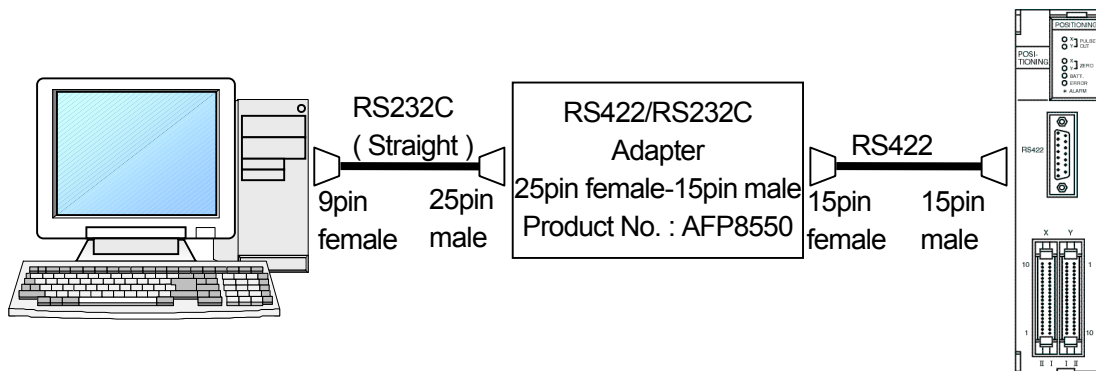
1-Axis type : AFP3431

2-Axis type : AFP3432

RS422 port

Connect the communication cable (RS422) here.

Positioning unit
F-type (Transistor type)



- **Connecting devices used in this example :**

- RS-422/232C Adapter : Adapter made by MEW (Product No. : AFP8550)
- RS422 cable : Cable made by MEW (Product No. : AFP5523)



CAUTION

Mode switch is not available at Transistor type of the positioning unit F-type.
For this reason, the baud rate is fixed at 19200bps.

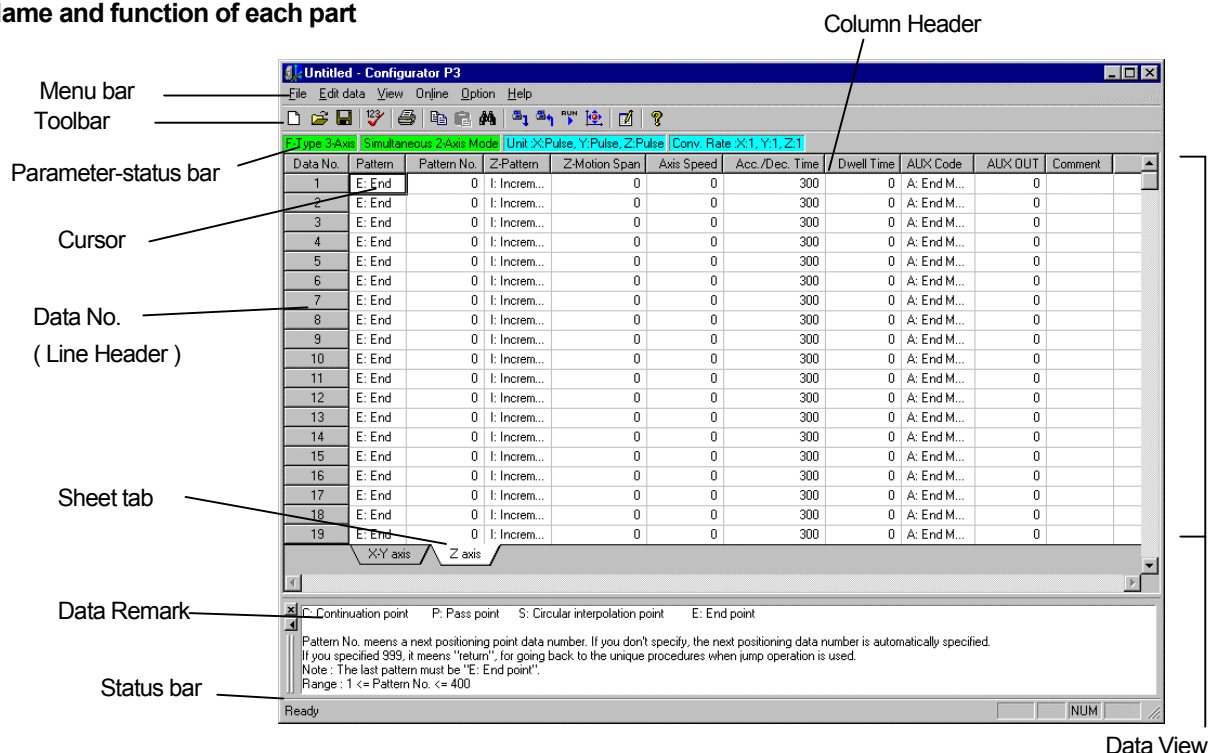
Chapter 3

Name of each part

3.1	Screen and menus	3-2
-----	------------------------	-----

3.1 Screen and menus

Name and function of each part



■Menu bar

File Edit data View Online Option Help

All the operation and functions of Configurator P3 are available in the menu format. Each menu matches the relevant application.

■Toolbar



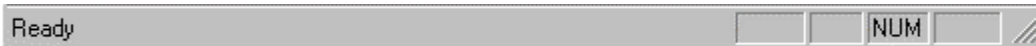
Functions that are frequently used in the Configurator P3 can be accessed here using buttons.

■Parameter-status bar

F-Type 3-Axis Simultaneous 2-Axis Mode Unit :X:Pulse, Y:Pulse, Z:Pulse Conv. Rate :X:1, Y:1, Z:1

This displays the selected unit type, axis mode, current unit system, and conversion rate.

■Status bar



This shows the operation status of the Configurator P3.

■Sheet tab



The name of the sheets appear on tabs. Configurator P3 puts data in order by using sheets. Each sheet is corresponding to editing axis.

At the simultaneous axis mode, all the data are shown in a single sheet.

Chapter 4

Setting parameters

4.1	Setting parameters	4-2
4.2	Contents of setting parameters.....	4-4
4.3	Exiting parameter settings	4-6

4.1 Setting parameters

By setting parameters, you can set a data range, an operating pattern of the homing function and an initial operation of the positioning unit.




Check operation of set parameters fully.

There are the following 3 procedures to open the parameter setting dialog box.

■ Open parameter setting dialog box by using shortcut keys

Press [Ctrl] + [Q] keys.

■ Open parameter setting dialog box from the toolbar

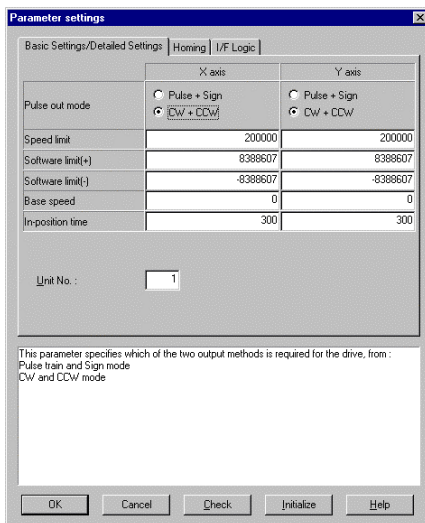
Click  button on the toolbar.

■ Open parameter setting dialog box from the menu bar

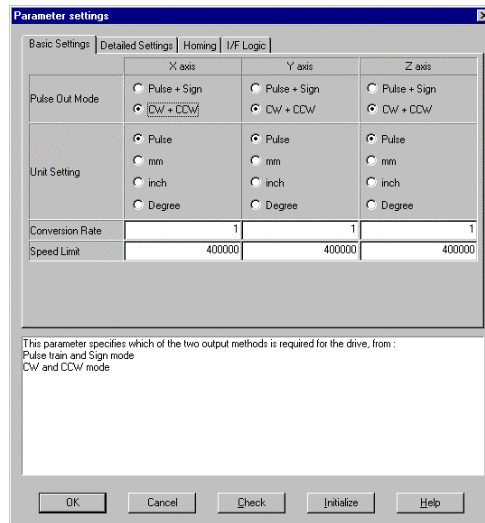
Select [Option] → [Parameter Settings...].

Either of the following dialog boxes appears depending on a unit type that you chose in the unit selection dialog box. (There are some parts that cannot be set depending on number of axes.)

● E-type



● F-type



Contents of the settings are roughly divided into basic settings, detailed settings, homing function and interface logic. To apply settings of each category, click an appropriate upper tab, or change pages by pressing [Ctrl] + [PageUp] / [PageDown] keys.

Categories of parameters	Description
Basic settings	Parameters for basis of operation are set. A pulse output method to a servo driver and speed limit are set.
Detailed settings	Software limit, base speed, in-position time and all the compensation values are set.
Homing	Parameters required for homing function are set.
I/F logic	An interface logic (I/O reguration) between the positioning unit and external devices (drive and each sensor) are set.

To move the focus to a parameter, press [Tab] key.

To move the focus in reverse, press [Shift] + [Tab] keys.

4.2 List of Parameter Settings

Set parameters based on the following list. These descriptions are indicated as a guide in the lower part of the dialog box for the parameter settings.

Category	Parameter items	Setting range	Default value (*1)
Basic settings	Pulse output mode	CW + CCW / Pulse train and sign	CW + CCW
	Unit setting (F-type only)	Pulse / mm / inch / degree	Pulse
	Conversion rate (F-type only)	1 (pulse) / 0.0001 ~ 0.01 (mm) / 0.00001 ~ 0.001 (inch, degree)	1 (pulse)
	Speed limit	0 <= Speed limit / Conversion rate <= 400,000 (F-type) 0 <= Speed limit <= 200,000 (E-type)	400,000 pps (F-type) 200,000 pps (E-type)
	Unit No. (E-type only)	1 to 32	1
Detailed settings	Software limit (+)	0 <= Software limit (+) <= 8,388,607	8,388,607
	Software limit (-)	-8,388,607 <= Software limit (-) <= 0	-8,388,607
	Base speed	0 <= Base speed <= Speed limit Base speed <= Axis speed (Axis speed ≠ 0)	0 pps
	Interpolation speed setting	Long-axis speed / Tracking speed	Tracking speed
	Backlash compensation	0 <= Backlash compensation / Conversion rate <= 255	0 pulse
	Error compensation	0 (pulse) 0 to ±1.000 (mm) 0 to ±1.0000 (inch, degree)	0 pulse
	In-position time	1~ 2,000 (msec)	300 msec
Homing	Homing direction	Positive direction Negative direction	Negative direction
	Home offset address	Software limit (-) <= Home offset address <= Software limit (+)	0 pulse
	Home return speed (high)	Home return speed (low) < Home return speed (high) <= Speed limit	50,000pps
	Home return speed (low)	0 <= Home return speed (low) < Home return speed (high)	100 pps
	Acceleration / Deceleration time	64 to 4999 (msec) (F-type) 0 to 4999 (msec) (E-type) (*2)	100 msec
	Start mode	Immediate normal-start Normal-start after homing Quick-start Test for quick-start	Immediate normal-start
	Homing method	Near home ON Near home OFF Near home ON / OFF Limit search (*2)	Near home ON

I/F logic	These parameters are specified by bit. The items specified in these parameters are the followings.		(Binary form)
	Motion direction	bit0 0 : Turn ON for + direction	(1)00000
	Deviation counter	bit1 0 : Turn ON for homing is completed.	
	Driver error	bit2 0 : An error is detected in the energized condition.	
	Near home	bit3 0 : Near home position in the energized condition.	
	Home	bit4 0 : Home position in the de-energized condition.	
	Overlimit	bit5 0 : Overlimit position in the de-energized condition.	
	External input (E-type only)	bit6 1 : Input is valid in the energized condition.	

*1 : The default values are values at the time of shipment, when **[Initialize]** button is pressed, or when a new file is created.

*2 : Acceleration / deceleration time is 64 to 4,999 if positioning unit E-type is ver. 1.1 or earlier.

4.3 Exiting parameter settings

The followings describe how to check set parameters.

1. Click [Check] button.

Appropriate check to the set type will be conducted. (The illustration below is E-type.)

2. Parameters will be checked.

If a parameter is outside the setting range, the focus will jump into its edit box automatically.

Conduct a correction based on the setting range that is shown as a guide below the dialog box.

Repeat the procedure 1 and 2 until all the errors are cleared.

3. Click [OK] button and close this dialog box.

The screenshot shows the 'Parameter settings' dialog box with the 'Basic Settings/Detailed Settings' tab selected. The 'X axis' and 'Y axis' settings are visible. The 'Speed limit' for the X axis is set to 500000, which is outside the allowed range of 0 to 200000. A red box highlights the '500000' value, and a red arrow points from a text box to it. The text box says 'This value is outside the setting range.' Another red arrow points from the same text box to the 'Speed limit' range '0 <= Speed limit <= 200000' in the help text at the bottom. The 'Unit No.' is set to 1. The 'Check' button is highlighted with a red box, and a red arrow points from the text '1. Click this button!' to it. The 'OK' button is also highlighted with a red box, and a red arrow points from the text '3. Click this button and close this dialog box' to it.

	X axis	Y axis
Pulse out mode	<input type="radio"/> Pulse + Sign <input checked="" type="radio"/> CW + CCW	<input type="radio"/> Pulse + Sign <input checked="" type="radio"/> CW + CCW
Speed limit	500000	200000
Software limit(+)	8388607	8388607
Software limit(-)	-8388607	-8388607
Base speed	0	0
In-position time	300	300

Unit No. : 1

This value is outside the setting range.

This parameter is maximum speed of positioning system. Please set this parameter higher than home return speed, and axis speed.
Range : 0 <= Speed limit <= 200000

OK Cancel Check Initialize Help

3. Click this button and close this dialog box

1. Click this button!

Chapter 5

Outline of data editing

5.1	Data view	5-2
5.2	Editing data	5-3
5.3	Contents of data	5-4

5.1 Data view

By setting data, you can set actual positioning operation. One row in a tabular form corresponds to one data. To display a tabular form as in the following, start Configurator P3 and select a unit type. In the following example, the positioning unit F-type with 3-axis is used at the simultaneous 2-axis mode.

The screenshot shows the 'Untitled - Configurator P3' window. The menu bar includes File, Edit data, View, Online, Option, and Help. The toolbar contains various icons for file operations, simulation, and help. The main window displays a table with the following columns: Data No., Pattern, Pattern No., Z-Pattern, Z-Motion Span, Axis Speed, Acc./Dec. Time, Dwell Time, AUX Code, AUX OUT, and Comment. The table contains 19 rows of data, all with 'E: End' as the pattern and '0' for most other values. Below the table, there are tabs for 'XY axis' and 'Z axis'. At the bottom, there is a legend for point types: C: Continuation point, P: Pass point, S: Circular interpolation point, and E: End point. A note explains that 'Pattern No.' means a next positioning point data number, and if not specified, the next positioning data number is automatically specified. It also notes that '999' means 'return' for going back to the unique procedures when jump operation is used, and that the last pattern must be 'E: End point'. The range is specified as 1 <= Pattern No. <= 400. The status bar at the bottom shows 'Ready' and a 'NUM' button.

Data No.	Pattern	Pattern No.	Z-Pattern	Z-Motion Span	Axis Speed	Acc./Dec. Time	Dwell Time	AUX Code	AUX OUT	Comment
1	E: End	0	I: Increm...	0	0	300	0	A: End M...	0	
2	E: End	0	I: Increm...	0	0	300	0	A: End M...	0	
3	E: End	0	I: Increm...	0	0	300	0	A: End M...	0	
4	E: End	0	I: Increm...	0	0	300	0	A: End M...	0	
5	E: End	0	I: Increm...	0	0	300	0	A: End M...	0	
6	E: End	0	I: Increm...	0	0	300	0	A: End M...	0	
7	E: End	0	I: Increm...	0	0	300	0	A: End M...	0	
8	E: End	0	I: Increm...	0	0	300	0	A: End M...	0	
9	E: End	0	I: Increm...	0	0	300	0	A: End M...	0	
10	E: End	0	I: Increm...	0	0	300	0	A: End M...	0	
11	E: End	0	I: Increm...	0	0	300	0	A: End M...	0	
12	E: End	0	I: Increm...	0	0	300	0	A: End M...	0	
13	E: End	0	I: Increm...	0	0	300	0	A: End M...	0	
14	E: End	0	I: Increm...	0	0	300	0	A: End M...	0	
15	E: End	0	I: Increm...	0	0	300	0	A: End M...	0	
16	E: End	0	I: Increm...	0	0	300	0	A: End M...	0	
17	E: End	0	I: Increm...	0	0	300	0	A: End M...	0	
18	E: End	0	I: Increm...	0	0	300	0	A: End M...	0	
19	E: End	0	I: Increm...	0	0	300	0	A: End M...	0	

XY axis Z axis





C: Continuation point P: Pass point S: Circular interpolation point E: End point

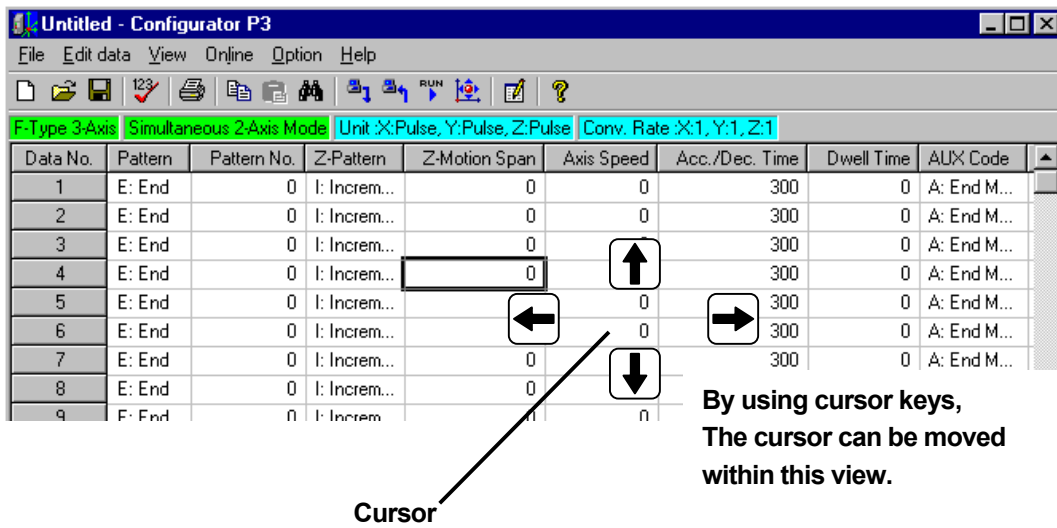
Pattern No. means a next positioning point data number. If you don't specify, the next positioning data number is automatically specified.
If you specified 999, it means "return", for going back to the unique procedures when jump operation is used.
Note: The last pattern must be "E: End point".
Range: 1 <= Pattern No. <= 400

Ready NUM

5.2 Editing data








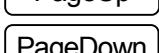











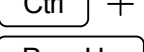

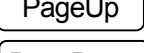
■Cursor

A cursor can be moved within a displayed data range by using     keys or mouse.



To extend a data range, press     keys while holding down  key.

The other key operations are listed below.

- Move to the beginning of the line : 
- Move to the end of the line : 
- Move the beginning of data :  + 
- Move the end of data :  + 
- Display the previous page : 
- Display the next page : 
- Select up to the beginning of a line :  + 
- Select up to the end of a line :  + 
- Select up to the beginning of data :  +  + 
- Select up to the end of data :  +  + 
- Display the previous sheet :  + 
- Display the next sheet :  + 

5.3 Contents of data

Set data based on the followings. These descriptions are also displayed in the lower part of the view as a guide (Data Remark).

Item	Description	Default value
Pattern	<p><u>C : Continuation point</u></p> <p>In this pattern, the operation of the positioning unit will pause once after the unit finishes operation for the current set of positioning point data. After the unit confirms it has reached a specified point (coordinate value) by itself, it continues operation from the next data.</p> <p><u>P : Pass point</u></p> <p>In this pattern, the operation of the positioning unit will be performed without stopping. It enables a smooth positioning at the time of speed change.</p> <p><u>S : Circular-interpolation point (F-type only)</u></p> <p>This is an auxiliary point when a path of circular interpolation is specified with 3 points.</p> <p><u>E : End point</u></p> <p>In this pattern, the positioning unit stops a series of positioning operation upon the execution / completion of positioning point data.</p>	E : End point
Pattern No.	<p>This specifies a data number to execute. When it is set "0", the next data number is executed. If it is set to "999", it returns to the original processing point.</p> <p>Range : 1 <= Data No. <= 400, and 0, or 999</p>	0
Motion pattern	<p>A : Absolute mode</p> <p>In this mode, a position is specified by absolute coordinates based on the hardware home position.</p> <p>I : Incremental mode</p> <p>In this mode, distance between the current point and the next movement point is specified.</p>	I : Incremental mode
Motion span	<p>Specifies each motion span according to an axis selected. Rotative direction at the time of incremental mode is specified based on plus / minus of data value.</p> <p>Range : Software limit (-) <= Motion span <= Software limit (+)</p>	0
Axis speed	<p>This is used for setting motion speed of an axis when the independent mode is selected.</p> <p>Range : 0 <= Axis speed <= Speed limit (parameter) Base speed (parameter) <= Axis speed (Axis speed ≠ 0)</p>	0
Interpolation speed (F-type only)	<p>This is used for setting motion speed of an axis when the simultaneous mode is selected.</p> <p>Range : 0 <= Interpolation speed <= Speed limit (parameter) Base speed (parameter) <= Interpolation speed (Interpolation speed ≠ 0)</p>	0
Acceleration / Deceleration time	0 to 4,999 (msec)	300
Dwell time	0 to 499 (x10 msec)	0
Auxiliary code	<p>A : End mode W : Start mode</p>	A : End mode

Item	Description	Default value
Auxiliary output	Range : 0 <= Auxiliary output <= 255	0 (When it is set to "0" at the End mode, auxiliary output becomes unused.)



Chapter 6

LOCAL mode

6.1	Before beginning...	6-2
6.2	Teaching (Trial operation)	6-4
6.3	Teaching (entering data)	6-6
6.4	Transferring data	6-7
6.5	Software homing operation	6-8
6.6	Positioning operation	6-9

6.1 Before beginning...

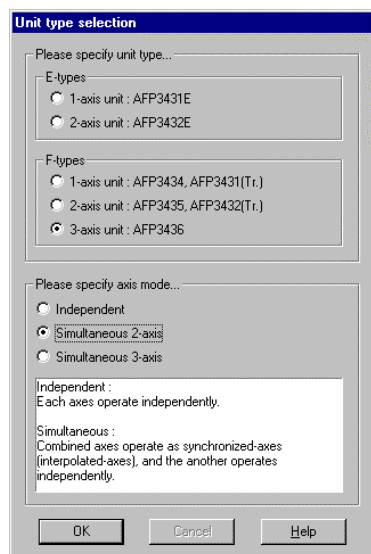
Before beginning, please confirm that the positioning unit is connected to PC and Servo driver correctly.

In the following example, the positioning unit F-type with 3-axis mode is connected to PC using serial communications (PC: RS232C, Positioning unit:RS422), and runs at simultaneous 2-axis mode.

In this chapter, how to perform a trial operation using each function available at LOCAL mode (teaching, positioning, and software homing operation) is explained.

The next chapter describes operation at RUN mode based on actual positioning point data.

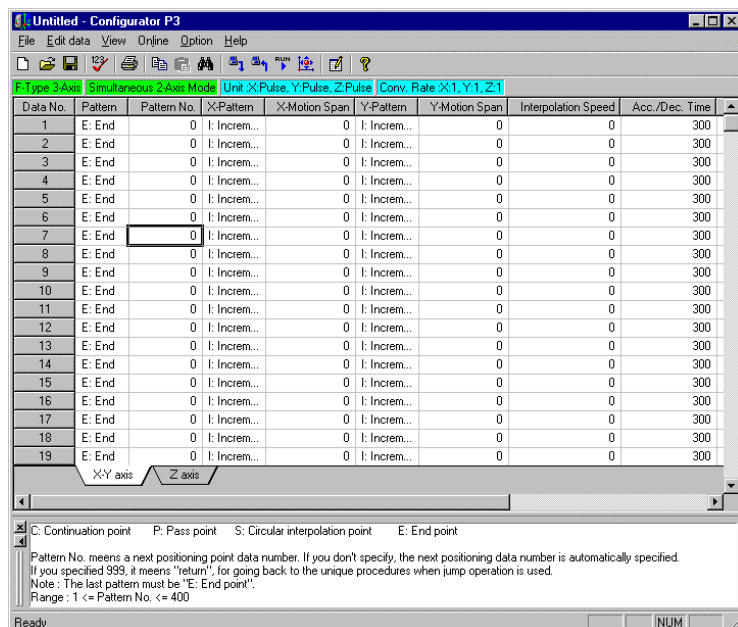
1. Start Configurator P3, and select the unit type.



Start Configurator P3 so that a dialog box for selecting a unit type appears.

Then, select the unit type, and click [OK] button.

2. Configurator P3 is started.

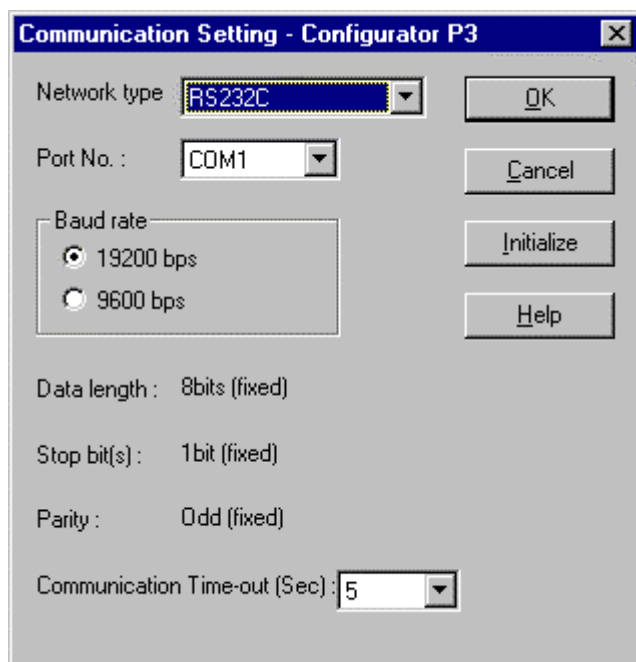


Configurator P3 is started at the state of new data editing.

3. Apply communication settings.

Select [Option] → [Communication settings] at this state.

The following dialog box appears.



Please confirm the data displayed in this dialog box matches connection conditions between PC and the positioning unit. If there is a conflict between them, select correct communication conditions, and press [OK].

Now, you can proceed to the teaching operation described in the next section. If a communication error occurs, open this dialog box, and correct communication conditions again.

6.2 Teaching (Trial operation)

1. Set the mode to LOCAL.

There are the following 3 ways to open the dialog box for LOCAL mode menu.

■Operation by using shortcut keys

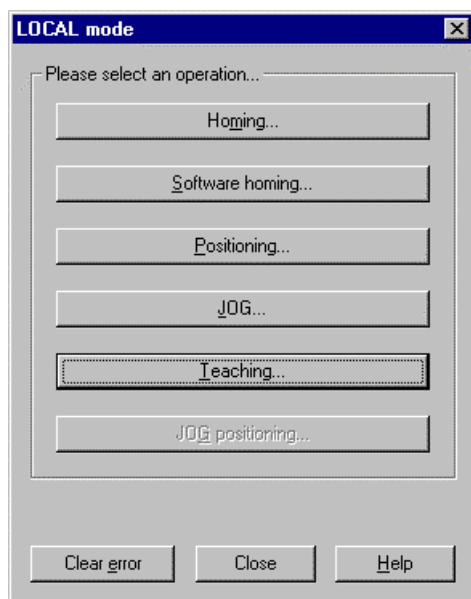
Press [Ctrl] + [L].

■Operation from the toolbar

Click  button on the toolbar.

■Operation from the menu bar

Press [Online] → [LOCAL mode...].



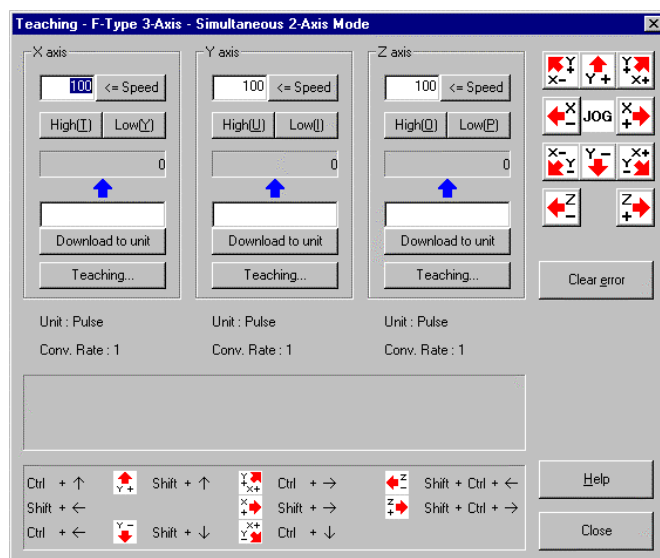
When this dialog box for LOCAL mode menu appears, click **[Teaching...]** button.


Communication is established just before the dialog box is opened, and be held until it is closed.


In case of a communication error, refer to "Error Codes" of the help function.

To refer to "Error Codes", select [**H**elp] → [**E**rror Codes].

2. Open the teaching dialog box.



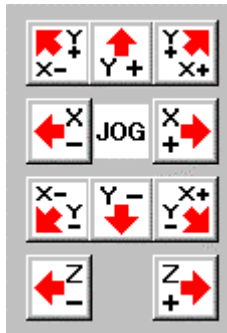
When this dialog box appears, click  button.

To operate it by using shortcut keys, move the focus to  by using [Tab] key.

To repeat the same operation, press [Shift] + Right arrow key.

When Servo driver for X-axis operates correctly, press the other buttons also to conduct an operation check. This is called JOG operation.

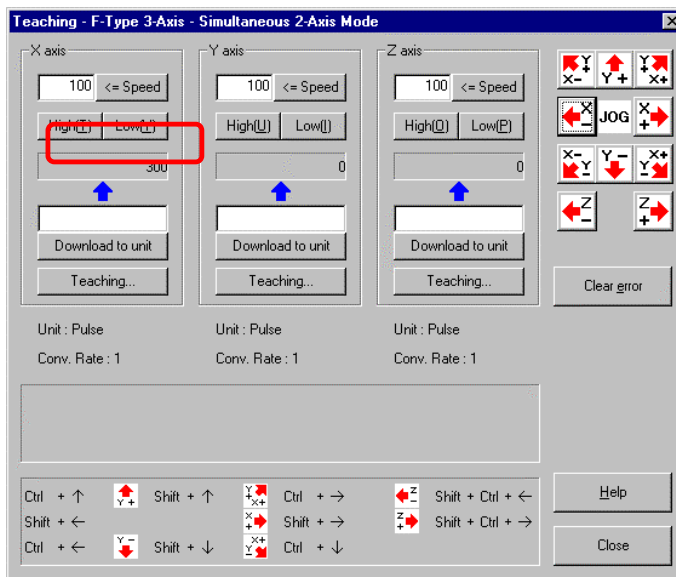
3. Conduct JOG operation by using keyboard.



You can conduct JOG operation by using keyboard as shown in the previous section.

When the focus is placed on one of the left buttons, conduct key operations as shown in the lower part of the dialog box so that you can conduct an appropriate operation for each axis.

By using oblique buttons, you can operate both X- and Y-axes simultaneously. It is available only for simultaneous 2- and 3-axis mode.



To check the current position, see the current position address in process.

(The part surrounded by square in the left illustration.)

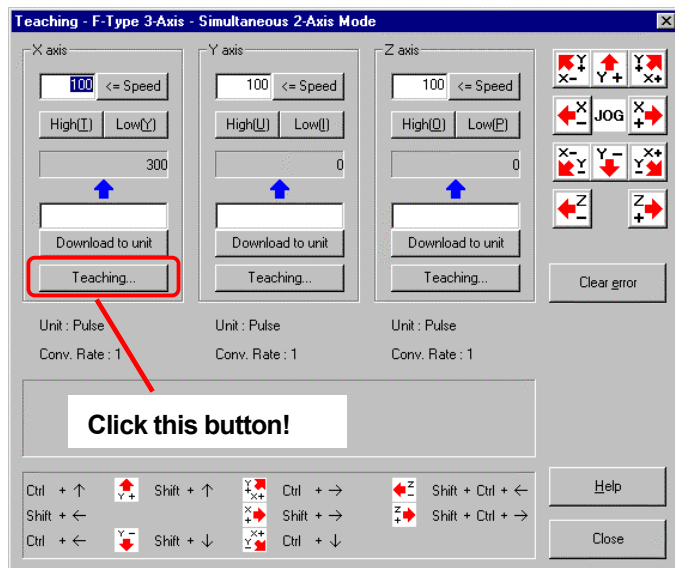
When an error occurs at this point, click [**Clear error**] button.

When an error is not cleared even though you click [**Clear error**] button, check connections of the communication system or the Servo driver system.

6.3 Teaching (Data entry)

1. Enter the current position (teaching).

The followings describe how to stop operation and enter the current position in the data view of Configurator P3.



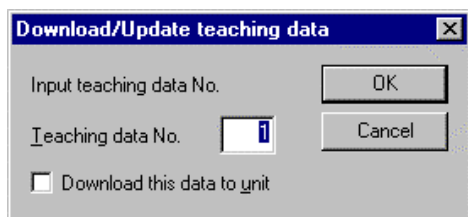
To save a position of each axis, click **[Teaching...]** button in the left dialog box.

Each axis has its **[Teaching...]** button.

This example explains how to save an X-axis position.

Click **[Teaching...]** button inside the group box for [X-axis].

2. Conduct teaching.



When this dialog box appears, confirm that the teaching data number is "1". (When it is not "1", enter "1".). Next, click **[OK]** button, so that it will be saved in data No.1 of Configurator P3 data view.

F-Type 3-Axis		Simultaneous 2-Axis Mode		Unit : X:Pulse, Y:Pulse, Z:Pulse		Conv. Rate : X:1, Y:1, Z:1	
Data No.	Pattern	Pattern No.	X-Pattern	X-Motion Span	Y-Pattern	Y-Motion Span	Interpolation S
1	E: End	0	I: Increm...	300	I: Increm...	0	
2	E: End	0	I: Increm...	0	I: Increm...	0	
3	E: End	0	I: Increm...	0	I: Increm...	0	
4	E: End	0	I: Increm...	0	I: Increm...	0	
5	E: End	0	I: Increm...	0	I: Increm...	0	

The value is applied here.

Save data on Y- and Z-axes in the same way. This operation is called "Teaching".

When saving operation is completed, click **[Close]** button of the dialog box to return to the data view. (Or you can also go back to it by pressing **[Esc]** key twice.)

Lastly, set an interpolation speed of data No.1 of data view.

(For your reference, if you set a value approximately 1/10 of value set for motion span of X- and Y-axes, it operates for 10 seconds at the time of positioning operation stated in the section 3.6.).

6.4 Transferring data

Data entry was finished in the previous section. Now you will transfer data to the positioning unit.

After data is transferred to the positioning unit, you can check if transferred data works normally by conducting a trial operation at LOCAL mode that will be explained in the next section.

1. Open the dialog box to download to unit.

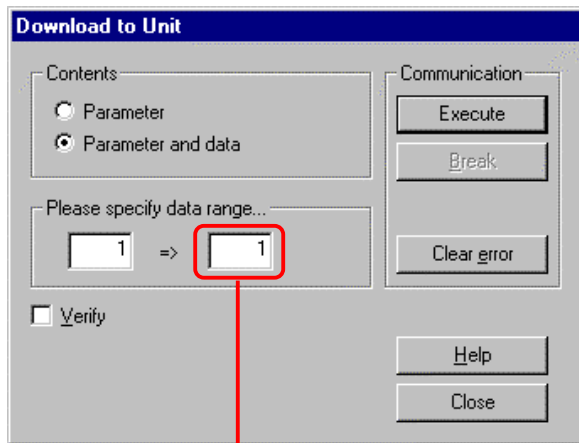
There are the following 3 ways to open the dialog box to download to unit.

■ Press [Ctrl] + [F6] keys.

■ Click  button on the toolbar.

■ Select [Online] → [Download to unit...].

2. Select data to download into the positioning unit.



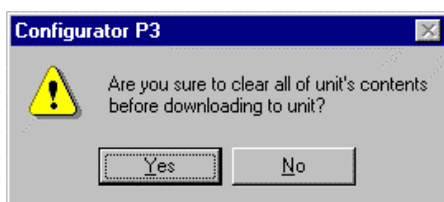
Edit here

Click [Parameter and data] inside group box of [Contents], so that you can set a data number range.

Earlier, Teaching was performed to data No.1 only, so the data number range here has to be 1 to 1.

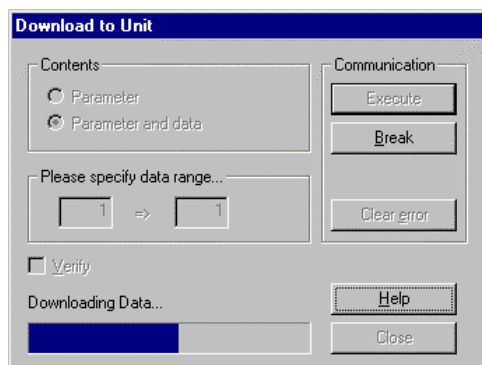
At the initial state, however, the data number range is set to 1 through 400, so re-enter "1" in the part surrounded by square in the left illustration.

3. Download to the unit.



Click [Execute] button, so parameters and data will be transferred to the positioning unit.

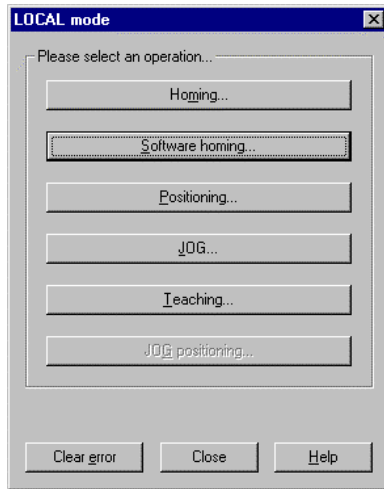
When the left dialog box appears, click [Yes] button.



And then, parameters and data is downloaded as shown in the left dialog box.

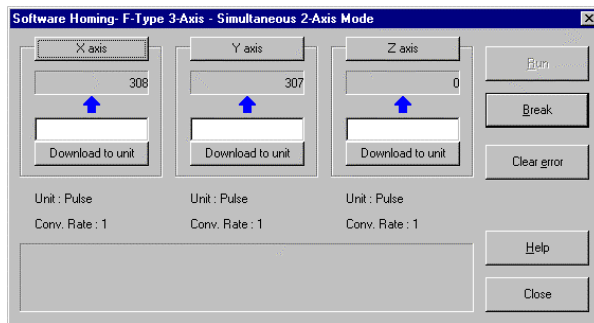
6.5 Software homing operation

1. Opening the dialog box for LOCAL mode again.



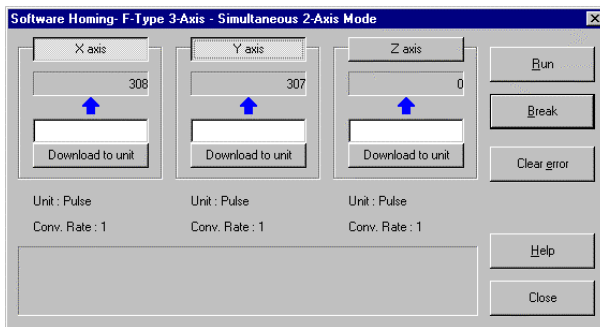
When this dialog box appears, click [**Software homing...**] button.

2. The dialog box for software homing function appears.



At this point, an axis to perform software homing is yet to be selected.

So, the button, [**Run**] is disable yet.



Click buttons of X- and Y-axes to select axes as shown in this illustration, and [**Run**] becomes available.

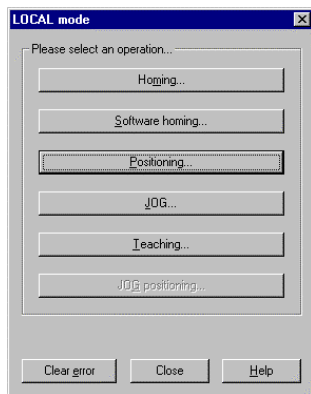
Click [**Run**] button at this state.

The operation will start.

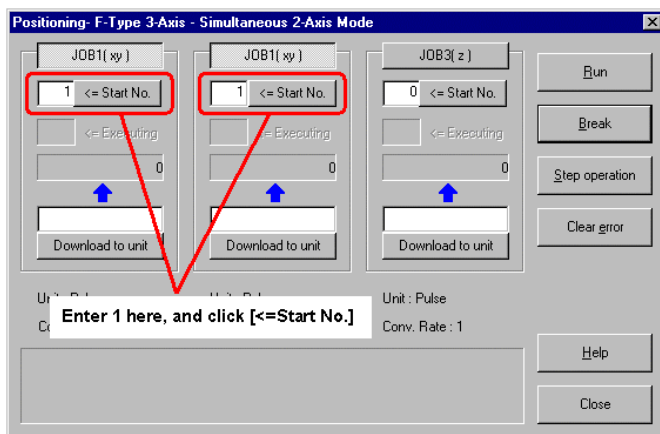
When the current value of a selected axis becomes 0, the operation stops automatically, and software homing is completed.

Click [**Close**] button to close this dialog box.

6.6 Positioning operation



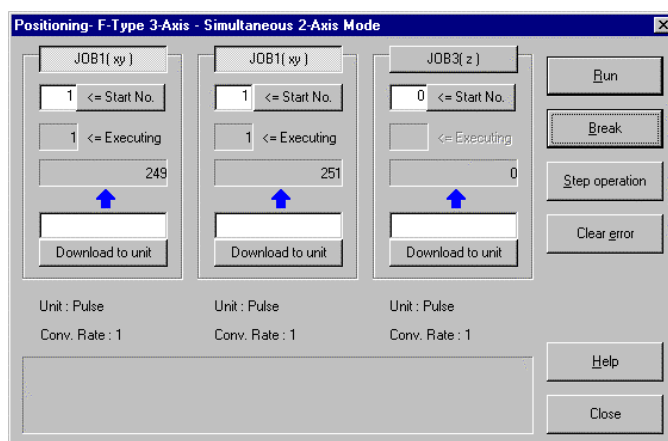
Click [**Positioning...**] button to display the dialog box for positioning.



When the dialog box appears, click both of [**JOB1(XY)**] button, to select JOB.

Next, enter a start number of positioning data.

Because data No.1 was selected at the time of Teaching, enter 1 here, and click [<=Start No.].



Click [**Run**] to start positioning operation.

Confirm that each axis moves up to the same position at the time of Teaching.

Click [**Close**] button to exit positioning operation.



Chapter 7

RUN mode

7.1	Setting mode to RUN	7-2
-----	---------------------------	-----

7.1 Setting mode to RUN

When you open the dialog box for RUN mode, the positioning unit switches RUN mode automatically.

(If you conducted a positioning operation in the previous section, perform software homing before proceeding to RUN mode.)

There are the following 3 ways to open the dialog box for RUN mode.

■Operation by using shortcut keys

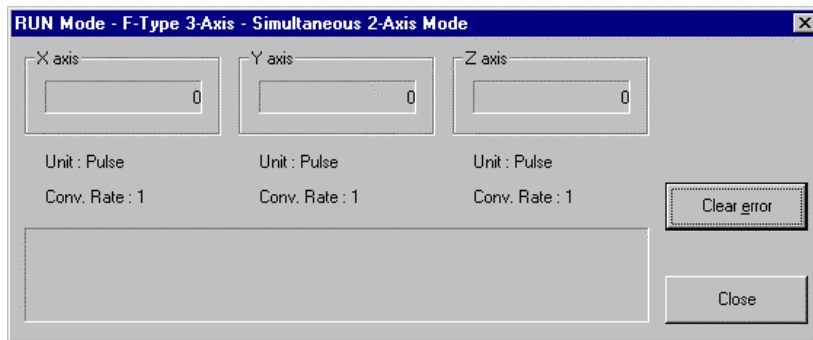
Press [Ctrl] + [R] keys.

■Operation from the toolbar

Click  button on the toolbar.

■Operation from the menu bar

Select [Online] → [RUN mode...].



When this dialog box is activated, you can monitor the current value for each axis.

To exit monitoring, click [Close] and close this dialog box.



◆ CAUTION

- When you close this dialog box, the positioning unit in it self remains RUN mode. To change it to LOCAL mode, activate the dialog box for LOCAL mode. Then, it will be changed to LOCAL mode automatically.
- While LOCAL mode has functions such as homing and a trial operation, RUN mode performs actual operation only. Conduct enough operational check at LOCAL mode before proceeding to RUN mode.

Chapter 8

Saving a file

8.1 Saving a file	8-2
-------------------------	-----

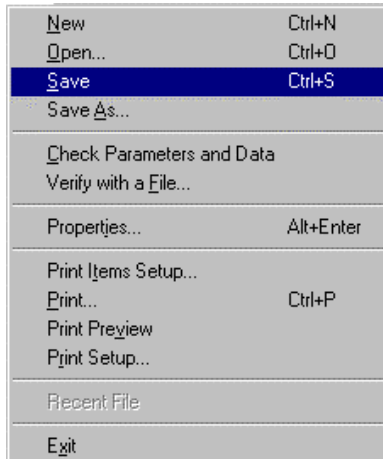
8.1 Saving a file

■Outline of saving a file

In Configurator P3, settings of a unit type, parameters, data, data comment and print items are saved in a single file.

To save it over an existing file, select [**S**ave]. To save it as a new file, select [**S**ave **A**s...].

■Operational procedure (Saving it over an existing file)



To save it over an existing file, select [**F**ile] → [**S**ave] on the menu bar.

You may also use the following ways.

*Operation by using shortcut keys

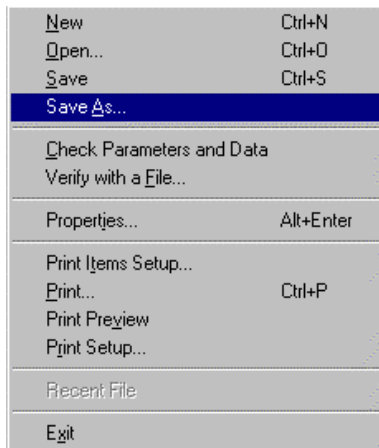
Press [Ctrl]+[S].

*Operation from the toolbar.

Click  button.

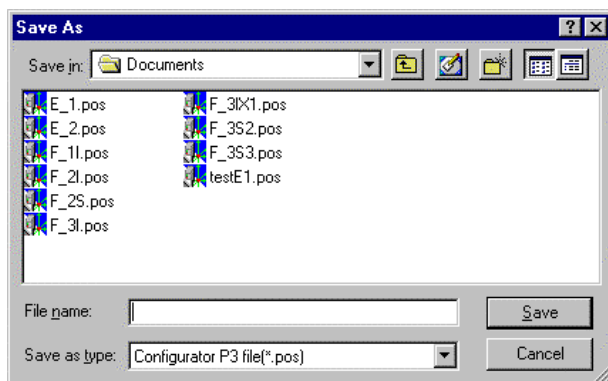
■Operational procedure (Saving it as a new file)

1. Select [Save As...]



To save it as a new file, select [**F**ile] → [**S**ave **A**s...] on the menu bar.

2. Enter the file name



When [**S**ave **A**s...] is selected, the left dialog box appears.

Enter a new file name in the file name box, and click [**S**ave] button.

Chapter 9

Printing a file

9.1	Printing a file	9-2
9.1.1	Printing	9-2
9.1.2	Setting print items	9-3

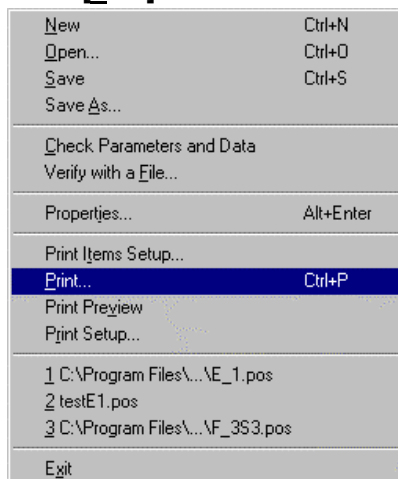
9.1 Printing a file

9.1.1 Printing

The followings describe how to print settings of parameters and data.

■Operational procedure

1. Select [**P**rint].



Select [**F**ile] → [**P**rint] on the menu bar.

You may also use the following ways.

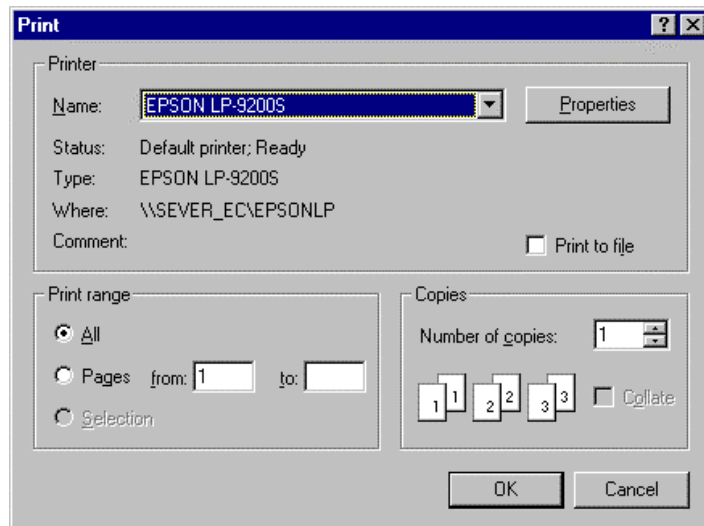
*Operation by using shortcut keys

Press [Ctrl]+[P] keys.

*Operation from the toolbar

Click  button.

2. The dialog box for printing appears.



When you select [**P**rint], the left dialog box appears.

Confirm a name of printer, and set a print range and number of copies.

And, click [**O**K] button.

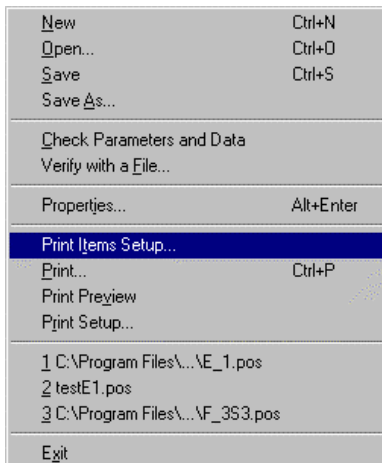
9.1.2 Setting print items

In the initial settings, all the print items are selected.

Select items that you want to print in [**Print Items Setup...**].

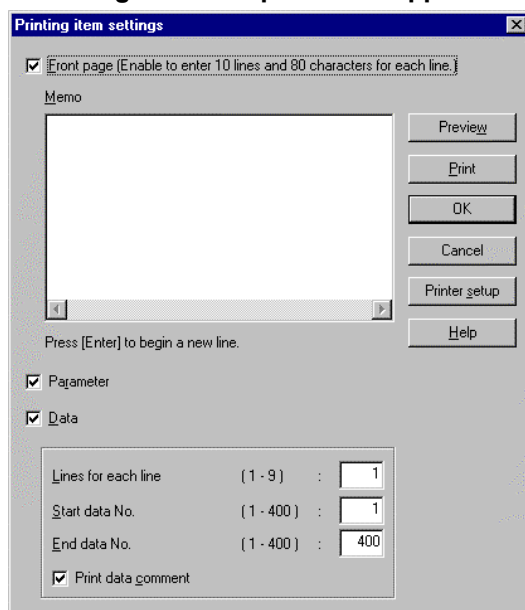
■Operational procedure

1. Select [**Print Items Setup...**].



Select [**File**] → [**Print Item Setup...**] on the menu bar.

2. The dialog box to set print items appears.

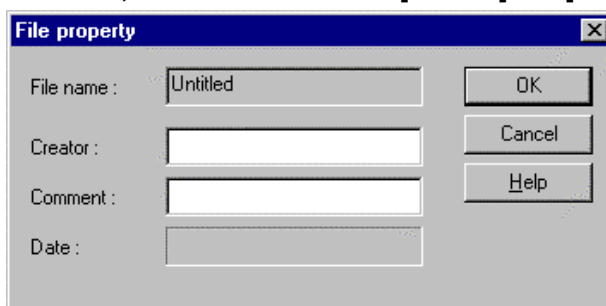


When [**Print Items Setup...**] is selected, the left dialog box appears, so tick items you want to print.



◆ EXPLANATION

To also print a creator and file comment in a front page, go to [**File**] → [**Properties**] on the menu bar, and then enter data in [**Creator**] and [**Comment**] boxes.



Record of changes

Manual No.	Date	Desceiption of changes
ARCT1F338E	Sep. 2001	First Edition

GLOBAL NETWORK

North & South America

<http://www.aromat.com/>

-USA

Aromat Corporation

629 Central Ave., New Providence, N.J. 07974 U.S.A.
Tel: 1-908-464-3550 (Headquarters)

- New Jersey
- Georgia
- Massachusetts
- Illinois
- Texas
- California
 - Los Angeles
 - San Jose
- Michigan

Canada Aromat Canada, Inc.

Representative Office

- Indonesia
- Vietnam
- Philippines
- India
- Turkey
- Brazil

Europe

<http://www.mew-europe.com/>

-Germany

Matsushita Electric Works (Europe) AG

Rudolf-Diesel-Ring 2, D-83607 Holzkirchen, Germany
Tel: 49-8024-648-0

Germany

United Kingdom

• Ireland

Austria

Switzerland

France

Italy

Benelux

Spain

• Portugal

Czech

Scandinavia

Matsushita Electric Works Deutschland G.m.b.H.

Matsushita Electric Works UK Ltd.

Matsushita Electric Works UK Ltd. Irish Branch Office

Matsushita Electric Works Austria G.m.b.H.

Matsushita Electric Works Schweiz AG

Matsushita Electric Works France S.A.R.L.

Matsushita Electric Works Italia s.r.l.

Matsushita Electric Works Benelux B.V.

Matsushita Electric Works España S.A.

Matsushita Electric Works España S.A. Portuguese Branch Office

Matsushita Electric Works (CZ) s.r.o.

Matsushita Electric Works Scandinavia AB

Asia

-Singapore

Matsushita Electric Works (Asia Pacific) Pte. Ltd.

101 Thomson Road, #25-03/05, United Square, Singapore 307591
Tel: 65-255-5473

Malaysia

Thailand

U.A.E.

-China

Matsushita Electric Works (China) Co., Ltd.

Suite 201 Level 2 Tower W3, The Toners, Oriental Plaza, No. 1,
East Chang An Ave., Dong Cheng District, Beijing, 100005 China
Tel: 86-10-8518-1302, 1303

Matsushita Electric Works (China) Co., Ltd.

Matsushita Electric Works (China) Co., Ltd. Shanghai Branch Office

Matsushita Electric Works (China) Co., Ltd. Guangzhou Branch Office

Matsushita Electric Works (China) Co., Ltd. Dalian Branch Office

Matsushita Electric Works (China) Co., Ltd. Shenzhen Branch Office

Matsushita Electric Works (China) Co., Ltd. Chengdu Branch Office

Matsushita Electric Works (Hong Kong), Ltd.

Rm1601, 16/F, Tower 2,
The Gateway, 25 Canton Road,
Tsimshatsui, Kowloon, Hong Kong
Tel: 852-2529-3956

-Japan

Matsushita Electric Works, Ltd.

Automation Controls Company

1048, Kadoma, Kadoma-shi, Osaka 571-8686, Japan

Tel: 81-6-6908-1050

Please contact

Matsushita Electric Works, Ltd.

Automation Controls Company

Head Office: 1048, Kadoma, Kadoma-shi, Osaka 571-8686, Japan

Telephone: +81-6-6908-1050

Facsimile: +81-6-6908-5781

<http://www.nais-e.com/>

COPYRIGHT © 2002 All Rights Reserved