NPManager

User's guide

Version 1.0

March 1, 2014

Note:

[Revision history]

Date	Version	Content
2014-03-10	1.0	First edition.

[Hardware]

Model	Version	Notes

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1. Introduction

NPManager is an application sample that allows to set the teaching points and to edit coordinate, area information and I/O information for each job, by means of the non-stop motion function

By understanding the source code of NPManager, you will be able to embed the non-stop motion function into your application software for your operation.

2. Outline for Operation

2.1. Adding and editing of the inspection point with NPManager

① On the Connection pane, select IP address of RC8 robot controller from the drop-down list box to establish the connection. Make sure that the robot controller is cable-connected beforehand.

② On the Job information pane, add a job name that you want to control.

③ On the Inspection point pane, add and sort the inspection points for each job.

④ The Position detection button allows you to get the robot coordinates and edit area information and timer setting, for each inspection points.

⑤ With the Trajectory generation button, calculate the revised teaching points for non-stop motion, and transfer the data to RC8.

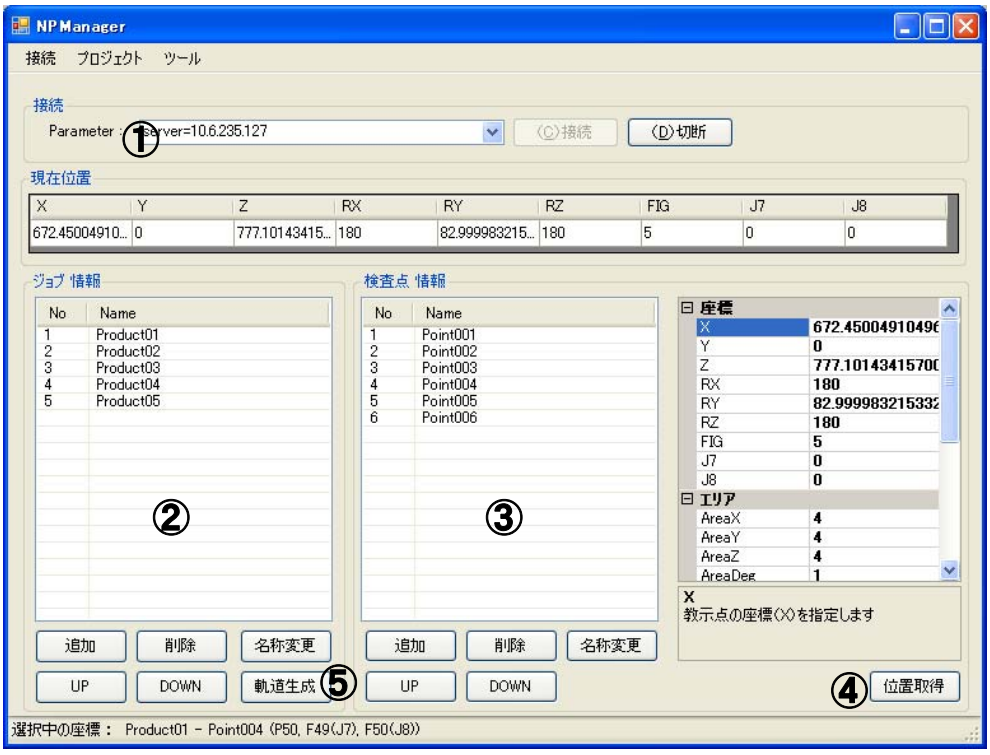


Figure-1 Adding and editing of inspection points

2.2. Data management

1) Use WINCAPSIII project to save data, because NPManager does not have memory function. Data are written in global variables of RC8 when inspection points are edited.

2) For about the allocation of global variables, refer to "Sample data mapping sheet.xls. The number of job and inspection points can be changed.

2.3. Robot control

1) For the manual mode operation, use the teach pendant.

2) For Auto-mode, start NonStopMove.pac., which is a sample PAC file. Area detection program starts and the non-stop motion program is carried out.

3. Description about Window

3.1. NPManager main window

Connecting with RC8, create and edit the inspection items (jobs, inspection points, and the inspection point data), and then generate trajectory.

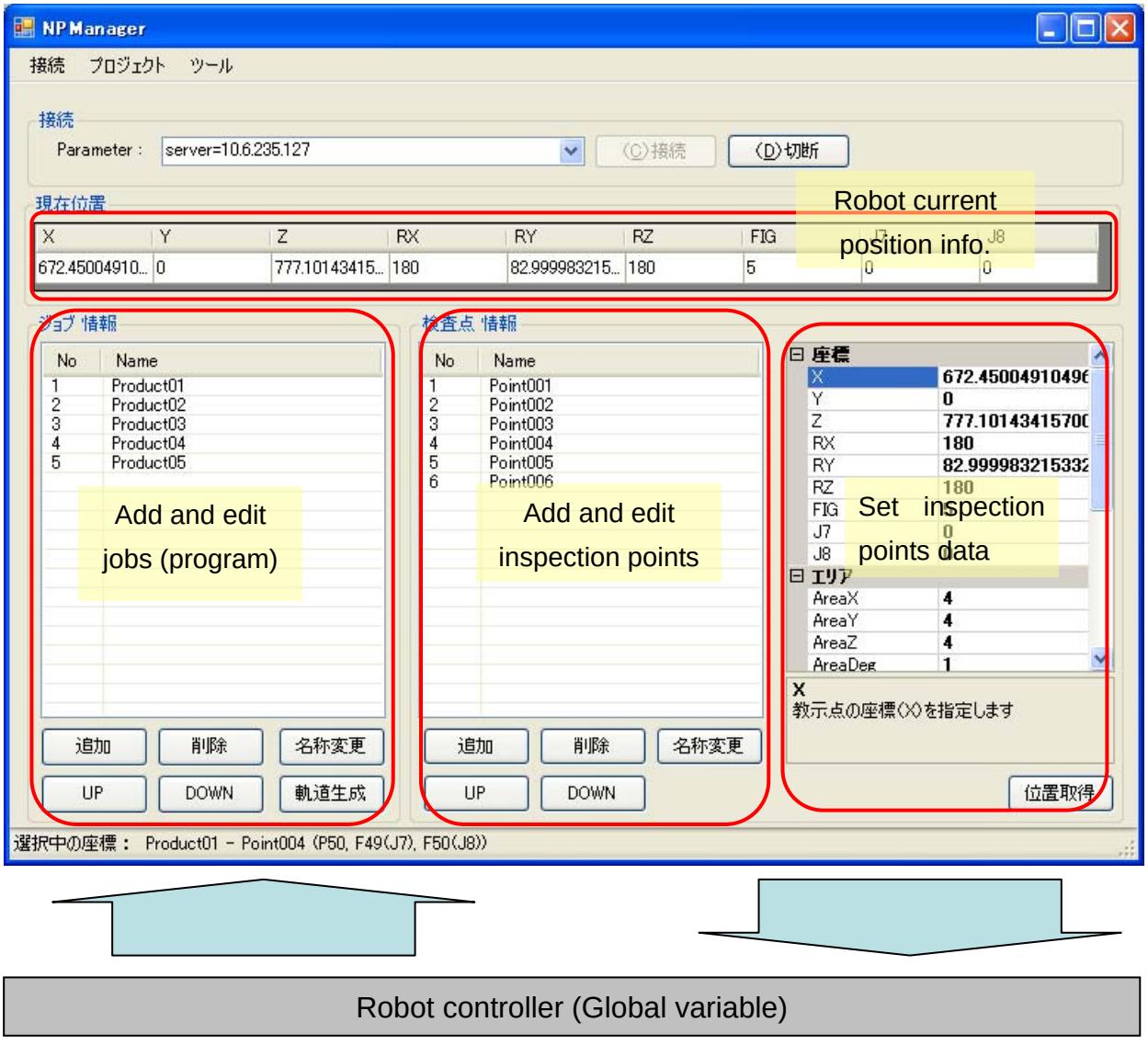


Figure-2

Creating and adding of the inspection points and the trajectory creation setting

Operation buttons

3.1.1. Connection pane

Figure-3 Connection pane

① Set the parameter for RC8 connection

② Establish connection with RC8 according to the connection parameter set by (1) above.

③ Cut off the established RC8 connection

④ Display the NPManager setting window

3.1.2. Current position pane

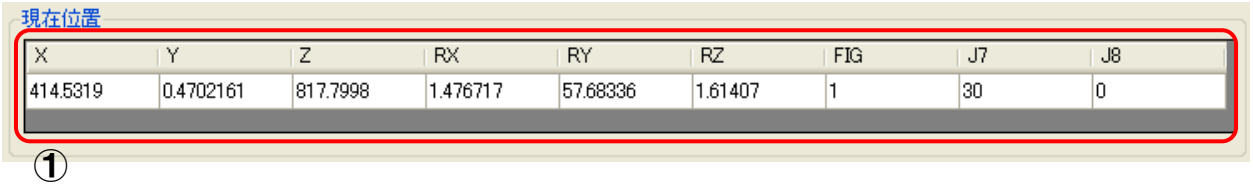


Figure-4 Current position pane

① Monitor the current position of the connected robot (P variable type)

3.1.3. Job information pane

Figure-5 Job information pane

① Display the list of currently registered program ("Program" refer to the job or robot program)

② Add a new program

③ Delete a program

④ Rename a program

⑤ Up the order of the program

⑥ Down the order of the program

⑦ Create the revised teaching points for non-stop motion, and transfer the data to RC8.

3.1.4. Inspection point information pane

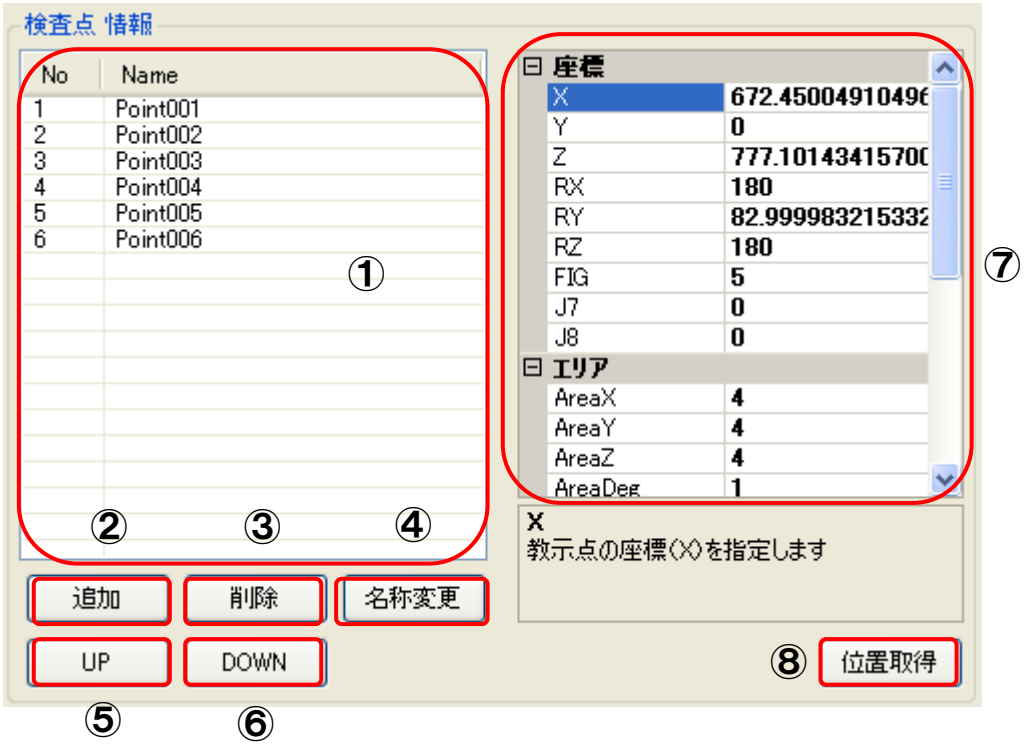


Figure-6 Inspection point information pane

① Display registered inspection points

② Add a new inspection point

③ Delete an inspection point

④ Rename an inspection point

⑤ Up the order of the inspection point

⑥ Down the order of the inspection point

⑦ Display and edit the inspection point data

⑧ Overwrite the robot coordinate with the current robot position

4. Function Description

4.1. Job number and inspection points setting

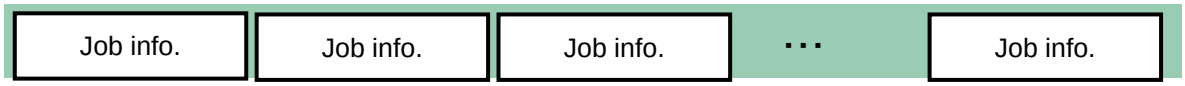
Set job number and inspection point number, and display the size of each Global Variable. To change the size, set larger than the outputted global variable size.

- Ex.: 10 jobs and 200 inspection points (for one job)

*The larger the job number or inspection point, the larger the necessary global variable area.

- When both job number and inspection point are small : required global variable area

- When both job number and inspection point are large : required global variable area

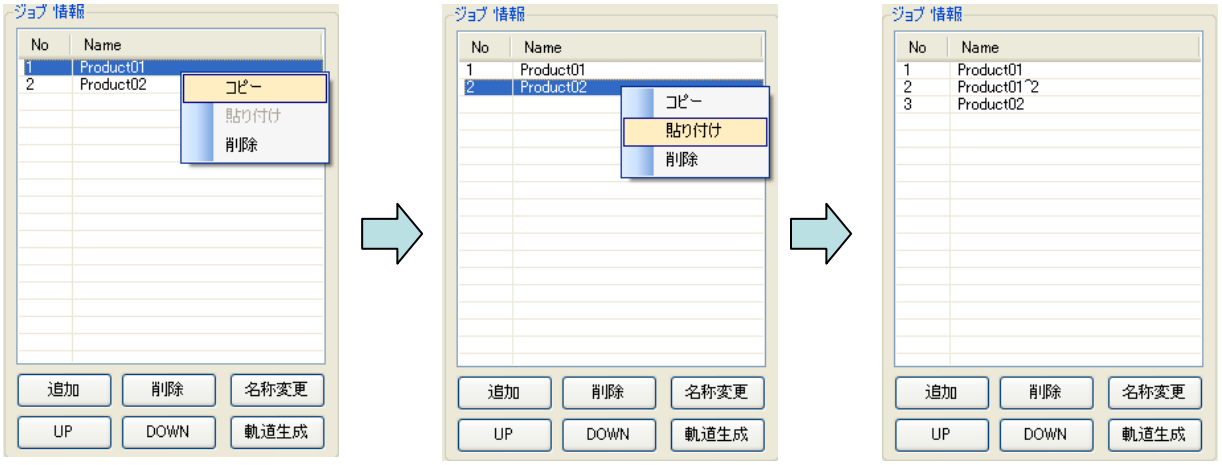


4.2. Copy and paste

[Description]

Copy, paste and delete the selected job or inspection point

[Operation procedure]



(1) Right-click a job or an inspection point, and then choose "Copy".

(2) Right-click at the point to paste, and then choose "Paste" *1

(3) Paste a job or an inspection point at the selected line.*2

*1 If no line is selected, the data is placed at the last line.

*2 The name of job or inspection point is "original name + "^2" ".

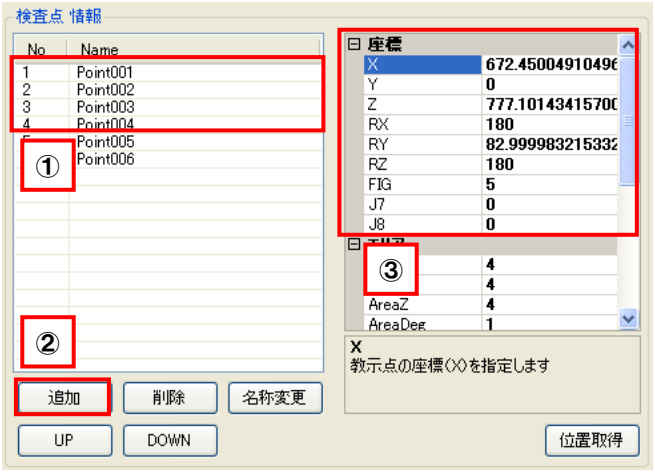
4.3. Temporary position variable for inspection point data

[Description]

When the inspection point data is operated, store the position data of the robot in the global variable of RC8.

(Default: Robot position=P50, Extended-joint (J7) = F49, Extended-joint (J8) = F50)

[Operation procedure]



The current position is loaded in RC8 at the following operation

① Select inspection point -> Selected inspection position

② Add inspection point -> Added inspection position

③ Edit inspection point -> Edited inspection position

Temporary position variable is used for "variable movement" and "edit data".

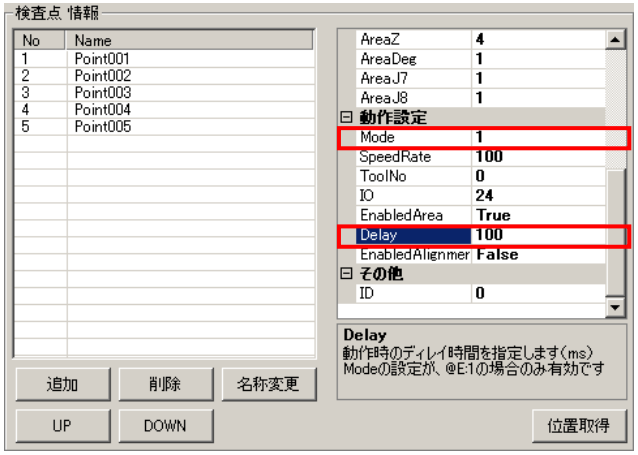
- Robot position = P50
- Extended-joint (J7) = F49
- Extended-joint (J8) = F50

4.4. Delay timer

[Description]

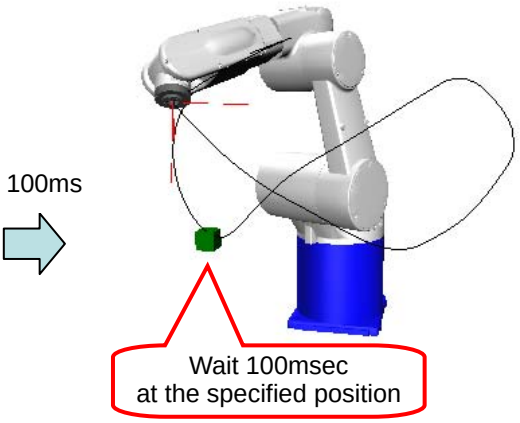
At the stop motion (@E), the delay timer (msec) is arranged. In the case of non-stop motion (@P), the timer is not used.

[Operation procedure]



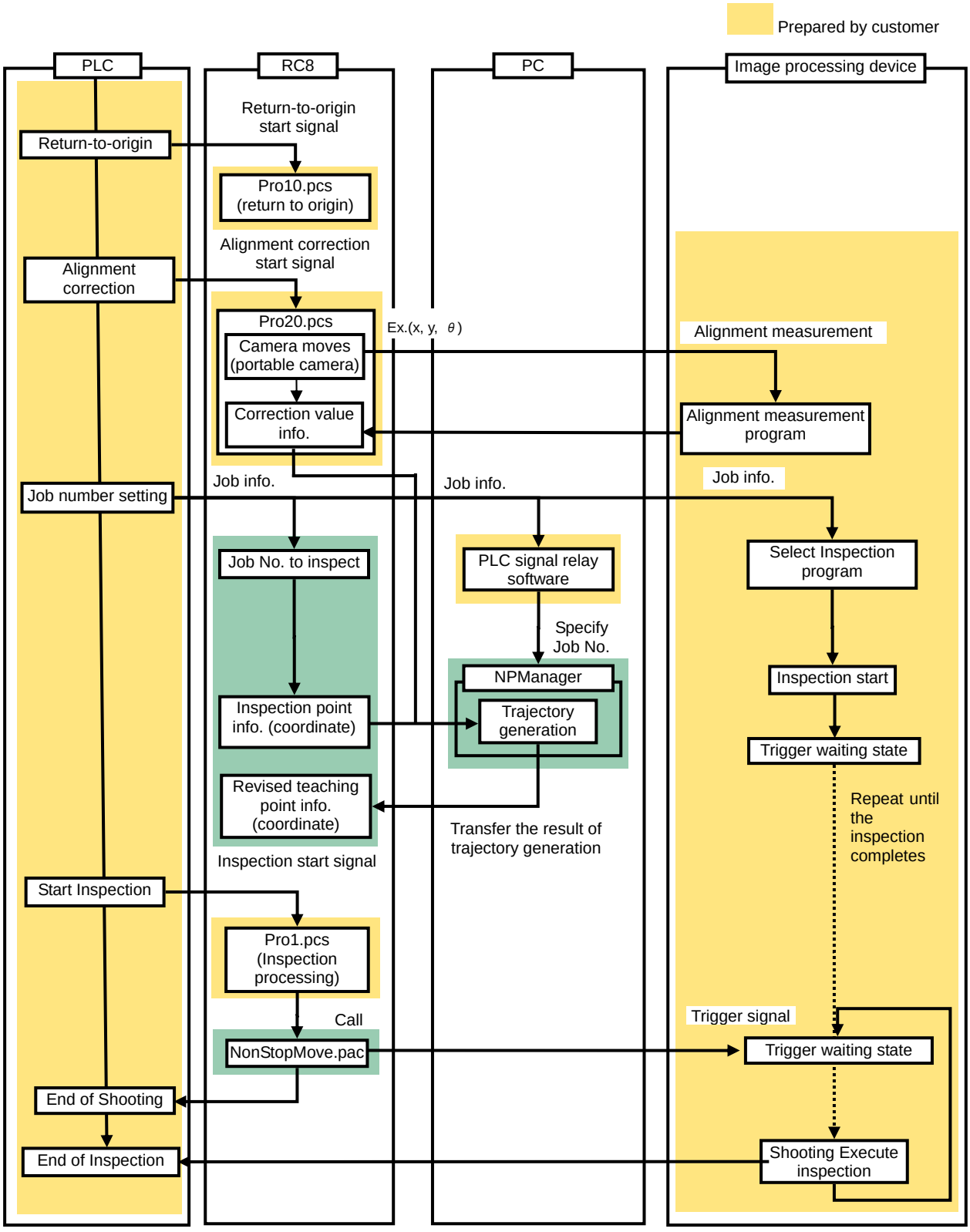
"Delay" refers to the waiting time at the point.

To use Delay, "Mode" must be set to"1".



During the robot motion, wait by specified time period.

5. Appendix. Installation Diagram



The program names of "*pcs" are examples.