ROBOSTAR ROBOT

N1 Series

UNI-HOST MANUAL

- □ INSTRUCTION MANUAL
- □ OPERATION MANUAL
- □ PROGRAMMING MANUAL
- ☑ UNI-HOST MANUAL
- □ GAIN SETUP MANUAL
- □ ALARM CODE MANUAL

Robostar

www.robostar.co.kr

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(2) failures arising due to improper repair, alteration, redeployment, or other mishandling, when, under the instruction of you or any third party

(3) failures as a result of using parts, grease, etc. which have not been designated by Robostar.

(4) failures caused by accidents, such as fire, disaster, earthquake, storms, or other natural disasters

(5) failures caused in manure, flooding, or other environment

(6) failure caused by the consumption of consumable parts

(7) failures arising when not being operated under the instructions listed in the user or instruction manual and the maintenance manual

(8) damages in cost other than the cost of robot repairing

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Constitution of User Manual

The user manual for this product is constituted as follows. When using this product first, please fully read all the manuals before use.

- **Instruction Manual**

  A controller is generally explained. Overview of the controller, installation, and interfacing to peripherals are explained.

- **Manipulation & Operation Manual**

  As well as general use of the controller, parameter setup, JOB program editing, robot operation, etc. are explained.

- **Programming Manual**

  RRL (Robostar Robot Language) which is the robot program of Robostar and how to write a robot program by using RRL are explained.

- **Unihost Manual**

  'Unihost' which is the on-line PC program of Robostar is explained.

- **Gain Setup Manual**

  How to set up the gain necessary for trial run, and the motor response performance according to change in the gain value are explained.

- **Alarm Code Manual**

  Reasons for and countermeasures against the alarms which can occur while operating the controller are explained.

Contents

Chapter 1 Using N1 Unihost Manager

This Unihost Manager is for setup of the N1 robot controller-to-computer communication and the basic environment.

1.1 First Connection

To execute this Unihost Manager, click Unihost Manager.exe file.

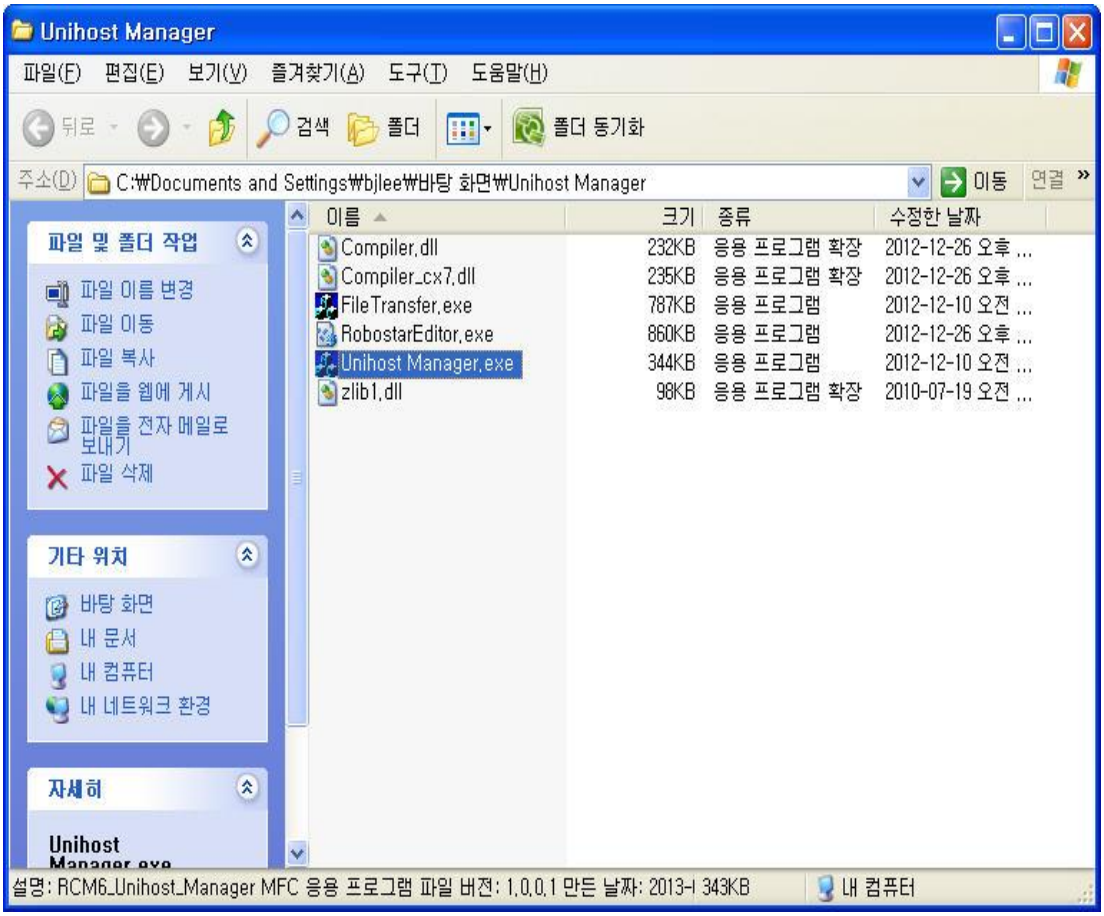


Fig. 1-1

When Unihost Manager is executed, Project selecting screen (Fig. 1-2) appears.
Move to a folder in which the Project has been created, and select project file (*.prj).

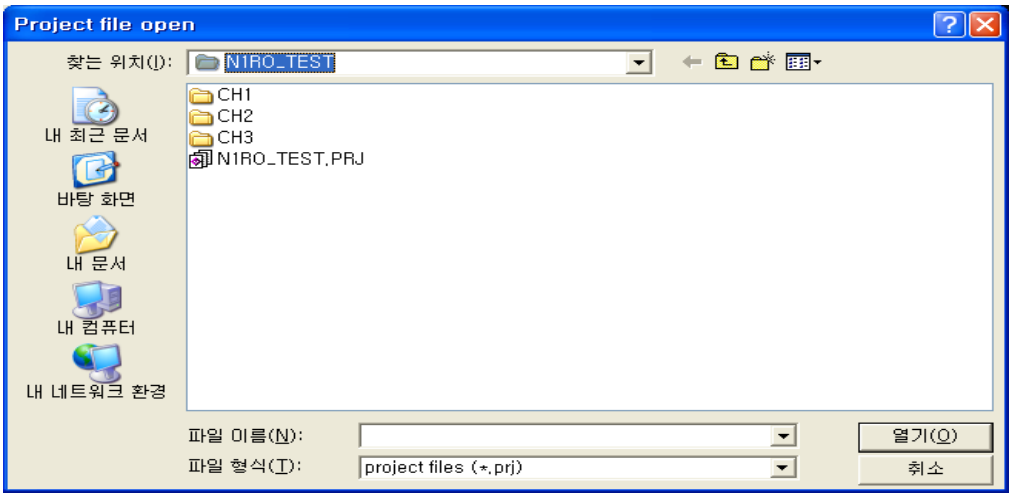


Fig. 1-2

If Cancel button is selected when there is no project file or in order to create a new project instead the existing project, the following project creation dialog box (Fig. 1-3) appears.

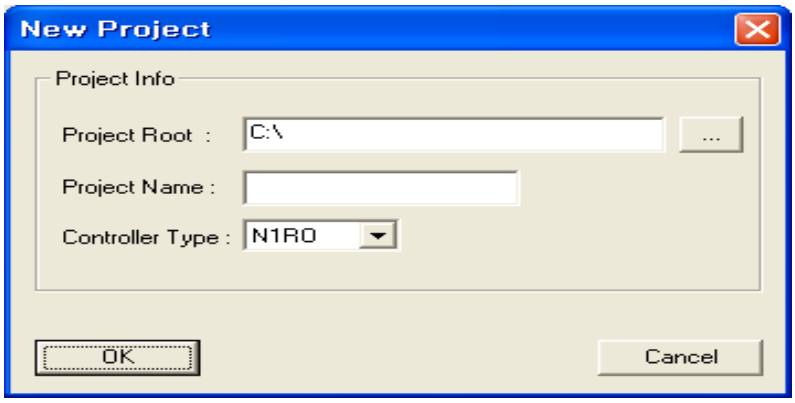


Fig. 1-3

When setting a project root and entering a project name, a folder with a project name is created in the project root, with subfolders CH1, CH2 and CH3 created respectively below the folder with a project name. The controller type to be selected should match the controller type being used. If they are not consistent, a function such as a file transfer does not work. Select 'cancel' from project creation screen and the program is closed.

CAUTION

▶ When the Controller Type is not consistent, a warning window Type Mismatch comes up.

▶ In new project creation, if there is no Project Root folder, Project cannot be created. Make the folder in advance, using Windows Explorer or the like.

If the existing project has been selected or a new project is selected, a dialog box for communication connection appears.
When a usable port and communication rate are set up and then Connect button is selected, PC-to-controller communication starts. Communication rate is set to 115200 bps, in default.

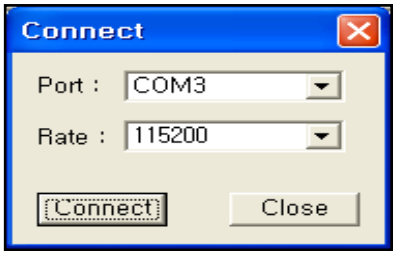


Fig. 1-4

If connection is successful, the following screen appears. (Fig. 1-5)

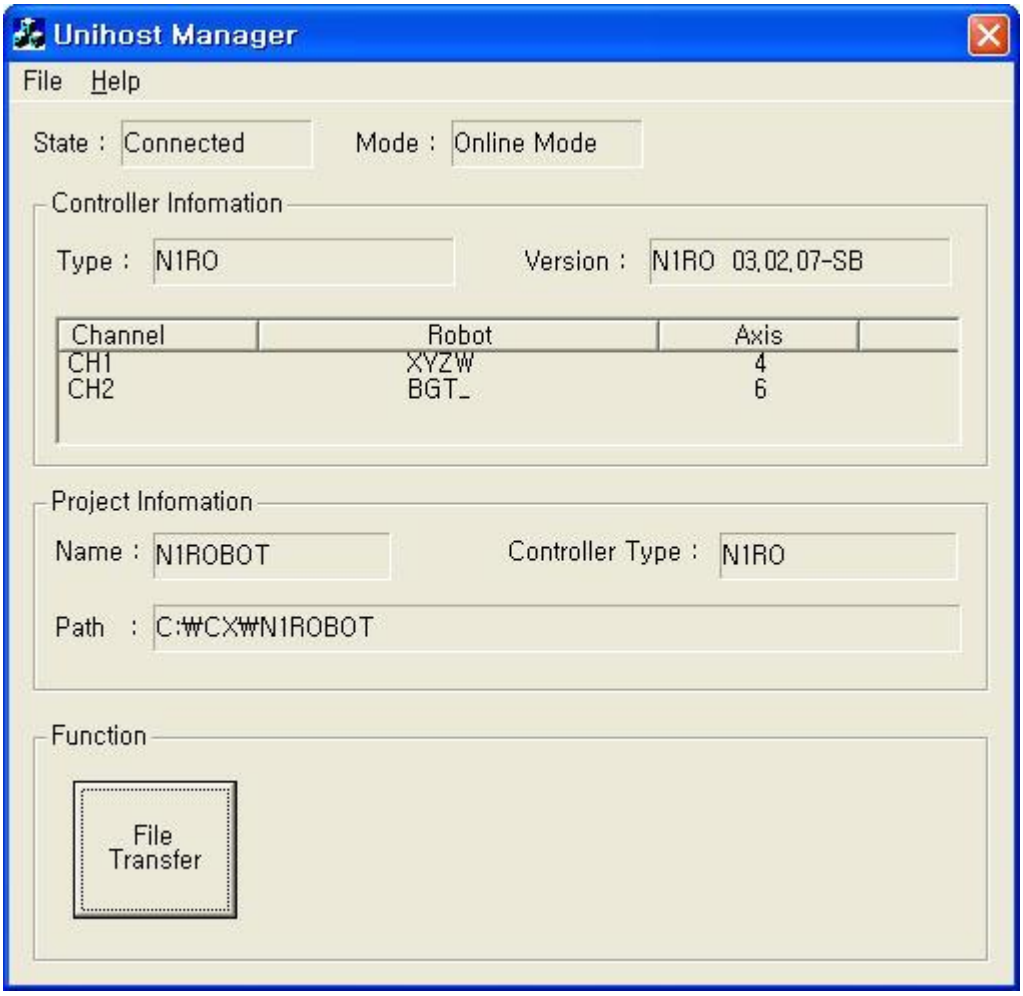


그림 1-5

If connection is failed, Disconnected screen (Fig. 1-6) appears. At this time, check the communication connected state, communication port, communication rate, and controller mode.

(Unihost communication is supported in only Host mode of the N1 controller.)

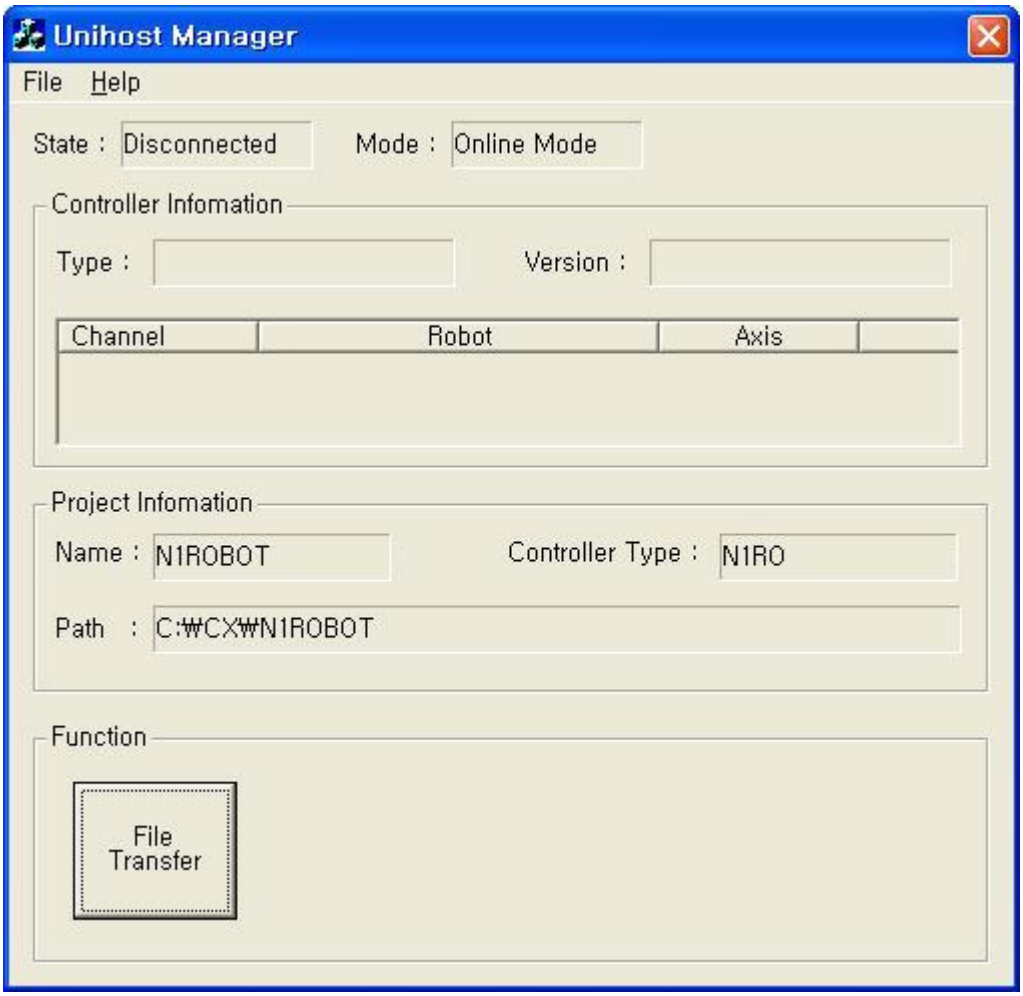


Fig. 1-6

CAUTION

- **Unihost communication is supported only in N1 controller <MAIN MENU> → 3.HOST.**
- **If communication connection is failed, check the followings.**
  - **① Check the communication port and the communication rate.**
  - **② Check whether the controller state is in Host Mode.**
  - **③ Check a serial cable connecting the PC and the controller.**

1.2 Default screen

A screen appearing when PC-to-controller communication is successful is as in Fig. 1-7.

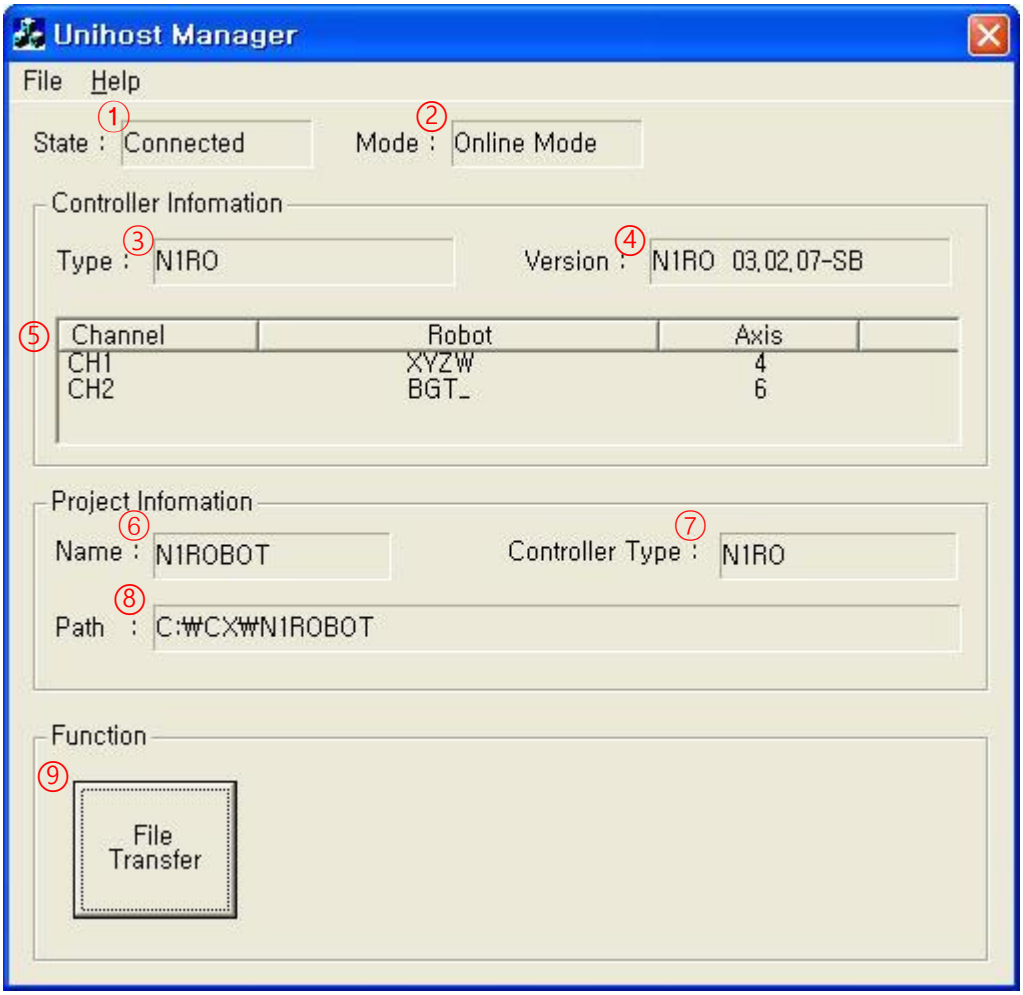


Fig. 1-7

① Connection state: If in connection, Connected is displayed; and if not in connection, Disconnected is displayed.
② Communication mode of the current controller.
③ Controller name
④ S/W Version of the controller
⑤ Information on each robot channel.
⑥ User selected project name
⑦ User selected project path
⑧ Execute File Transfer.

1.3 File Menu

1.3.1 Connect

This menu is enabled, as shown below, when the connection between a computer and a robot controller is disconnected. Select this menu to connect a computer with a robot controller.

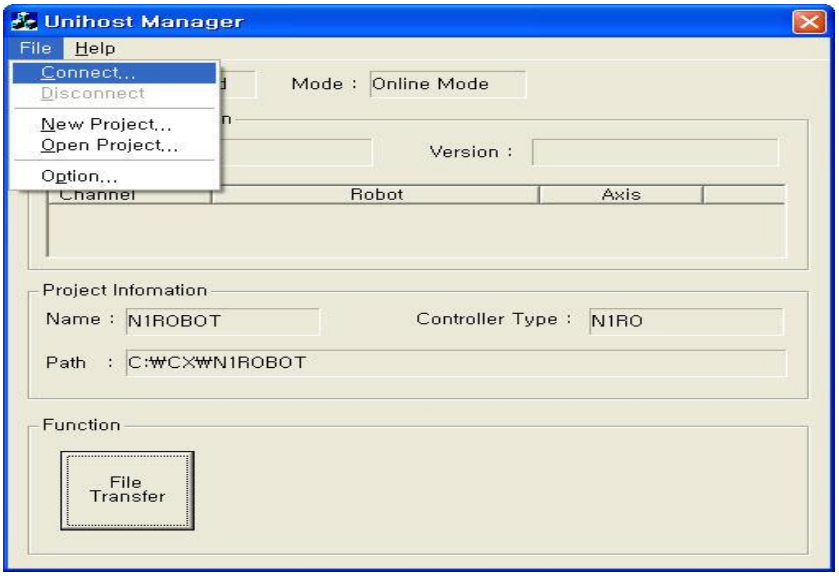


Fig. 1-8

1.3.2 Disconnect

This menu is enabled, only when the computer and the robot controller are connected with each other. Select this menu to disconnect a computer from a robot controller.

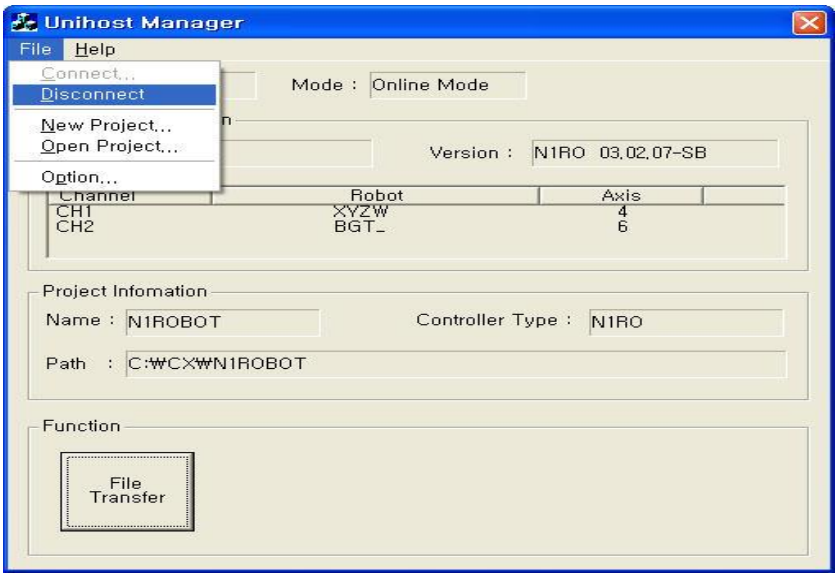


Fig. 1-9

1.3.3 New Project

Unihost program has adopted the concept of project for stability of files and convenience of maintenance.

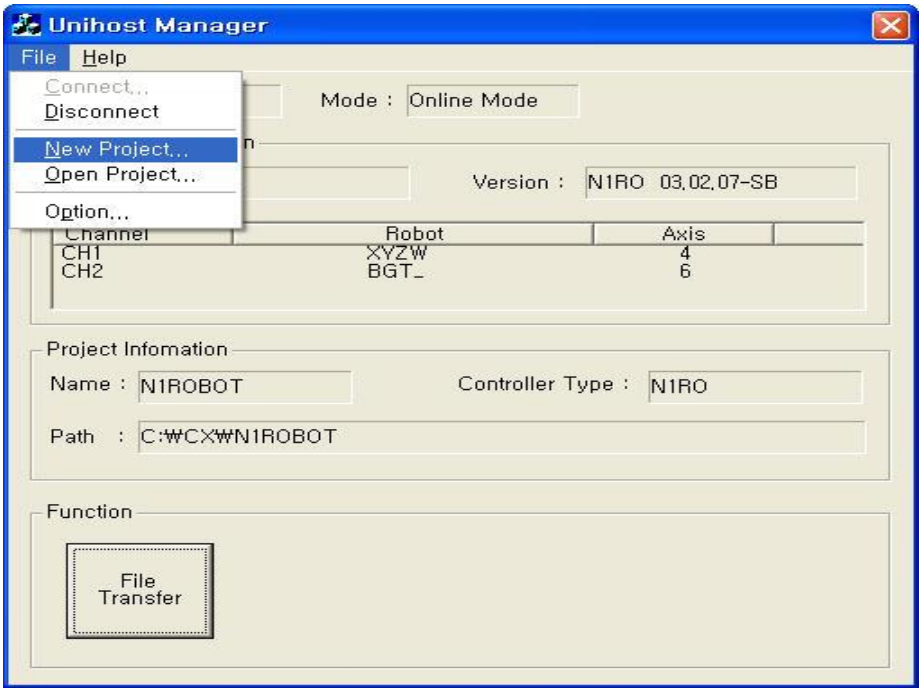


Fig. 1-10

When, in File menu, New Project menu is selected, Project creation dialog box (Fig. 1-11) appears.

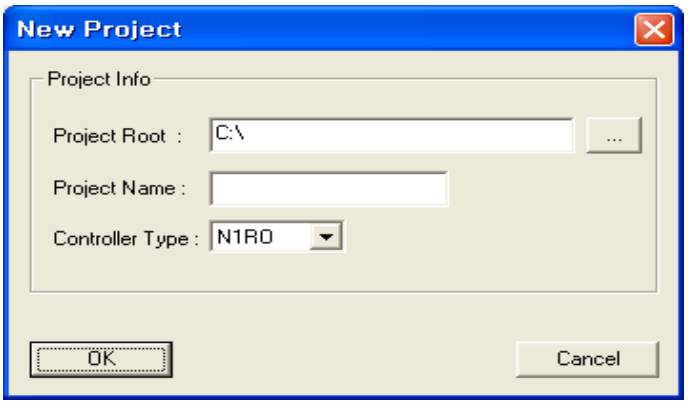


Fig. 1-11

When Project Name corresponding to the controller is entered and then OK is selected, a folder relevant to the project name is created in PC, and, in such folder, 3 folders corresponding to each channel.

The current channel names are fixed so that a user cannot change them.

1.3.4 Open Project

Open projects other than the currently selected project.

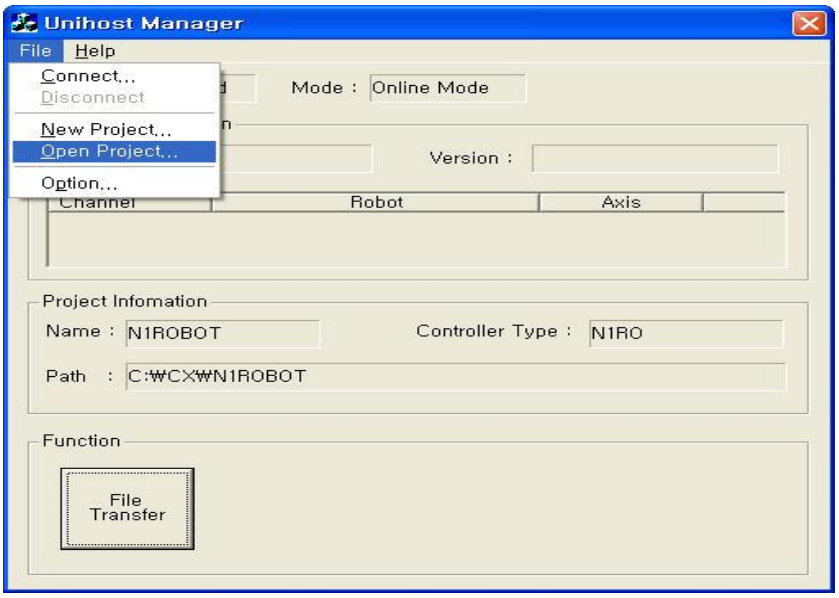


Fig. 1-12

When, in File menu, Open Project is selected, Project file open dialog box (Fig. 1-13) appears.

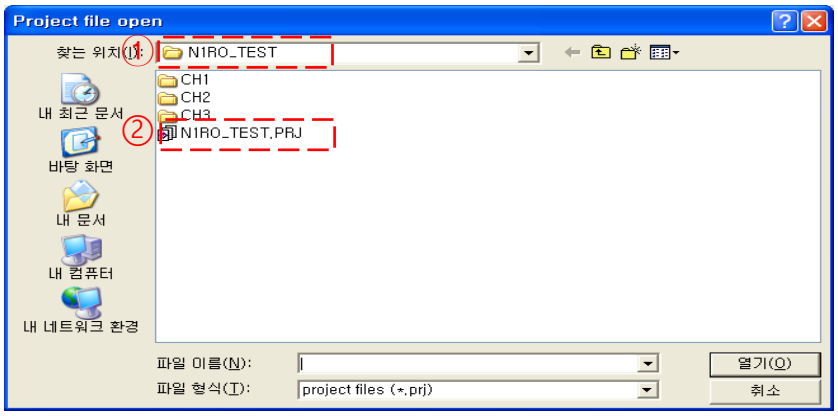


Fig. 1-13

Move to a desired project folder and select a project file, and then click on Open button.

(When Project folder is opened, ① folder name and ② project name must be the same.)

> **CAUTION**
>
> ▶ **When Project folder is opened, the name of a folder in which a project locates and the project name must be the same. If they are not the same, File Transfer function does not work normally.**

1.3.5 Option

Sets up Project Root path, Execution file path, and a communication timeout time.

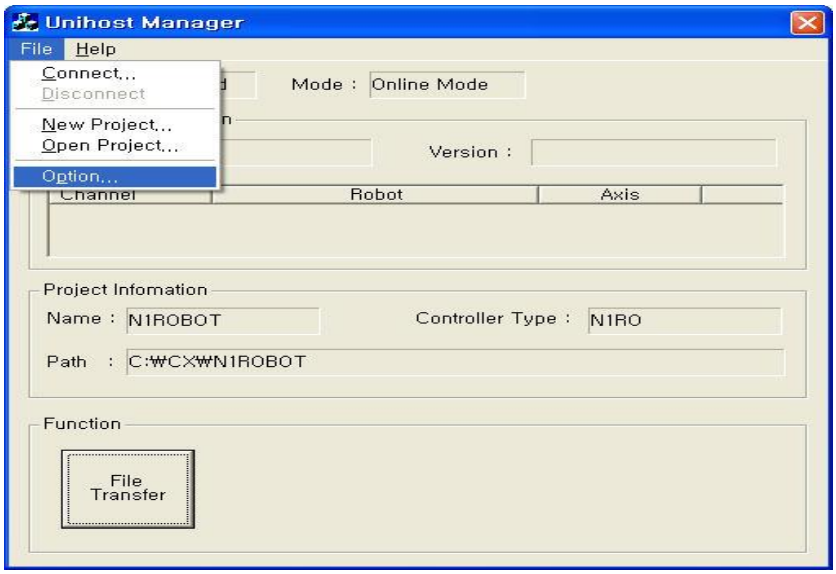


Fig. 1-14

In File menu, select Option and Option dialog box (Fig. 1-15) appears.

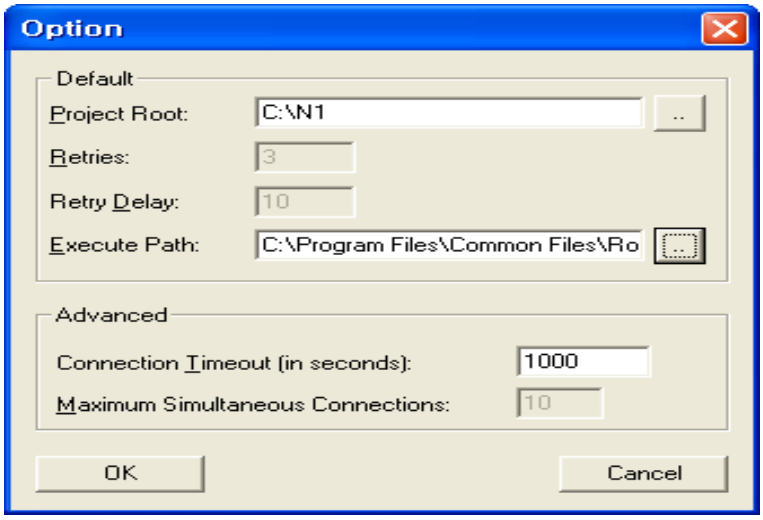


Fig. 1-15

Root folder of the project, a folder in which execution file is, and the timeout time are setup. If Execute Path is wrong set up, File Transfer Program is not performed.

CAUTION ▶ **When Execute Path is set up, it must be in the position of a folder in which an execution file, FileTransfer.exe exists.**

Chapter 2 Using N1 File Transfer Program

This File Transfer Program facilitates the transmission and reception of the files and parameters between N1 robot controller and a computer.

2.1 Default Screen

A main screen of File Transfer Program consists of, as shown in Fig. 2-1, a window showing file lists of PC and the controller and a trace window showing the current communication status.

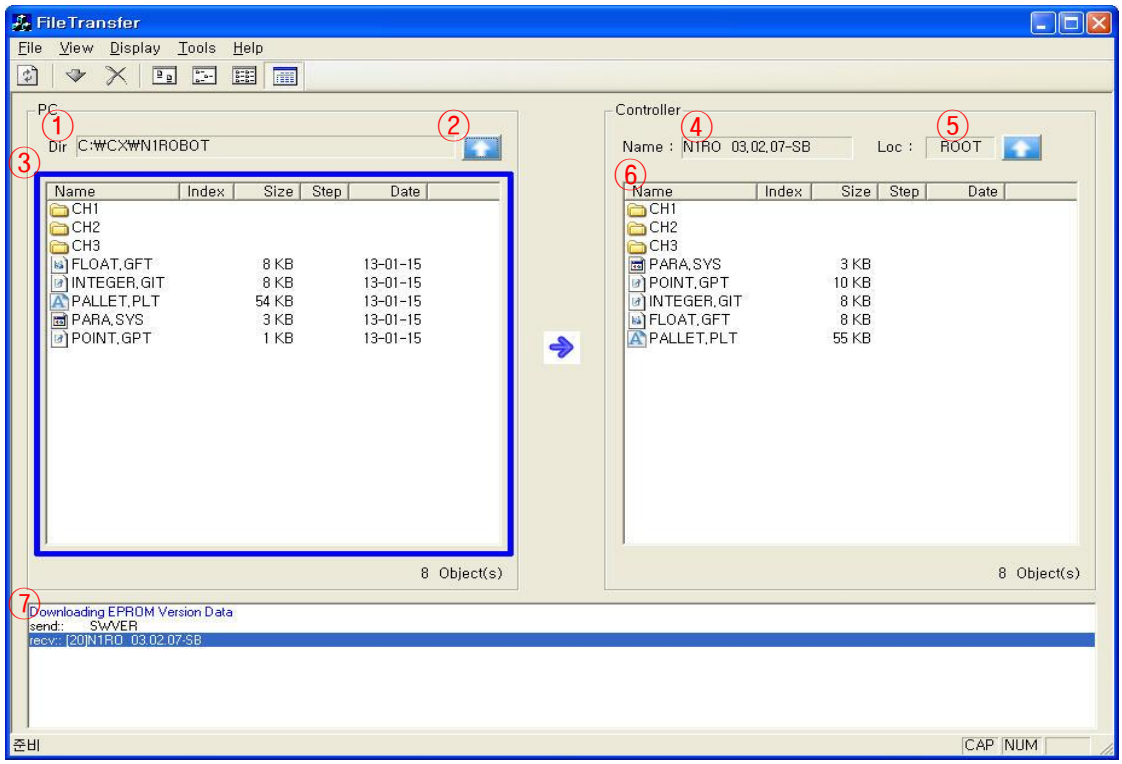


Fig. 2-1

① Path of currently working PC.

② Working folder of PC can be moved to a higher level.

③ File listing window of PC, which shows the file list in the working folder. The blue lined square means that the current user has selected the file list window of PC.

④ F/W version of a controller.

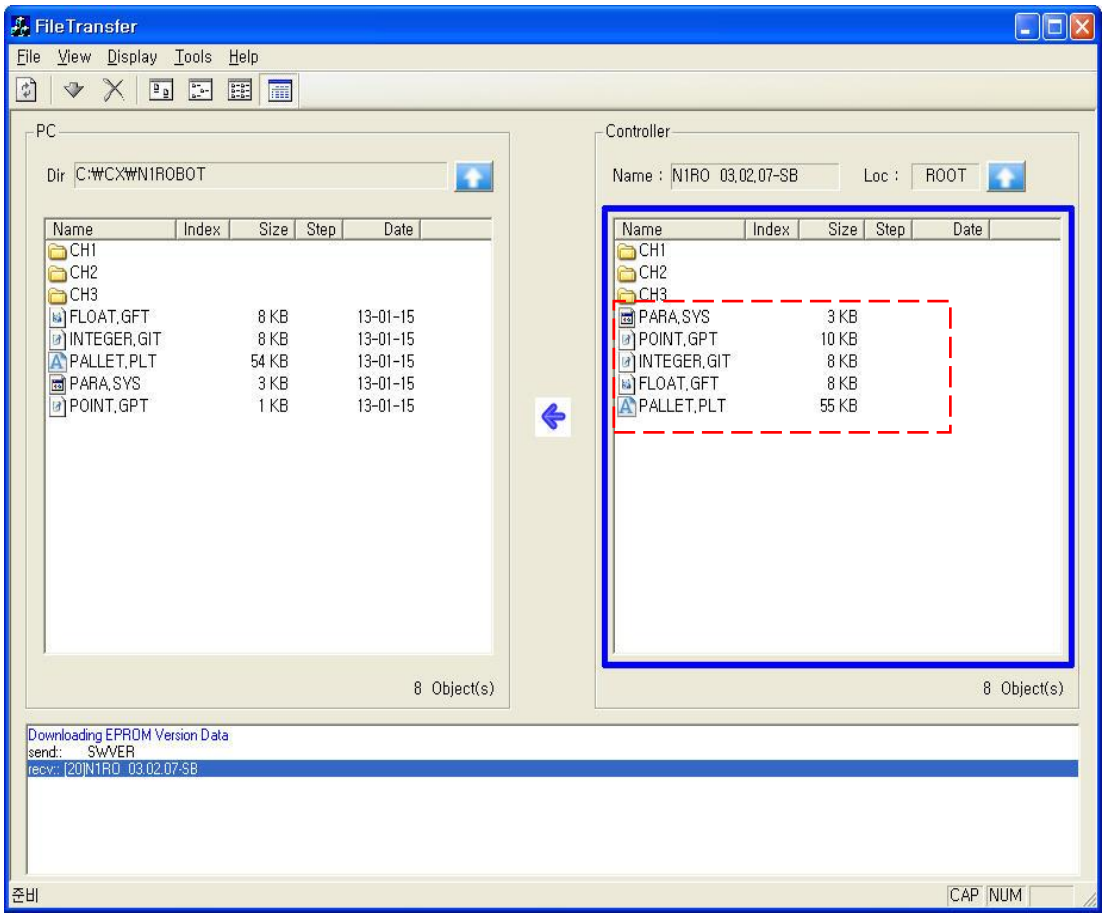
⑤ A channel of the controller that a user selected. The current status is the highest (Root) channel.

⑥ File list window of a controller, which shows the file list of the selected channel.

⑦ A trace window shows the data exchanged between PC and the controller, the error message, etc.

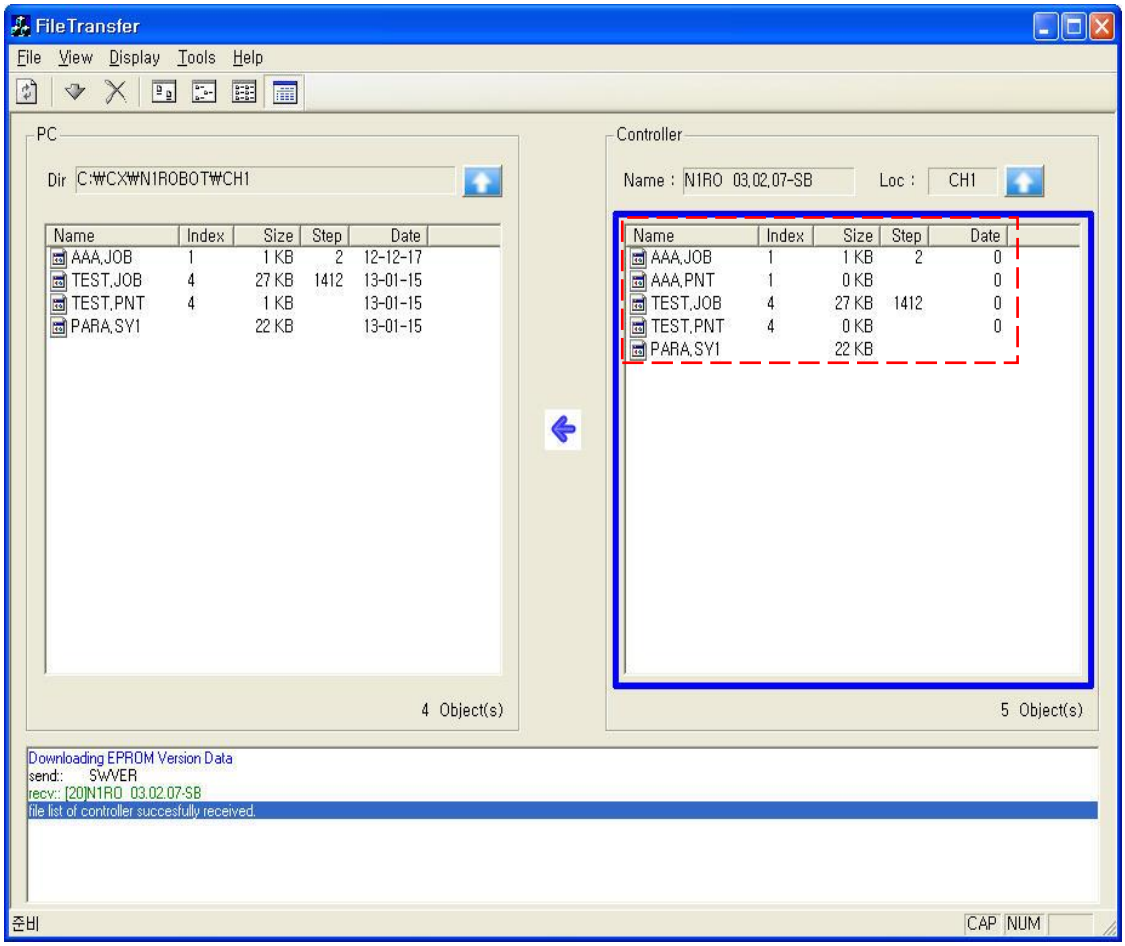
■ Description of Controller File

This is a file located in Controller Root, which includes Public parameter, Global variable and Pallet setup value.



FILE NAME	DESCRIPTION
PARA.SYS	Common parameter setup file of a controller
POINT.GPT	Common teaching point file of a controller
INTEGER.GIT	Common integer variable file of a controller
FLOAT.GFT	Common real number variable file of a controller
PALLET.PLT	Pallet setup file of a controller

It consists of Parameter, Job, and Point file that are set up depending on the robot channel.



FILE NAME	DESCRIPTION
PARA.SY1	Parameter setup file of a controller robot CH1
TEST.JOB	JOB file of a controller robot CH1
TEST.PNT	Individual JOB teaching point of a file controller robot CH1

CAUTION

- **For each robot channel, separate parameter file exists.**
- **For each robot channel, Job and Point file is separate.**

2.2 File menu

2.2.1 Transfer

As shown in Fig. 2-2, after selecting a file to be copied, select, in File menu, Copy to copy the selected file to the counterpart device. In the figure below, two files in the controller are selected and Copy is clicked.
However, copy cannot be performed for different channels.

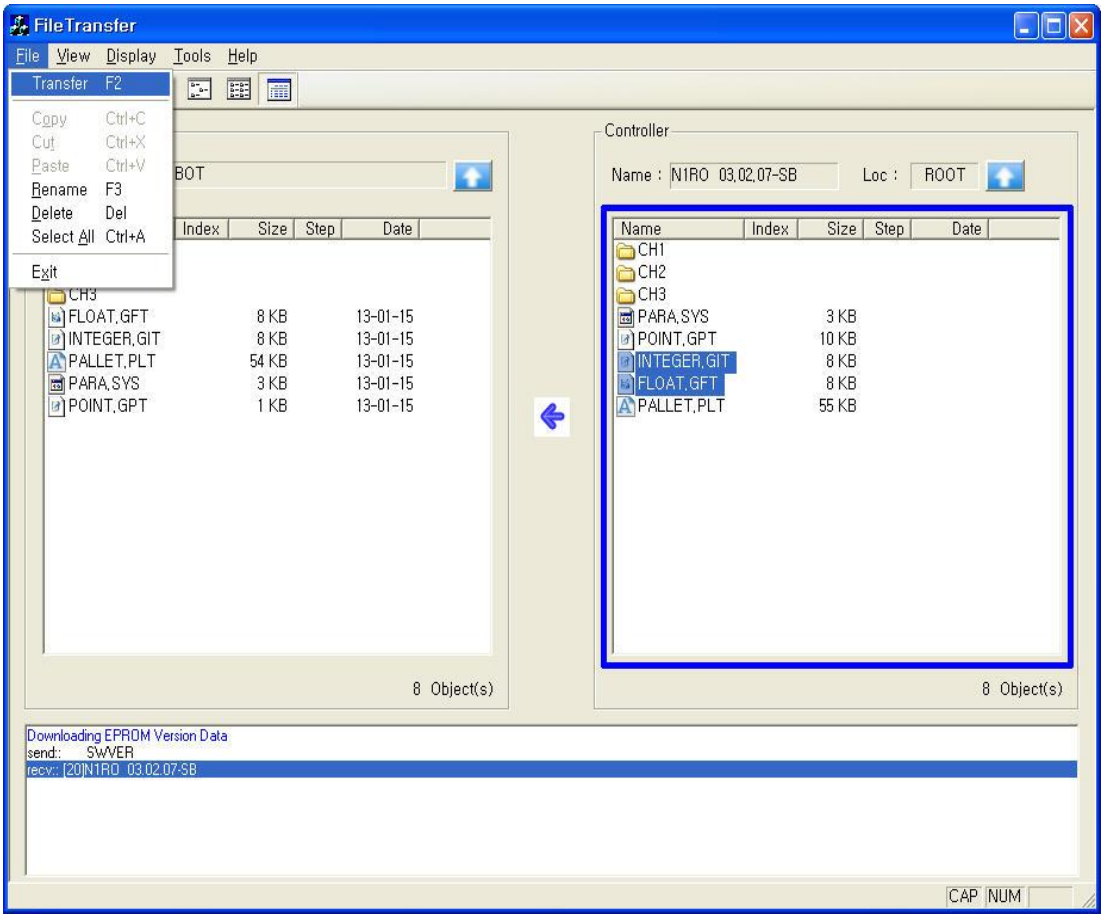


Fig. 2-2

CAUTION

- **If the channel between the controller and PC is different, file copy is not performed.**
- **If there is no data saved in PNT file in PC, Protocol error occurs when the file is sent to the controller, and therefore the file cannot be transferred.**

A file in CH1 of the controller can be transferred only to CH1 of the project folder. When a file in CH1 of the controller is tried to be sent to CH2 or CH3 of the project folder, Check Channel message is produced.

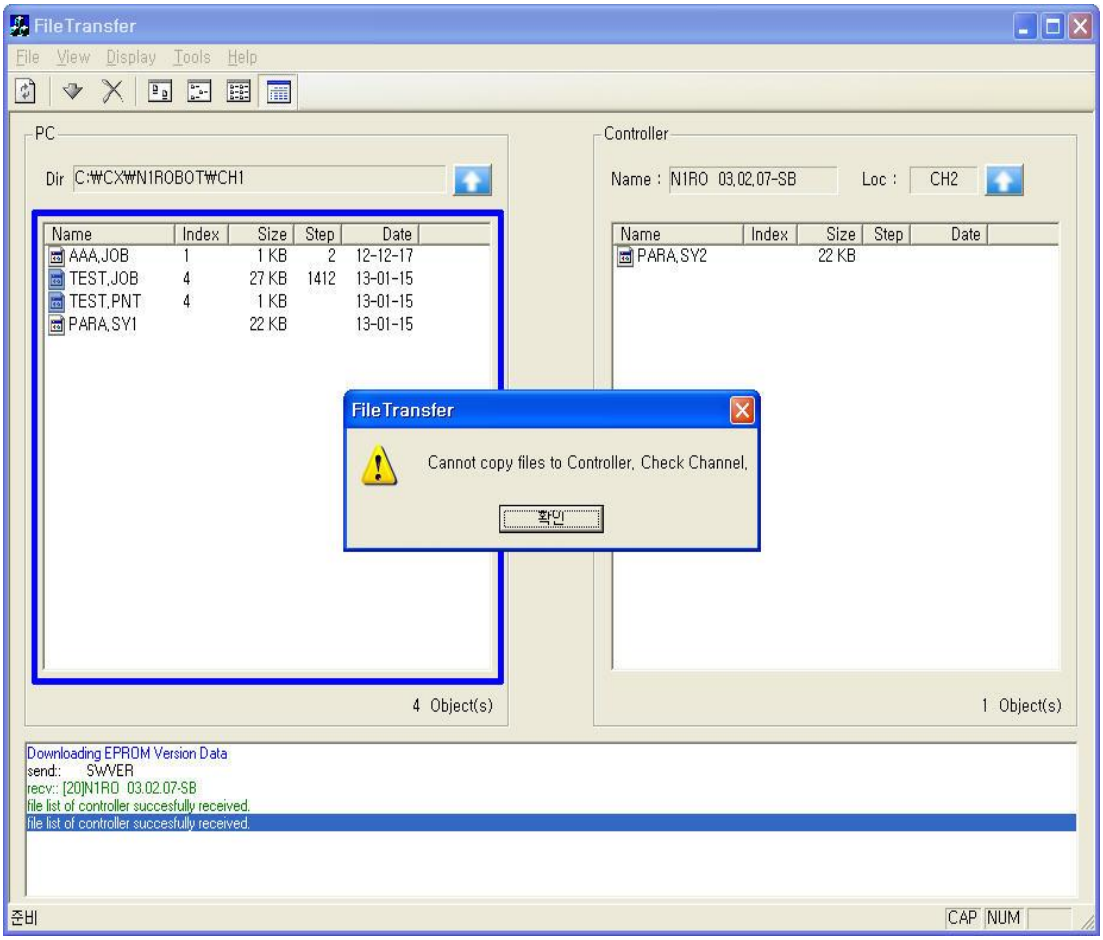


Fig. 2-3

■ How to transfer the controller file to the project folder in PC

① Move the controller to the channel folder, in which a file to be transferred locates.
② Move the PC folder to the same position as the controller channel folder.
③ Select a controller file to be transferred.
④ After selecting the file, drag-and-drop it on PC window, or select Transfer menu in Context Menu of the controller.

CAUTION

- **If the controller Channel is different from the PC Channel, "Cannot copy files to Controller. Check Channel" message appears.**
- **If there is no data saved in PNT file in PC, Protocol error occurs when the file is sent to the controller, and therefore the file cannot be transferred.**

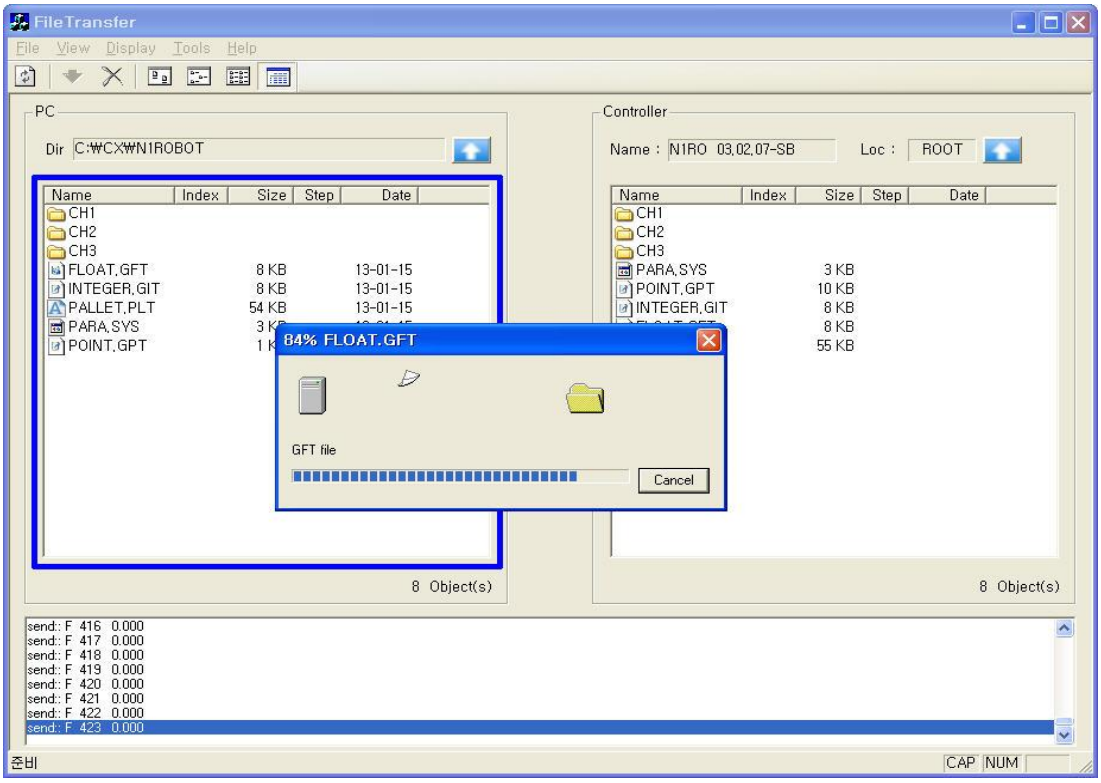


Fig. 2-4

For reference, a folder cannot be moved, on a PC screen, to a higher level folder made at Project Root of Unihost Manager Option.

- In error message "Please check your communication configuration"
  Cause 1) Disconnection of communication between PC and Controller
  Cause 2) Unable to transfer proper data between PC and robot controller
  Troubleshooting) Attempt to reconnect after connection has automatically closed off and the user has checked communication settings.

- Error message "Protocol error"
  Cause 1) Delivery failure of the data transferred from PC due to change to controller communication settings
  Cause 2) No correct commands sent from PC to controller
  Troubleshooting) Check the data sent to Controller from PC is correct, looking into controller communication status.

CAUTION

▶ A folder cannot be moved, on a PC screen, to a higher level folder made at Project Root of Unihost Manager Option.

▶ If there is no data saved in PNT file in PC, Protocol error occurs when the file is sent to the controller, and therefore the file cannot be transferred.

2.2.2 **Copy**

A Copy function is used to copy the file on current channel to another channel on PC screen. That is, this function is used for copying the channel-to-channel files on PC. The figure 2-5 below shows the copying, on PC, of 2 files on Channel 1 to Channel 2. For copying, first select a file to copy, select Copy from File menu or press Ctrl+X with a shortcut key.

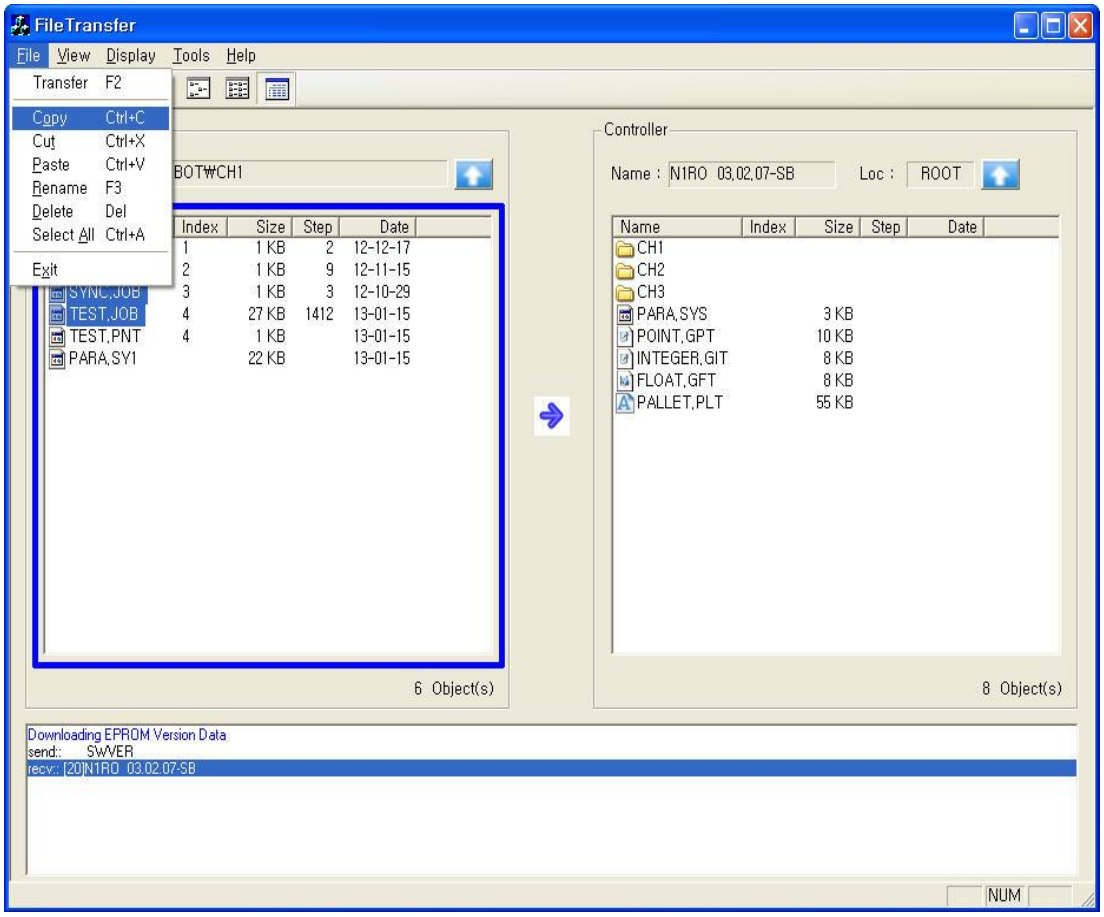


Fig. 2-5

CAUTION

- **COPY COMMAND is supported in PC screen only, not in Controller screen.**
- **When, on PC screen, a job file is copied from channel to channel and is then transferred to the controller, be careful that the same job number cannot be used in channels for N1 controller. If a job having the same job index is transferred to a different channel, the job will exist in the channel, to which the job has finally transferred.**

Then, go to the desired Channel 2, and choose Paste menu or press Ctrl+V. The files selected in Channel 1 are copied to Channel 2.

Copy command is not supported by Controller screen.

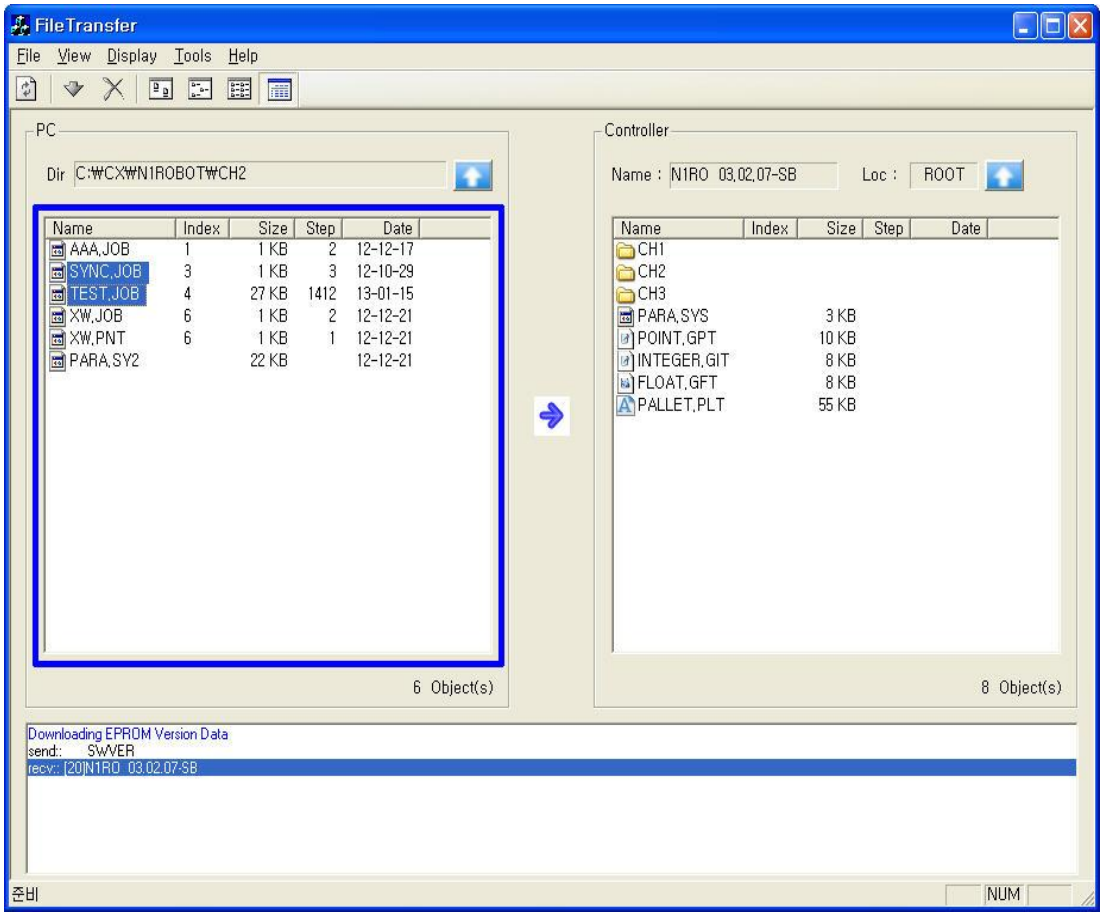


Fig. 2-6

CAUTION

- **COPY COMMAND is supported in PC screen only, not in Controller screen.**
- **When, on PC screen, a job file is copied from channel to channel and is then transferred to the controller, be careful that the same job number cannot be used in channels for N1 controller. If a job having the same job index is transferred to a different channel, the job will exist in the channel, to which the job has finally transferred.**

2.2.3 **Paste**

The files selected by Copy command is pasted by this Paste command.

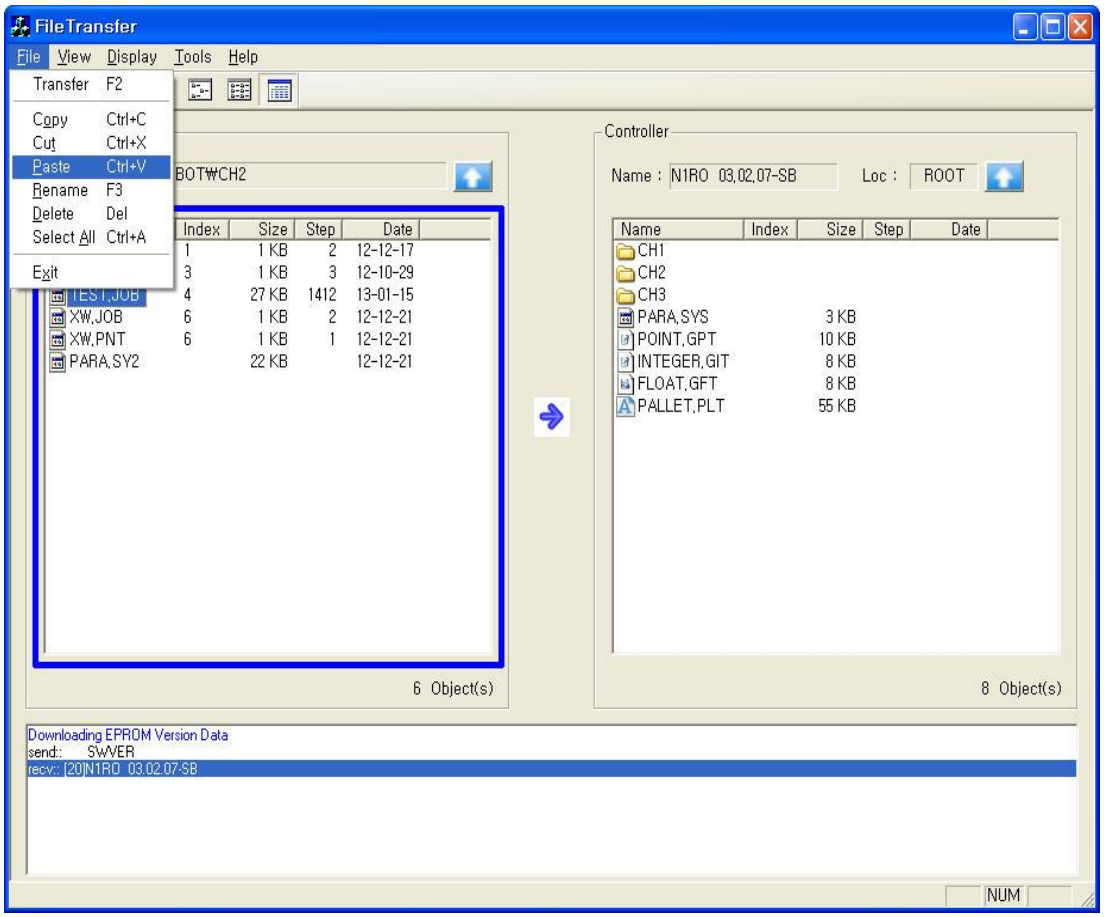


Fig. 2-7

2.2.4 **Rename**

Menu File > Rename is used to change the name of the file in PC or Controller.

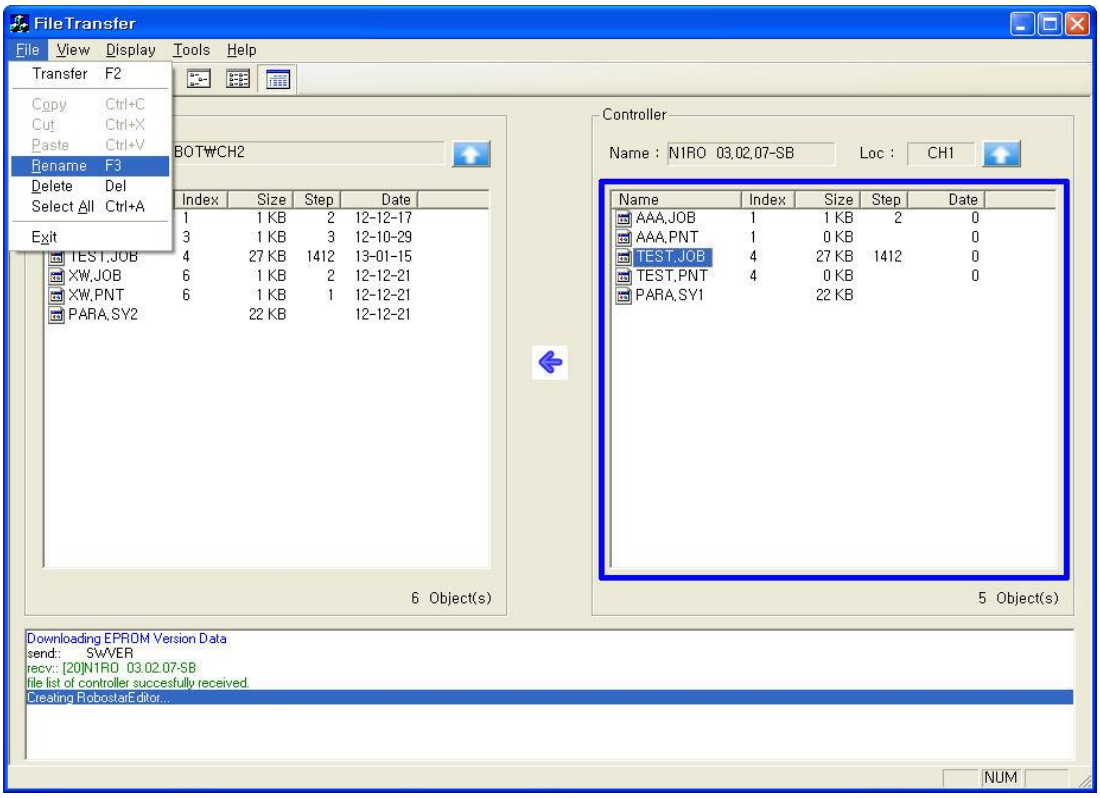


Fig. 2-8

If selecting the file whose name is to be changed and choosing Rename menu, the file name becomes the state able to be changed. Enter the desired name and press "ENTER", then the file name is changed.

In file name change in Controller, a file list in the controller is newly updated to show the changed file name after the changed file name is adapted.
Be cautious in changing the file name that only the alphabet letters and numerals can be used, and the length of the file name is only permissible up to 5 letters, except the extension. In addition, if there is already empty file name or a file name to be changed, the error message appears in Trace window.

CAUTION

▶ **Be careful of the followings when changing the file name.**

① The file name is to be alphabet letters and numerals.

② The length of file name is permissible up to 5 letters, except the extension.

③ If there is already empty file name or a file name to be changed, the error message appears.

2.2.5 **Delete**

Remove the selected file. When a file in Controller is deleted, Controller file list is updated.

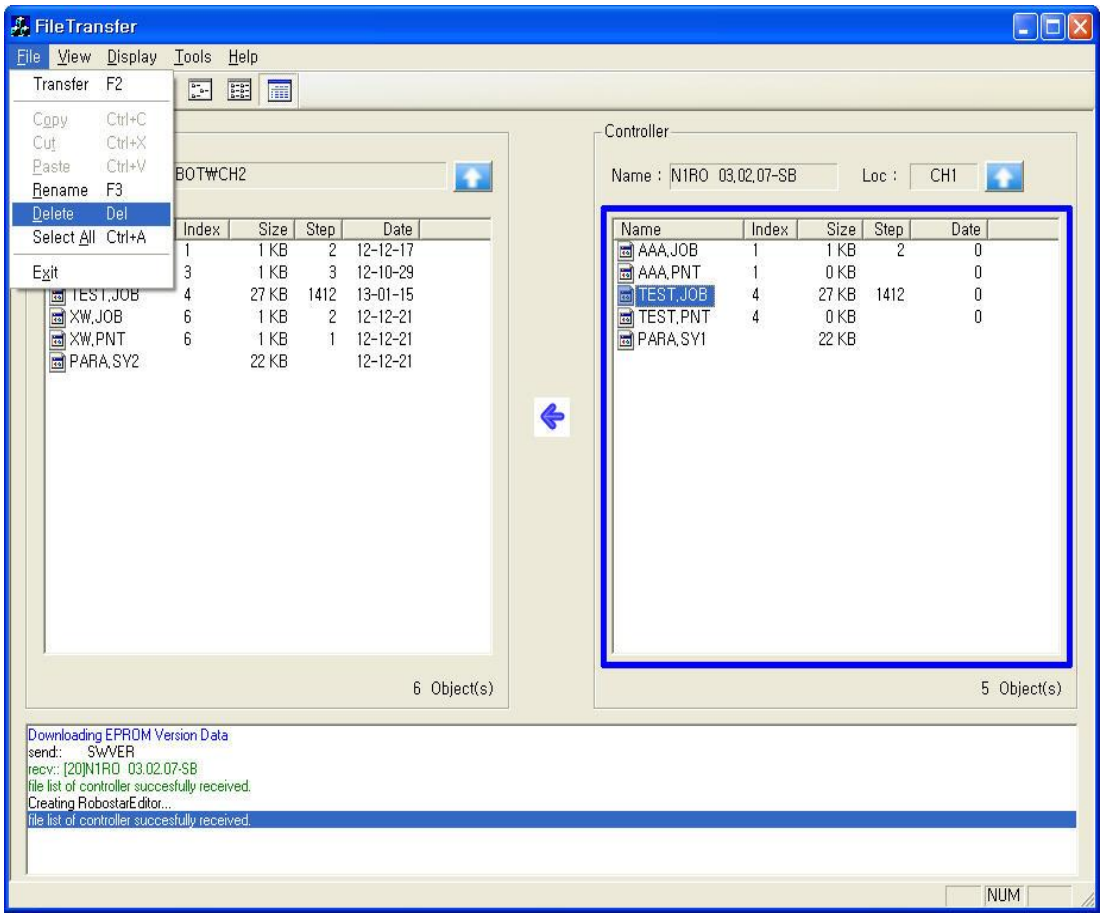


Fig. 2-9

2.2.6 **Select All**

Files in the selected file list window (a window surrounded with a blue square) are all selected.

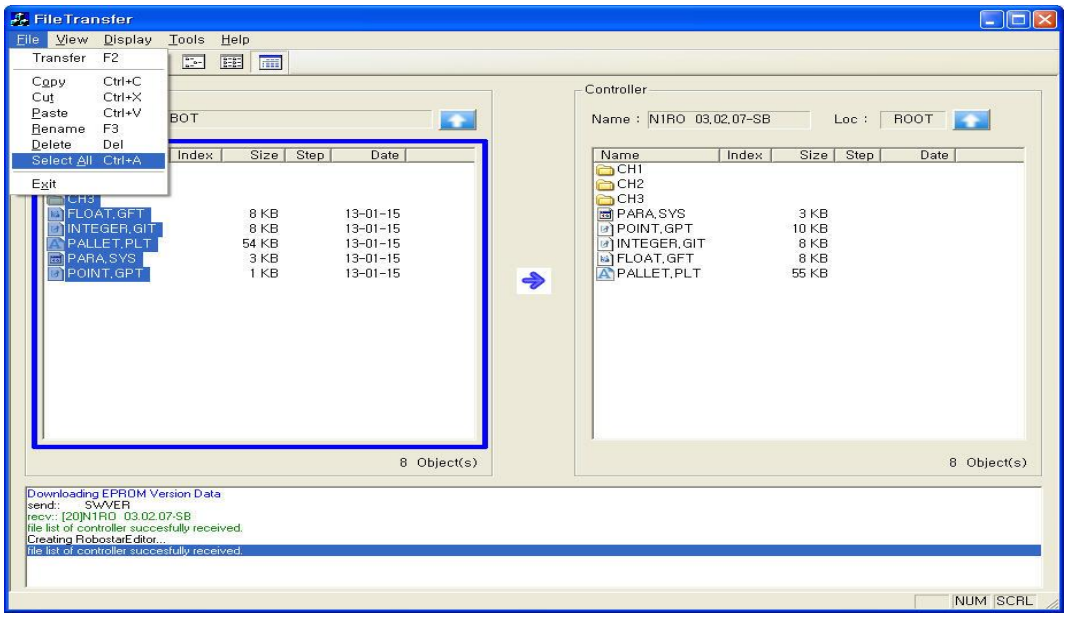


Fig. 2-10

2.2.7 **Exit**

Exit from the File Up/Down Program which is now being executed.

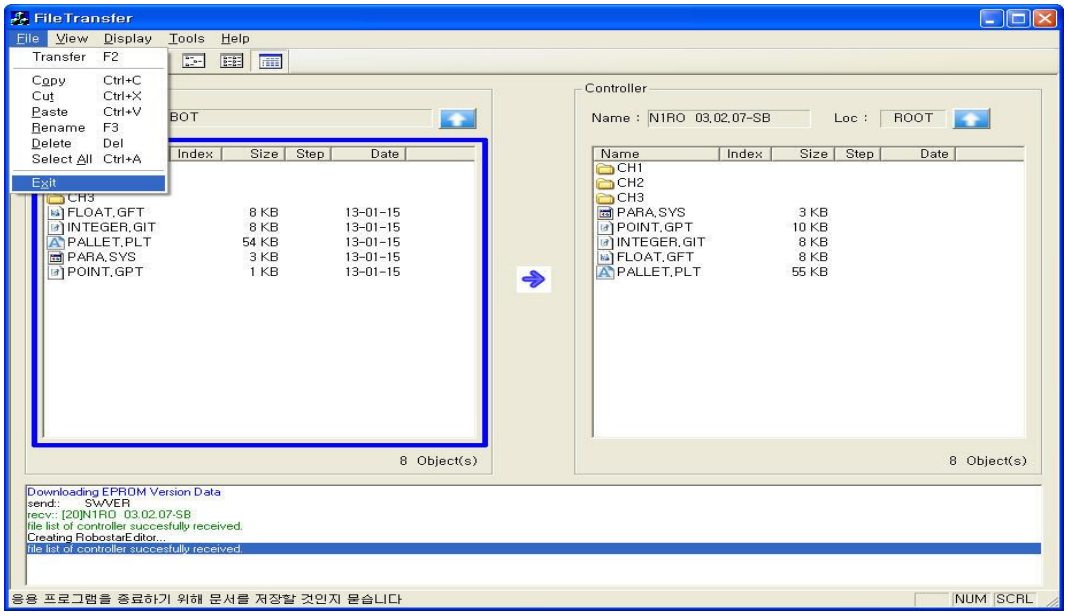
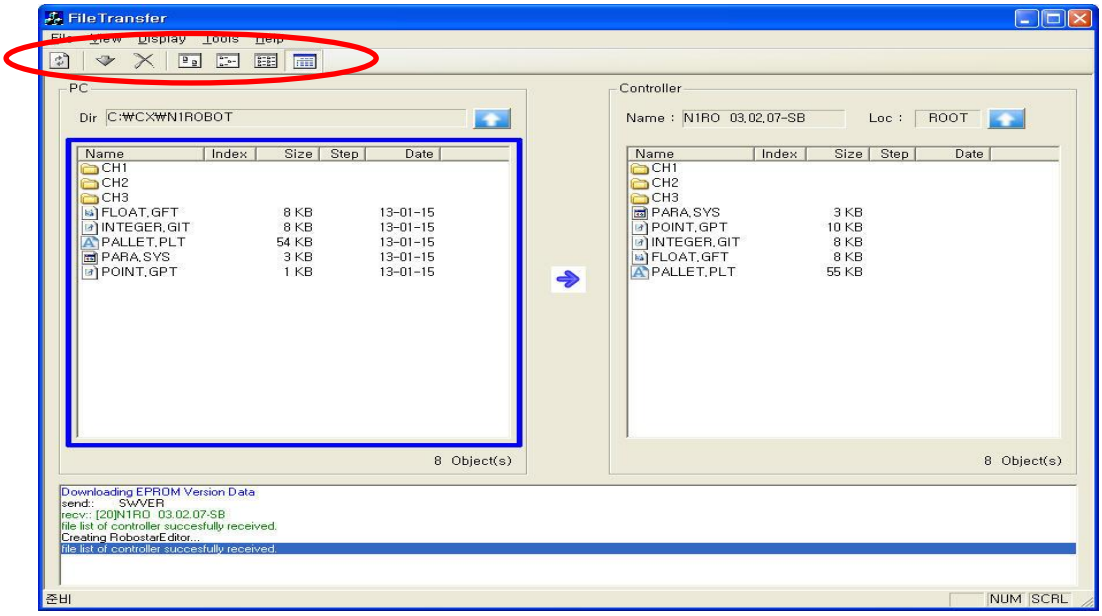


Fig. 2-11

2.3 View menu

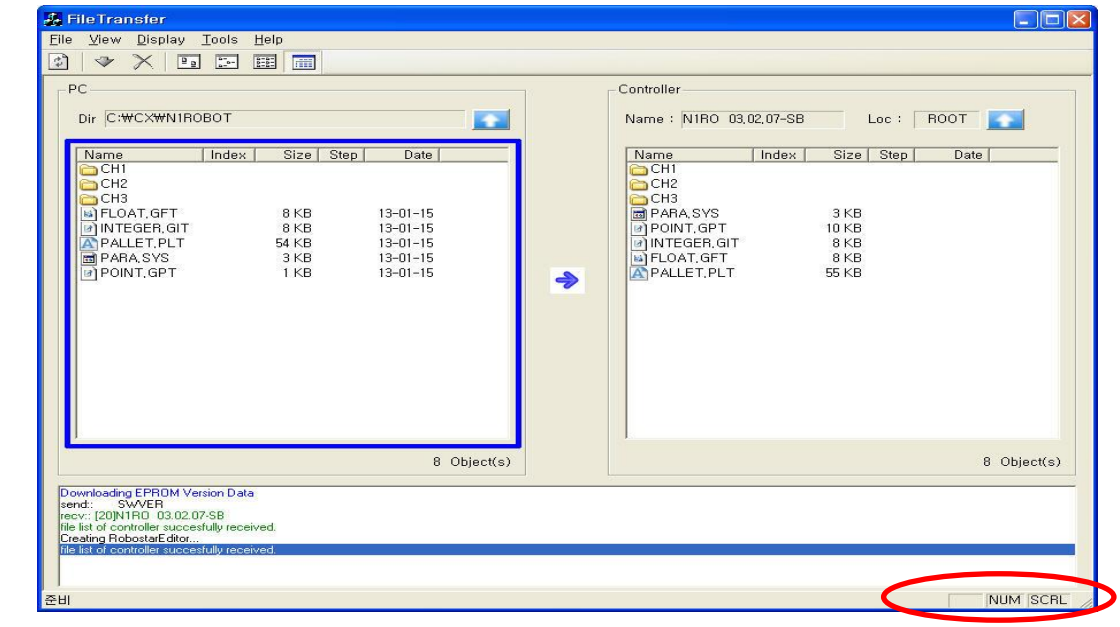
2.3.1 Toolbar

Menu buttons to copy or delete the robot file are displayed.



2.3.2 Status bar

The current status of a keyboard (Caps Lock, Num Lock, and Scroll Lock) is indicated.



2.3.3 **Large Icons**

A screen of a file list window that a user selects is shown in the form of Large Icon. In Fig. 2-12, a file list window screen of PC with large icons is shown.

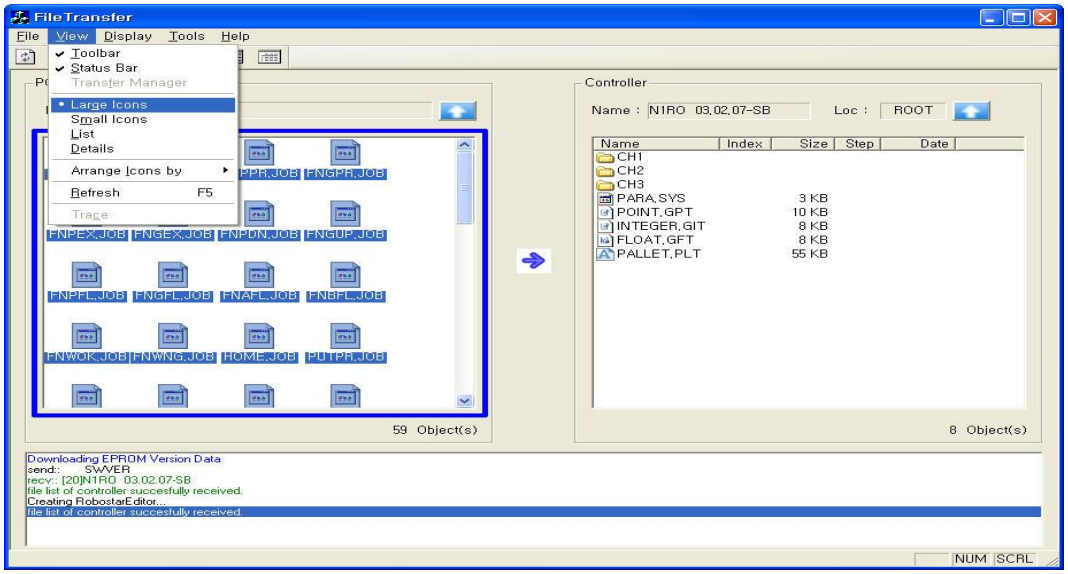


Fig. 2-12

2.3.4 **Small Icons**

A screen of a file list window that a user selects is shown in the form of Small Icon. In Fig. 2-13, a file list window screen of PC with small icons is shown.

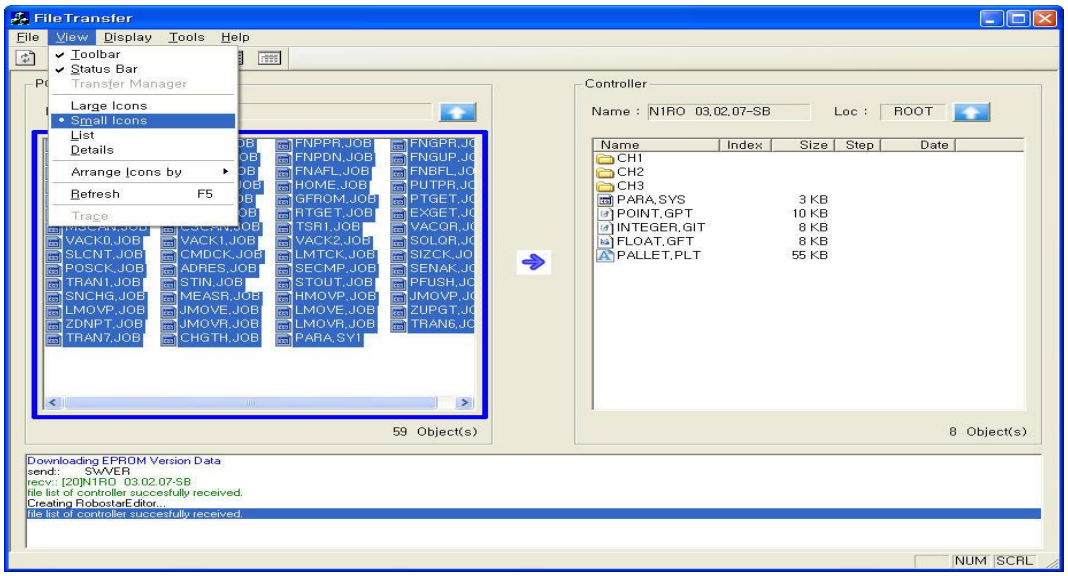


Fig. 2-13

2.3.5 **List**

A screen of a file list window that a user selects is shown in the form of List.
In Fig. 2-14, a file list window screen of PC in List form is shown.

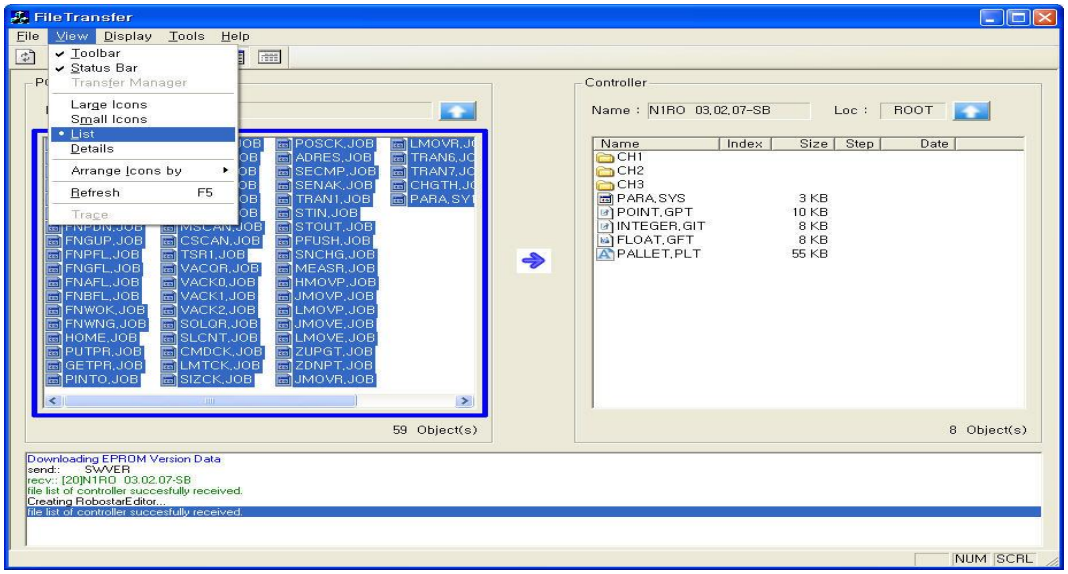


Fig. 2-14

2.3.6 **Details**

A screen of a file list window that a user selects is shown in the form of detailed list.
In Fig. 2-15, a file list window screen of PC in the detailed list form is shown.

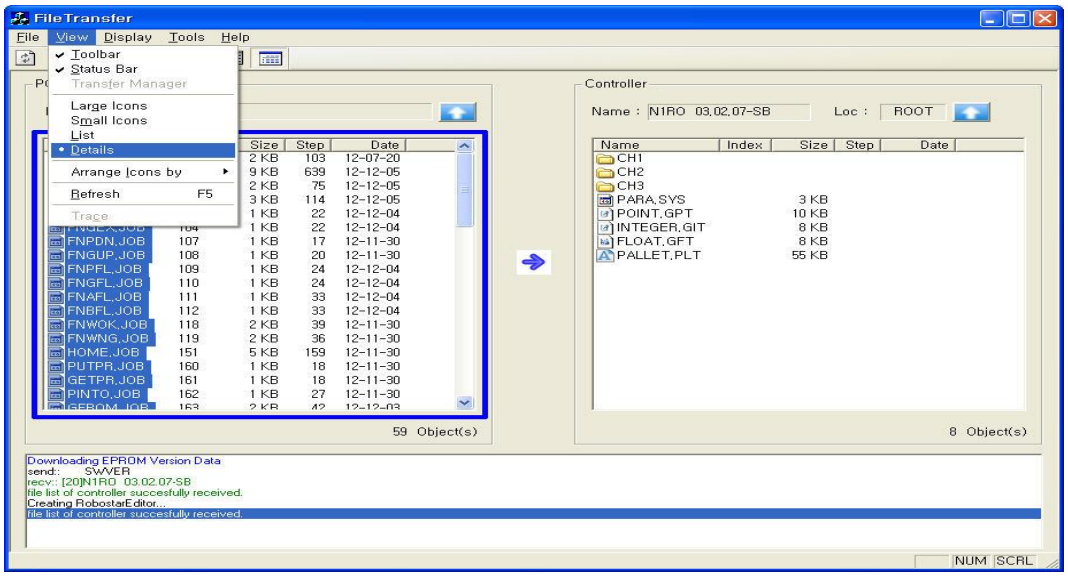


Fig. 2-15

2.3.7 **Arrange Icons by**

Arrangement state of a file list window that a user selects is established. There are four arrangement ways, such as a file name, a file number, a file size, and a file type.

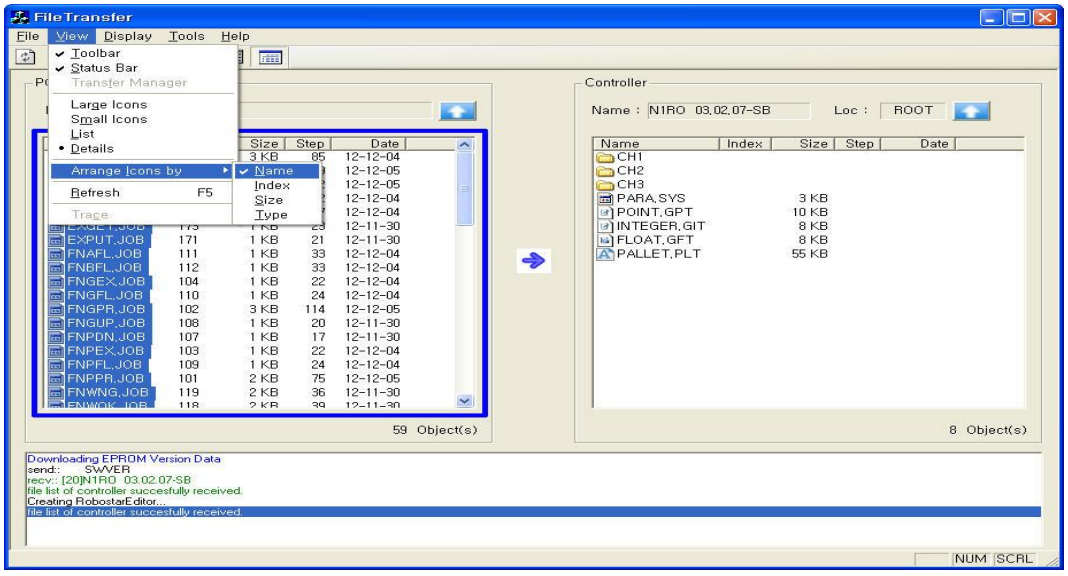
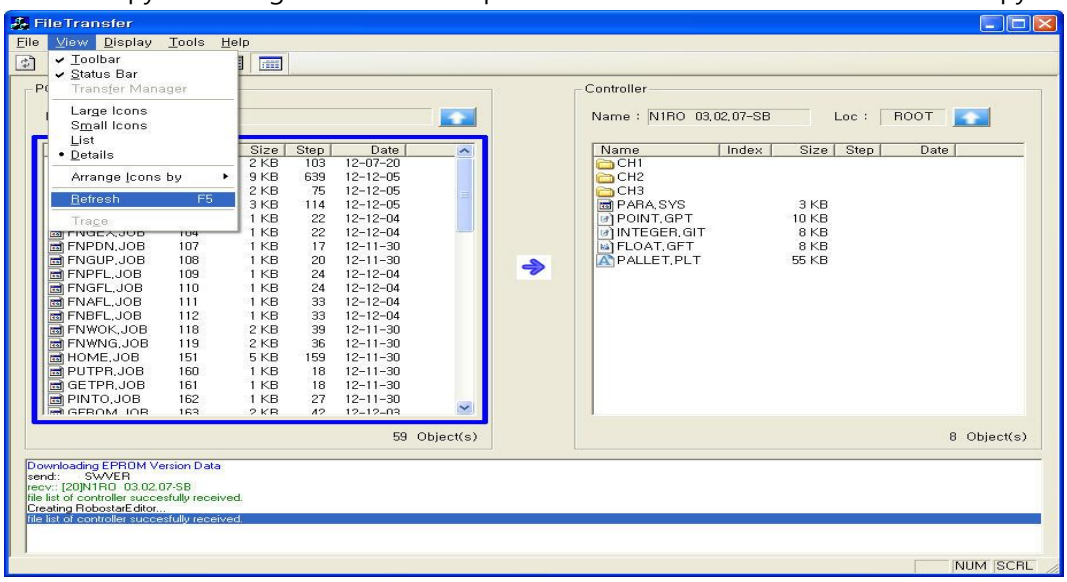


Fig. 2-16

2.3.8 **Refresh**

A file list of a file list window that a user selects is refreshed. Refreshing the file list window of the controller may be failed. This fail may occur if PC-to-controller communication is disconnected or the proper data cannot be transmitted between PC and a controller, as in the case of Copy. Resolving method of this problem is also identical to the case of Copy.



2.4 Display menu

2.4.1 Error Log

Error Log generated in the controller is shown. The download time may be longer depending on the extent of error occurrence.

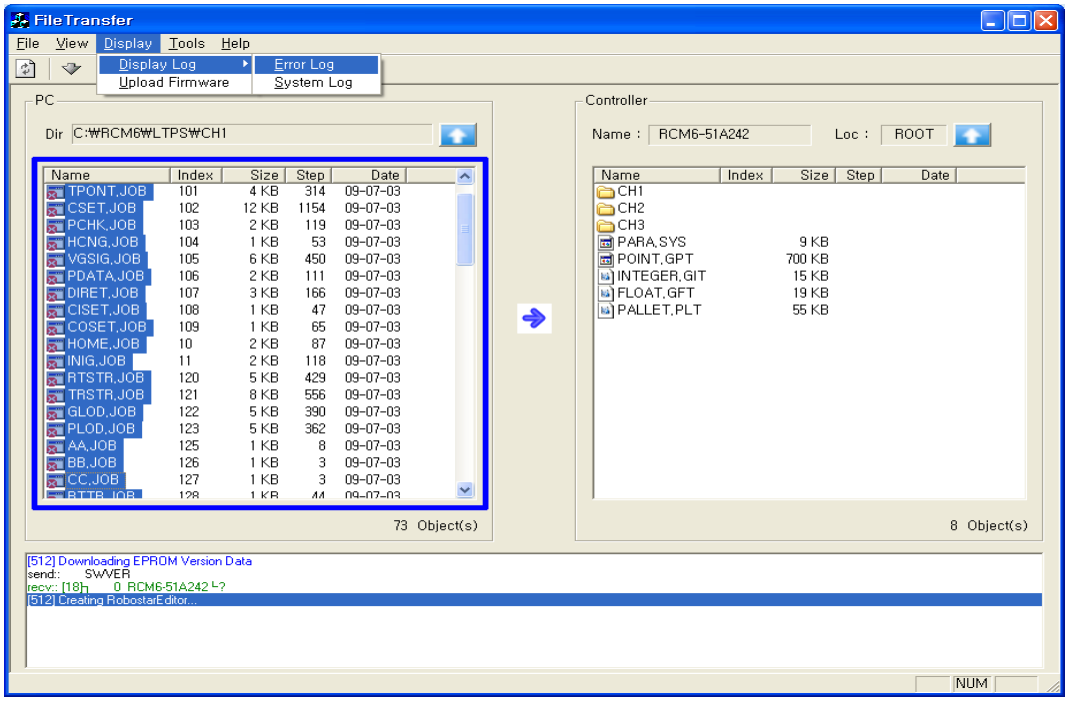


Fig. 2-17

When Error Log is downloaded from the controller, the error contents are displayed as in Fig. 2-18. If applying Save button in Error Log screen, it is saved as a file.

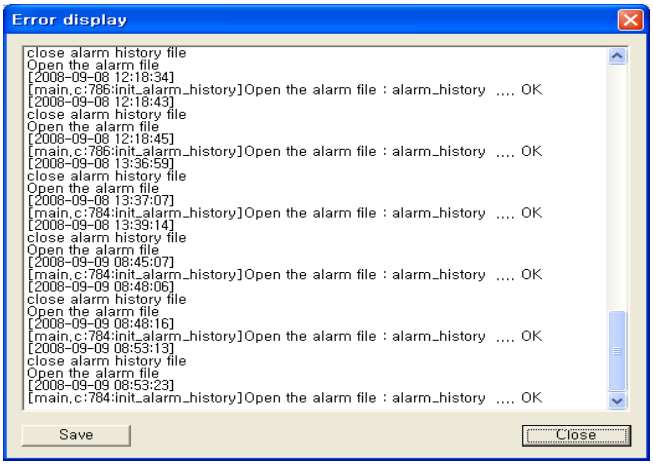


Fig. 2-18

2.4.2 **Download Firmware**

This updates the firmware to the latest version when the functions of N1 Controller are modified and added.
Since the work of Download Firmware has a serious effect on the controller operation, be sure to consult with Customer Support Team of Robostar before performing Download Firmware.

1) Select Higher menu Display > Upload Firmware

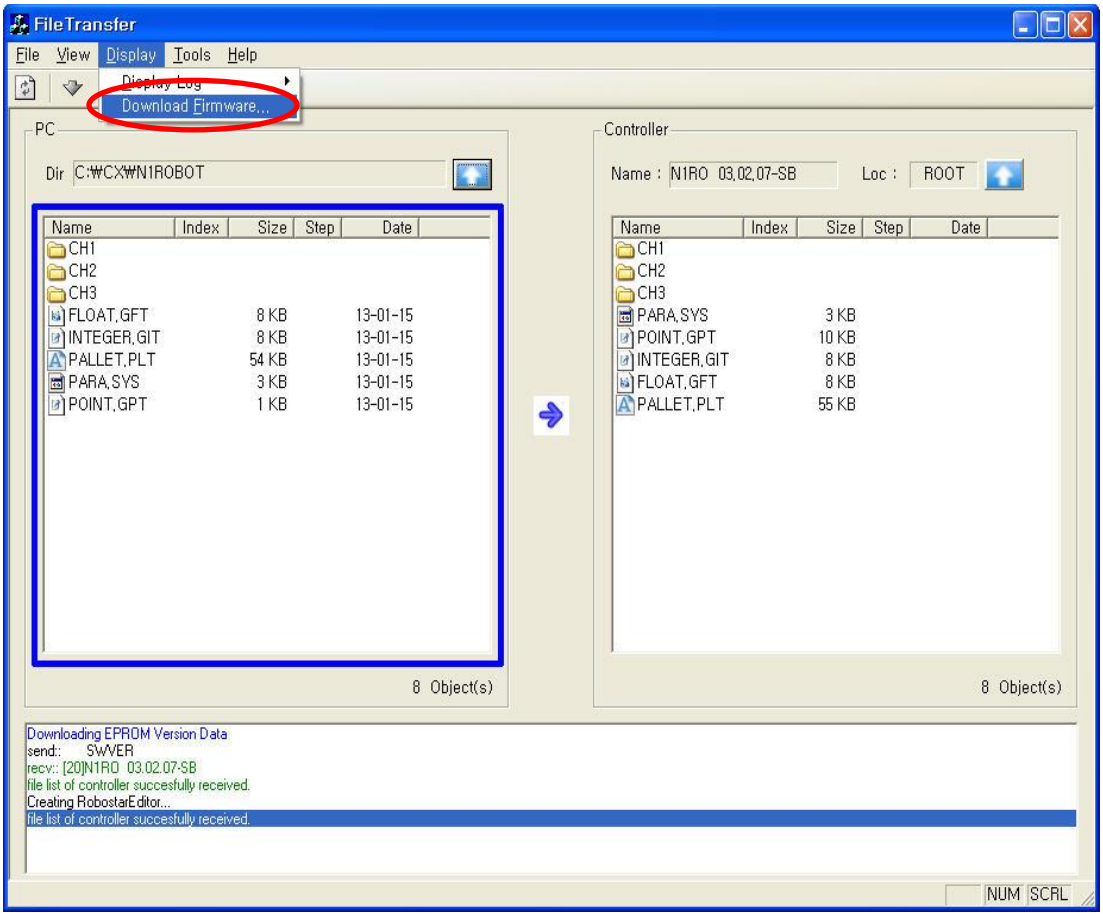


Fig. 2-19

CAUTION

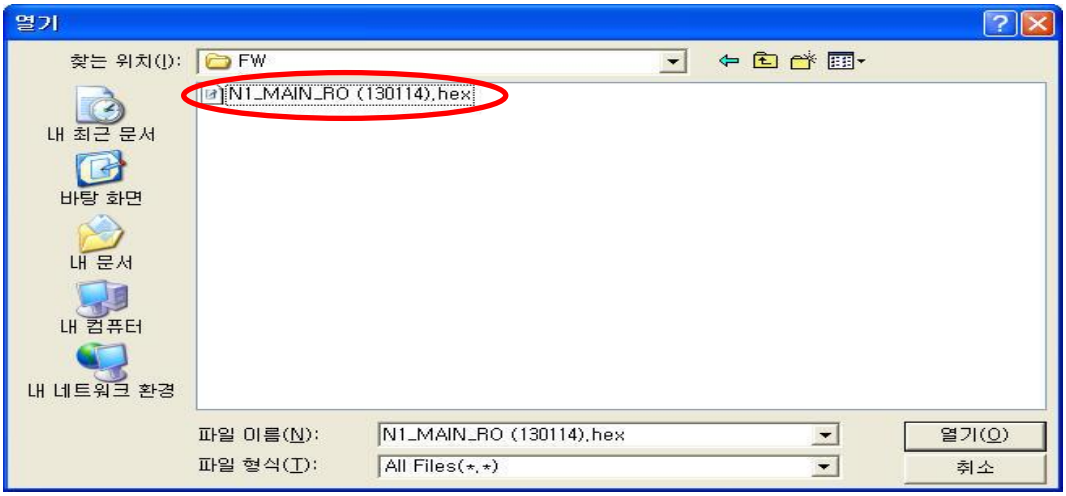
- **When first performing the firmware download, consult with the Customer Support Team of Robostar.**
- **If the erroneous firmware download, the controller may not be booted.**
- **Fully understand the download sequence before performing the download.**

2) Select a F/W file suited to a controller type

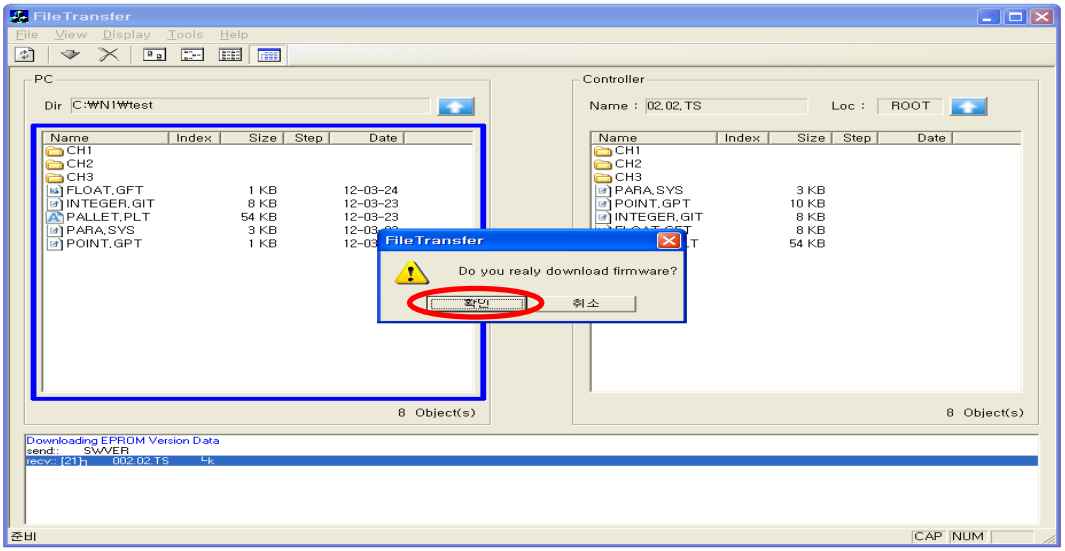
(Pay attention to the file name and capital letters)

Controller Type	Firmware Version	Description
N1 RO	N1_MAIN_RO(YYMMDD).hex	YY- , MM– , DD-
N1 TR	N1_MAIN_TR(YYMMDD).hex	

**** If a file name is not correct, a Firmware download is not processed.**



3) Select Confirm button

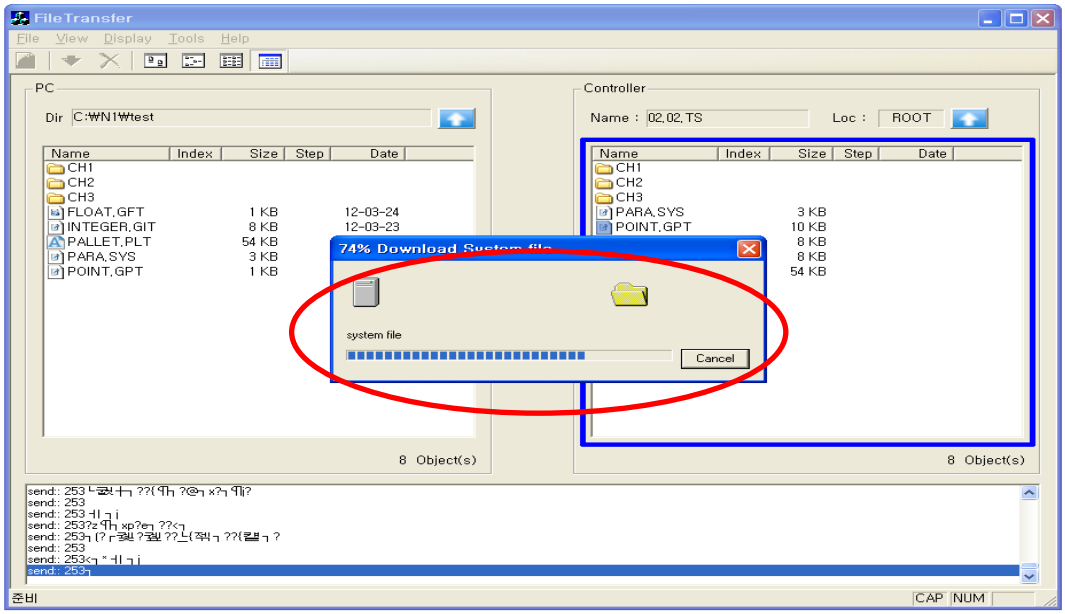


CAUTION

- ▶ **When first performing the firmware download, consult with the Customer Support Team of Robostar.**
- ▶ **If the erroneous firmware download, the controller may not be booted.**
- ▶ **Fully understand the download sequence before performing the download.**

4) Select Confirm button

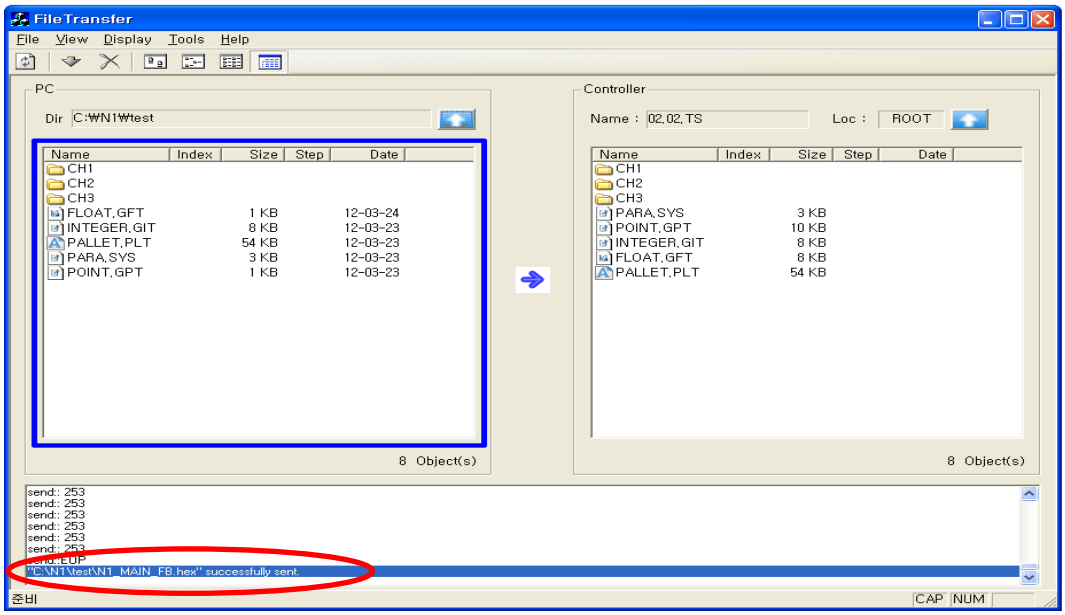
The current download progress can be monitored through a progress bar.



5) Confirm "Download System File Completed" message.

(₩N1_MAIN_FB.hex" has been successfully downloaded.)

After completing Unihost downloading, process as Teach Pendant messages indicate.

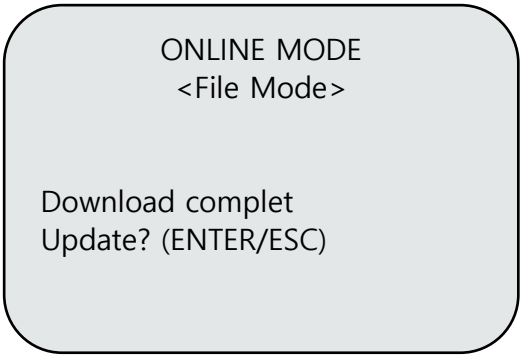


CAUTION

- **While the firmware is downloaded, do not shut down the power source.**
- **After completing Unihost downloading, process as Teach Pendant messages indicate.**

6) Checking & executing the update menu in T/P menu

After Unihost download has been completed, whether or not the corresponding firmware is applied is selected.
If "ENTER" key is enabled, Firmware Update is executed; if "No" key is enabled, it is cancelled.

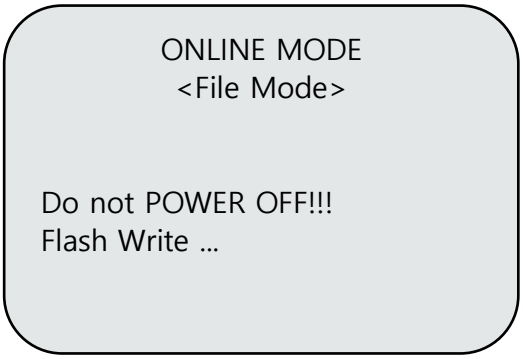


■ Selecting if applying a firmware

① Performs F/W update
Inputs "ENTER" Key

② Cancels F/W update
Inputs "ESC" Key

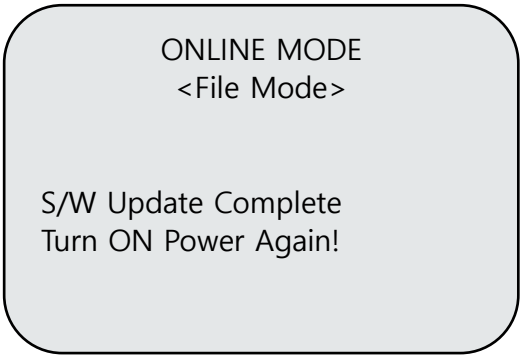
7) Executes Flash Write



■ Executes Flash Write

Note) During Flash Update, never shut down the power.

8) Firmware Update completed



■ Firmware Update completed

After confirming "S/W Update Complete" message, reboot N1 controller to adapt the downloaded F/W.

CAUTION

- **When first performing the firmware download, consult with the Customer Support Team of Robostar.**
- **If the erroneous firmware download, the controller may not be booted.**
- **Whiless the firmware is downloaded, do not shut down the power source.**
- **Fully understand the download sequence before performing the download.**

Chapter 3 Description of Use of N1 RobostarEditor

This RobostarEditor is easy to create and modify N1 robot controller Job, Point file and parameter values.

3.1 JOB File Edit Screen

The figure 3-1 below is a Job Editor screen, enabling Job file creation and editing. In addition, it has a built-in compiler that tells you the presence of a Syntax error after completion of Job writing.

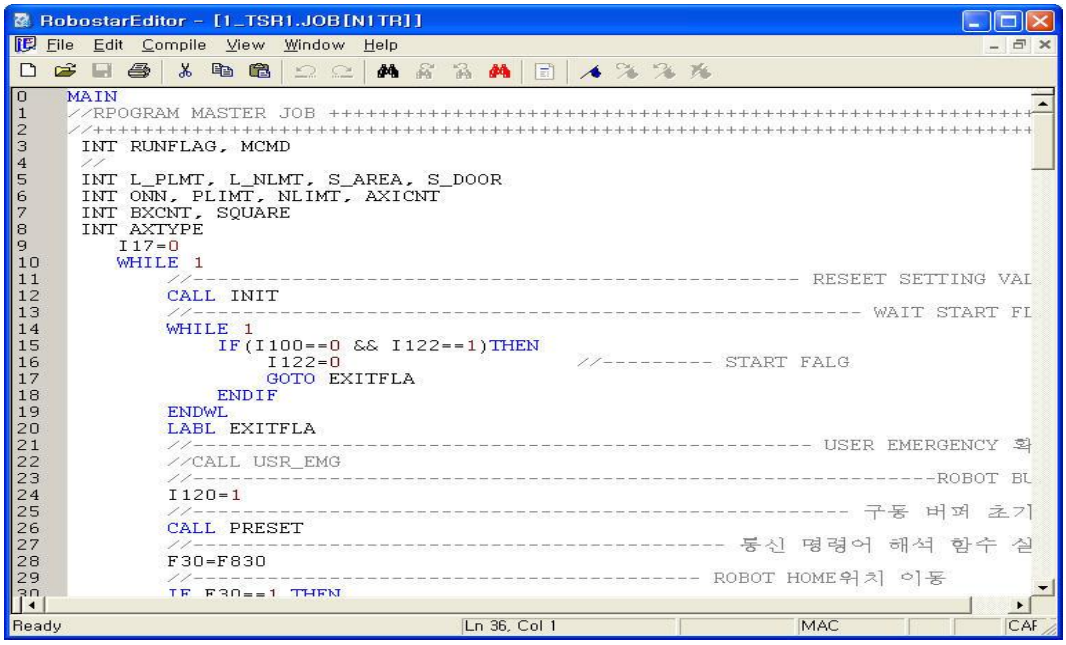


Fig.3-1

1		New	New file creation.	8		Undo	Return to the previous task.
2		Open	Job file Open.	9		Redo	Return to original state.
3		Save	Job writing and saving.	10		Find	Search for a specific letter.
4		Print	Job writing and printing.	11		Repeat	Search down from the current position.
5		Cut	Cut certain content.	12		Find Previous	Search up from the current position.
6		Copy	Copy certain content.	13		Replace	Change strings.
7		Paste	Paste copied content.	14		Syntax	Grammar check.
15		Bookmark	Configure, search, cancel with bookmark function.				

3.1.1 **Compile**

Upon completion of writing a JOB file, you can perform Compile through "F5" button input. When the compile is successful, a popup window "Compile succeed!" comes up as shown on Fig. 3-2 screen.

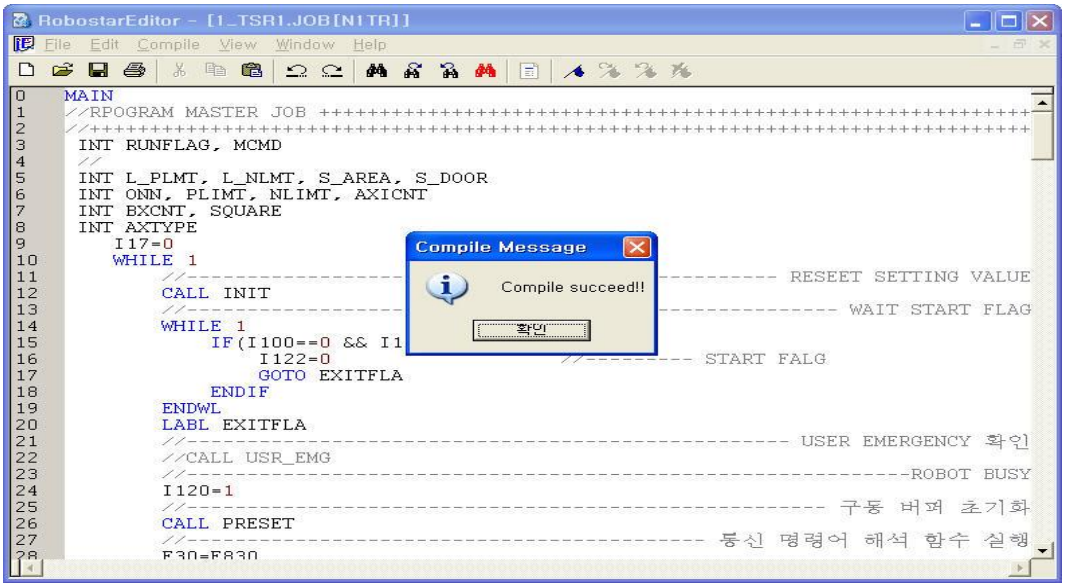


Fig.3-2

Fig. 3-3 screen below shows a failure in Compile. Error Message output window represents Information including Error Number, Job Total Line and Compiler Type.

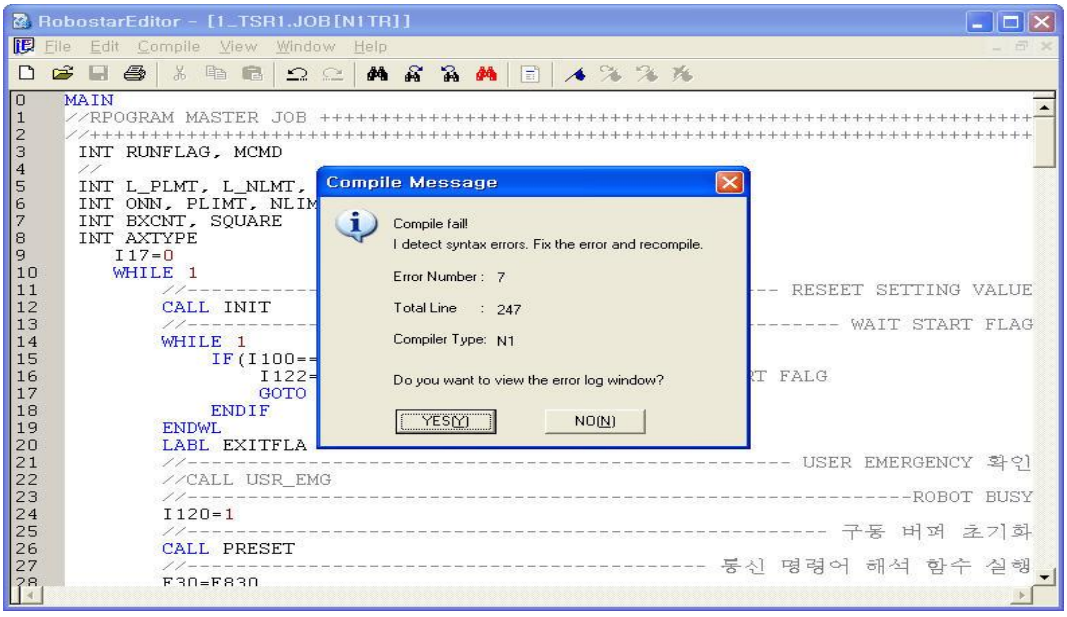


Fig.3-3

3.2 Point File Edit Screen

Fig. 3-4 below, showing a Point Editor screen, enables creating and editing Local and Global Point files used in the controller. On top of this, a Point Editor has a Description area present where the user can list details about use of each point.

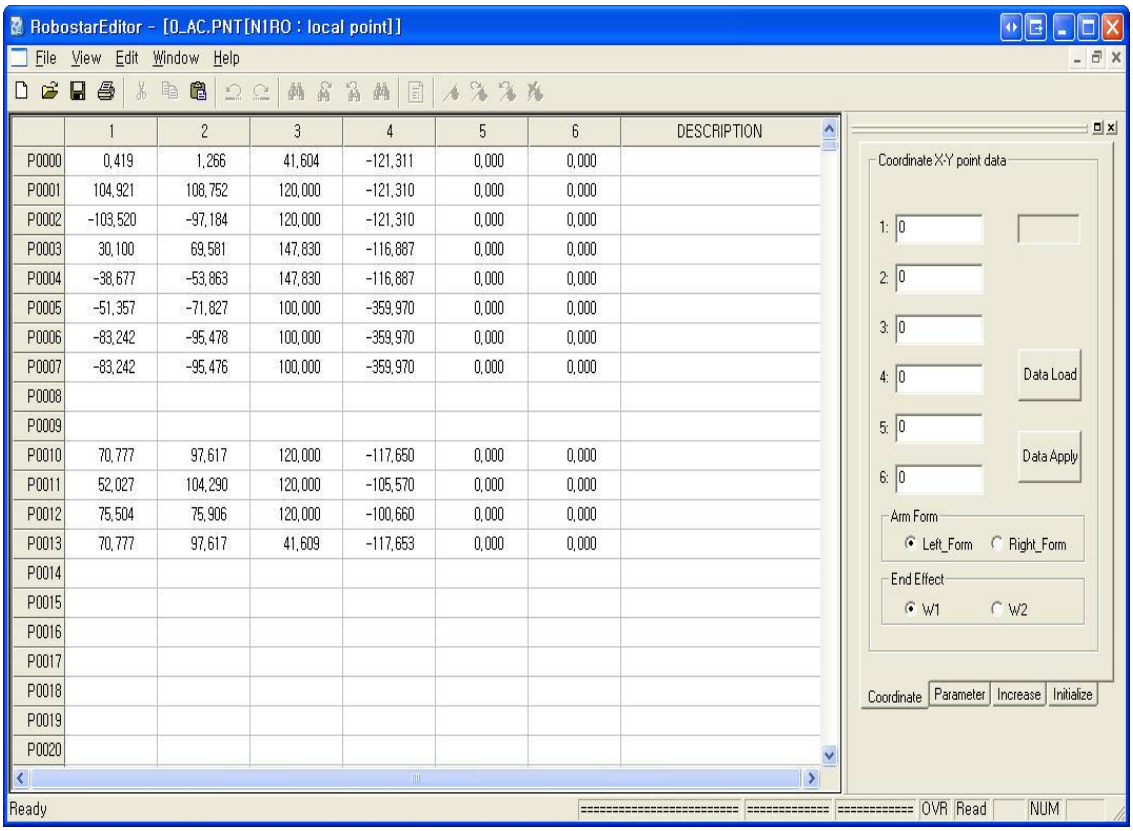


Fig.3-4

3.2.1 Initialize

Figure 3-5 shows taps capable of performing an initialization over the Point to use when editing the point at early stage. Point range configuration is set through Start Point and End Point, also enabling performing initialization setup for individual axis and entire axis.

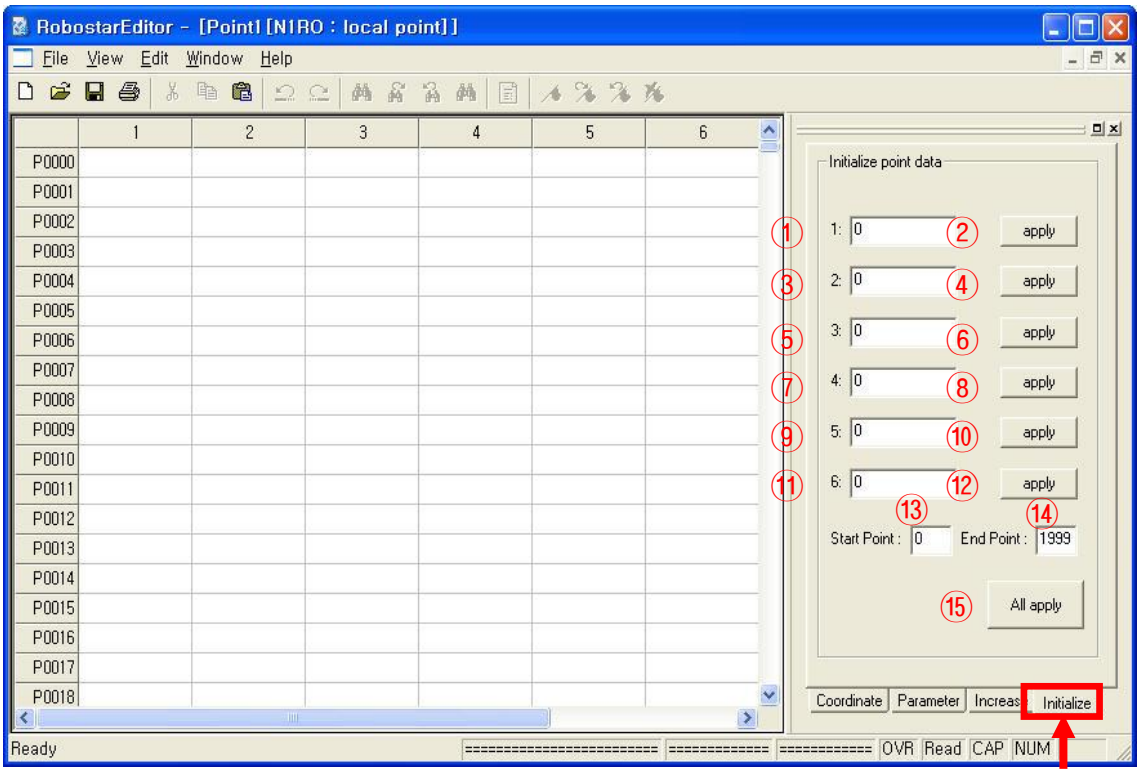


Fig.3-5

■ **Below is detailed description of Initialize configuration tabs.**

①	X-axis initial position set value (Angle)	②	Individual application of X-axis initial position value
③	Y-axis initial position set value (Angle)	④	Individual application of Y-axis initial position value
⑤	Z-axis initial position set value (Angle)	⑥	Individual application of Z-axis initial position value
⑦	W-axis initial position set value (Angle)	⑧	Individual application of W-axis initial position value
⑨	E1-axis initial position set value (Angle)	⑩	Individual application of E1-axis initial position value
⑪	E2-axis initial position set value (Angle)	⑫	Individual application of E2-axis initial position value
⑬	Start Point set value	⑭	End Point set value
⑮	Overall application of X, Y, Z, W, E1, E2 initial position values		

When applying "All Apply" button, the user is once again asked for confirmation whether or not to process the initialization through Message Box as shown in Fig. 3-6.

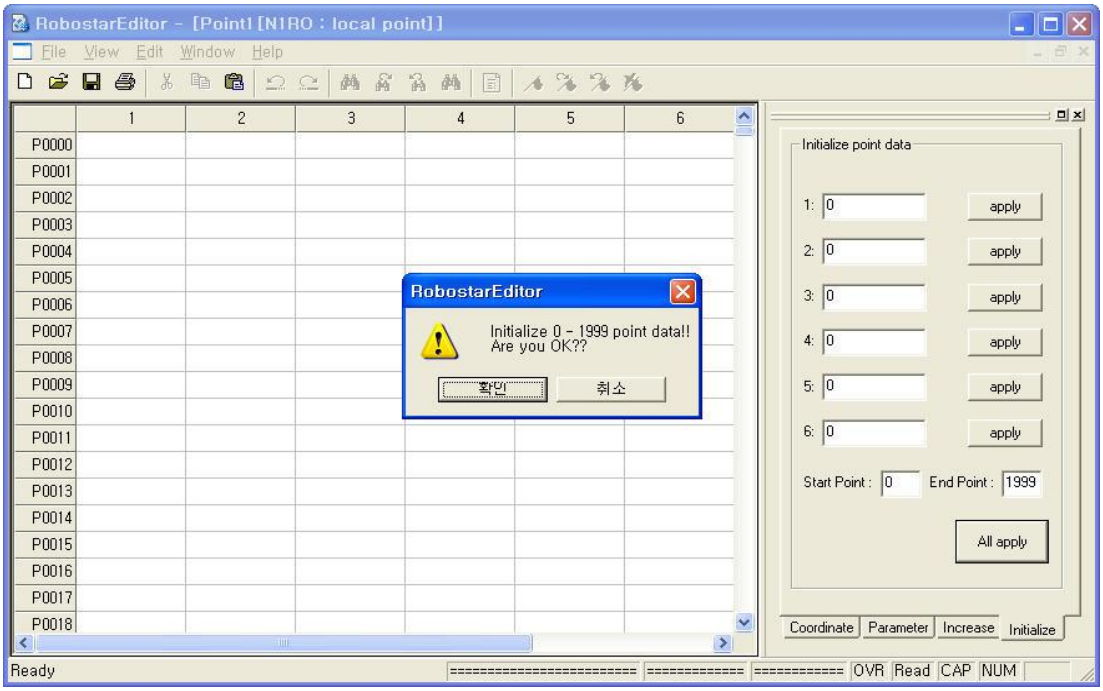


Fig.3-6

Fig. 3-7 shows a screen where the initialization is in progress.

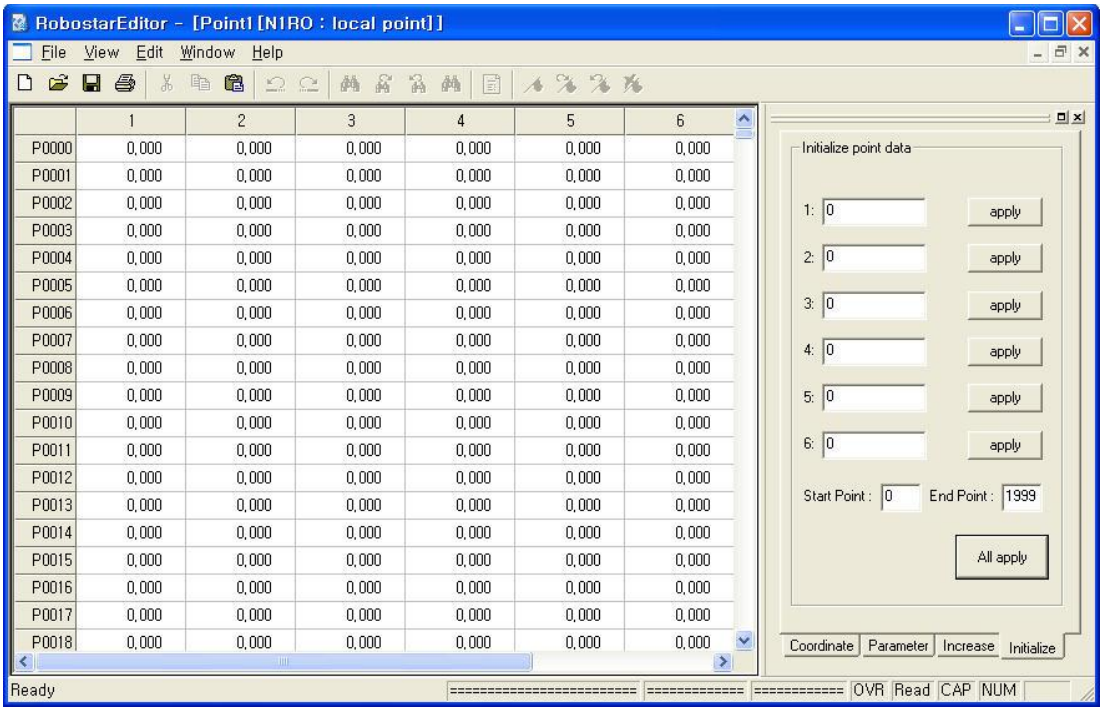


Fig.3-7

3.2.2 **Increase**

Fig. 3-8 shows an editing tab dedicated to an increase, when editing Point, by a certain amount up to the data set by the user within the set range. A point set range is set through Start Point and End Point, allowing an individual and entire axis also to see a certain amount of point value increase.

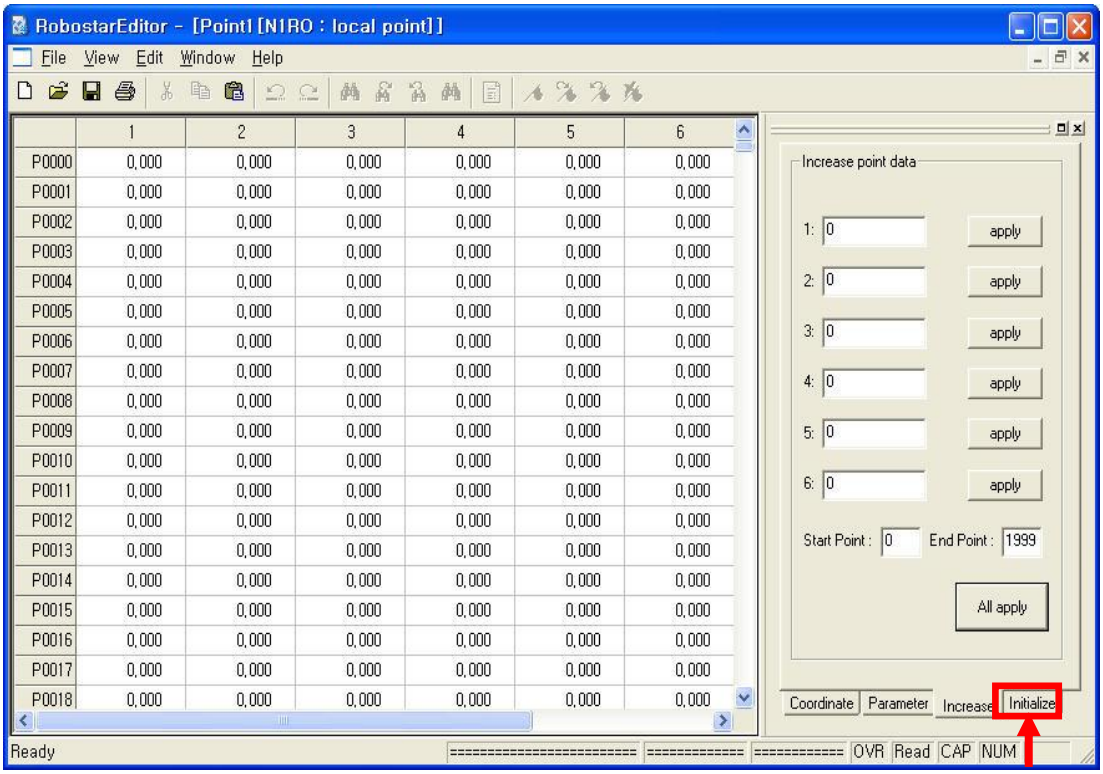
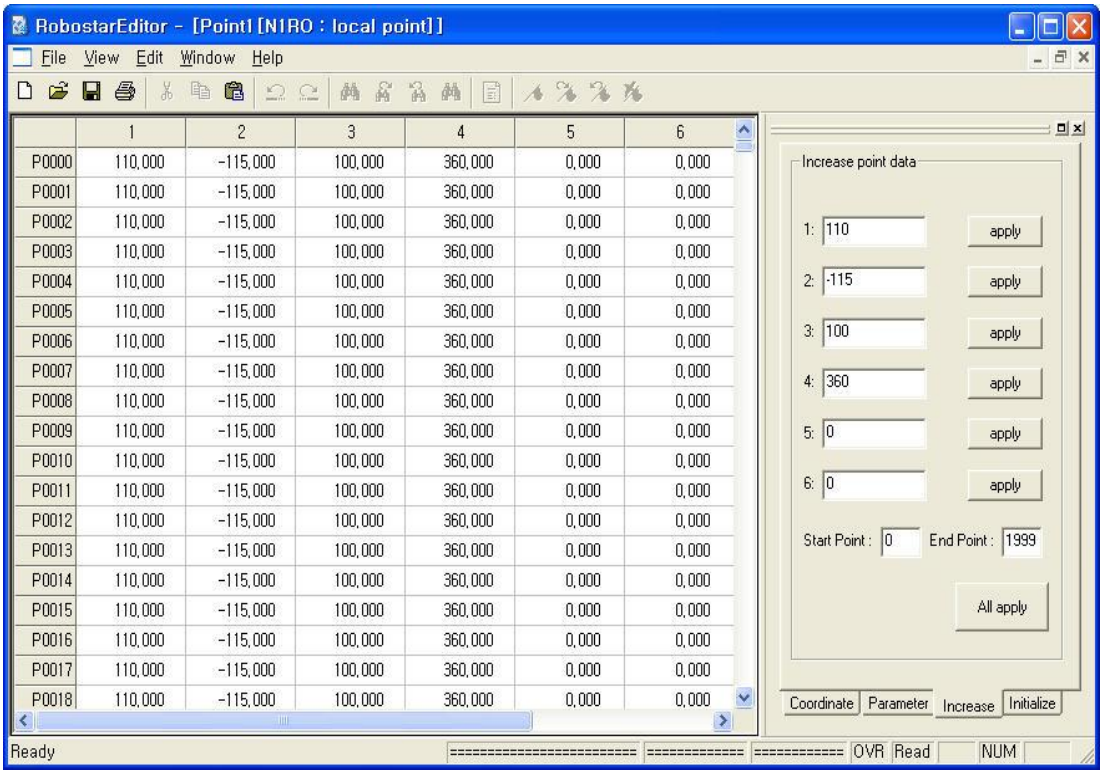


Fig.3-8

■ **Below is detailed description of Increase configuration tabs.**

①	X-axis increase position set value(Angle)	②	Individual application of X-axis increase position value
③	Y-axis increase position set value(Angle)	④	Individual application of Y-axis increase position value
⑤	Z-axis increase position set value(Angle)	⑥	Individual application of Z-axis increase position value
⑦	W-axis increase position set value(Angle)	⑧	Individual application of W-axis increase position value
⑨	E1-axis increase position set value(Angle)	⑩	Individual application of E1-axis increase position value
⑪	E2-axis increase position set value(Angle)	⑫	Individual application of E2-axis increase position value
⑬	Start Point set value	⑭	End Point set value
⑮	Overall application of X, Y, Z, W, E1, E2 increase position value		

Fig. 3-9 shows a screen where each position value rises to : X-axis: 110, Y-axis: -115, Z-axis: 100, and -axis: 360.



	1	2	3	4	5	6
P0000	110,000	-115,000	100,000	360,000	0,000	0,000
P0001	110,000	-115,000	100,000	360,000	0,000	0,000
P0002	110,000	-115,000	100,000	360,000	0,000	0,000
P0003	110,000	-115,000	100,000	360,000	0,000	0,000
P0004	110,000	-115,000	100,000	360,000	0,000	0,000
P0005	110,000	-115,000	100,000	360,000	0,000	0,000
P0006	110,000	-115,000	100,000	360,000	0,000	0,000
P0007	110,000	-115,000	100,000	360,000	0,000	0,000
P0008	110,000	-115,000	100,000	360,000	0,000	0,000
P0009	110,000	-115,000	100,000	360,000	0,000	0,000
P0010	110,000	-115,000	100,000	360,000	0,000	0,000
P0011	110,000	-115,000	100,000	360,000	0,000	0,000
P0012	110,000	-115,000	100,000	360,000	0,000	0,000
P0013	110,000	-115,000	100,000	360,000	0,000	0,000
P0014	110,000	-115,000	100,000	360,000	0,000	0,000
P0015	110,000	-115,000	100,000	360,000	0,000	0,000
P0016	110,000	-115,000	100,000	360,000	0,000	0,000
P0017	110,000	-115,000	100,000	360,000	0,000	0,000
P0018	110,000	-115,000	100,000	360,000	0,000	0,000

Fig.3-9

3.2.3 **Parameter**

The Fig.3-10 below shows a tab that can LOAD PARAMETER information needed when using a function of Point Coordinate, known as XY coordinate conversion formula, in Point Editor. This task must be performed in advance to use a Coordinate function.

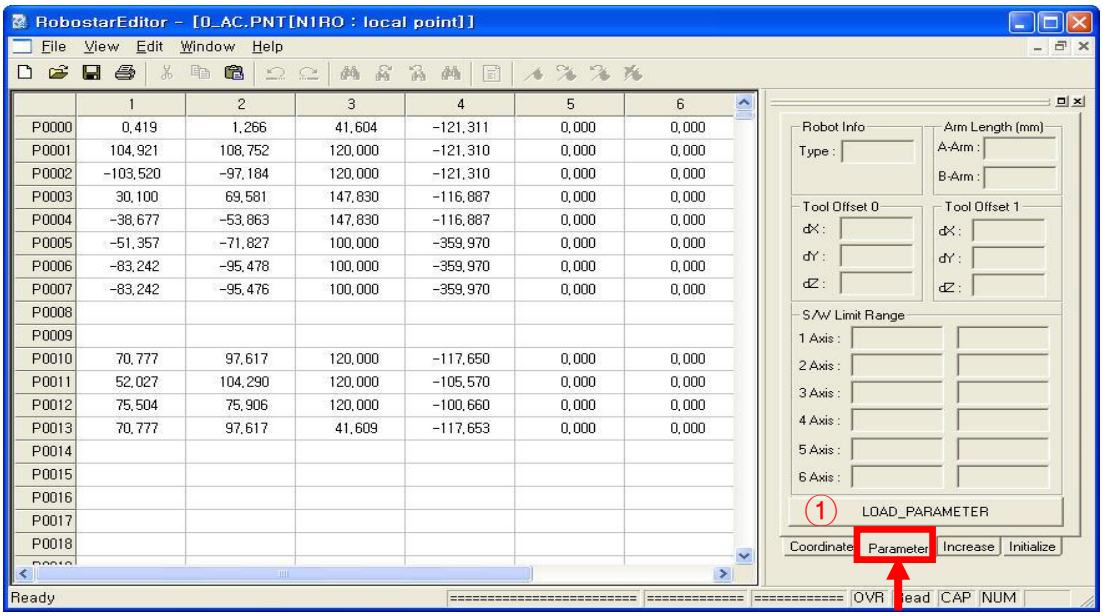


Fig.3-10

As shown in above Fig. 3-10, select ① "LOAD PARAMETER" and open the Local Parameter file in the controller for use in coordinate conversion as shown in Fig. 3-11 below.

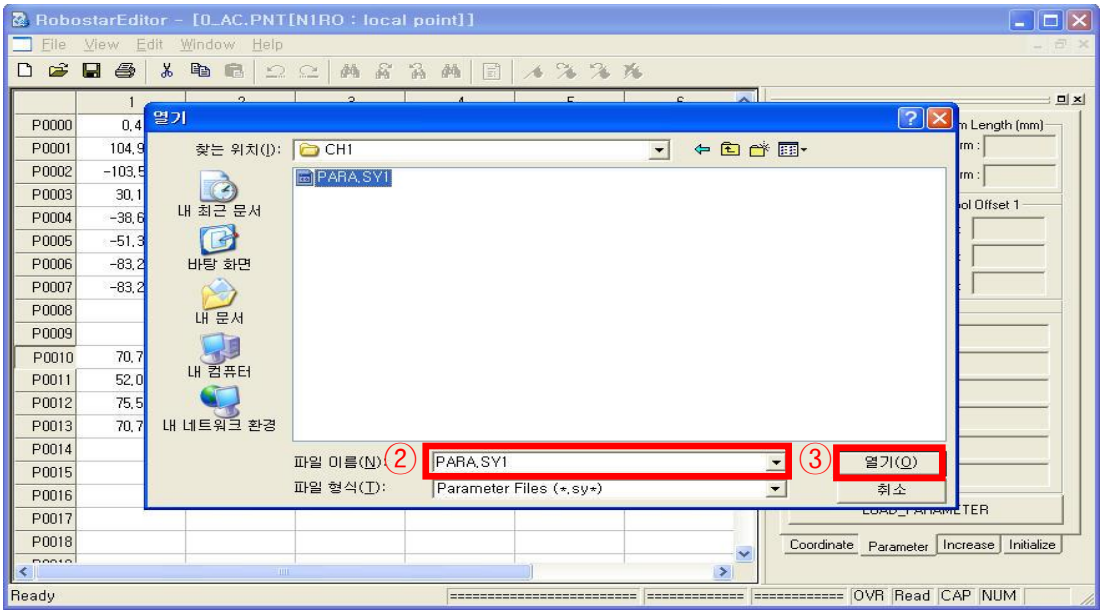
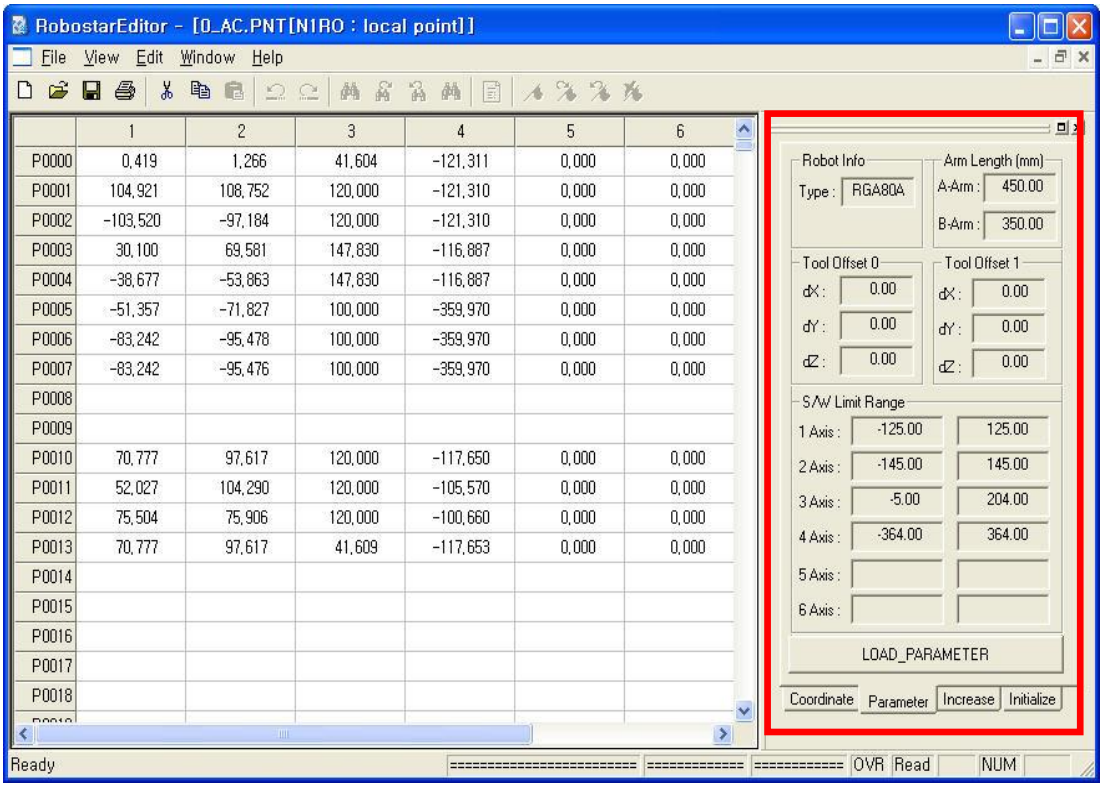


Fig.3-11

A Fig. 3-12 screen shows a loaded SCARA-800A parameter values. For parameter items needed for converting the formula in XY coordinates,
Values for 1) Robot Type, 2) Arm-Length, 3) Tool Offset, 4) S/W Limit are used.



	1	2	3	4	5	6
P0000	0.419	1.266	41.604	-121.311	0.000	0.000
P0001	104.921	108.752	120.000	-121.310	0.000	0.000
P0002	-103.520	-97.184	120.000	-121.310	0.000	0.000
P0003	30.100	69.581	147.830	-116.887	0.000	0.000
P0004	-38.677	-53.863	147.830	-116.887	0.000	0.000
P0005	-51.357	-71.827	100.000	-359.970	0.000	0.000
P0006	-83.242	-95.478	100.000	-359.970	0.000	0.000
P0007	-83.242	-95.476	100.000	-359.970	0.000	0.000
P0008						
P0009						
P0010	70.777	97.617	120.000	-117.650	0.000	0.000
P0011	52.027	104.290	120.000	-105.570	0.000	0.000
P0012	75.504	75.906	120.000	-100.660	0.000	0.000
P0013	70.777	97.617	41.609	-117.653	0.000	0.000
P0014						
P0015						
P0016						
P0017						
P0018						

Fig.3-12

**** In "LOAD_PARAMETER", only the Local Parameter item can be opened.**

3.2.4 Coordinate

1) Description

A Point Editor value is basically saved as a robot's joint coordinate value, therefore when there is a need for changing it to XY coordinates, you need to use a Coordinate window. A coordinate window tells if a random XY-coordinates of SCARA robot stays within the range of operation and enables coordinate conversion.

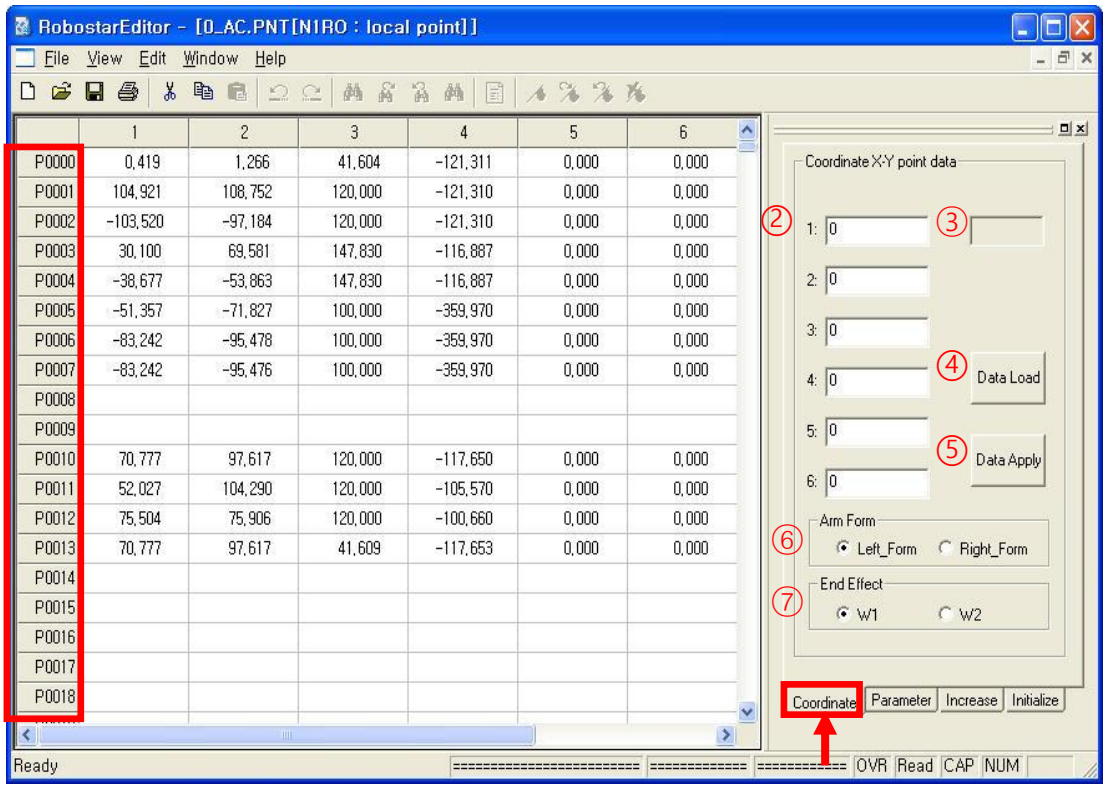


Fig.3-13

① Window for selecting a point index to convert XY coordinates
② Point value converted from joint value into XY value
③ Number of the point index selected in current conversion formula
④ Button for loading data value after selecting point item
⑤ Button for application after converting a coordinate
⑥ Window for selecting Arm Form to be applied in converting a coordinate
⑦ Window for selecting TOOL to be applied in converting a coordinate

2) Operation Description

1. Selecting a point index to change a coordinate

When selecting a point requested for coordinate conversion, full highlight color applies to the point line selected as shown below.

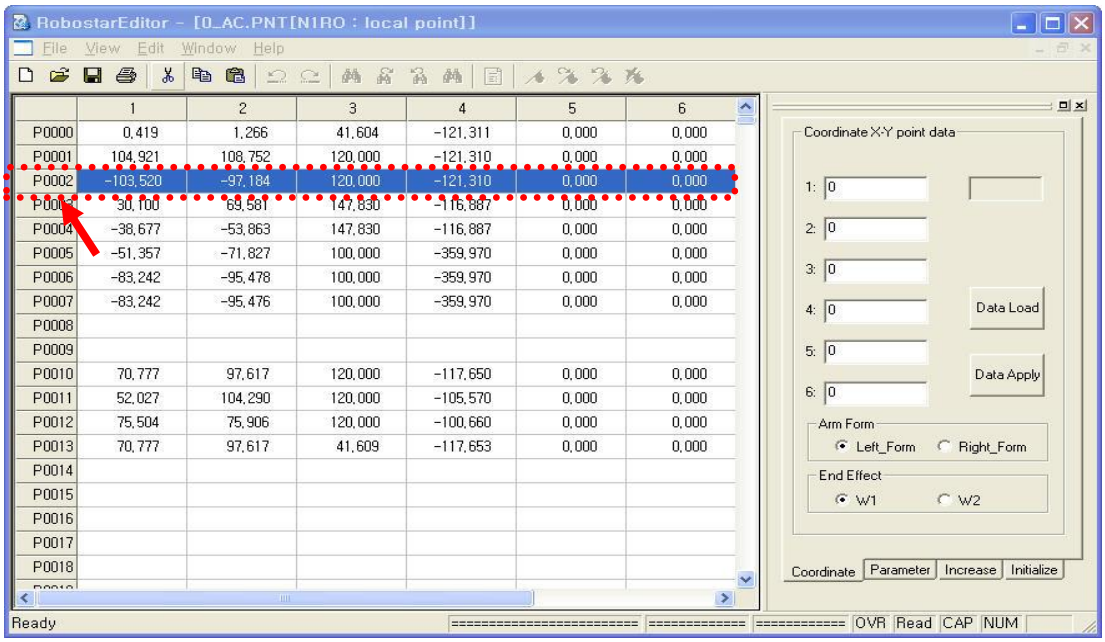


Fig.3-14

2. Selecting a point index to change a coordinate

Select a point and click Data Load button as shown below.

**** Applicable only when the parameter value of "LOAD_PARAMETER" tab is loaded.**

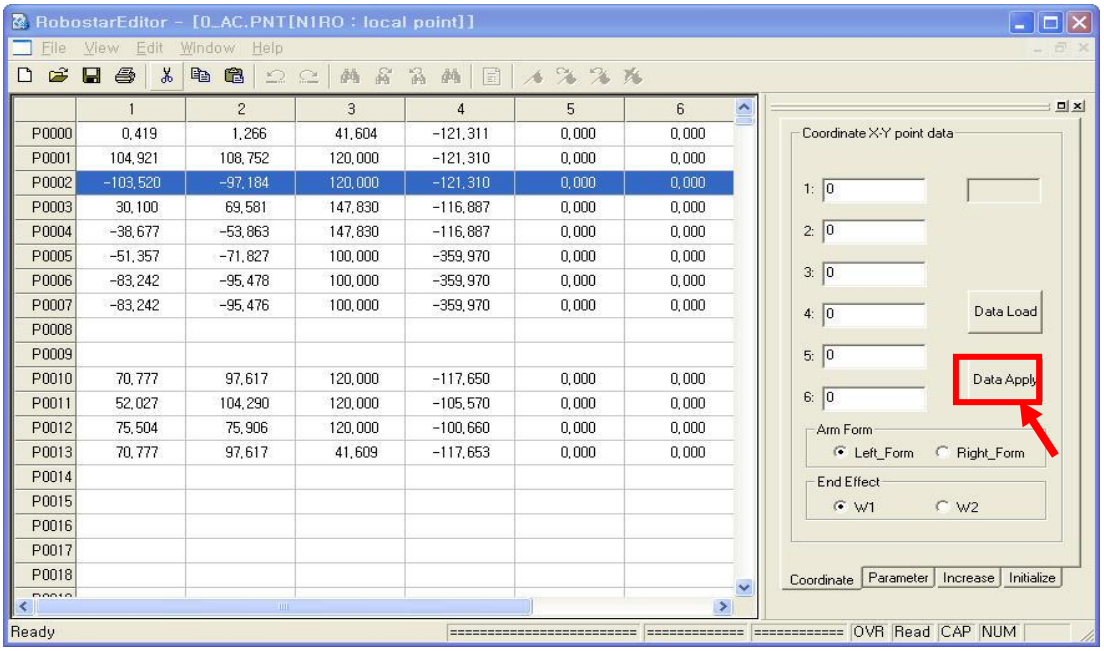


Fig.3-15

3. Changing Arm From and End Effecter(TOOL)

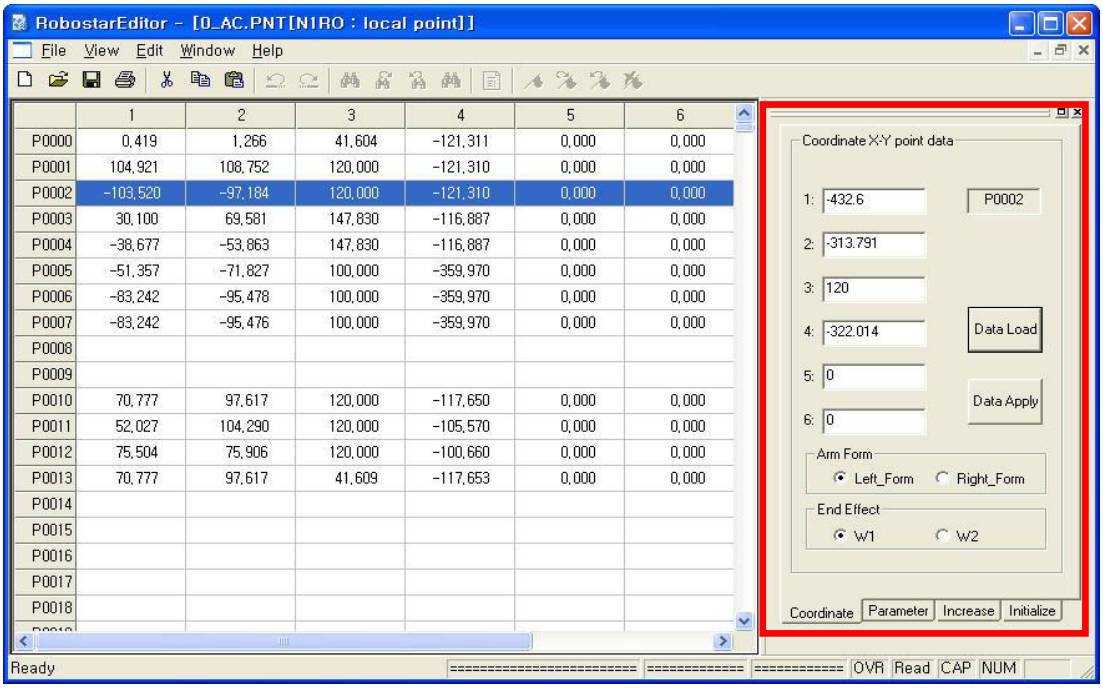


Fig.3-16

번호	좌표	X	Y	Z	W	E1	E2	Arm	E_Effect
P0002	Angle	-432.6	-313.791	120	-322.014	0.000	0.000	-	-
	X-Y	-103.520	-97.184	120.000	-124.310	0.000	0.000	LEFT	W1

Table 3-1

4. Changing modified coordinate

Fig. 3-17 shows a screen when applying "Data Apply" after changing X, Y-axis values on P0002. Angle values are shown in pop-up window prior to change. When applying the "Confirm" button, the already-set Angle position value is applied.

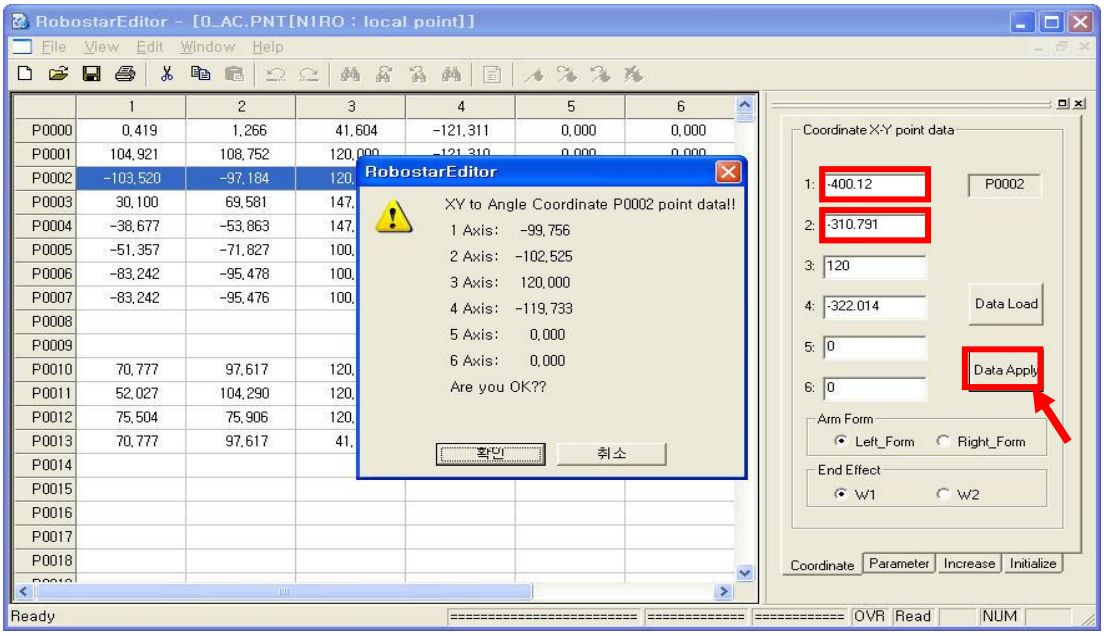


Fig.3-17

Fig.3-18 shows an Angle position value applied after teaching XY coordinates through a Coordinate tab window.

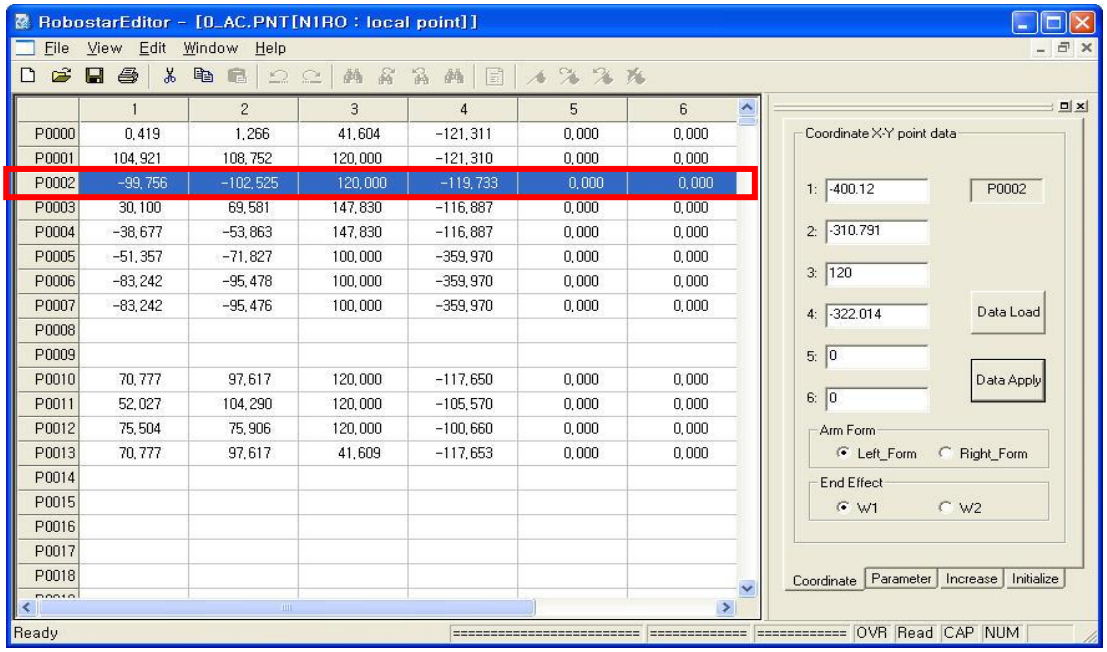


Fig.3-18

Rev.	Revised Date	Description	Reviser	S/W Version
V.1	**2012.07.30**	**First Edition Printed**		
V.2	**2012.08.22**	**Controller type set**	**Leejm**	**Ver2.0**
V.3	**2013.01.15**	**Editor add**	**Leebj**	**Ver2.1**

N1 ROBOT CONTROLLER

CONTROLLER MANUAL

FIRST EDITION JULY 2012

ROBOSTAR CO, LTD

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