

MICREX-SX Series

About the Version Up of D300win System Software

Preface

This document describes the content of the "version up" (from V2.1□ to V2.2□) of D300win system software, or MICREX-SX program support tool.

Please read this manual together with the following user's manuals.

MICREX-SX Series User's Manual D300win <REFERENCE>: manual No. FEH254a

Precaution for the Version Up-grade of Your System

Be sure to uninstall the old version system before you install the new version system.

Otherwise, the system may not correctly be installed.

Before Using the D300win:

To ensure proper operation, be sure to read "Precautions for Using D300win" included in this manual, the User's Manual, and D300win program folder.

1. List of Newly Added Functions

From version V2.2, the following functions are added or reinforced:

- 1) USB interface function
- 2) Project upload/download function
- 3) Adapted to 0.5 ms tact time
- 4) Assurance of data
- 5) Adapted to SFC retain
- 6) Adapted to automatic allocation in the copied memory by variable name
- 7) English/Japanese language switching function

Note: From version V2.2, D300win screen can be displayed in Japanese or English by switching. As a result, conventional software packages are unified.

D300win Japanese version: NP4H-SEDV2

D300win English version: NP4H-SEDEV2



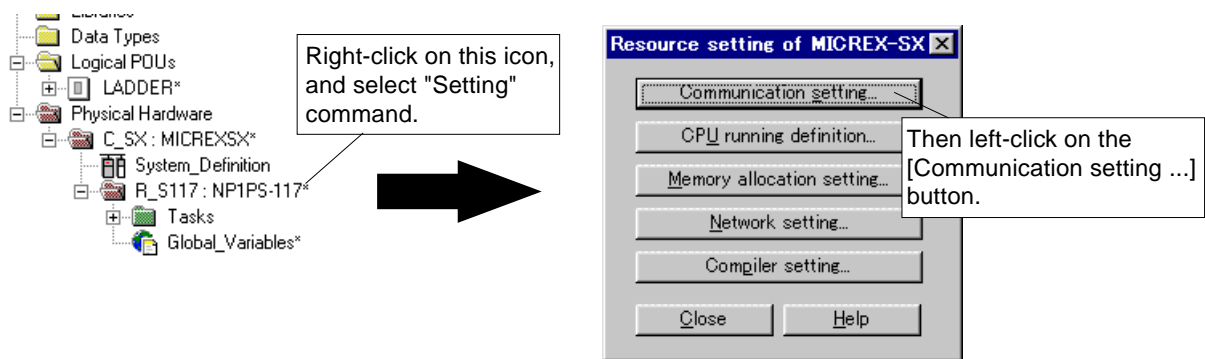
D300win Japanese/English common version:
NP4H-SEDBV2

2. USB Interface Function

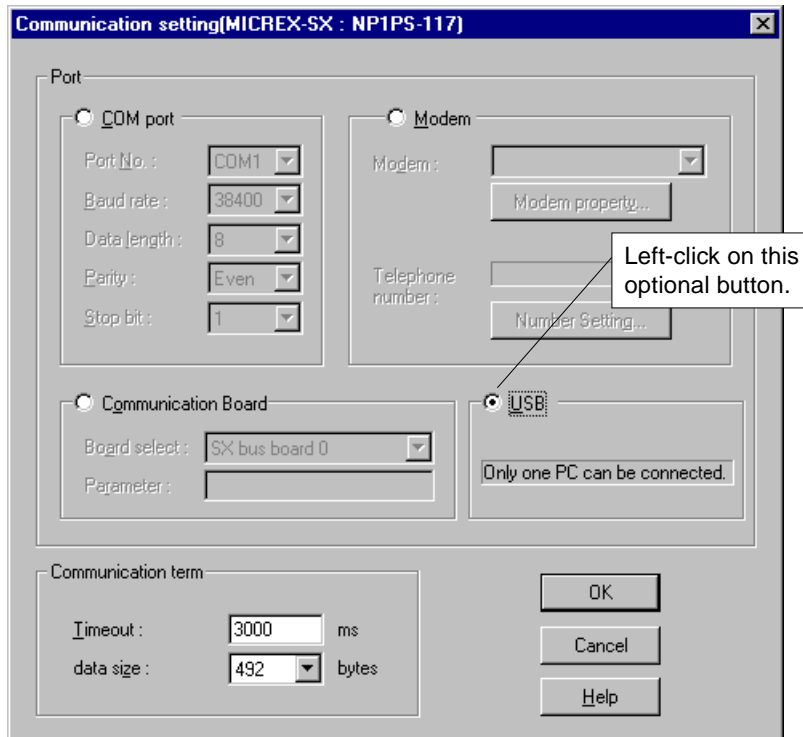
Full-Speed USB (Universal Serial Bus) 1.1 connecting method is added to the MICREX-SX loader connecting methods. This enables high-speed communication with CPU modules (NP1PS-117R) having USB connector, using commercially available USB connector. The operating systems for personal computer that can use the USB interface are Windows95 (OSR2.0 or later), Windows98 and Windows2000. Fuji electric guarantees the operation of the USB interface only on Windows98 and Windows2000.

<How to use the USB interface>

- 1) Turn on the power supply for the MICREX-SX system, and connect between the personal computer and SX-CPU with the USB cable. Then Plug and Play starts to install the USB driver. Follow the directions that appear on the screen to install the driver. The USB driver for D300win is stored in the CD-ROM used when you installed D300win.
- 2) Start D300win to bring up the [Resource setting of MICREX-SX] dialog box.

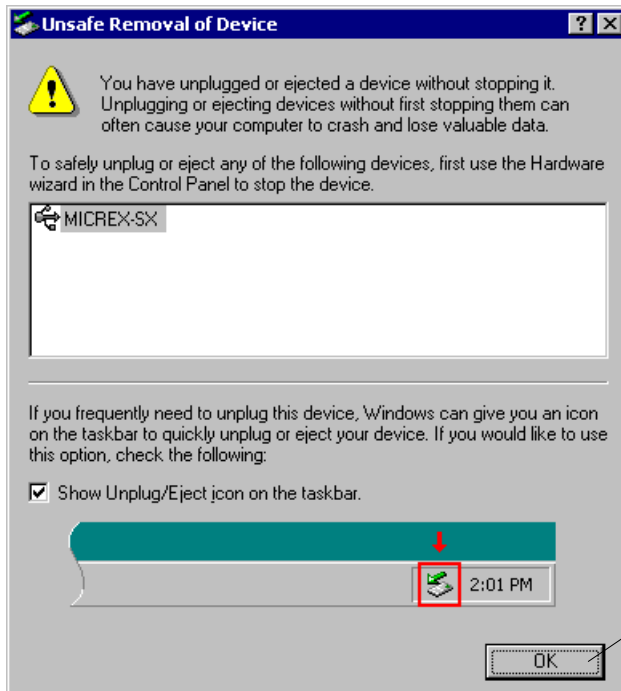


- 3) The [Communication setting] dialog box is displayed. On this dialog, turn the [USB] optional button ON, and left-click on the [OK] button. Then you can use the USB interface.



Notes:

- 1) If no USB driver is installed, [USB] (use of USB port) cannot be selected.
- 2) Only one CPU module can be connected to one D300win via USB.
- 3) When Windows2000 operating system is used, if USB communication is interrupted (due to the resetting of CPU or the interruption of system power source), the [Device Disconnection Alarm] dialog box is displayed. In such case, click the [OK] button.



Click the [OK] button.

3. Project Upload/Download Function

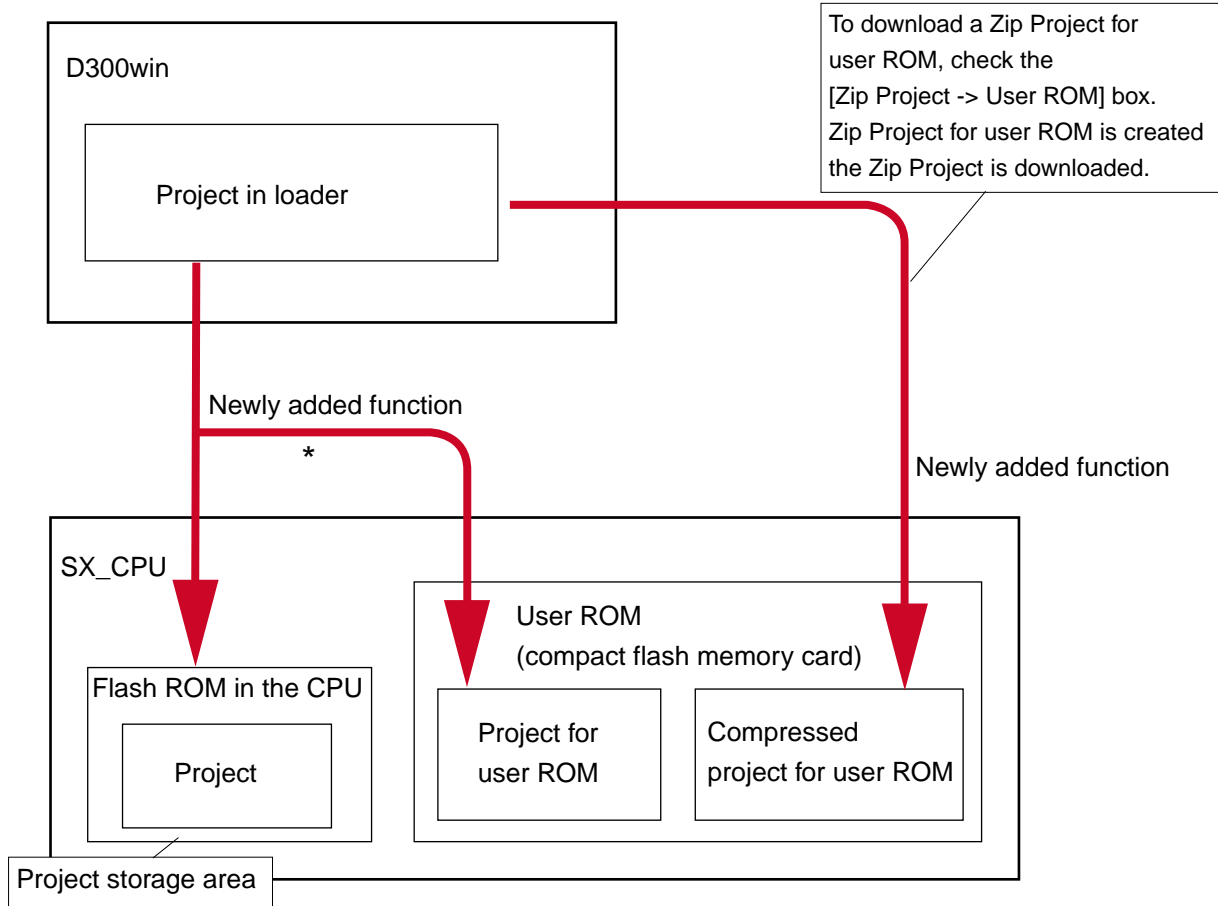
The functions for downloading projects to the user ROM card (compact flash memory card) installed in the high-performance CPU module (NP1PS-117R), for uploading projects from the user ROM card, or for verifying projects are newly added.

<List of newly added upload, download and verification functions>

User ROM installation place	Function	Description	
Online User ROM card installed in D300win and CPU module	Download	Download the Zip Project for user ROM.	
	Upload	Upload the Zip Project for user ROM.	
	Verification		For verification, compare the project in D300win with the project for user ROM.
			For verification, compare the project in D300win with the Zip Project for user ROM.
			For verification, compare the project in the CPU with the Zip Project for user ROM.
			For verification, compare the project for user ROM with the Zip Project for user ROM.
	Zip Project download setting		Select the target CPU of download.
			Switch to downloading when POU is changed.
	User ROM data display		Display of "Installed/Uninstalled" of user ROM
			Display of Zip Project name for user ROM
			Write protect setting/cancellation
	Offline User ROM card installed in the personal computer in which D300win is installed	Download	Project for user ROM
Zip Project for user ROM			
Upload		Project for user ROM	
		Zip Project for user ROM	
Verification			For verification, compare the project in D300win with the project for user ROM.
			For verification, compare the project in D300win with the Zip Project for user ROM.
			For verification, compare the project for user ROM with the Zip Project for user ROM.
Clear			Project for user ROM
			Zip Project for user ROM
Format			-
Write protect Set/Release			-
Password setting			Registration of password
			Release of password

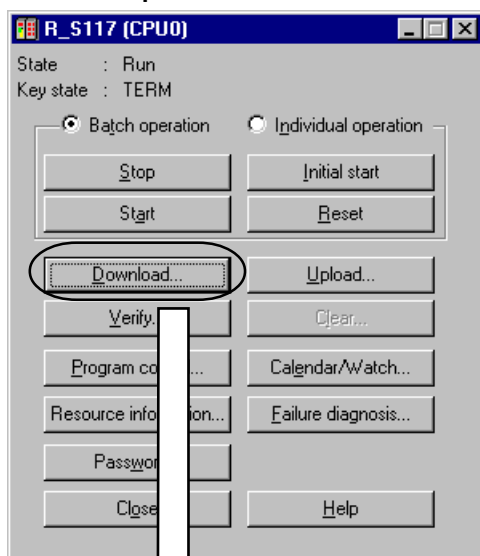
3-1 Downloading to CPU

This function downloads the project that is stored in D300win to the project storage area in the CPU memory (flash memory in CPU), to the project storage area in the user ROM (newly added feature), or to the Zip Project storage area in the user ROM (newly added feature).

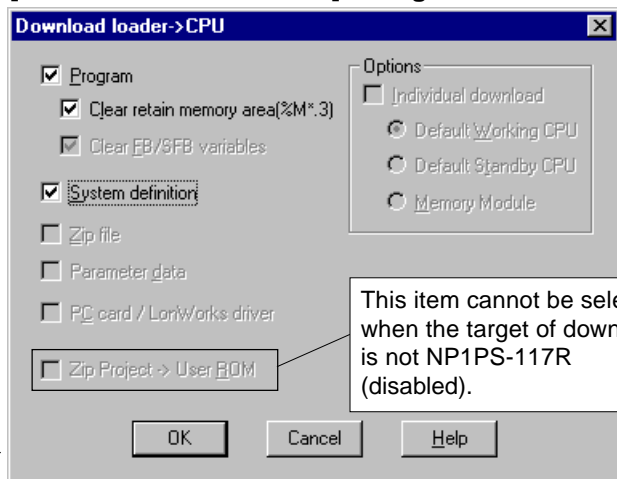


* Project is downloaded to user ROM when the key switch on the CPU module is set to TERM-UROM (when the UROM LED is lighting in user ROM mode). When the key switch is set at a TERM position other than that for user ROM mode, the project is sent only to the project storage area in the CPU.

<D300win operation screen>

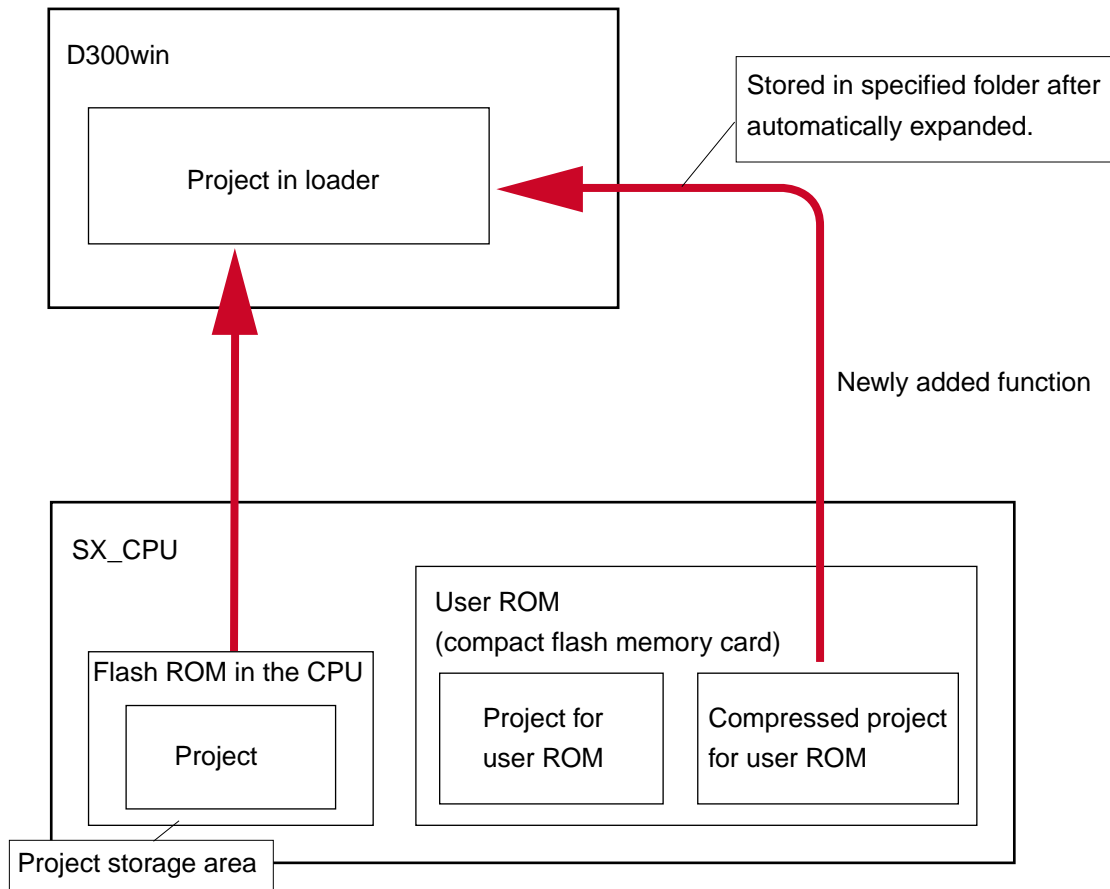


[Download loader -> CPU] dialog box

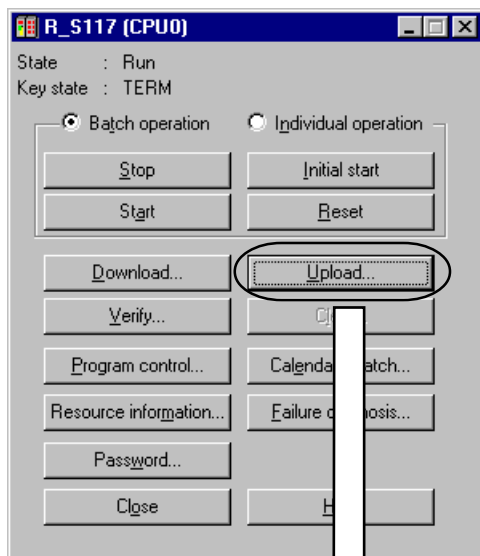


3-2 Uploading to D300win

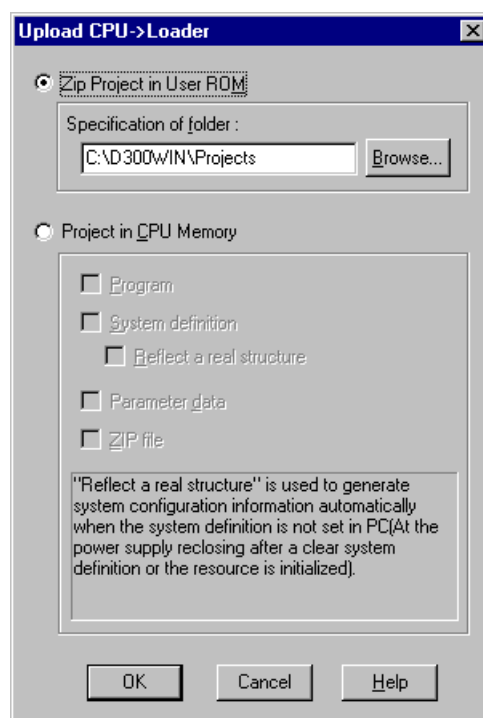
This function uploads a project that is stored in the CPU memory (flash memory in CPU) to the project in D300win, or a compressed project for user ROM to the project in D300win (newly added feature).



<D300win operation screen>

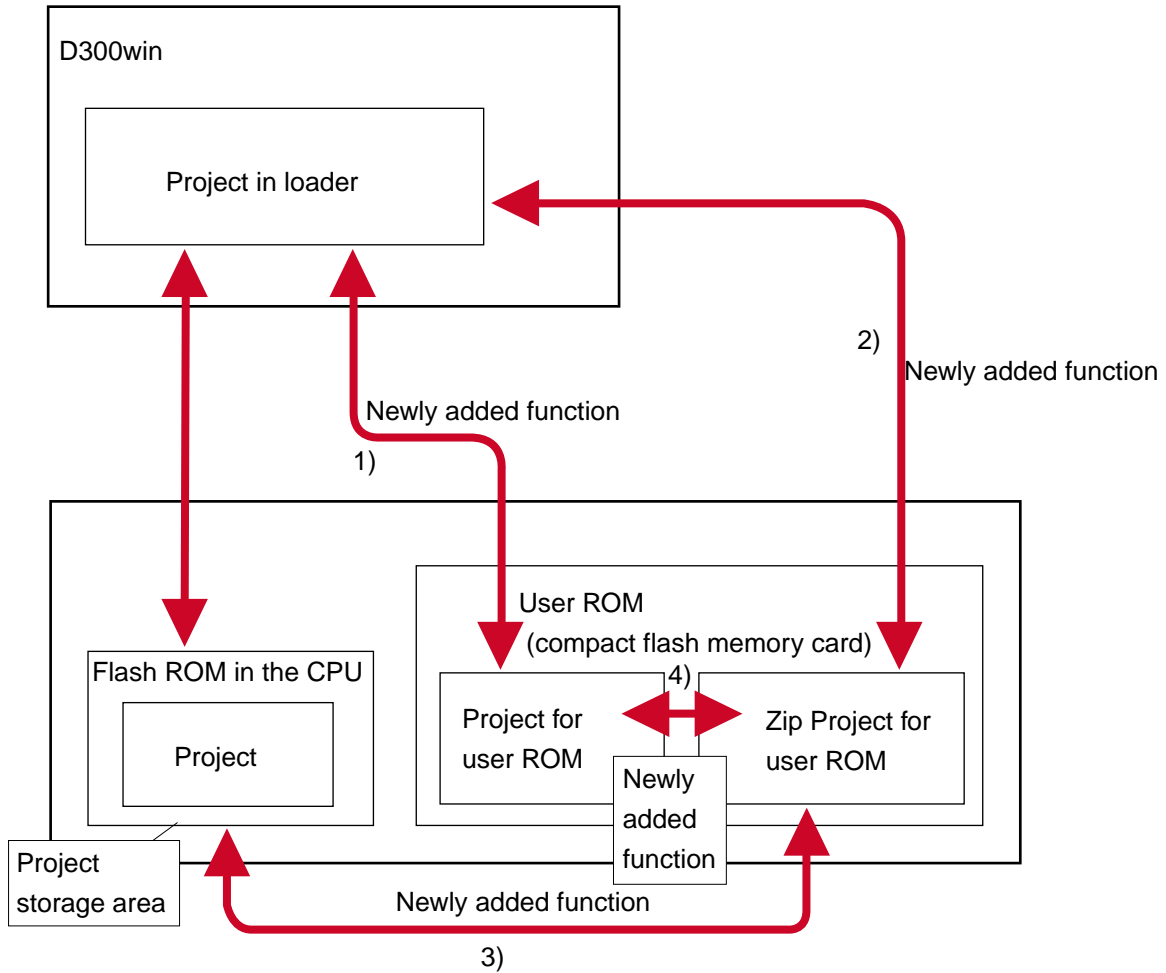


[Upload CPU->Loader] dialog box



3-3 Verification

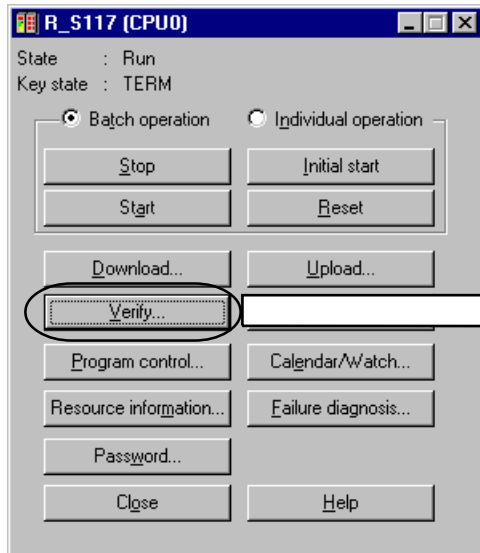
This function compares, for verification, the project stored in D300win with the project stored in the CPU memory (flash memory in CPU) or the compressed project stored in the user ROM.



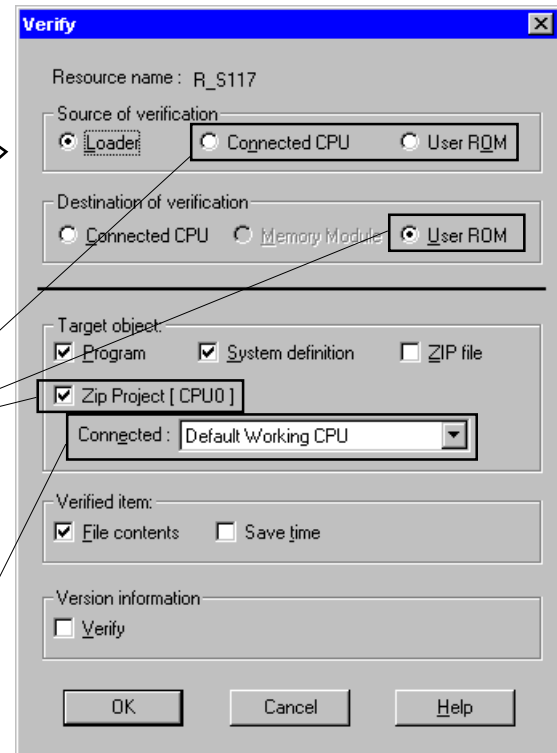
<List of newly added verification functions>

Verification function	Source of verification	Destination of verification	Target object	Verified item	Version information
1) Compare the project in loader with the project in the user ROM in the CPU	Loader	User ROM	Program System definition ZIP file	File data Stored time	Selectable
2) Compare the project in loader with the Zip Project in the user ROM installed in the CPU	Loader	User ROM	Zip Project	File size Stored time	Not selectable
3) Compare the project in the CPU with the Zip Project in the user ROM installed in the CPU	CPU	User ROM	Zip Project	File size Stored time	Not selectable
4) Compare the project in the user ROM installed in the CPU with the Zip Project in the user ROM installed in the CPU	User ROM	User ROM	Zip Project	File size Stored time	Not selectable

<D300win operation screen>



[Verify] dialog box



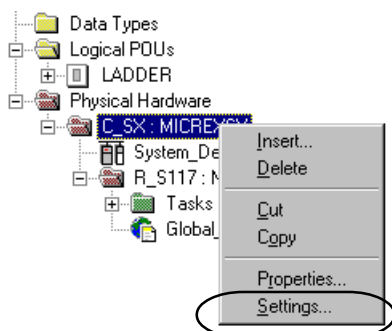
When user ROM is installed in CPU (Zip Project management CPU in case of multi CPU system), and the key switch of CPU is set at the position of "UROM", it is effective.

This setting is effective on the redundancy system. Select user ROM of default working CPU or user ROM of default standby CPU by this setting.

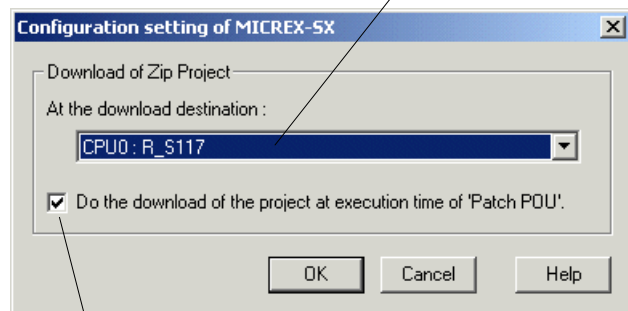
* Zip Project management CPU is CPU specified for a down-loading destination of the Zip Project in the configuration set dialog box .

3-4 Zip Project Download Setting

The Zip Project download setting function can be used from the [Configuration setting of MICREX-SX] dialog box.



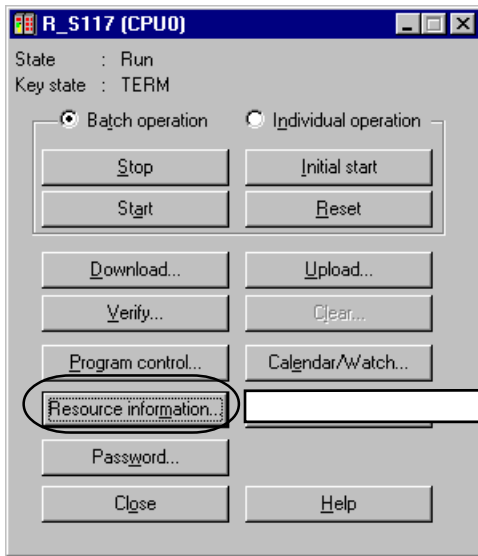
Select the destination CPU of download (the CPU in which the user ROM is installed).



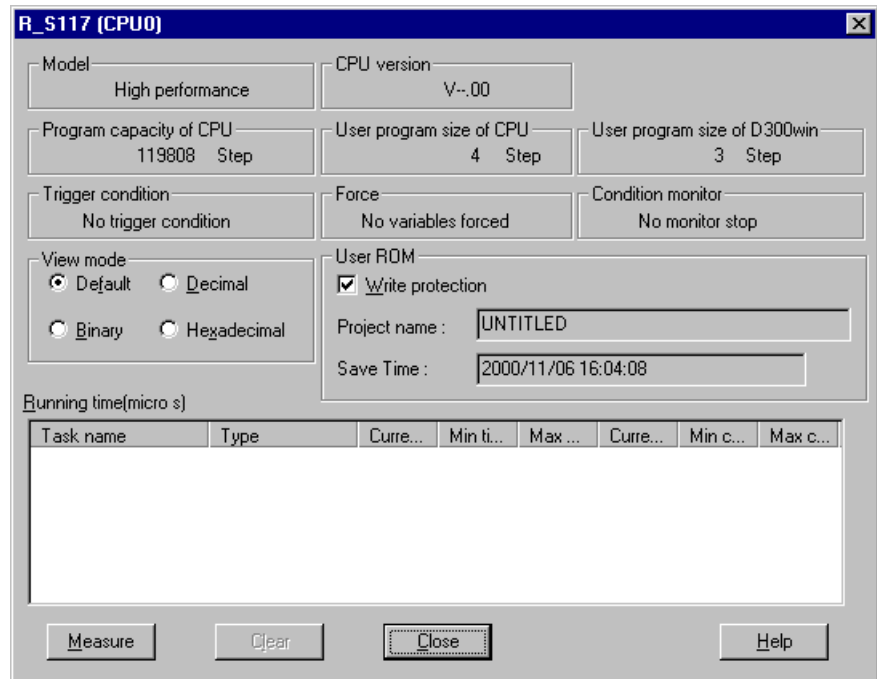
When this box is checked, Zip Projects are also downloaded to the user ROM card that is installed in the CPU during execution of the "Patch POU" function.

3-5 User ROM Data Display

This function displays the data of the user ROM card that is installed in the CPU. This function is added to the [resource information display] dialog box.



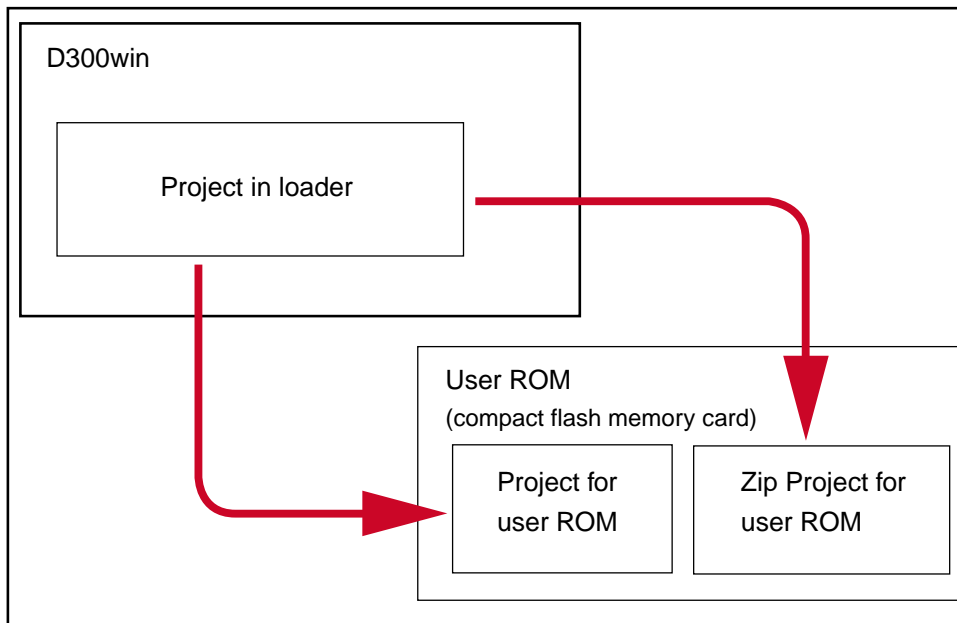
[resource information display] dialog box



Function	Specification
Write protection	This box shows whether or not to write protect the user ROM card that is installed in the CPU. By changing the status of this check box and left-clicking on the [Close] button, you can set/cancel the write protection.
Zip Project name	When a Zip Project is stored in the user ROM card that is installed in the CPU, the project name is displayed in this text box.

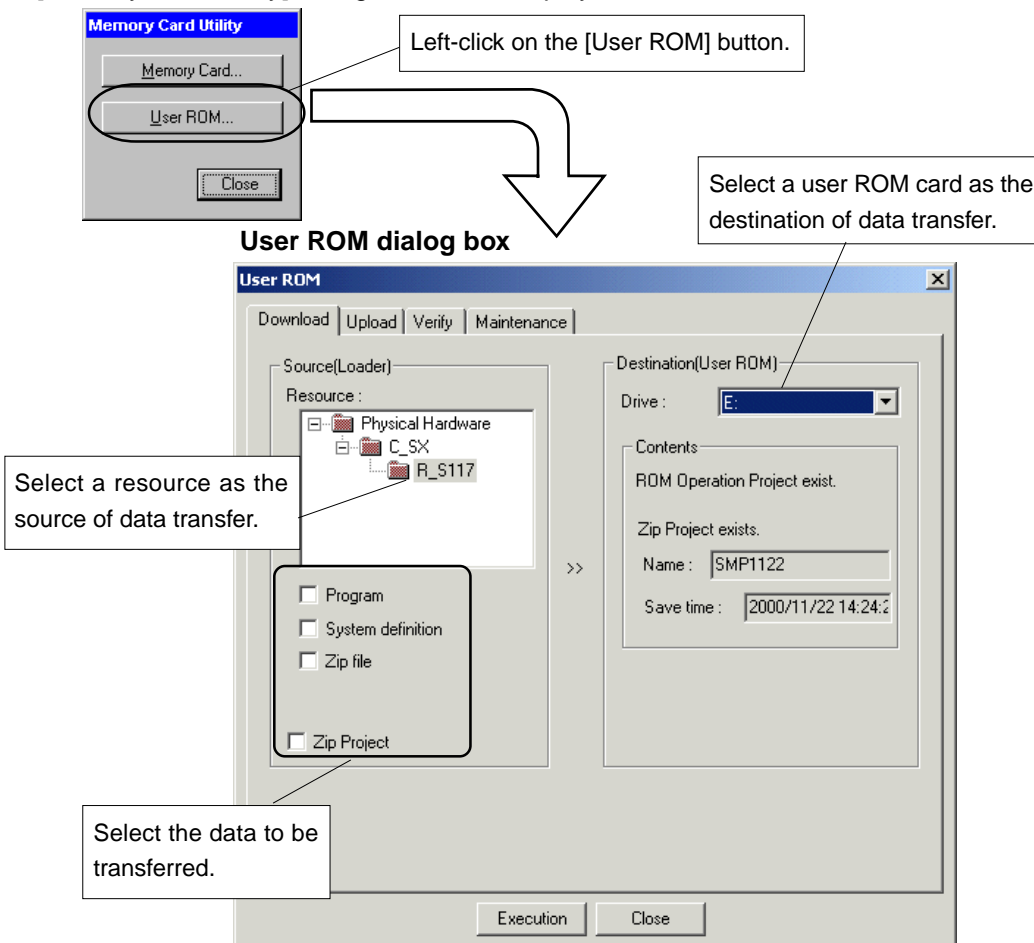
3-6 Downloading to the User ROM Card in the D300win Loader

This function downloads a project and/or a Zip Project for user ROM to the user ROM card that is installed in the PC card slot of the personal computer.



<Operation of D300win>

1) Install the user ROM card in the PC card slot of the personal computer (commercially available compact flash card adapter is necessary). Then select [Memory Card Utility] from the Extras menu, and the [Memory Card Utility] dialog box will be displayed.

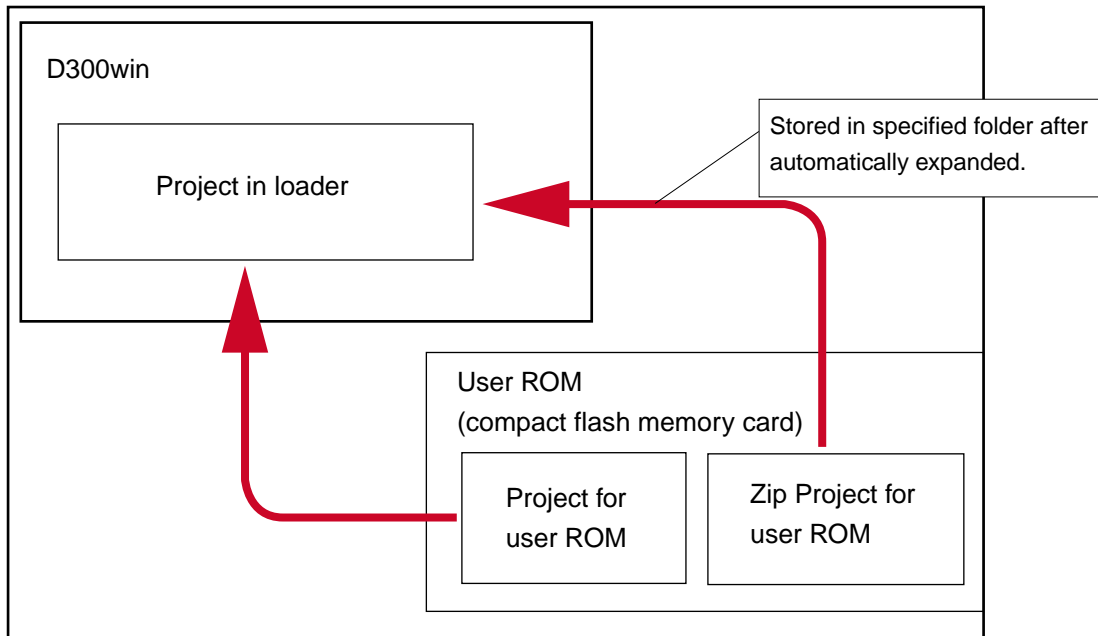


2) Select a resource as the source of data transfer, the data to be transferred, and a user ROM card as the destination of data transfer, and left-click the [Execution] button.

3-7 Uploading from the User ROM Card in the D300win Loader

This function uploads a compressed project for user ROM from the user ROM that is installed in the PC card slot of the personal computer.

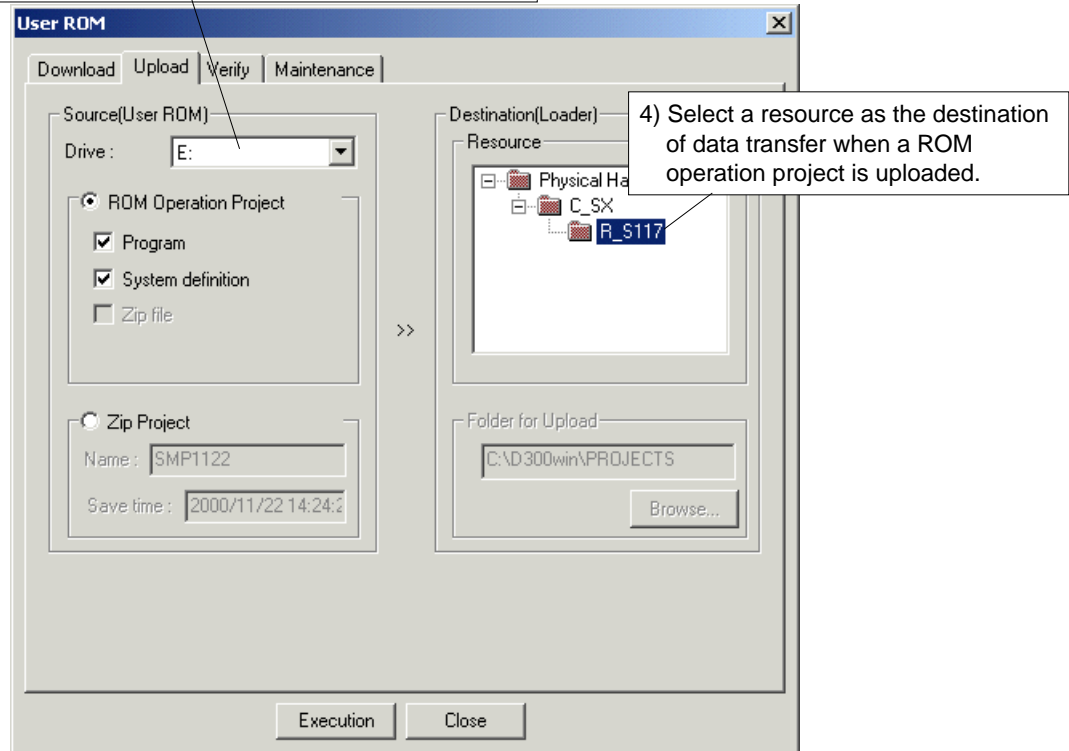
Personal computer



<Operation of D300win>

- 1) Left-click on the [Upload] tab of the [User ROM] dialog box to bring up the [Upload] tab window.
- 2) Select a ROM operation project and then the data to be uploaded.

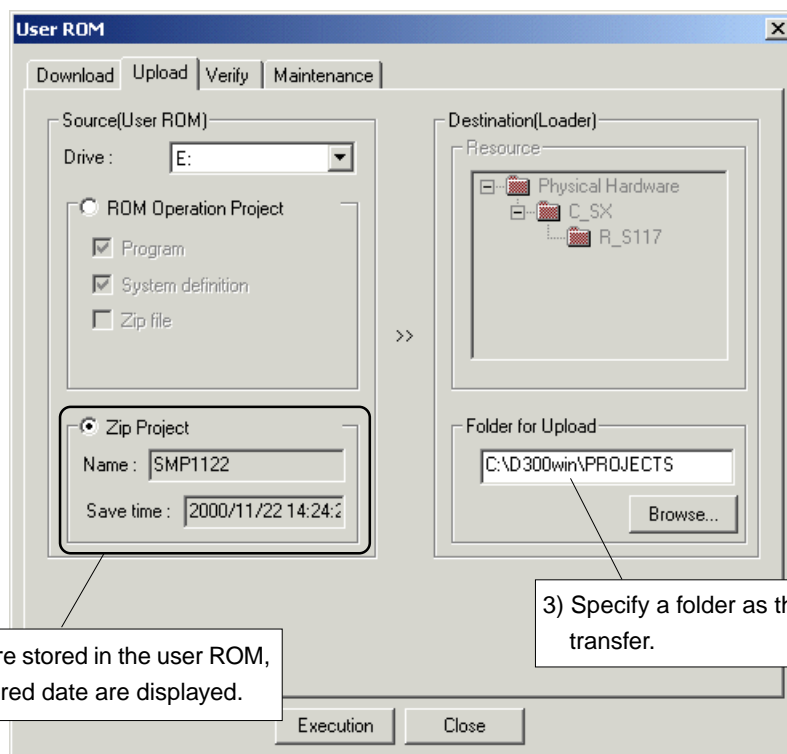
3) Select a user ROM as the source of data transfer.



- 5) Left-click the [Execution] button to start uploading.

<Operation on D300win, uploading of zip project>

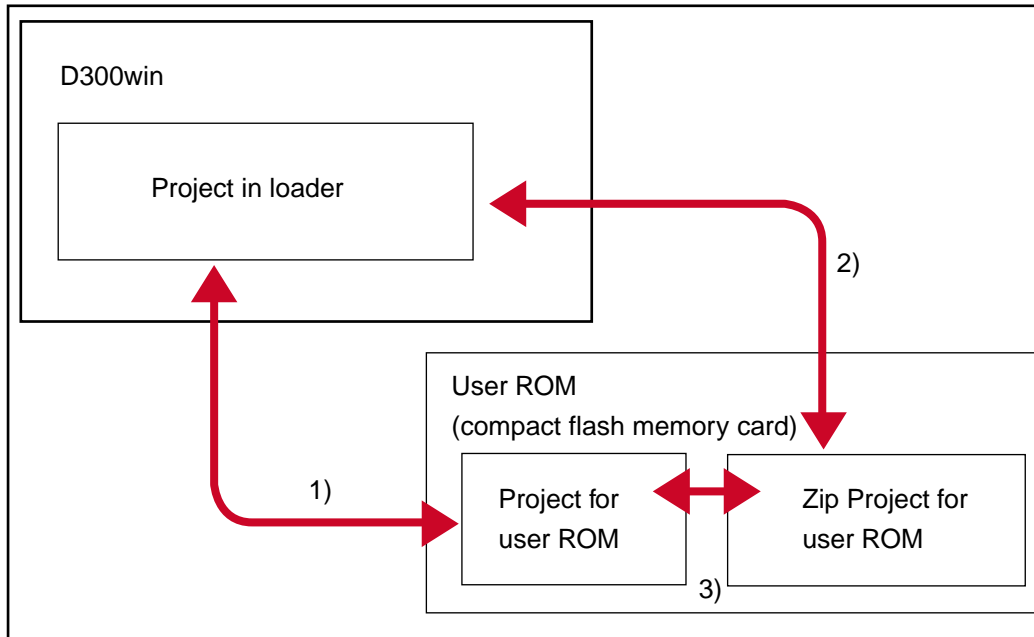
- 1) Left-click the [Upload] tab of the [User ROM] dialog to display the [Upload] tab window.
- 2) Select a zip project.



- 4) Left-click the [Execution] button to start uploading.

3-8 Verification by Comparing the Project in D300win with that in the User ROM Card Installed in the D300win Loader

Personal computer



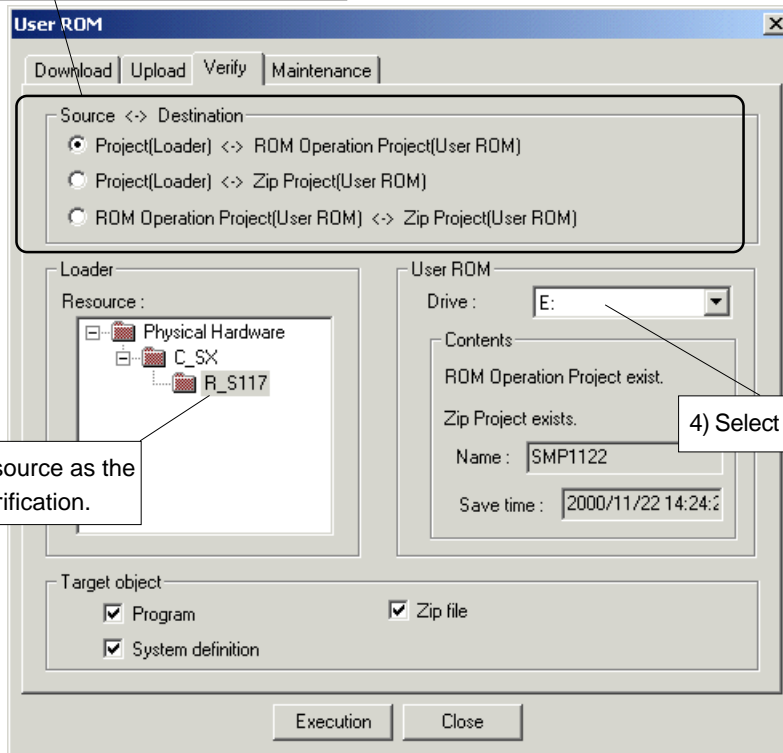
<List of verification functions>

Verification function	Source of verification	Destination of verification	Target object	Verified item
1) Compare the project in loader with the project in the user ROM installed in the personal computer	Loader	User ROM	Program System definition Zip File	File data Stored time
2) Compare the project in loader with the Zip Project in the user ROM installed in the personal computer	Loader	User ROM	Zip Project	File size Stored time
3) Compare the project in the user ROM installed in the personal computer with the Zip Project in the user ROM installed in the personal computer	User ROM	User ROM	Zip Project	File size Stored time

<Operation of D300win>

1) Left-click on the [Verify] tab of the [User ROM] dialog box to bring up the [Verify] tab window.

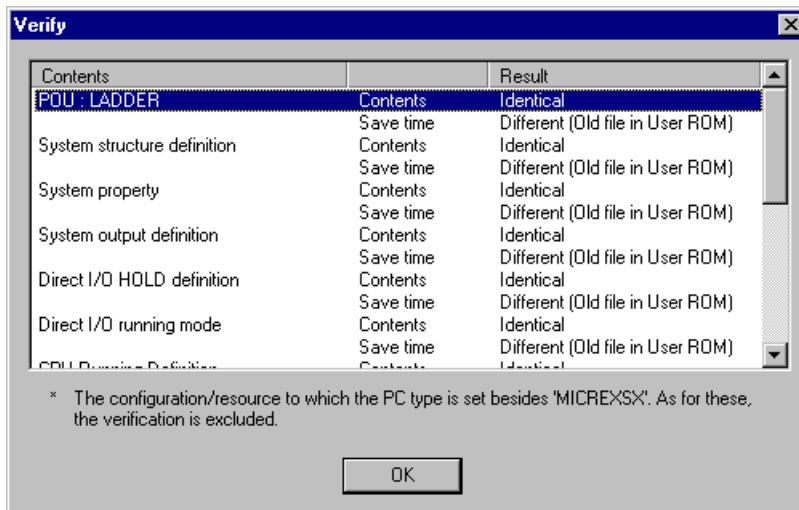
2) Select the verification function (source and destination of verification).



3) Select a resource as the target of verification.

4) Select the drive for the user ROM card.

5) Select target data of verification and left-click the [Execution] button, and verification will be started. When verification ended successfully, the result of verification is displayed.

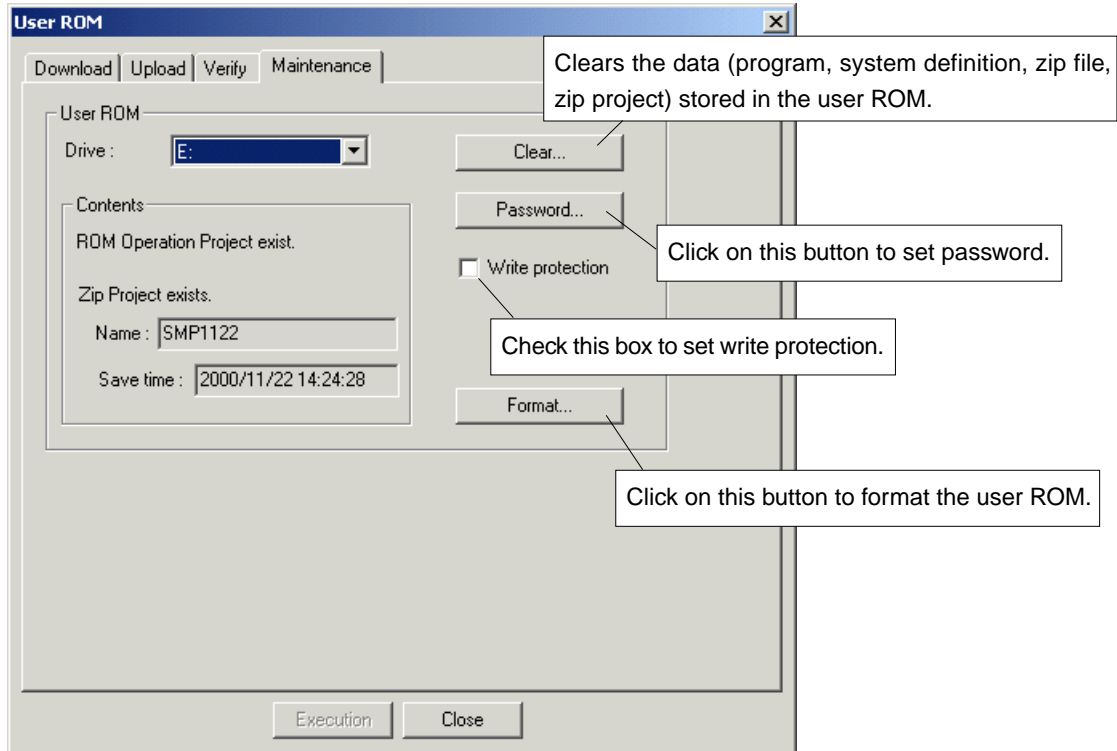


3-9 Maintenance

For the user ROM card, clears stored data, formats the card, sets/cancels write protection, or registers/cancels password.

<Operation of D300win>

1) Left-click the [Maintenance] tab of the [User ROM] dialog box to bring up the [Maintenance] tab window.



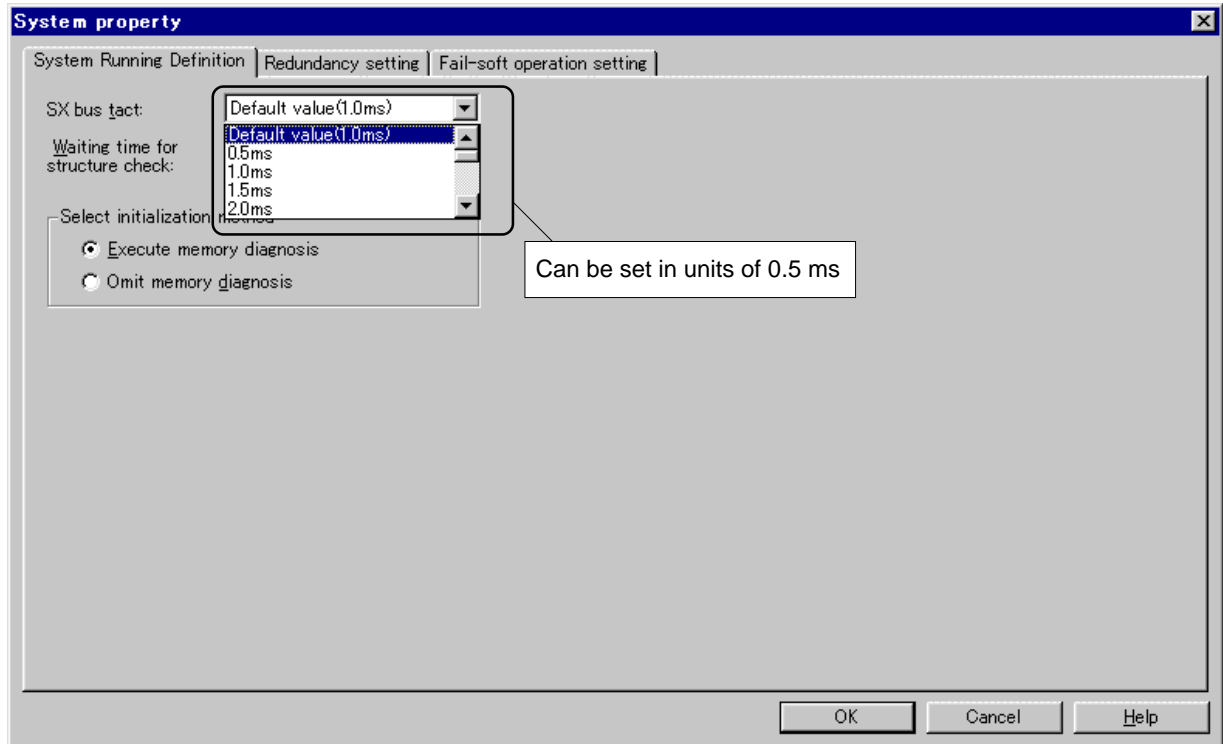
4. Adaptation to Tact Time Setting in Units of 0.5 ms

For high-performance CPUs (of V50 or newer firmware version), tact time can be set in units of 0.5 ms.

<Operation of D300win>

Right-click on the [System Property] icon under in the System configuration definition window, and select [Properties...] command.

Then the [System Property] dialog box is displayed.



Note: For standard CPUs or high-performance CPUs of V50 or older firmware version, tact time cannot be set in units of 0.5 ms.

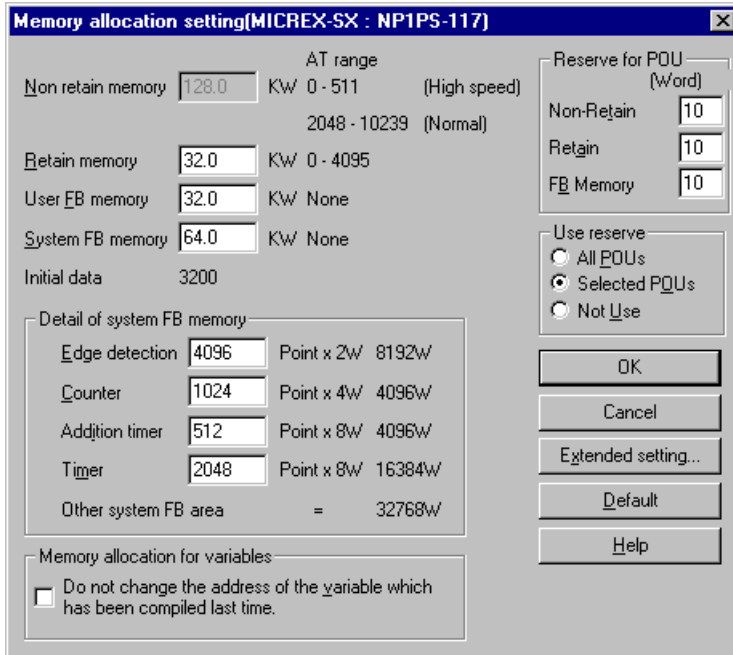
5. Assurance of Data

5-1 Address Retention at Compilation

D300win automatically assigns variables when compiling a project. Because the assignment is optimized in the order of variable declarations, if compilation is made after the application is modified, the memory addresses allocated to the variables may change between before and after the compilation. The version up of this time adds the optional "address holding" function to the compiler.

<Operation of D300win>

- 1) In the project tree, right-click on the resource icon, and select [Settings...] command.
Then left-click on the [Memory allocation setting...] button.



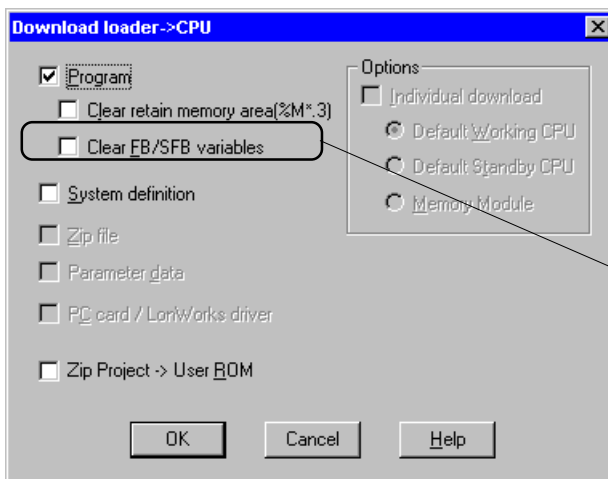
- 2) The [Memory allocation setting] dialog box is displayed. When the addresses to which the variables are assigned need not be changed, check the box for "Do not change the address of the variable which has been compiled last time".

<Allocated address retaining range>

- 1) The variables that have the same names as before are assigned to the same addresses that were determined when successfully compiled last time.
- 2) The variables that are assigned to "Reserve" by the "Patch POU" function (online change) are also assigned to the same addresses.

5-2 Download Setup

It has become possible to retain the variables in the user function block and the system function block at the time of downloading.



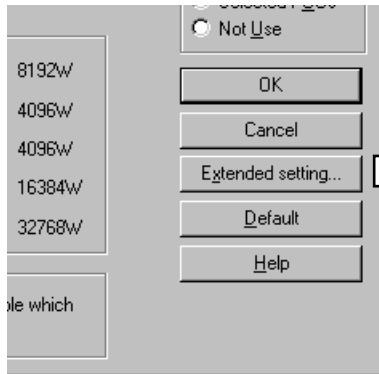
The variables are effective only at the time of downloading to firmware version V.50 or later of the high-performance CPU. They are not effective for firmware prior to version V.50 or the standard CPU; in this case, the variables are all cleared at the time of downloading.

6. Continuous running of SFC program

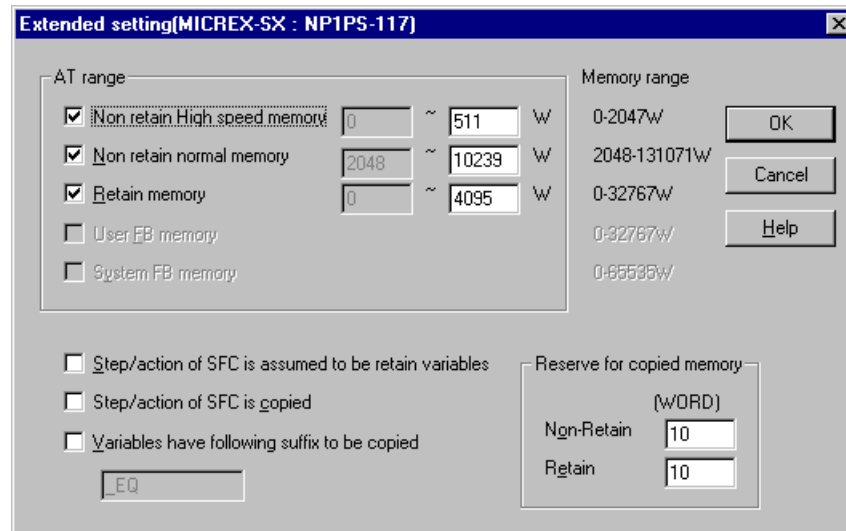
When you compile SFC steps/actions as retain variables with D300win, SFC step variables and action variables are assigned in the retain memory. By this operation, SFC program can continue to run during the warm start of CPU.

<Operation of D300win>

- 1) Left-click on the [Extended setting...] button on the [Memory allocation setting] dialog box to bring up the [Extended setting] dialog box.



[Extended setting] dialog box



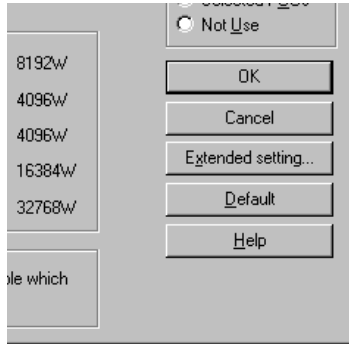
- 2) When warm operation is to be started from the step at which the system's power supply was turned off, check the box for [Step/action of SFC is assumed to be retain variables].

7. Adaptation to Automatic Assignment in Copied Memory by Variable Name

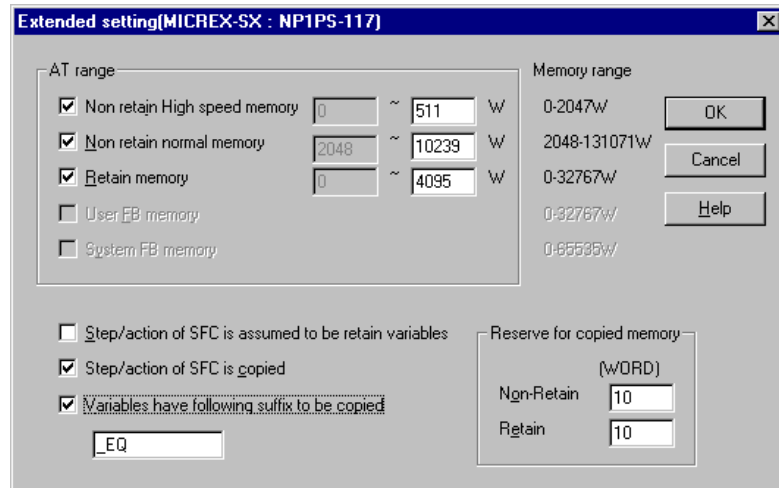
In constructing a redundant system (when warm standby), conventionally AT setting is necessary to allocate the variables, which require to be copied, in the copied memory. The version up of this time adds the function that automatically allocate variables in the copied memory during compilation as well as the function that allocates SFC step/action variables in the copied memory, when the variables have a given suffix.

<Operation of D300win>

- 1) Left-click on the [Extended setting...] button on the [Memory allocation setting] dialog box to bring up the [Extended setting] dialog box.

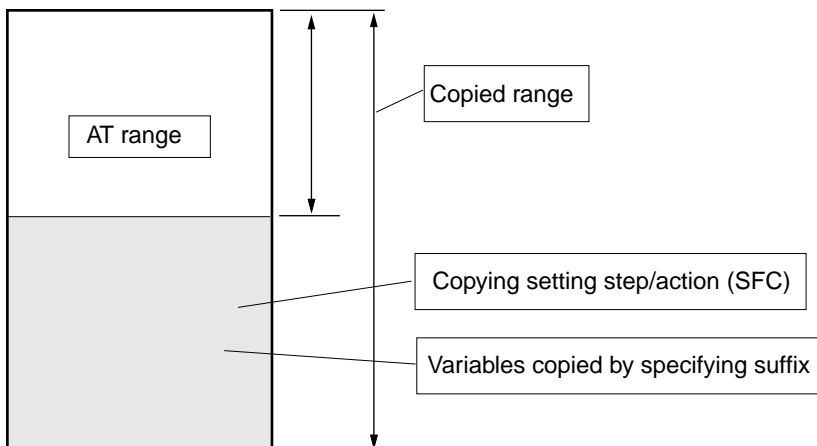


[Extended setting] dialog box



- 2) For a redundant warm standby system, when SFC step variables or action variables need to be copied, check the box for [Step/action of SFC is copied]. When you want to copy the variables that become the target when having the suffix, check the box for [Variables have following suffix to be copied], and set an arbitrary suffix.

Note: By this setting, copied area is allocated in the area that is specified by [Copied range] in [System Redundancy Definition] under [System Configuration Definition], excluding the [AT range] in the memory allocation setting. Therefore, to use this function, [Copied range] must be set greater than [AT range].

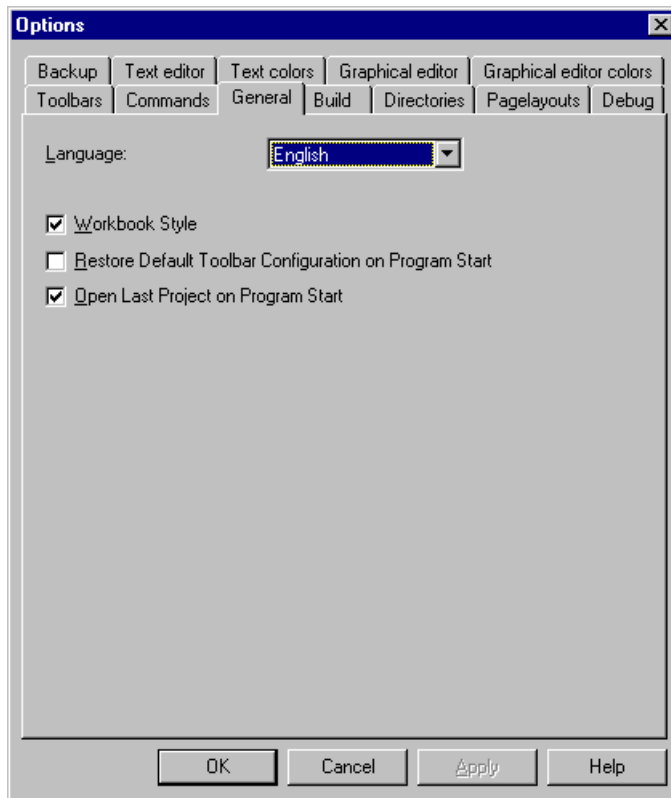


8. English/Japanese Language Switching Function

From this version, Japanese version D300win and English version D300win are integrated so that one type of D300win can meet all applications. On Windows of Japanese version, screen can be displayed in English. (Japanese may be displayed partly.)

<Operation of D300win>

- 1) Execute the [Options] command from the [Extras] menu to bring up the [Options] dialog box. Then left-click on the [General] tab to bring up the [General] tab window.



- 2) Select a desired language (English or Japanese) from the [Language] list box, and left-click on the [OK] button. The selected language mode will be enabled when the D300win is started the next time.

Note1: It is impossible to display in Japanese on English version Windows.

Note2: D300win uses the resources of the operating system, so that when screen is displayed in English mode using Japanese version Windows, Japanese may be displayed partly.