Table of Contents

1. General Description

1.1. Outline of AX on DESK

AX on DESK is software enabling software of AX controller to operate by a PC on the desk. The distinctive features are as follows:

Table 1-1 Distinctive Features of AX on DESK

Features －1	It can be used anywhere, since an OS on the market can be operated. It does not require any special hardware. For PC operating environments, see the next section.
Features – 2	It is the most appropriate for operational training before introduction of a robot. Teaching can be provided in the exact same operation as AX Controller.
Features – 3	Off-line teaching of a working program while confirming a robot posture or I/O signal is possible. It carries the same motion engine as AX Controller, which enables it to carry a high-accuracy cycle-time simulation.
Features – 4	Setting up of various parameters for PLC programs, welding conditions and interface-panel design are possible as well as for working programs. (It can execute editing and grammar checking through PLC programs). All files are fully compatible with AX Controller, which therefore enables an easy playback of operational states of actual units on the desk.

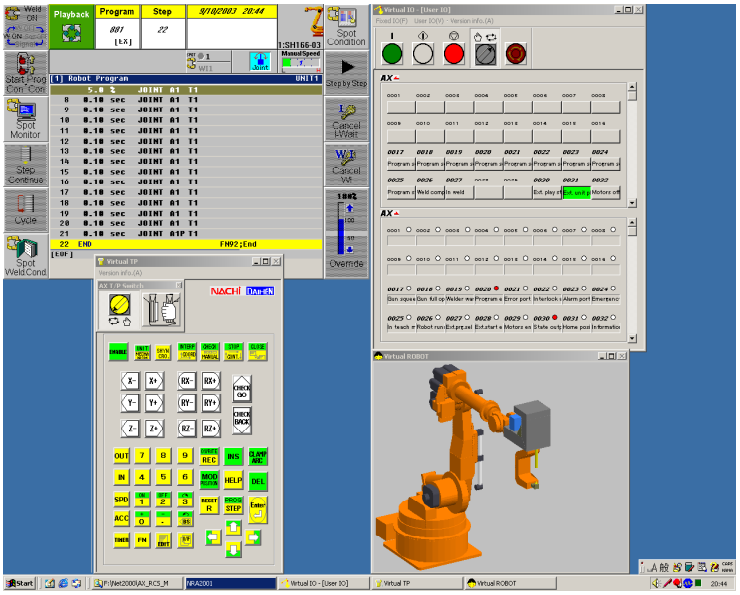


Figure 1-1 An Example Display of AX on DESK

1.2. AX on DESK Operational Environments

Table 1-2 AX on DESK Operational Environments

Principal bases	Specifications
Basic software	Windows ® 2000, Windows ® XP Note 1
CPU	Intel ® –made Pentium ® of II 400MHz and more (Pentium ® of III 900 MHz and above are recommended). Note 2
Memory	More than 128MB
Hard-disk capacity	More than 70MB spare capacity to be required
Graphic resolution	More than 1024 X 768 dots
Others®	- The following is necessary for license check: Dongle specifications USB port Standard specifications Ethernet LAN adaptor - Install NETBIOS Service* 1 in case of having standard specifications. - Do not use simultaneously with other application software when cycle time is inspected.

Note 1: Windows is a trademark of Microsoft Corporation registered in the US and other countries.
Note 2: Intel and Pentium are registered trademarks of Intel Corporation of the US.

*1. Setting up of NETBIOS service shall be authorized by System Administrators.

Windows XP

1. Copy the Netnbf.inf File in the folder of Valueadd¥msft¥netbeui into the directory of %SYSTEMROOT%¥INF¥ after inserting CD-ROM of Windows XP.
   Copy the nbf.sys File into the folder directory of %SYSTMROOT%¥SYSTEM32|DRIVERS¥.
2. Click [Start], [Control Panel], and double click [Network Connection].
3. Right-click the connecting icon for adding NetBEUI and click [Property].
4. Click [Install] of the tab of [General].
5. Click [Protocol] and click [Addition].
6. Click [NetBEUI Protocol] and click OK button.
7. Click [Close] for closing Windows.
8. Restart PC. That is the end.

Windows 2000

1. Open the Control Panel with selecting [Control Panel] from [Setting] in the menu of [Start].
2. Double click the icon of [Network and Dial up] in the Control Panel.
3. Right-click connecting points currently under use.
4. Push the Install button after selecting the Property.
5. Push the Addition button after selecting the Protocol.
6. Select NetBEUI Protocol in the right side after selecting Microsoft.
7. Finally push the OK button, and Install starts.
8. Restart PC. That is the end.

1.3. License of AX on DESK

AX on DESK varies depending on licenses. For purchase of licenses, please contact us at our sales offices.

Table 1-3 License Method for AX on DESK

License	Authentication method	Limitation
Standard (MAC address)	MAC address authentication method	No
Dongle	USB dongle method	No
No license	No	Beginner mode at all time

Standard specifications

Please give us your MAC address at our contact address in the Install CD. A license file will be issued to you by return. The license file can be used only for this notified PC.

[Attention] The following is required to be confirmed in a case when an error appears in license checking despite the fact that a license file has been copied in a proper location:

1. Confirm whether the file name is “license dat”. And pay attention to its extension.
2. Confirm that all attributes of file security are approved in NTFS file system environments.

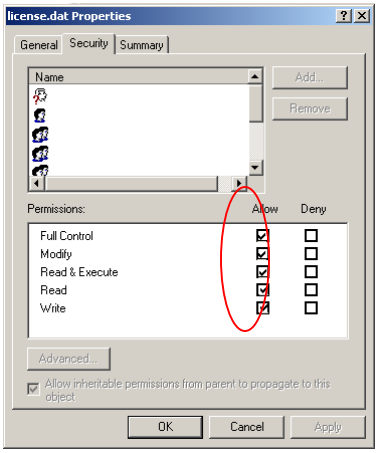


Figure 1-2 File Security

Dongle specifications (Applicable to V2.00 and after)
USB dongle is necessary. Use a dongle with inserting into a USB port. Any PC carrying AX on DESK can operate if a dongle is inserted. Do not remove a dongle while AX on DESK operates.

[Attention] Check that the LED light of a dongle is switched on after supply of power source to PC. Insert again a dongle if it is not switched on. License check can not be made, since a dongle can not be identified if it is not inserted properly.

Without the license (Applicable to V2.00 and after)
It is operated in a beginner mode with some operational limitation as an experience edition. For the beginner mode, see optional items of Chapter 6.

1.4. Composition of AX on Desk

Ax on Desk comprises four parts (programs); Virtual AX, Virtual TP, Virtual I/O and Virtual ROBOT.
When AX on Desk is started up, all of four programs are started automatically and the display is shown on its screen as in Figure 1-1 An Example Display of AX on DESK

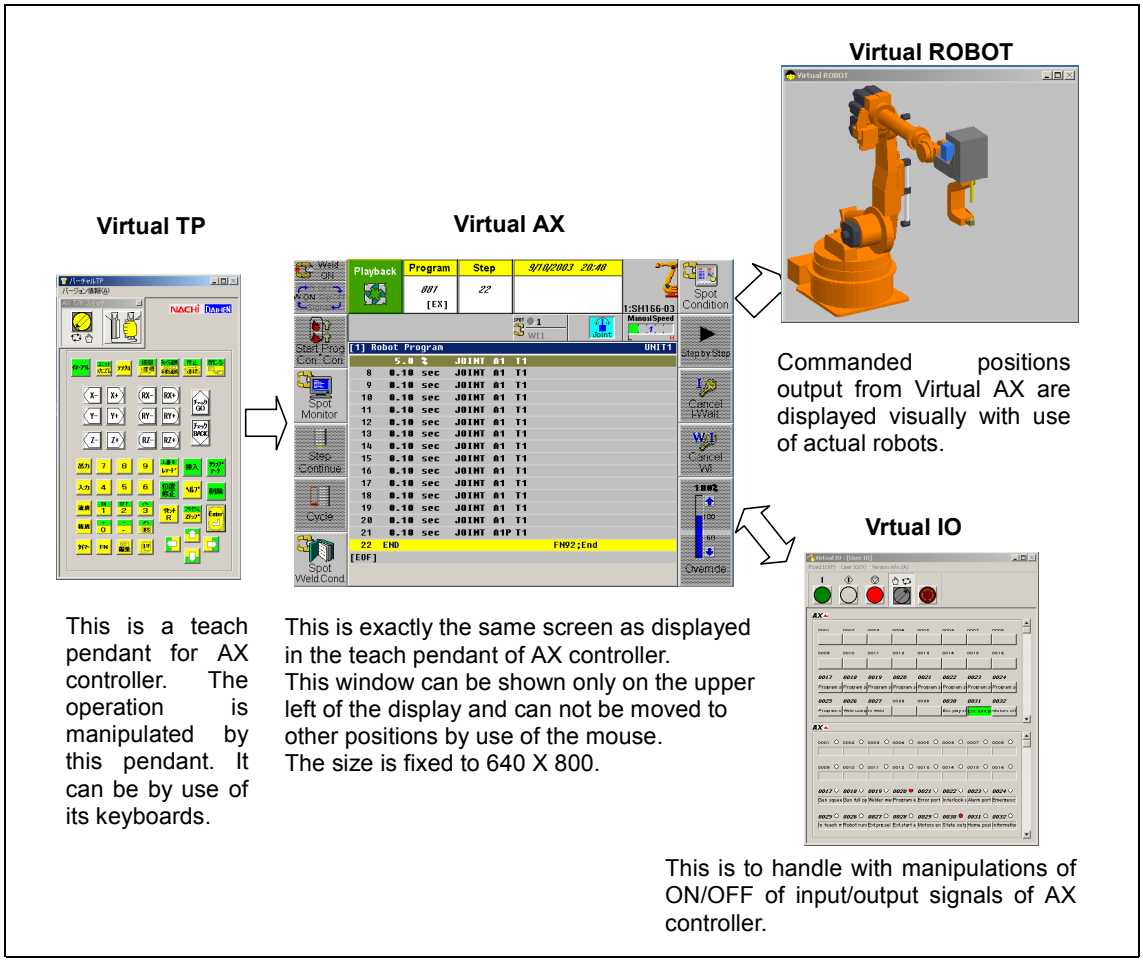


Figure 1-2 Composition of AX on DESK

1.5. Startup and Termination of AX on Desk

Startup AX on Desk

1 Click the shortcut “AXonDesk” on the desktop.
That is the end.
Four programs start automatically at the same time.

2 When it starts for the first time, Format has been made by a sample Constant File. For a robot with Constants other than the sample Constant File, Format shall be provided.
Restart it, as AX on Desk terminates processing and closes the Windows automatically after making File.
*For Format, see “Robot setup” of Operating Manual of AX Controller.

3 All files are compatible with AX controller, which thus enables an easy playback of operational state of actual units on the desk.
If all files under ¥WORK folder of a real AX Controller is copied onto memory media like CF and also copied onto PC of AX on Desk by reference to 2.3 Folder Structures before startup of AX on Desk, the operation under the same conditions as a real Controller is available from the beginning upon the startup as it is.

Terminate AX on Desk

ESC

1 Click Virtual AX and press ESC key.
Four programs (Virtual AX, Virtual TP, Virtual I/O and Virtual Robot) are automatically terminated.

This volume does not describe operating procedure of AX Controller.
For its operation, see the section “Basic Operation” of Operating Manual of AX Controller or Electronic Manual attached to AX on Desk.

1.6. Limitation of AX on Desk

AX on Desk is not always able to simulate 100% of its possible movements with AX Controller. The followings are limitations to be understood;

- As hardware such as robot, I/O and others is not connected, functions caused by feedback signal (for example, detection of abnormal overload) do not work,
- Optional functions such as device net function and analog I/O function requesting special hardware do not work,
- Similarly, spot and arc welding machines are connected only through Virtual I/O with general-purpose I / O signal. If using special ways of connections, they do not work.
- Software PLC program can not be executed. AX on Desk can perform compiling and grammatical check (compile) of PLC programs.
- Virtual Robot does not support cooperative control. Some of optional functions can not be supported. Please confirm this matter when it is ordered.

For their details, see “List of limited particulars on AX on DESK” in the Install CD.

2. Setup

2.1. Installation of AX on Desk

AX on Desk shall be installed in accordance with the following steps. The Installer is made up of two execution files (AX on Desk and Virtual Robot).

1 Execute the Install program “AxonDesk_SetupJ.exe”

2 Operate in accordance with an instruction of the Installer.

A shortcut “AXonDesk” is generated on the desktop after installation.

3 ・In a case of general edition:
“License” folder is made in the folder “NRA2001” located under the install folder.
The license file “license. dat” is copied on to the “License” folder. If the license file is transmitted as another name, rename it as license.dat.

・In case of dongle edition:
Insert a dongle into a USB port of your PC in use. If a dongle is inserted properly LED light of dongle is switched on. Insert surely a dongle into a USB port when AX on DESK starts up. Do not remove a dongle while AX on DESK operates.

4 Then Virtual Robot shall be installed.
For its details, see the clause of Install of Operating Manual of Virtual Robot attached to the install CD.

5 Operate in accordance with an instruction of the Installer.

6 An install folder of [EXTERNAL_PROCESS_FOLDER] App3 of “ax_ondesk.ini” file is changed. For its details, see the clause of Install of Operating Manual of Virtual Robot attached to the install CD.

2.2. Module Components

Table 2-1 Module Components of AX on Desk

File Name	Contents
(1) NRA2001.exe	Virtual AX the main body
(2) FDM2001.exe	AX Motion
(3) FDMAPI.dll	AX Motion API DLL
(4) IsaSys.dll	DDL 1 for ISAGRF(PLC)
(5) IsaIXL.dll	DDL 2 for ISAGRF(PLC)
(6) ResJpn.dll	DLL for AX the main body
(7) ResFunctionStringJpn.dll	DLL for AX the main body
(8) ResConsString.dll	DLL for AX the main body
(9) ResConsStringJpn.dll	DLL for AX the main body
(10) ResFunctionString.dll	DLL for AX the main body
(11) AXonDesk.ini	INI for automatic startup/termination
(12) AXonDesk.exe	Virtual IO & TP
(13) IoPnanel.ini	INI for Virtual IO

Contents of AXonDesk.ini

[EXTERNAL_PROCESS] App1=AxonDeskE.exe -EG App2=AXonDeskE.exe -TP App3=KentaViewer.exe AX USA	Name of external execution file Please set up App3 after installation.
[EXTERNAL_PROCESS_FOLDER] App1=C:¥AX_ONDESK¥AX¥nra2001 App2=C:¥AX_ONDESK¥AX¥nra2001 App3=C:¥KENTA_W	Folder of external execution file Please set up App3 after installation.
[EXTERNAL_PROCESS_TITLE] App1= Virtual IO App2= Virtual TP App3= Virtual ROBOT	Title of external execution file

Anything except [EXTERNAL_PROCESS_FOLDER] shall not be changed.

Contents of IoPnanel.ini

All is reserved with AX on Desk system. Nothing shall be changed.

Contents of KentaV98.ini

Names of robot model, tool model and work model displayed with Kenta Viewer are described.
For its details, see “Operating Manual of Robot Viewer” attached to the install CD.

Contents of shortcut “AXonDesk”

C:¥AX_ONDESK is an install folder.
Its succeeding part of [NRA2001¥NRA2001.EXE – M - A] shall not be changed.

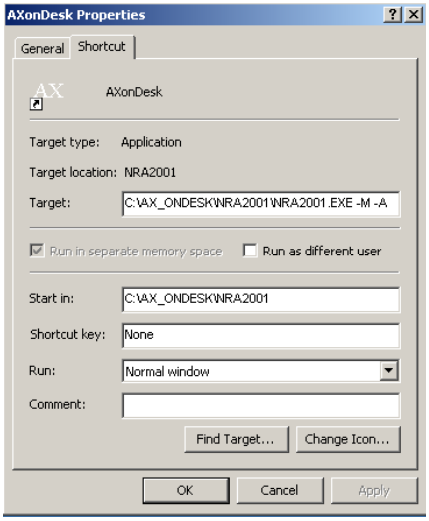


Figure2-1 Shortcut of AX on Desk

2.3. Folder Structures

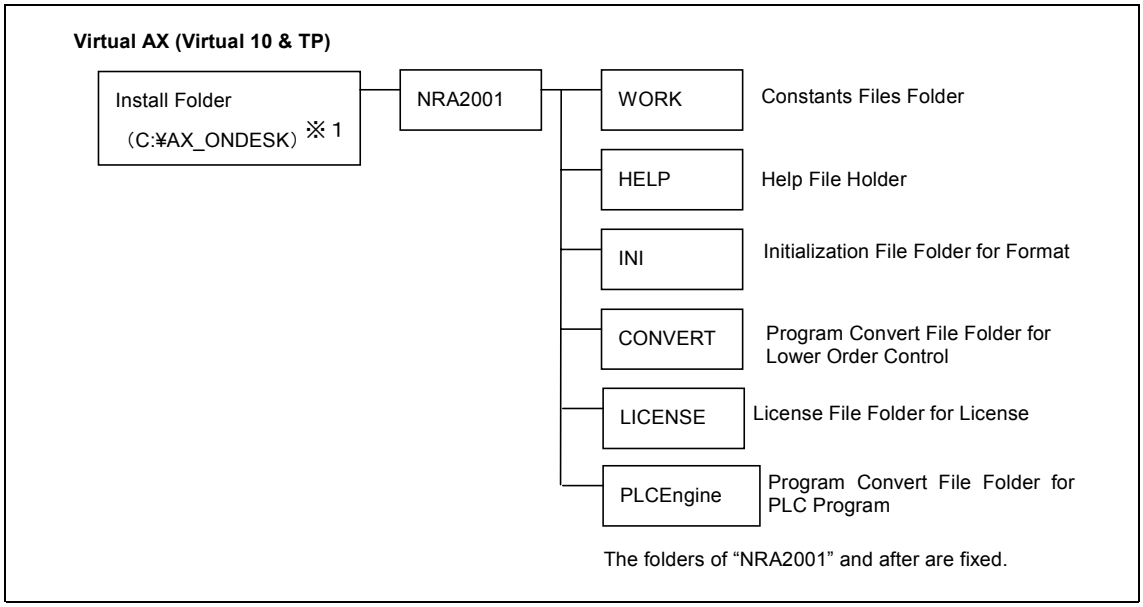


Figure2-2 Components of AX on DESK Folder

* 1. This Folder is the one which selected at the time of its installation.

3. Virtual AX

Virtual AX shows exactly the same display as in the Teach Pendant of AX Controller.
This window displays it **only on the upper left side**, and it cannot be transferred to other locations by a mouse.
The size is fixed to **640 x 800** .

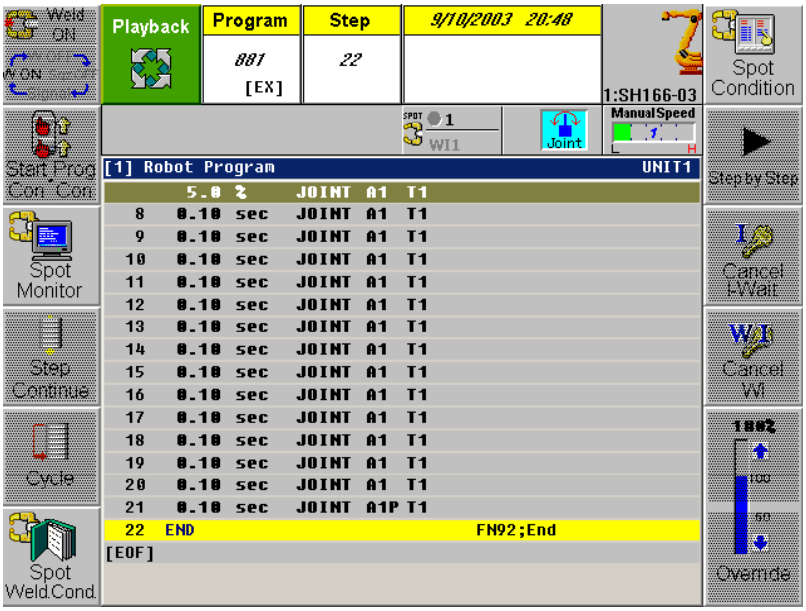


Figure 3-1 An Example of Virtual AX Display

Operation

Virtual AX is operated with “Virtual TP” or keyboard /mouse. For the operational methods, see the section “Basic Operation” and others of Operating Manual of AX Controller.

F-key operation

Press F1 to F12 on the keyboard or click by a mouse in selecting icons on the both sides.
F1 to F6 are laid out down from the upper left side while F7 to F12 from the upper right side.

Mouse operation

Clicking on icons by a mouse can be just as if it is operated by a teach pendant with touch-panel. (But it is not valid to all the screens, therefore arrow keys of “Virtual TP” and cursor keys on the keyboard shall be used)

Version

AX on Desk version is displayed on the self-diagnosis screen (progress bar indicated screen) at the startup.
For software version of AX Controller, see Service and System Environments.

If the key ESC is pressed in this window, virtual AX and all of AX on Desk as well are terminated.
Be careful that there is no display of a message confirming the termination.

4. Virtual TP

Virtual TP has the function equivalent to Teach Pendant of AX Controller.

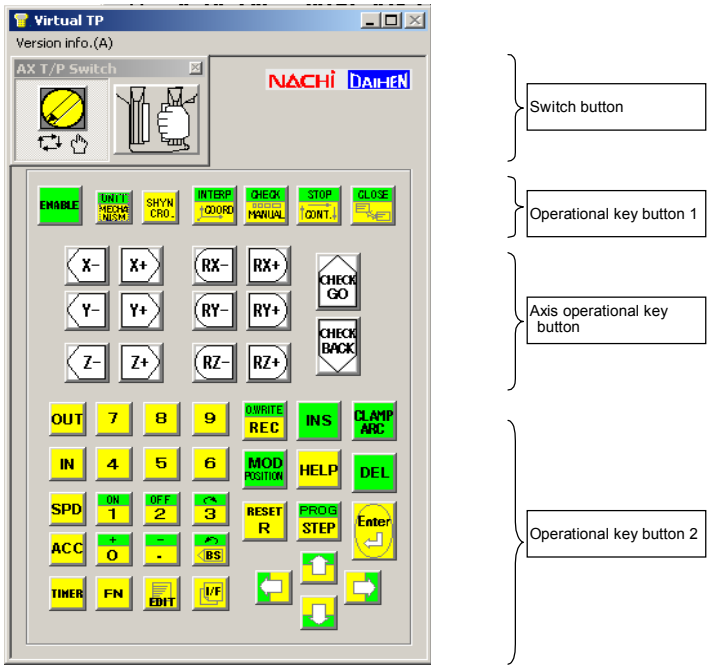


Figure 4-1 Virtual TP

Operation

Click on the button (icon) by a mouse. In the case of simultaneous press (green color) with Enable, click on the button after having pressed Enable. Click Enable, it changes to Enable valid (red color). And click again it, it reverts to Enable invalid (green color).

For its operational method, see “Basic Operation” of Operating Manual of AX Controller, and others.

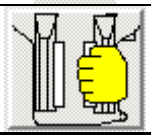
Note:

More than two-digit values can not be input through Virtual TP on Constants Set Menu and others.
Use the keyboard for input in this case, and confirm the input with Enter key after inputting figures.

4.1. Function of Switch Buttons

The switch buttons of Virtual TP have the following functions:

Table 4-1 Function of Switch Buttons

Appearance	Functions
	Teach Mode and Playback Mode are changed by turns through combination with [Mode Changeover Switch] of Virtual I O.
	It is used if a robot is moved by hand operation on Teach Mode. Hand color becomes yellow at the state of ON (Operation is ready “ON”). Hand operation of a robot is possible at the “ON”, but impossible at the “OFF”.

4.2. Function of Operational Key Buttons

For the keys of Teach Pendant, see “Basic Operation” of Operating Manual of AX Controller.

4.3. Correspondence between Keyboard and AX Teach Pendant

Besides clicks on Virtual TP by a mouse, direct input can be possible through the keyboard.
Such keys as f-keys, figure-keys and cursor-keys, in particular, are useful.
The correspondence between keyboard and AX Teach Pendant are shown in the following;

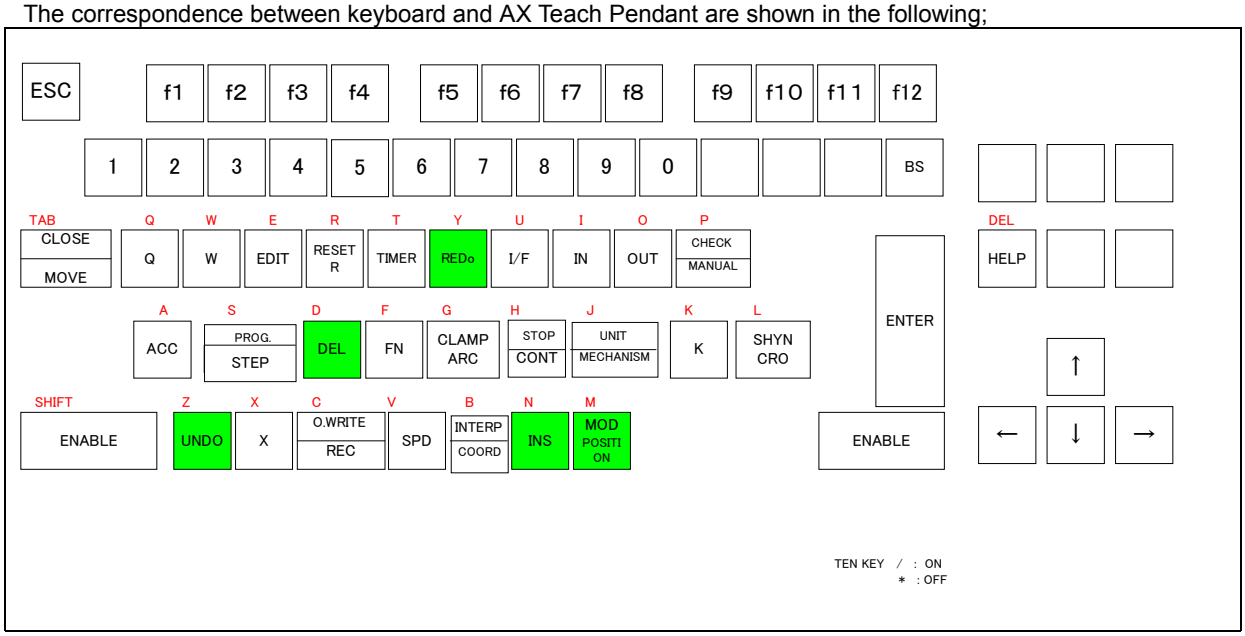


Figure 4−2 Correlation with Keyboard

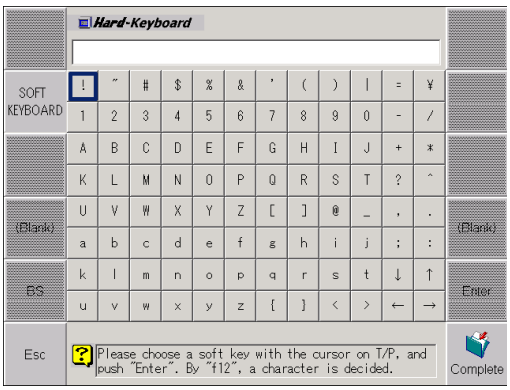
4.4. Character Input Screen (Applicable V2.00 and After)

There are two methods for inputting character line on the character input screen of AX on DESK. Choose an appropriate method based on users’ needs.

1. To input character line on the soft keyboard by Virtual TP.
2. To input directly character line on the keyboard by use of PC keyboard.

Change a keyboard to be used by use of F2 key. Press [Hard Keyboard], it changed to PC keyboard, while pressing [Soft Keyboard] to the soft keyboard

Figure 4−3 Character Input Screen



・Soft-Keyboard

is displayed on the upper left side in selecting soft-keyboards. Characters are selected by use of arrow keys of Virtual TP and they are input by pressing [Enter].

・Hard-Keyboard

is displayed on the upper left side in selecting soft-keyboards. Characters are input by use of the PC keyboard. Change of input mode for input kana, kanji and alphabet shall be changed by using kana-kanji processor (IME). Input by Virtual TP is changed to the keyboard input.

5. Virtual I O

Virtual I O does ON/OFF operation of signal attributes of AX Controller with monitor display.
It consists of three functional components; “Operational panel” always displayed on the upper side, “General-purpose signal attributes” and “Fixed signal attributes”, both of which are displayed by changes of the menu.

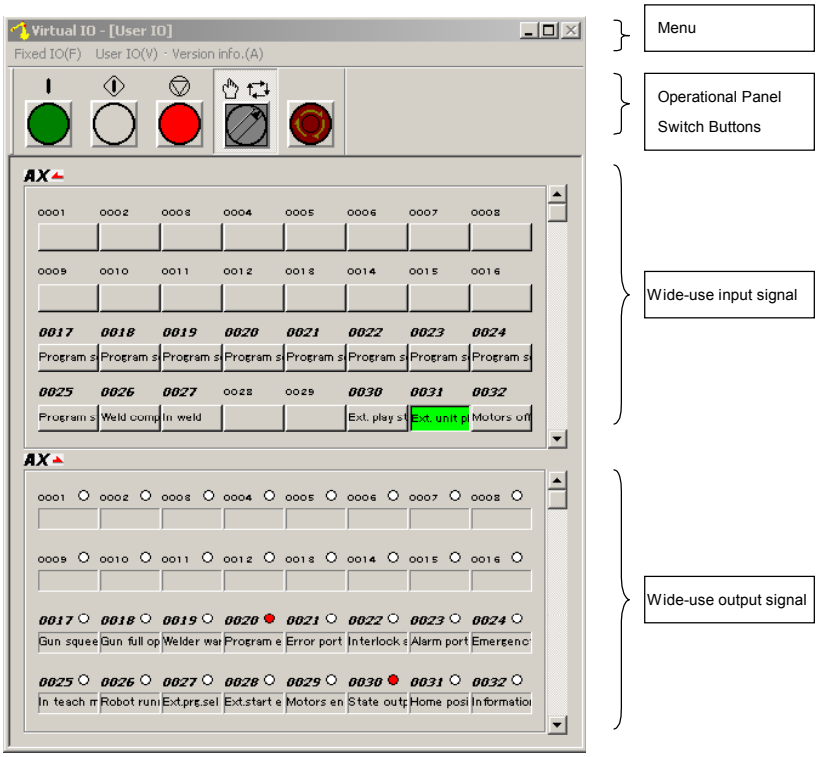


Figure 5-1 Virtual I O

5.1. Operational Panel

Operational panel located in AX Controller is handled here. It is always displayed on the window of Virtual I O.

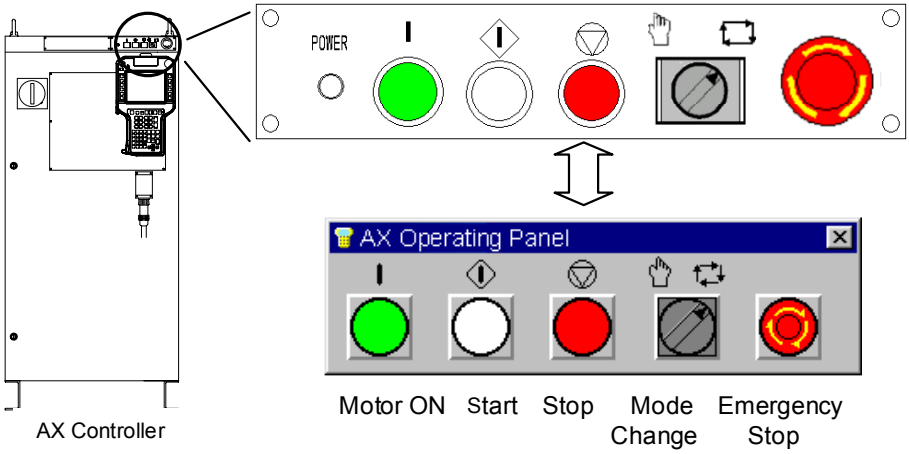


Figure 5-2 Virtual I O: Operational Panel

Operation

Click on the buttons (icons) is done by a mouse. Input signal can be operated by ON/OFF switch.
The emergency stop button is switched to Lock/ Release alternatively every time clicking on it.

5.2. General- Purpose I / O Signal

Click on the general –purpose signal attributes through menu 

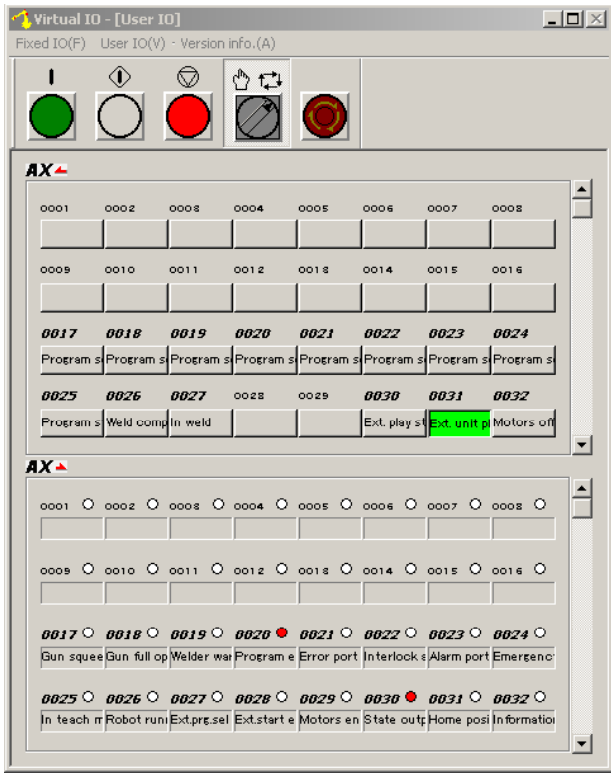


Figure 5-3 Virtual I O: General- Purpose Signal Attributes

Operation

Click on the buttons (icons) is done by a mouse. Input signal is operated by ON/OFF switch.
AX indicates input signal, while、AX indicates output signal.
The horizontal scroll bar located in the right side can display signal 1~2048.

The bold numbers indicate signals laid out in the status signals.

A guide message is displayed when the mouse is transferred to buttons or lamps.
It is very useful that I / O signal information to be laid out in Virtual AX is reflected in Virtual I O.
When the above signal information is again laid out, the display is refreshed if once the fixed I / O signal are displayed and again the general- purpose I / O signal are displayed.

5.3. Fixed I / O Signal

Click on the fixed I / O signal through Menu Fixed IO(F) User IO(V) · Version info.(A)

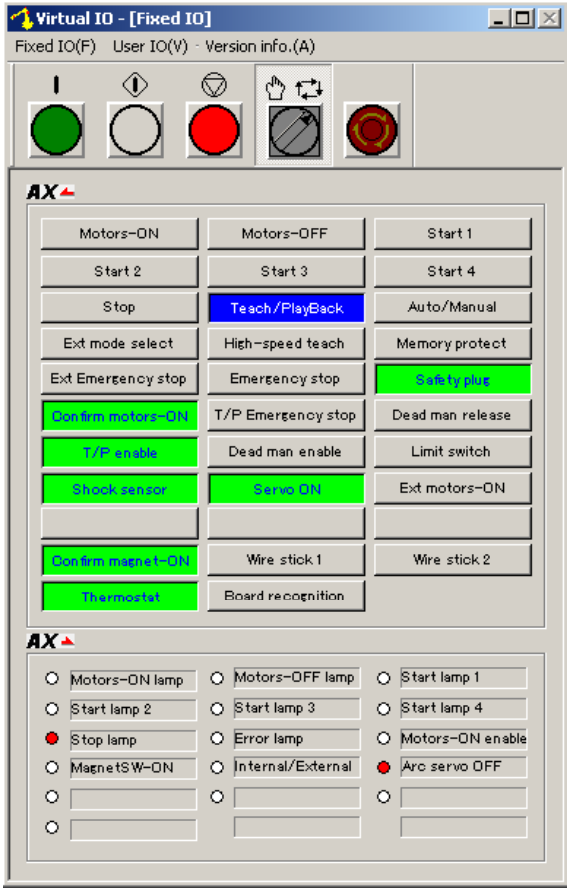


Figure 5-4 Virtual I O : Fixed Signal Attributes

Operation

Click on the buttons (icons) is done by a mouse. Input signal is operated by ON/OFF switch.
AX indicates input signal, while AX indicates output signal.

There is no need to change state of ON/OFF under usual conditions, as there are only fixed I / O signals (signals used for cabinet sequence) of AX controller.

5.4. Version Information

Click on the version information through Menu Fixed IO(F) User IO(V) · Version info.(A)

The version of AX on Desk is displayed.

6. Setup of Options

6.1. Setup of options for AX on DESK (Applicable to V2.00 and after)

Options for AX on DESK can be freely changed accordance with customers' usage. Operators shall have qualifications of ***Specialists*** and above. For detailed qualifications of operators, see chapter 4 of "Up to startup of a robot" of Operating Manual of AX Controller.

Qualifications of operators are:

Special functions or menus can be non-indicated or indicated oppositely in accordance with skills of robot-operators with setup of operator qualifications.

Table 6.1 Category of Operator Qualifications

Qualifications of Operators	Applicable Operators	Contents
Beginner	Beginners' class Operators	It is set for beginners of robots or operators who operate only for start-up of robots in a factory.
User	Average class operators	It is set for operators who operate robots to a certain extent.
Expert	Expert operators	It is set for operators who are in charge of maintaining robots.
Specialist	Senior expert operators	It is set for only a part of special operators among ***Expert*** operators.

Table 6.2 Limited Functions by Categorical Qualifications

Operator Qualification / Limited functions	***Beginner***	***User***	***Expert***	***Specialist***
General operation	○	○	○	○
Constants setting	×	△	○	○
Functions and maintenance works calling for specialty knowledge	×	×	○	○
Setting of optional functions	×	×	×	○

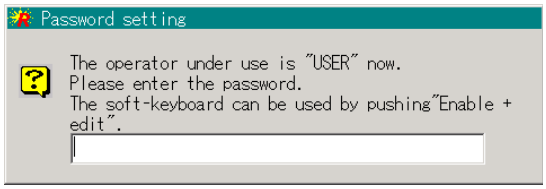
○ : Possible × : Impossible △ : Partly non-indication

Change of operators' qualifications

1 **Press [Reset/R]**
>> List of shortcut code is displayed.

314 → Enter

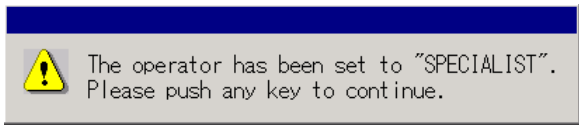
2 **Input "314" with numerical input keys and press [Enter].**
>> Password input screen is displayed.
Qualification of a present operator can be confirmed on this screen.



3 **Input a password for *Specialist* and press [Enter].**
For example, press "1 2 3 4 5" [Enter] in the case of initial password of Specialist.

Pass-word → Enter

>> Qualification of the operator is changed.



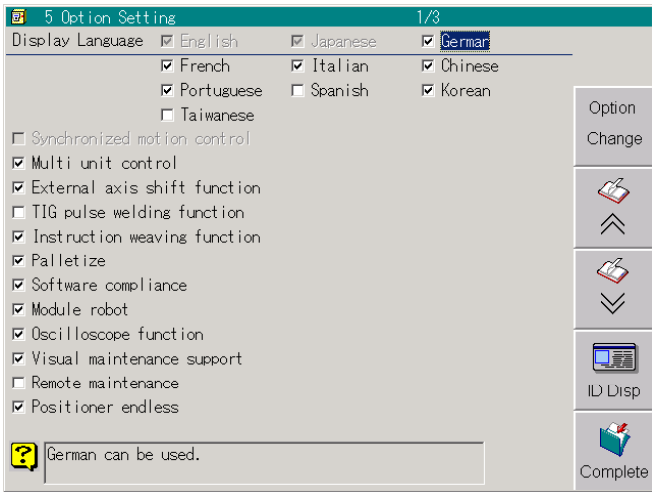
If any key is pressed, the previous screen is reverted.

Operational procedure of setting up of Options

1 **Select the teaching mode.**

Constant Setting

2 **Select [Constants] and press [1 Control Environments] → [5 Options].**
>> The following Options input screen is displayed.

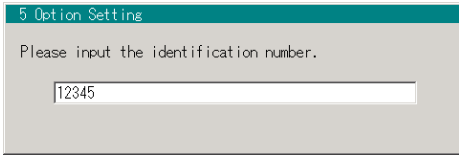


Option Change

3. Press [Option Change].

12345

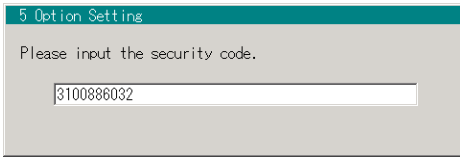
Input numerical values of [12345] and press [Enter], since the following dialog is displayed.



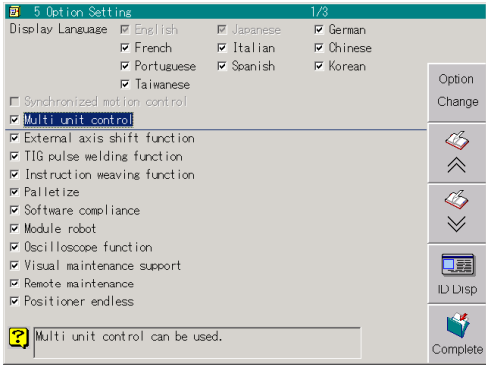
Enter

31008
86032

Next, input numerical values of [3100886032] and press [Enter], since the following dialog is displayed.



Enter



>> The following Option Input screen is displayed.

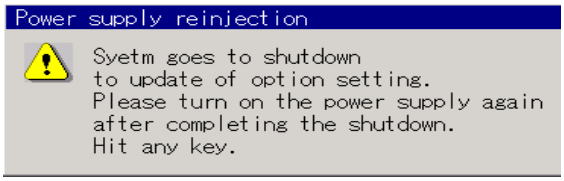
ENABLE + ON 1

ENABLE + OFF 2

Move the cursor to the Option to be desired and enable the setting to be valid with the key of [Enable + ON] and to be invalid with the key of [Enable + OFF].
On DESK

Complete

Press [Complete] after completing the setting. The following dialog is displayed and the Option is set up.



RESET R

Press [Reset] and go back to the constants screen. Setting up of the option is finished as above.

Important

Optional setting of AX controller is applied if the registry is restored in AXONDESK with back-up by AX controller.
The registry set up AXONDESK can not be restored in AX controller.
An option of display language can not be corresponded.

7 . Printing function of PLC program

7.1. Printing Function of PLC Program (Applicable to V2.00 and After)

In the case of AX on DESK, PLC program prepared can be printed by a printer in use. For editing operation of PLC program and program preparation, see “Software PLC” of Operating Manual of AX Controller.

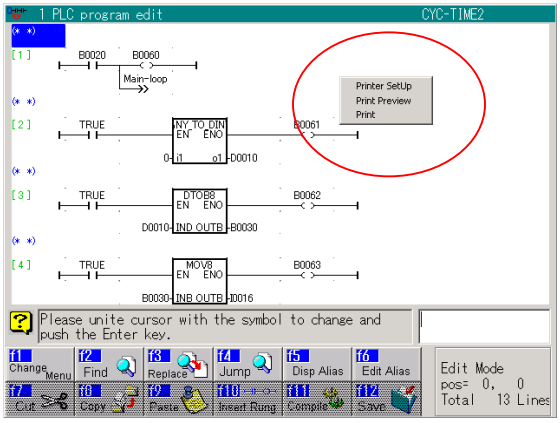
Operational procedure for printing PLC program

1 **Select teaching mode**

2 **Select [Service] and press [14 PLC Program]→[1 PLC Program Editing].**

3 **Select a file which is desired to be printed.**

4 **Right-click the mouse on the window where ladders are displayed on the editing screen. The following dialog appears.**



5 **Select the menu with the mouse.**

Setting up of a printer	**A printer is set up.**
Print preview	**Print preview is displayed,**
Printing	**To be output into the printer having set up for printing.**

Important

More than one PLC programs can not be displayed or printed simultaneously.
Print images and print previews can be different according to models of printers.

8. Interface Panel Function

8.1. Interface Panel Function (Applicable to V2.00 and after)

The interface panel function is intended to support interlocks with line controllers or controls of peripheral units with push buttons or lamps laid out in touch panel teaching pendants. Arrangement of manipulation switches or display lamps, of which functions have been performed with hardware circuits, in touch panel teaching pendants can contribute to cost reductions. For the on-DESK, interface panels can be edited and checked. For its details, see “Interface Panel Functions” of Operating Manual of AX Controller.

* Touch panel teaching pendant is an option.

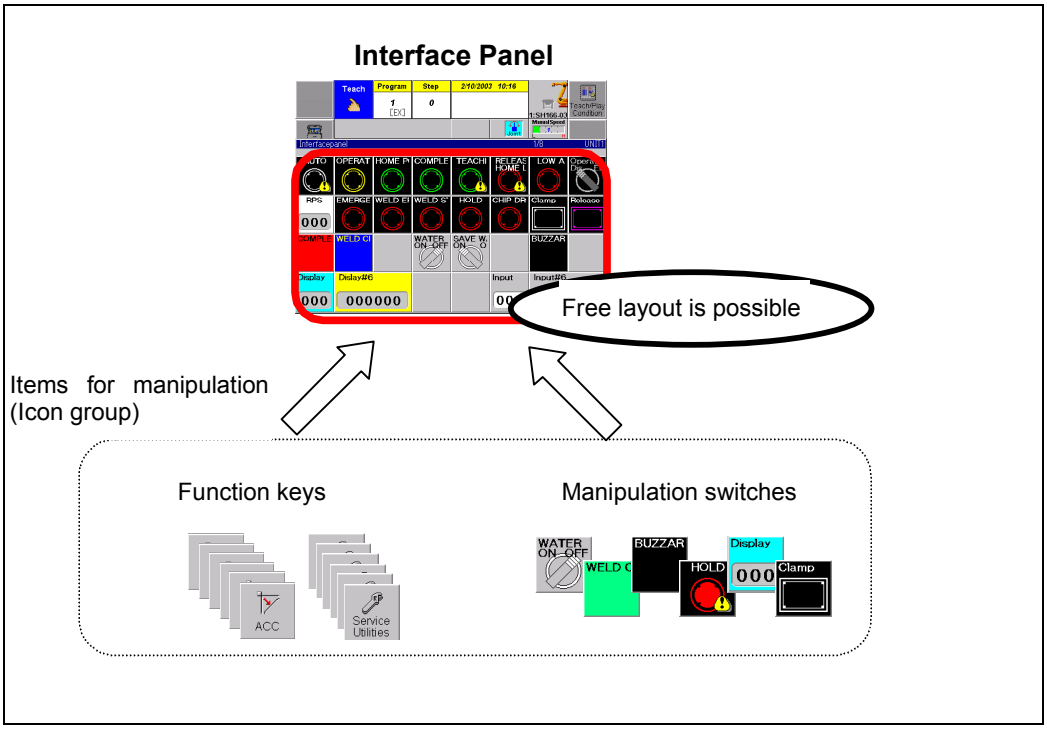
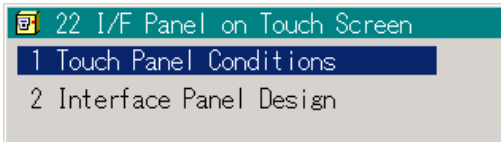


Figure 8. 1 Outline of Interface Panel Functions

Basic operation of designing manipulation switches (Applicable to V2.00 and after)

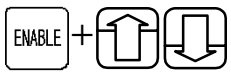
A method for laying out manipulation switches to be designed one by one on the interface panel screen

1 **Set Constants setting by teaching mode.**
Select "22 Interface Panel Conditions Setting" from the displayed menu.
>> Constants menu for Interface Panel is displayed.



2 **Select "2 Interface Panel Design"**
>> The following screen of designing manipulation switches (at-sight screen) is displayed (This example of display indicates that some settings is already finished. All keys are set to "without function" at initial states).

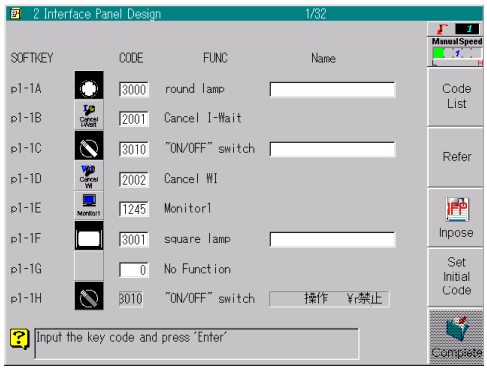
Key layout numbers are displayed in Page No. - Position No. on the left side, and main data like outward appearance and names, are displayed on the right side.
Detailed setting can not be displayed on this screen.



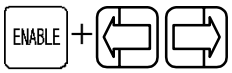
3 **A list covering (P1 - 1A) on the upper left side of the first screen to (P8 - 4H) on the lower right side can be changed with the keys of [Enable] + "Up and Down Cursor".**

Numerical Value

4 **First set the cursor to “Code” and input types of manipulation switches to be laid out in these positions (lamps, push buttons or functions keys) by numerical values.**
For code numbers to be input, see a code list of the Operating Manual.
“0” is Without Function (only dark background color is displayed).
>> If inputting, its title appears on the “Function” column of the right side.

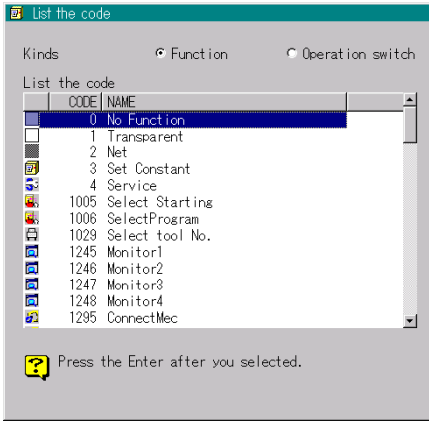


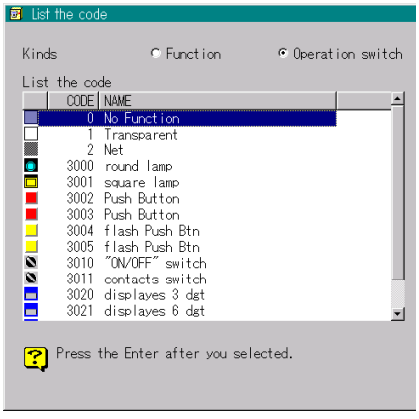
5 **Push the f 8 key of [Code List] if a code number to be input is not known.**
There are two types of code list: one is a group of “manipulation switches” such as lamps and push buttons and the other is a group of “functions” which are arranged on the both sides of mode screen.
They can be laid out on the interface panel screen with either type of keys for AX controller.

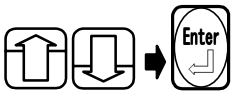


Displayed lists can be changed with radio buttons on the upper part to be changed through keys of [Enable] + [Right and Left Cursor].

Types=Types of functions=Functions	Types=Types of manipulation switches= Manipulation switches
F keys on the both side of mode screen	Lamps or push buttons

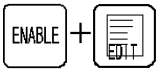






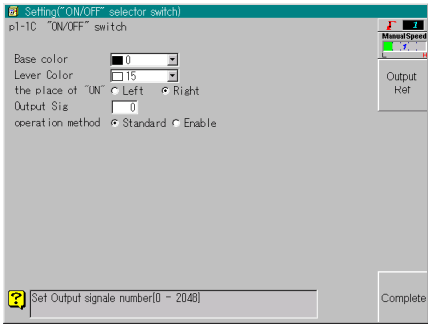
Select code numbers to be desired with the key of [UP and Down Cursor] and push [Enter] key. Code numbers having selected are input.

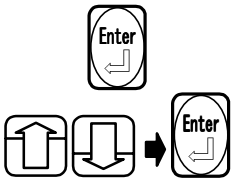
The previous set screen can be reverted if [Reset] key is pressed.



6 Move the cursor to "Names (standard)" and input names to be displayed.
Keyboards can start up with [Enable] + [Edit].
>> Names which can be registered less than 16 full-size characters and 32 half-size characters respectively.≫

7 Next set up detailed dada except names or character sizes.
Move the cursor to the line desired and press the f 9 [Refer] key.
>> The following detailed setup screen of manipulation switches is displayed.





8 Move the cursor to "Colors" and press [Enter] key.
Alternatives of 16 colors for choosing are displayed. Select desired colors among these alternatives with [Up and Down Cursor] and press [Enter].
Set up colors for ON and OFF respectively for a round type of lamps.

Table 0.1 List of Colors

Color No.	Color Name	Color No.	Color Name
0	Black	8	Medium gray
1	Dark red	9	Red
2	Dark green	10	Green
3	Dark yellow	11	Yellow
4	Dark blue	12	Blue
5	Dark magenta	13	Magenta
6	Dark cyanogens	14	Cyanogens
7	Light gray	15	White

Numerical Value

9 Next signal attributes are set up.
Move the cursor to "Input Signal to be Displayed" or "Output Signal to be Displayed" and input signal numbers.
Theoretically logical input signals are laid out in IF panel inputs like lamps or displays, while logical output signals are laid out in the IF panel inputs like push buttons or select switches.

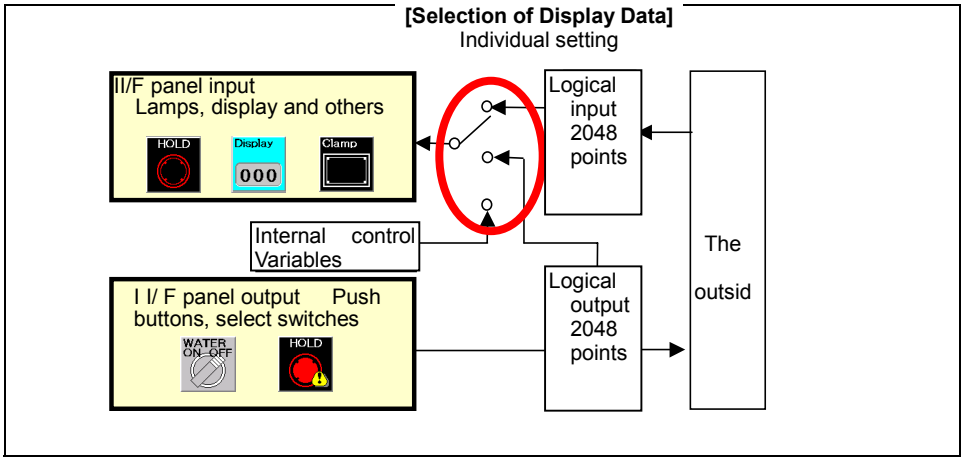
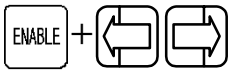


Figure 8.2 Concept of Interface Panel Signal Attributes

If “0” are set to signal number, input/output are not executed (only display of manipulation switches).



10 **Move the cursor to the final “! Mark Display” and specify a method for “! Mark Display”.**
This is a convenient function of interface panel applicable only to part of IF panel inputs.
For example, operators can distinguish at sight what switch is different from a switch with normal states if “! Mark” is displayed in case of opposite states of OFF under the condition that a state of normal operation is ON.

Setting	Contents
No-display	! Mark is not displayed.
ON	At the time signal attributes to be displayed are ON, “! Mark” is displayed.
OFF	At the time signal attributes to be displayed are OFF, “! Mark” is displayed.

11 **Press f 12 key of [Complete] if setting is finished.**
>> Reverting to the above **4** of at-sight display screen.
Contents having been set on the detailed setting screen have been reflected and they are not yet stored in files.

12 **All manipulation switches for all screens desired to be used are set up in the same procedure.**

And the position of top right side of all pages is laid out fixedly for permit /prohibit select switches.
Deleting and changing are not possible.

13 **Press the f 12 key of [Complete] after completion of setting.**
The contents of the setting are written in constants files (I/O constants files SSIGL.CON and controller general constants files **CTRL.CON).**
(Press [Reset] key in the case of suspension of editing work halfway)

The following contents are checked at the time of writing.
If being compatible to either of the following cases, the respective message is displayed and the contents of the setting are not stored in files. Revise the setup contents and store again them.

- A case where despite selecting the item to use more than one soft-key areas, other item has been set in the respective area,

- A case where an icon with a condition of occupying two blocks in the horizontal direction is tried to be laid out in the H row (the rightmost row).