YASKAWA

YRC1000micro
SETUP PROCEDURE MANUAL
STANDARD SYSTEM

Upon receipt of the product and prior to initial operation, read these instructions thoroughly, and retain for future reference.

MOTOMAN INSTRUCTIONS

MOTOMAN-□□□ INSTRUCTIONS
YRC1000micro INSTRUCTIONS
YRC1000micro OPERATOR'S MANUAL
YRC1000micro MAINTENANCE MANUAL
YRC1000micro ALARM CODES (MAJOR ALARMS) (MINOR ALARMS)

The YRC1000micro alarm codes above consists of "MAJOR ALARMS" and "MINOR ALARMS".

Please have the following information available when contacting Yaskawa Customer Support:
- System
- Primary Application
- Software Version *(Located on Programming Pendant by selecting: {Main Menu} - {System Info} - {Version})*
  Robot Serial Number *(Located on robot data plate)*
  Robot Sales Order Number *(Located on controller data plate)*

Part Number: 181262-1CD
Revision: 0

<table>
<tr><td>⚠ DANGER</td></tr>
</table>

- This manual explains the setup procedure (standard system) of the YRC1000micro system. Read this manual carefully and be sure to understand its contents before handling the YRC1000micro. Any matter not described in this manual must be regarded as "prohibited" or "improper".

- General information related to safety are described in "Chapter 1. Safety" of the YRC1000micro INSTRUCTIONS. To ensure correct and safe operation, carefully read "Chapter 1. Safety" of the YRC1000micro INSTRUCTIONS.

<table>
<tr><td>⚠ CAUTION</td></tr>
</table>

- In some drawings in this manual, protective covers or shields are removed to show details. Make sure that all the covers or shields are installed in place before operating this product.

- YASKAWA is not responsible for incidents arising from unauthorized modification of its products. Unauthorized modification voids the product warranty.

<table>
<tr><td>NOTICE</td></tr>
</table>

- The drawings and photos in this manual are representative examples and differences may exist between them and the delivered product.

- YASKAWA may modify this model without notice when necessary due to product improvements, modifications, or changes in specifications. If such modification is made, the manual number will also be revised.

- If your copy of the manual is damaged or lost, contact a YASKAWA representative to order a new copy. The representatives are listed on the back cover. Be sure to tell the representative the manual number listed on the front cover.

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Notes for Safe Operation

Read this manual carefully before installation, operation, maintenance, or inspection of the YRC1000micro.

In this manual, the Notes for Safe Operation are classified as "DANGER", "WARNING", "CAUTION", or "NOTICE".

⚠ DANGER	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. Safety Signs identified by the signal word DANGER should be used sparingly and only for those situations presenting the most serious hazards.
⚠ WARNING	Indicates a potentially hazardous situation which, if not avoided, will result in death or serious injury. Hazards identified by the signal word WARNING present a lesser degree of risk of injury or death than those identified by the signal word DANGER.
⚠ CAUTION	Indicates a hazardous situation, which if not avoided, could result in minor or moderate injury. It may also be used without the safety alert symbol as an alternative to "NOTICE".
NOTICE	NOTICE is the preferred signal word to address practices not related to personal injury. The safety alert symbol should not be used with this signal word. As an alternative to "NOTICE", the word "CAUTION" without the safety alert symbol may be used to indicate a message not related to personal injury.

Even items described as "CAUTION" may result in a serious accident in some situations.
At any rate, be sure to follow these important items.

> **NOTE** To ensure safe and efficient operation at all times, be sure to follow all instructions, even if not designated as "DANGER", "WARNING" and "CAUTION".

<table>
<tr><td colspan="2" align="center">⚠️ **DANGER**</td></tr>
<tr><td colspan="2">

- Before operating the manipulator, make sure the servo power is turned OFF by performing the following operations. When the servo power is turned OFF, the SERVO ON LED on the programming pendant is turned OFF.
  - Press the emergency stop button on the programming pendant or on the external control device, etc.
  - Disconnect the safety plug of the safety fence. (when in the play mode or in the remote mode)

If operation of the manipulator cannot be stopped in an emergency, personal injury and/or equipment damage may result.

Fig. : Emergency Stop Button

- Before releasing the emergency stop, make sure to remove the obstacle or error caused the emergency stop, if any, and then turn the servo power ON.

Failure to observe this instruction may cause unintended movement of the manipulator, which may result in personal injury.

Fig. : Release of Emergency Stop

TURN

- Observe the following precautions when performing a teaching operation within the manipulator's operating range:
  - Be sure to perform lockout by putting a lockout device on the safety fence when going into the area enclosed by the safety fence. In addition, the operator of the teaching operation must display the sign that the operation is being performed so that no other person closes the safety fence.
  - View the manipulator from the front whenever possible.
  - Always follow the predetermined operating procedure.
  - Always keep in mind emergency response measures against the manipulator's unexpected movement toward a person.
  - Ensure a safe place to retreat in case of emergency.

Failure to observe this instruction may cause improper or unintended movement of the manipulator, which may result in personal injury.

- Confirm that no person is present in the manipulator's operating range and that the operator is in a safe location before:
  - Turning ON the YRC1000micro power
  - Moving the manipulator by using the programming pendant
  - Running the system in the check mode
  - Performing automatic operations

Personal injury may result if a person enters the manipulator's operating range during operation. Immediately press an emergency stop button whenever there is a problem. The emergency stop button is located on the right of the programming pendant.

- Read and understand the Explanation of the Warning Labels before operating the manipulator.

</td></tr>
</table>

iv

<div align="center">

⚠ DANGER

</div>

- In the case of not using the programming pendant, be sure to supply the emergency stop button on the equipment. Then before operating the manipulator, check to be sure that the servo power is turned OFF by pressing the emergency stop button.
  Connect the external emergency stop button to the 4-14 pin and 5-15 pin of the Safety connector (Safety).

- Upon shipment of the YRC1000micro, this signal is connected by a jumper cable in the dummy connector. To use the signal, make sure to supply a new connector, and then input it.

If the signal is input with the jumper cable connected, it does not function, which may result in personal injury or equipment damage.

<div align="center">

⚠ WARNING

</div>

- Perform the following inspection procedures prior to conducting manipulator teaching. If there is any problem, immediately take necessary steps to solve it, such as maintenance and repair.

  – Check for a problem in manipulator movement.

  – Check for damage to insulation and sheathing of external wires.

- Return the programming pendant to a safe place after use.

If the programming pendant is left unattended on the manipulator, on a fixture, or on the floor, etc., the Enable Switch may be activated due to surface irregularities of where it is left, and the servo power may be turned ON. In addition, in case the operation of the manipulator starts, the manipulator or the tool may hit the programming pendant left unattended, which may result in personal injury and/or equipment damage.

Definition of Terms Used Often in This Manual

The MOTOMAN is the YASKAWA industrial robot product.

The MOTOMAN usually consists of the manipulator, the YRC1000micro controller, manipulator cables, the YRC1000micro programming pendant (optional), and the YRC1000micro programming pendant dummy connector (optional).

In this manual, the equipment is designated as follows:

Equipment	Manual Designation
YRC1000micro controller	YRC1000micro
YRC1000micro programming pendant	Programming pendant (optional)
Cable between the manipulator and the controller	Manipulator cable
YRC1000micro programming pendant dummy connector	Programming pendant dummy connector (optional)

Descriptions of the programming pendant keys, buttons, and displays are shown as follows:

Equipment		Manual Designation
Programming Pendant	Character Keys /Symbol Keys	The keys which have characters or symbols printed on them are denoted with [ ]. ex. [ENTER]
	Axis Keys /Number Keys	[Axis Key] and [Numeric Key] are generic names for the keys for axis operation and number input.
	Keys pressed simultaneously	When two keys are to be pressed simultaneously, the keys are shown with a "+" sign between them, ex. [SHIFT]+[COORD]
	Mode Key	Three kinds of modes that can be selected by the mode key are denoted as follows: REMOTE, PLAY, or TEACH
	Button	Three buttons on the upper side of the programming pendant are denoted as follows: HOLD button START button EMERGENCY STOP button
	Displays	The menu displayed in the programming pendant is denoted with { }. e.g. {JOB}
PC Keyboard		The name of the key is denoted. e.g. Ctrl key on the keyboard

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Description of the Operation Procedure

In the explanation of the operation procedure, the expression "Select • • • " means that the cursor is moved to the object item and [SELECT] is pressed, or that the item is directly selected by touching the screen.

Registered Trademark

In this manual, names of companies, corporations, or products are trademarks, registered trademarks, or brand names for each company or corporation. The indications of (R) and ^{TM} are omitted.
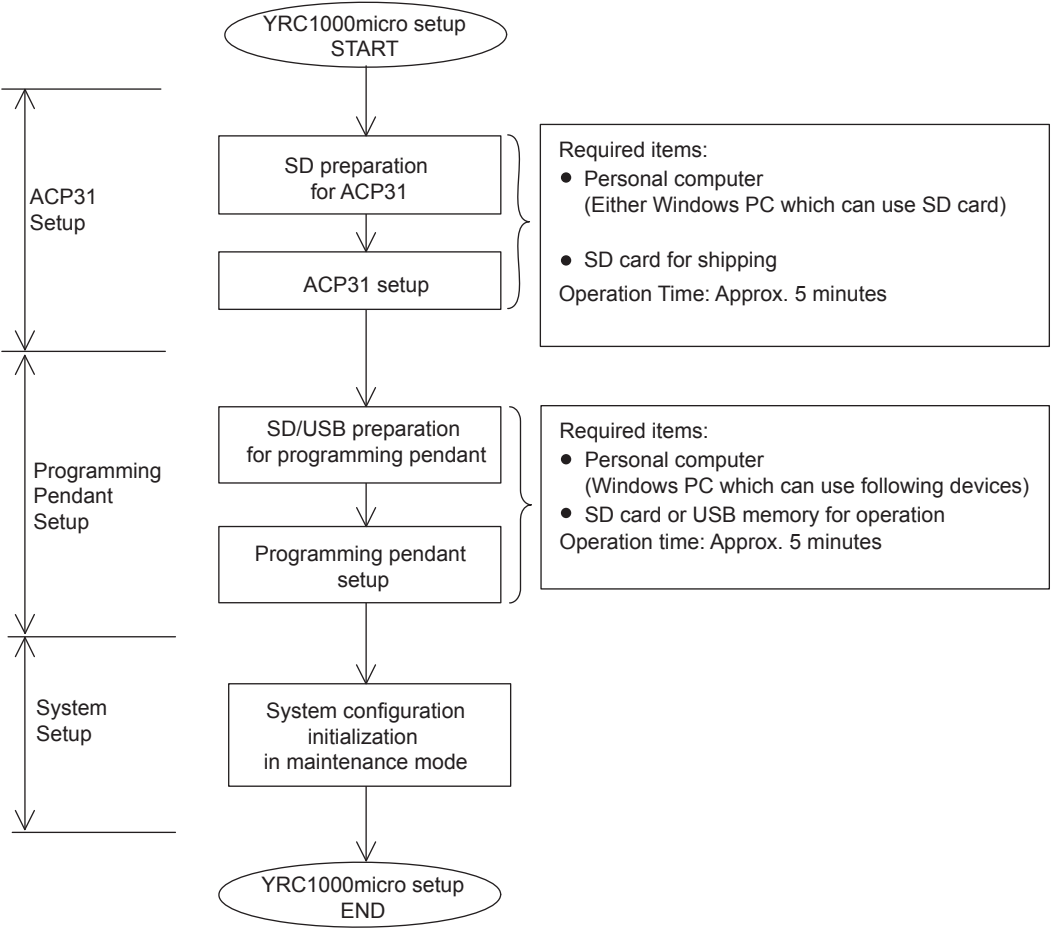
Contents

1   Overview of YRC1000micro Setup Procedure

The following flowchart overviews how to set up the YRC1000micro.

```
                        ┌──────────────────────┐
                        │  YRC1000micro setup  │
                        │        START         │
                        └──────────────────────┘
 ┌─                                │
 │                                 ▼
 │                  ┌─────────────────────────┐    ┌─────────────────────────────────────────┐
 │                  │      SD preparation     │    │ Required items:                          │
 ACP31             │        for ACP31        │    │ ● Personal computer                      │
 Setup              └─────────────────────────┘    │   (Either Windows PC which can use SD card)│
 │                                │                 │                                          │
 │                                ▼                 │ ● SD card for shipping                   │
 │                  ┌─────────────────────────┐    │ Operation Time: Approx. 5 minutes        │
 │                  │       ACP31 setup       │    │                                          │
 └─                 └─────────────────────────┘    └─────────────────────────────────────────┘
                                  │
 ┌─                               ▼
 │                  ┌─────────────────────────┐    ┌─────────────────────────────────────────┐
 │                  │    SD/USB preparation   │    │ Required items:                          │
 Programming        │ for programming pendant │    │ ● Personal computer                      │
 Pendant            └─────────────────────────┘    │   (Windows PC which can use following devices)│
 Setup                            │                 │ ● SD card or USB memory for operation    │
 │                                ▼                 │ Operation time: Approx. 5 minutes        │
 │                  ┌─────────────────────────┐    └─────────────────────────────────────────┘
 │                  │   Programming pendant   │
 └─                 │         setup           │
                    └─────────────────────────┘
 ┌─                               │
 │                                ▼
 │                  ┌─────────────────────────┐
 System             │   System configuration  │
 Setup              │      initialization     │
 │                  │    in maintenance mode  │
 └─                 └─────────────────────────┘
                                  │
                                  ▼
                        ┌──────────────────────┐
                        │  YRC1000micro setup  │
                        │         END          │
                        └──────────────────────┘
```

2   ACP31 Setup

Prepare the following items for the ACP31 setup operation.

- A personal computer: either Windows PC which can use SD card
- SD card for shipping

*The SD card used for ACP31 requires no pretreatment because it is already formatted by the SD card manufacturer.

2.1   Preparing the SD Card for ACP31

Followings are the data writing procedures into the shipping SD card which is to be mounted on ACP31 board.

1. Insert the SD card into the card reader.

2   ACP31 Setup
2.1   Preparing the SD Card for ACP31

2. Download the system software from the network. (The system
    software is uploaded in the network in advance.)
    An example is shown below when the system software is written in a
    CD-R.
    Insert a CD into the personal computer, and start up Explorer. Then
    select (double-click) "CD drive" or "DVD drive".
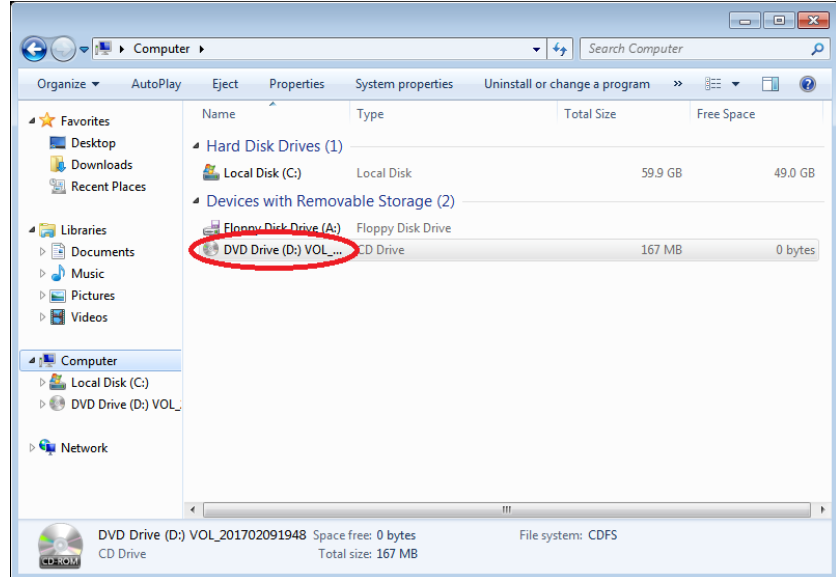
3. Select (double-click) the system software folder in the selected drive.
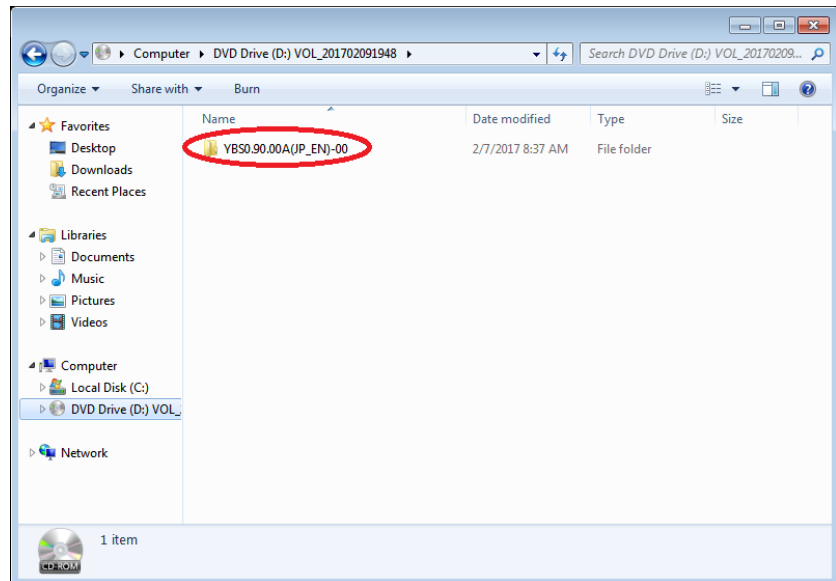
2   ACP31 Setup
2.1   Preparing the SD Card for ACP31

4.   Start up (double-click) "mk_vx_cf.exe" of the specified version.

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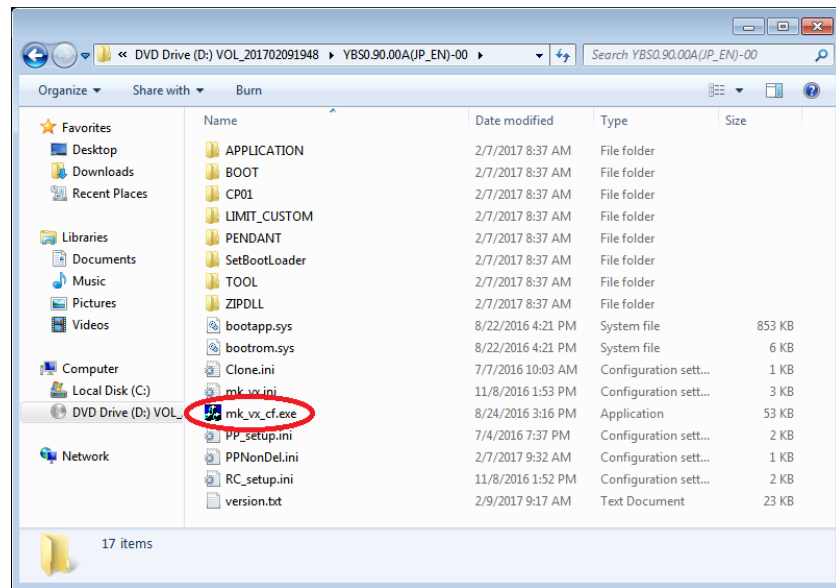
2   ACP31 Setup

2.1   Preparing the SD Card for ACP31

5. Confirm that the version described in the Software Modification Instructions and the version in the following window are the same. Then click "Set boot loader" check box and "Delete file" check box under "Operation," and click {START}.
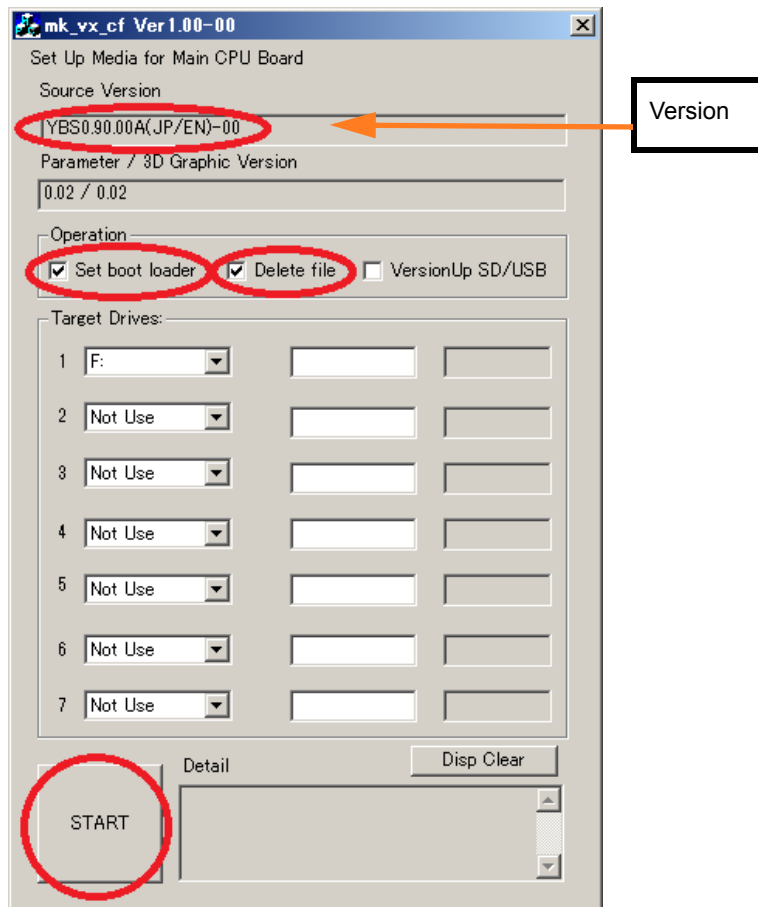
Version

<table>
<tr><td style="background-color:#0070c0; color:white; text-align:center; font-size:2em">NOTICE</td></tr>
</table>

- Never execute the following operations while data is being written into the SD card.

  – Do not remove the card reader from the personal computer.

  – Do not remove the SD card from the card reader.

  – Do not turn OFF the card reader power supply.

- Failure to observe these instructions may cause SD card failure.

The access lamp (LED) of the card reader blinks while the data is being written-in.
Do not remove the connection with the personal computer and with the SD card while the access lamp is blinking.

2   ACP31 Setup
2.1   Preparing the SD Card for ACP31

6. When the data has been written into the SD card successfully, "OK" is displayed in the second column under "Target Drives". To prepare seven SD cards, it takes approx. five minutes.
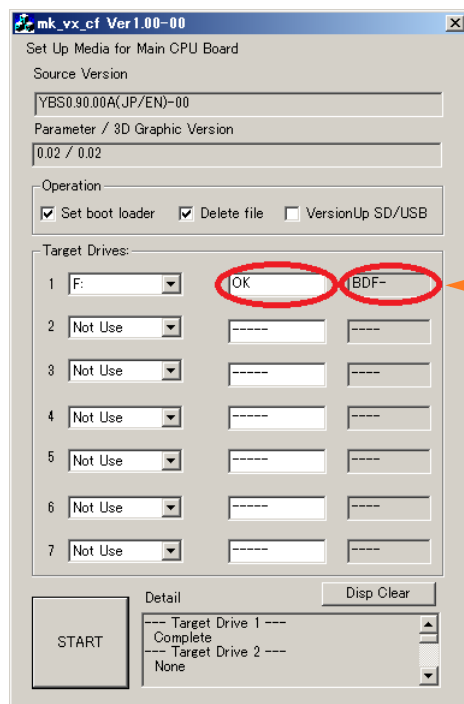
B: Boot sector write-in completed
D: File deletion completed
F: File copy completed
V: File copy completed (for version-up)
/ : Processing failed
–: Processing passed

NOTE Even if "OK" is displayed on the above mentioned window, the access lamp on the card reader may not stop blinking. Please check that the lamp is OFF before removing the SD card from the card reader.

SUPPLE-MENT "NG" is displayed if the SD card is not inserted correctly.
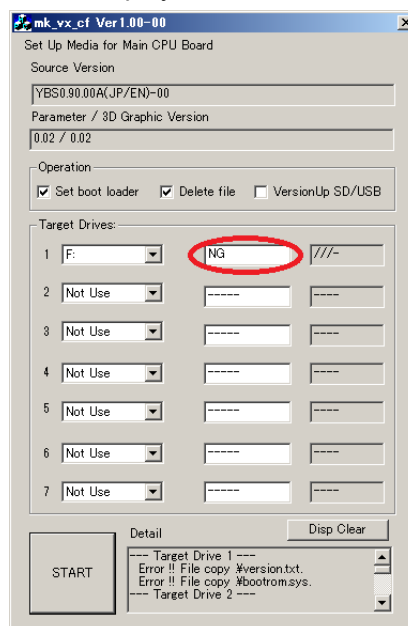
7. Remove the SD card from the card reader.

2.2 Setting Up the ACP31 Board

1. Insert the SD card prepared in *chapter 2.1 "Preparing the SD Card for ACP31"* into the ACP31 board.

<SD Card Slot on the ACP31 Board and Inserting Direction>

ACP31 Board SD Card Slot

Insert the SD card with this surface facing left.

SD
512MB

Inserting direction
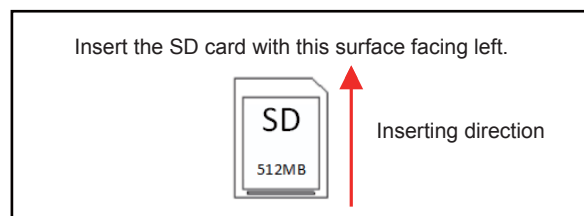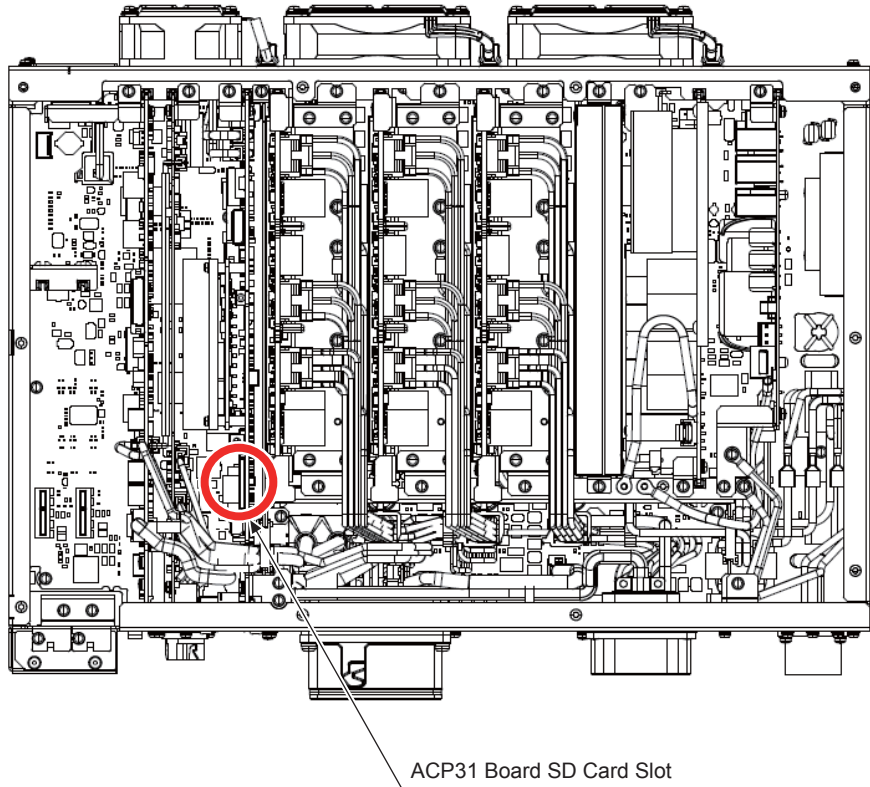
3   Programming Pendant Setup

Prepare the following items.
Setting up operation requires either SD card or USB memory (hereinafter referred to as "USB").

- A personal computer: Windows which can use SD card

- SD card or USB for operations [1) 2)]

1) The SD card and USB requires no pretreatment because it is already formatted by the manufacturer.
   If it should not read the data, format it with the following OS or file system before using.

PC OS	Windows 7		Windows 8		Windows 10	
File System	FAT	FAT32	FAT	FAT32	FAT	FAT32
SD card	○	○	○	○	○	○
USB	○	○	○	○	○	○

○: Available file system format

> **NOTE**   The device whose file system is formatted by exFAT is not available for setting up of the programming pendant.

2) Followings are the recommended SD card and USB.

<Recommended SD card>

No.	Manufacturer	Model	Note
1	Hagiwara Solutions Co., Ltd.	NSD6-512MS(P01SEI-YE	512MB
2	Hagiwara Solutions Co., Ltd.	NSD6-001GH(A01SDI	1GB
3	Hagiwara Solutions Co., Ltd.	NSD6-002GH(A01SDI	2GB
4	Hagiwara Solutions Co., Ltd.	NSD6-004GH(B20SEI	4GB
5	Hagiwara Solutions Co., Ltd.	NSD6-008GH(B20SEI	8GB
6	Hagiwara Solutions Co., Ltd.	NSD6-016GH(B20SEI	16GB
7	Hagiwara Solutions Co., Ltd.	NSD4-032GH(B00MG)	32GB

<Recommended USB>

No.	Manufacturer	Model	Note
1	Hagiwara Solutions Co., Ltd.	UDG4-xGDRJS	1 GB, 2GB, and 4 GB are available.

3.1   Preparing the SD Card/USB for Upgrading

Write the data into the "SD card/USB for operations" which is to be inserted into the programming pendant as follows:

1. For SD card, insert the SD card into the card reader, and insert the USB of the card reader into the arbitrary USB connector of the personal computer.
    For USB, insert the USB into the arbitrary USB connector of the personal computer.

<For SD card>

<For USB>
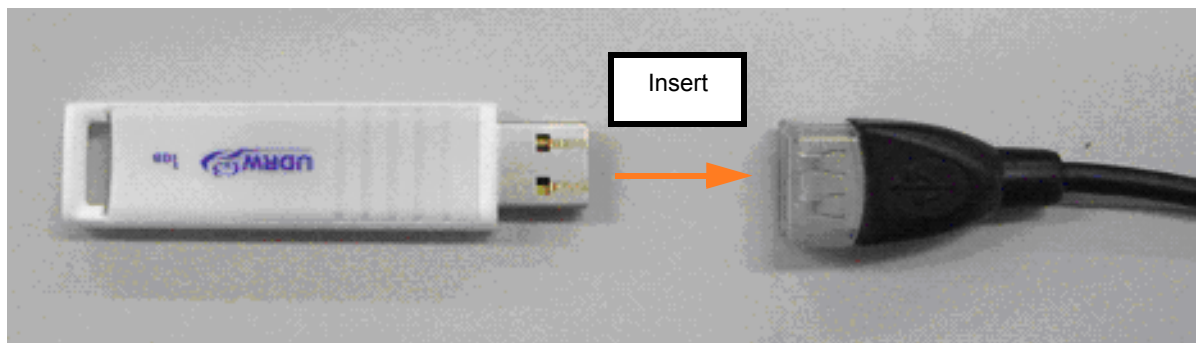
3 Programming Pendant Setup
3.1 Preparing the SD Card/USB for Upgrading

2. Download the system software from the network. (The system software is uploaded in the network in advance.)
An example is shown below when the system software is written in a CD-R.
Insert a CD into the personal computer, and start up Explorer. Then select (double-click) "CD drive" or "DVD drive".
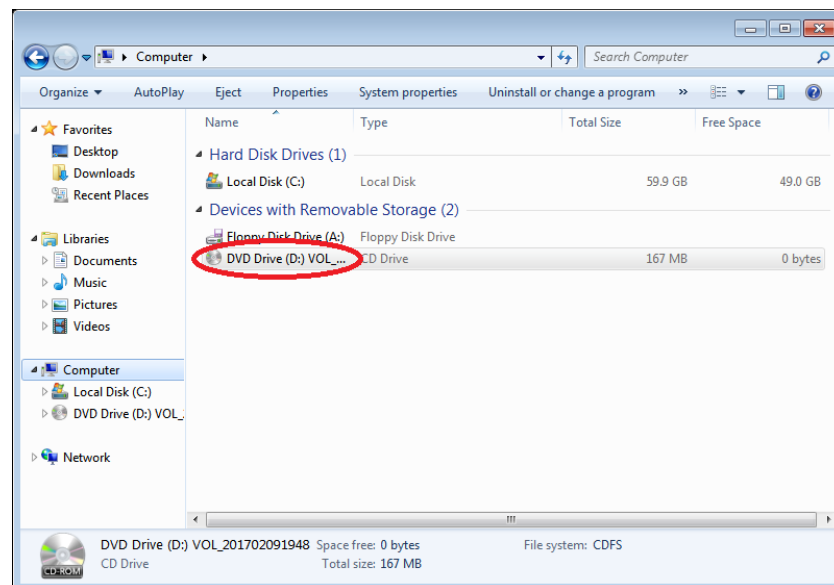
3. Select (double-click) the system software folder in the selected drive.
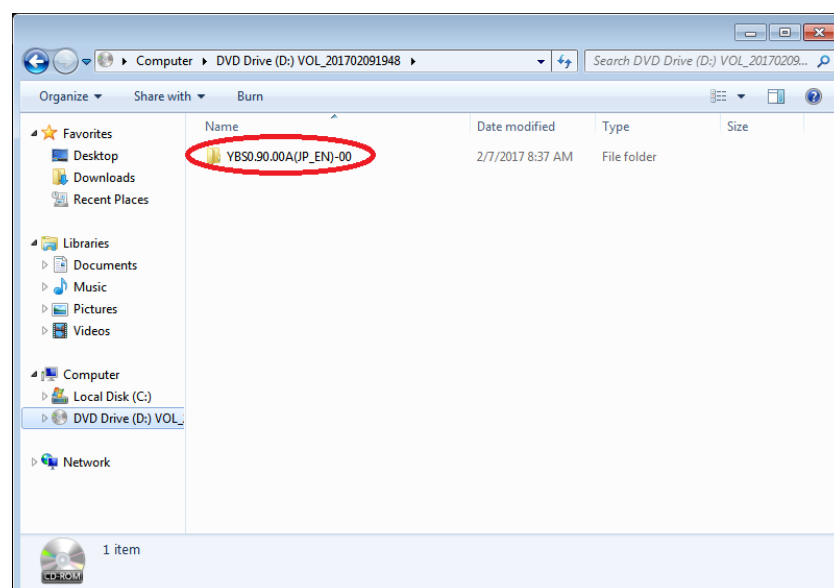
3   Programming Pendant Setup
3.1   Preparing the SD Card/USB for Upgrading

4. Start up (double-click) "mk_vx_cf.exe" of the specified version.
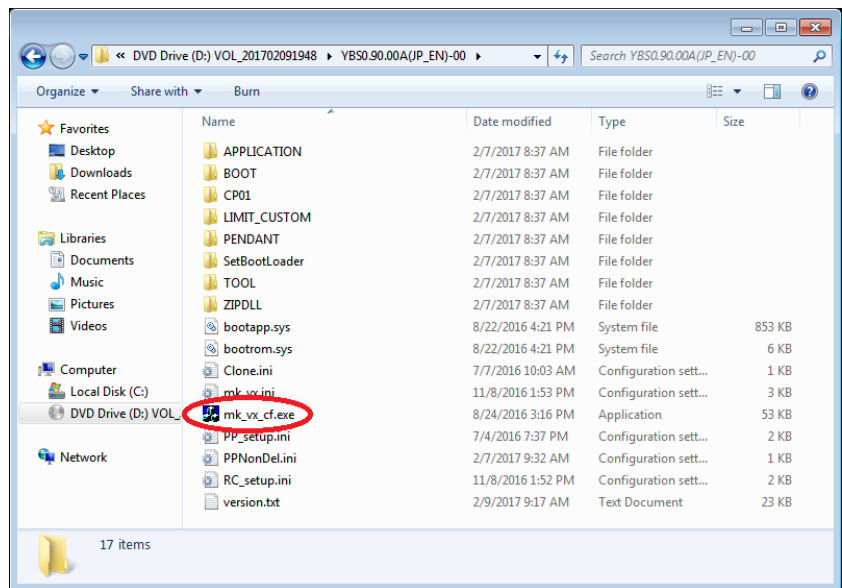
5. Confirm that the version described in the Software Modification Instructions and the version in the following window are the same. Then click "START".
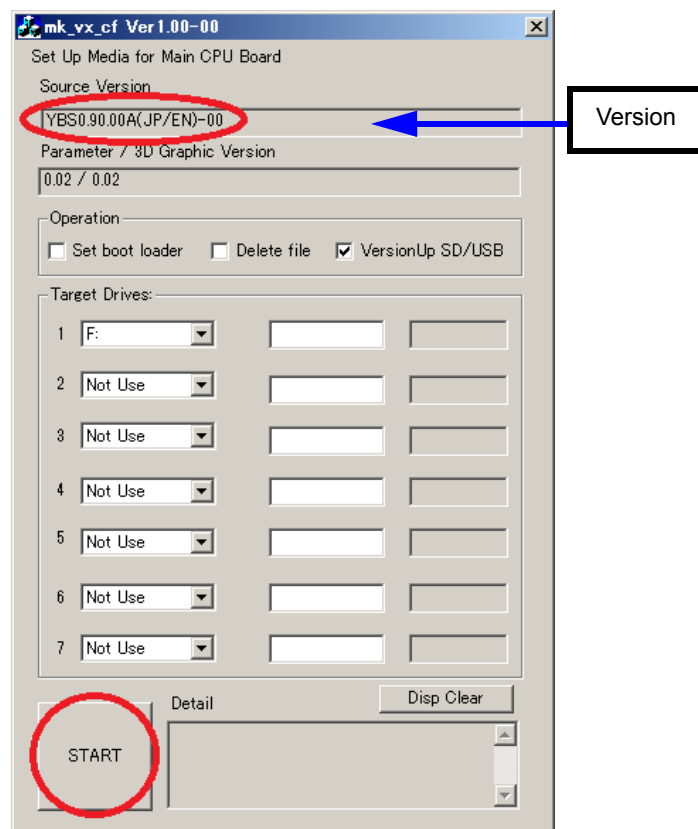
NOTICE

• Never execute the following operations while data is being written into the SD card.

    – Do not remove the card reader from the personal computer.

    – Do not remove the SD card from the card reader.

    – Do not turn OFF the power supply to the card reader.

Failure to observe these instructions may cause SD card failure.

The access lamp (LED) of the card reader blinks while the data is being written-in.
Do not remove the connection with the personal computer and with the SD card while the access lamp is blinking.

• Never execute the following operations while data is being written into the USB.

    – Do not remove the USB from the personal computer.

The access lamp (LED) of the USB blinks while the data is being written-in.
Do not remove the USB from the personal computer while the access lamp is blinking.

3   Programming Pendant Setup
3.1   Preparing the SD Card/USB for Upgrading

6. When the data has been written into the SD card successfully, "OK" is displayed in the second column under "Target Drives". To prepare seven SD cards, it takes approx. five minutes.
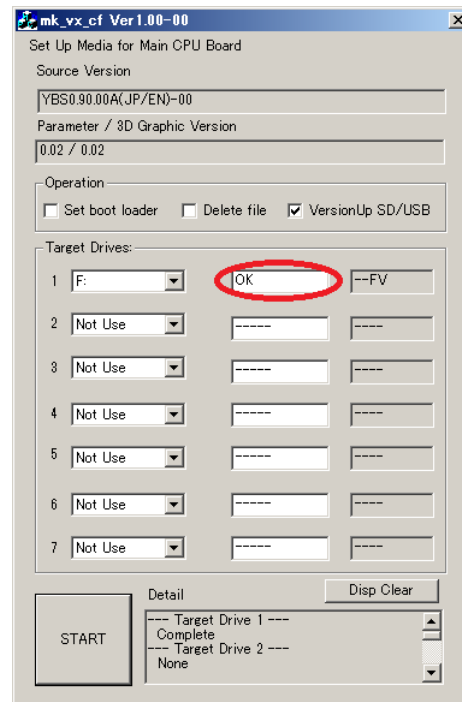
| NOTE | Even when "OK" is shown in the above window, the access lamp of the device may keep blinking.

Confirm that the access lamp is turned OFF, and then remove the device from the PC. |

"NG" is displayed if the SD card is not inserted correctly.

SUPPLE-MENT
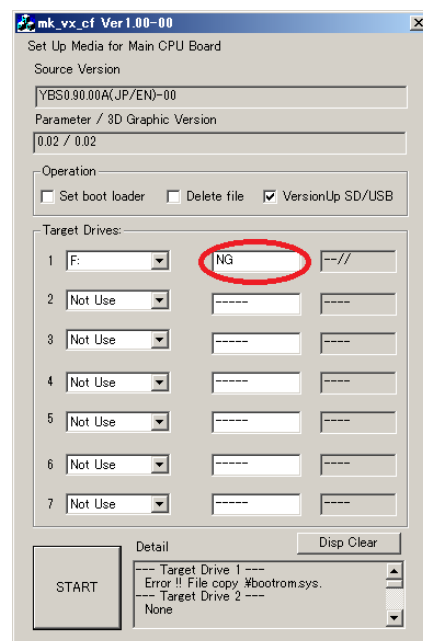
7. Remove the SD card from the card reader or the USB from the USB connector.

3.2   Setting Up the Programming Pendant

The following two software need to be written into the programming pendant.

(1) NK.BIN   : Operating-system software for the programming
                           pendant   (managing software)

(2) YPP.EXE, etc.   : Application software for the programming pendant

For the normal setting up operation, the above two software need to be installed. Also, upgrading of the application software (YPP.EXE, etc.) can be solely executed to the already set-up programming pendant. In this case, start from the step 9 of the following procedures.

Setting up procedures for the programming pendant are described as follows.

1. Confirm that the main power supply of the YRC1000micro is turned OFF.

2. Insert the SD card or USB to the programming pendant.
    For the SD card, remove the rubber cap for the SD card slot of the programming pendant, and then insert the SD card. The SD card must be inserted with its front face upward.

<SD card Slot Position and Inserting Direction>

SD Card Slot

SD Card Inserting Direction
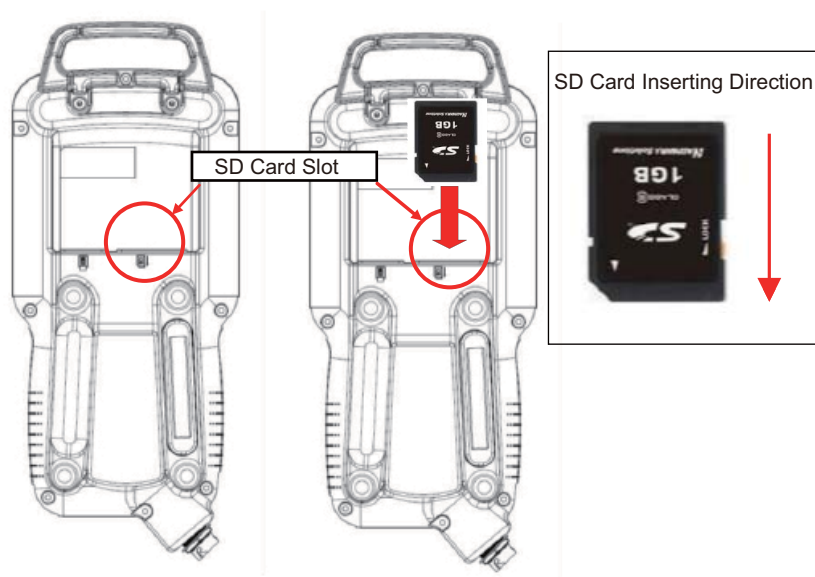
Before inserting a USB, remove the rubber cap of the USB connector at the back side of the programming pendant.

<USB Connector Position and Inserting Direction>

USB Connector

USB Inserting Direction

3-8   HW1484474   23/48
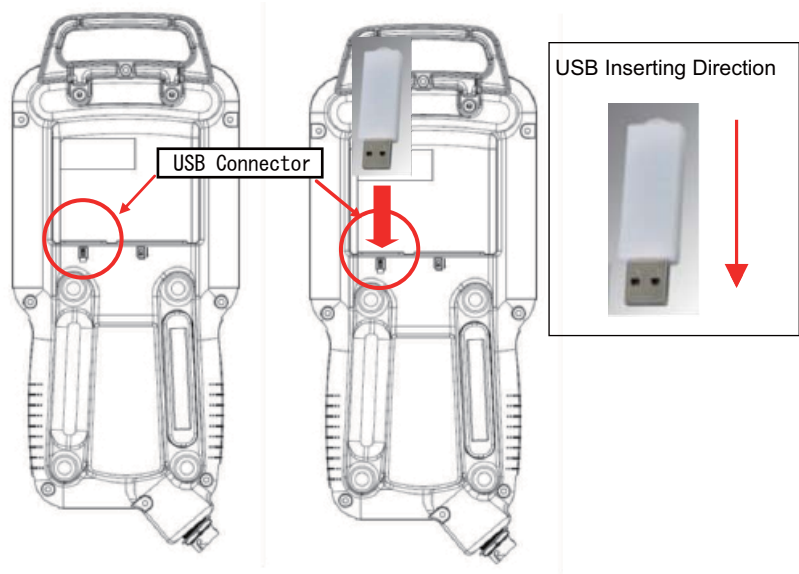
3. While pressing [2] + [8] + [HIGH SPEED] simultaneously, turn ON the YRC1000micro main power supply. Release the keys when the programming pendant buzzer sounds.

Bit-map image appears

Press [2] + [8] + [HIGH SPEED]
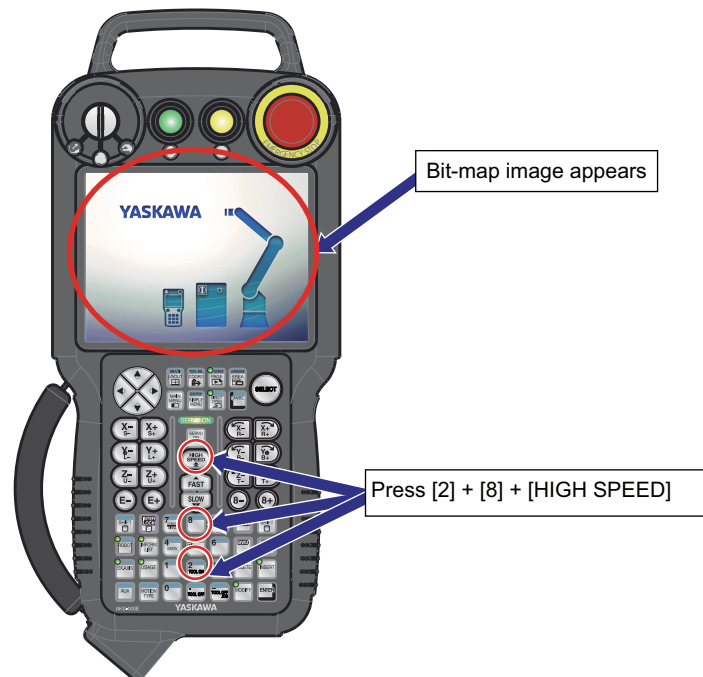
4. NK.BIN (OS: Windows Embedded Compact 7) in the SD card is written into the internal memory (FlashRom) of the programming pendant from DRAM. At this time, the LED indicators blink as follows:

<While NK.BIN is being transferred from SD card to DRAM>

<While NK.BIN is being written into FlashRom from DRAM>
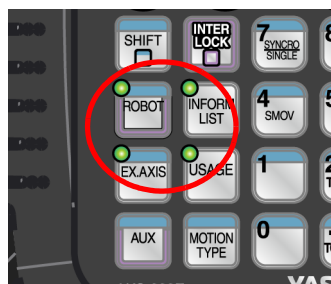
The four LED indicators blink clockwise. The blinking cycle is irregular. (The indicators sometimes blink every one to two seconds, or sometimes four to five seconds.) It takes approx. ten seconds to read the data.
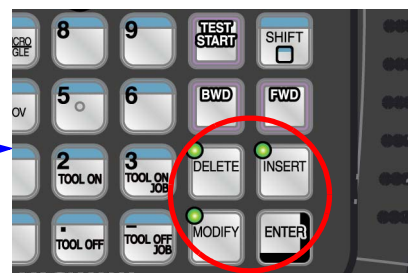
The three LED indicators blink clockwise, every one to two seconds. It takes approx. five minutes to write-in the data.

Total time required for transfer and write-in is approx. five minutes.

5. Approx. five minutes after the YRC1000micro main power supply is turned ON, the data will be written into FlashRom completely and the window for touch panel calibration appears on the programming pendant. Use a pen for touch panel or anything having a soft and sharp tip end (such as ballpoint pen cap) to touch the center of the window for approx. two seconds.

Carefully press and briefly hold stylus on the center of the target.
Repeat as the target moves around the screen.
Press the Esc key to cancel.
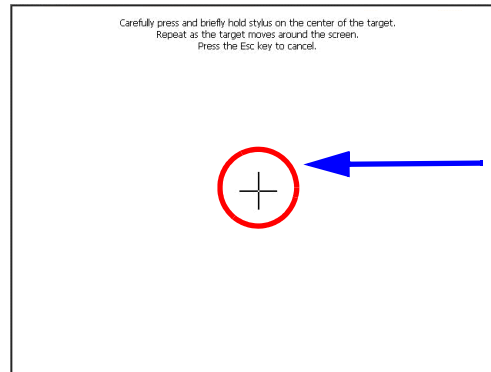
Use a pen for touch panel or anything having a soft and sharp tip end to touch the center of the window for approx. two seconds.

6. The cross cursor moves to the center, left top, left bottom, right bottom, and then right top of the window in this order. Touch the center of the cross for approx. two seconds for each.

Carefully press and briefly hold stylus on the center of the target.
Repeat as the target moves around the screen.
Press the Esc key to cancel.
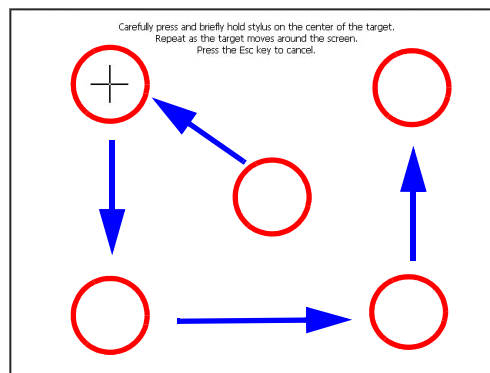
The cross cursor moves in such an order as shown on the left.

NOTE   The cross cursor returns to the center if calibration fails. Try calibration as described in step 6 again.

7. When touch calibration is successfully done, the following window appears.

New calibration settings have been measured.
Press the Enter key to accept the new settings.
Press the Esc key to keep the old settings.

3   Programming Pendant Setup
3.2   Setting Up the Programming Pendant

8. Pressing [ENTER] calls up the following window. Touch the OK button
    at the right top of the dialog box to close the box.
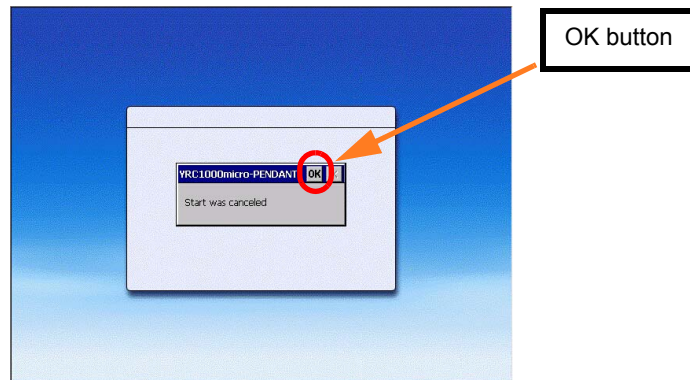
OK button

YRC1000micro-PENDANT   OK

Start was canceled

> **NOTE**
>
> Press [ENTER] to save the registry data in the FlashRom in
> the programming pendant. It takes six to seven seconds to
> save the data. Do not turn OFF the power of the
> YRC1000micro while saving. To confirm that the saving is
> completed, touch OK button at the right top of the dialog
> box and find if the message is disappeared.

The following describes the procedure for installing application software
for the programming pendant.

In case that the operating-system software: NK.BIN has been already
installed, hold down [INTERLOCK], [9], and [SELECT] simultaneously,
and turn ON the YRC1000micro main power supply to start up the system
with the display window as shown in procedure 8.

Then, touch "OK" on the window and perform the installation of application
software following the procedures from 9.

9. Use the pen to touch the left bottom, and the task bar appears. Then
    touch "START" in the task bar.

Start   12:10

Touch here to display
"START" indication.

3-11
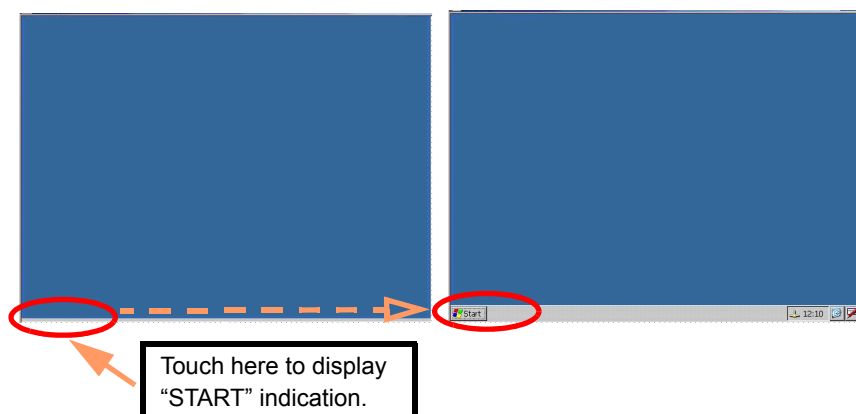
3   Programming Pendant Setup
3.2   Setting Up the Programming Pendant

10. When START menu appears, touch "Programs" and then "Windows Explorer".
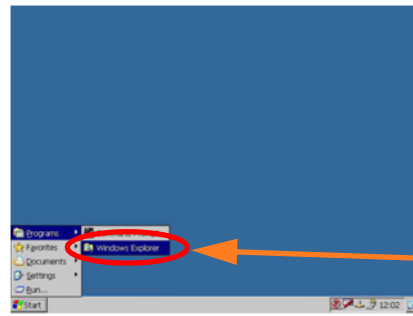
Select "Windows Explorer"

11. Touch "Storage Card" folder to display the stored files in the SD card and touch "USB Memory" to show the ones in the USB. .

<SD card>   <USB>
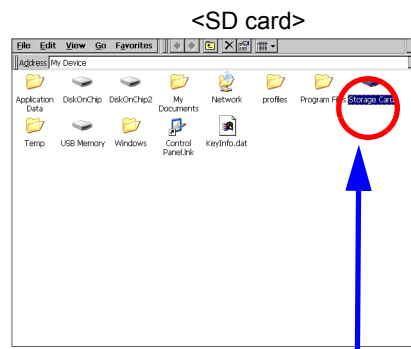
Select "Storage Card"   Select "USB Memory"
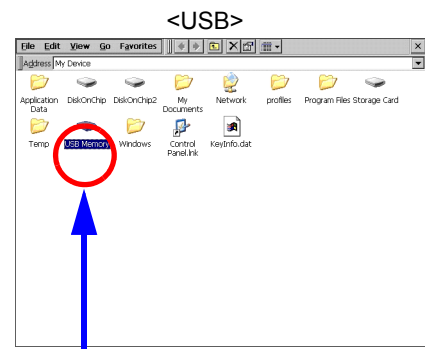
12. Touch "CESETUP.EXE" icon.
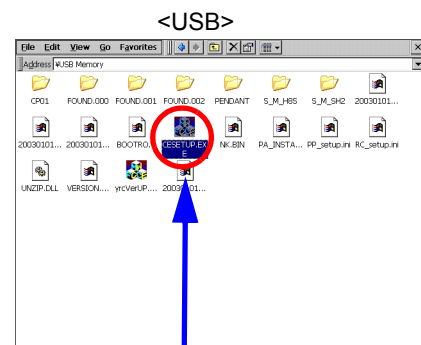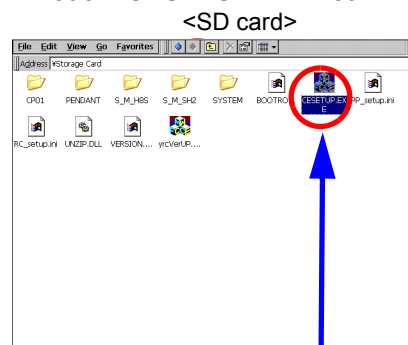
<SD card>   <USB>

CESETUP.EXE

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13. Touch the dialog box with "SD/USB→PP" on it. The file starts to be copied from the SD card to the "DiskOnChip" folder. It takes 60 seconds to copy the data.

   While it is copied from the USB, START lamp on the programming pendant lights.
   While it is copied from the SD card, HOLD lamp on the programming pendant lights.

CESETUP.EXE Ver 1.00(SD_USB)   OK

SD/USB --> PP
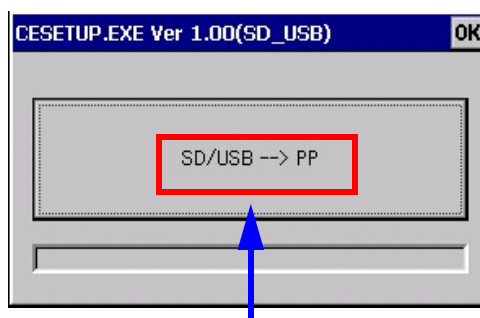
Touch here. After touching it, the data starts to be written-in.
While the data is being written-in, the HOLD lamp is ON for the SD card, the START lamp is ON for the USB.

14. When the dialog box indicating the completion of copy appears, touch "OK" at the right top of the dialog box to close the box.

CESETUP.EXE Ver 1.00(SD_USB)   OK

CESETUP.EXE Ver 1.00(SD_USB)   OK ×
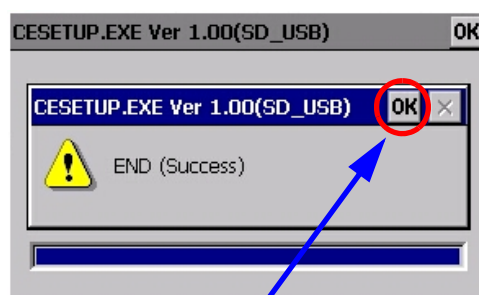
⚠ END (Success)

When "END (Success)" appears, touch "OK" to close the dialog box.

When the data have not been copied correctly, the following dialog box appears. Execute the operation again.

SUPPLE-MENT

Error display dialog box:
Click "OK" to close the dialog box.

"END (Failure)" appears.
Click "OK" to close the dialog box.
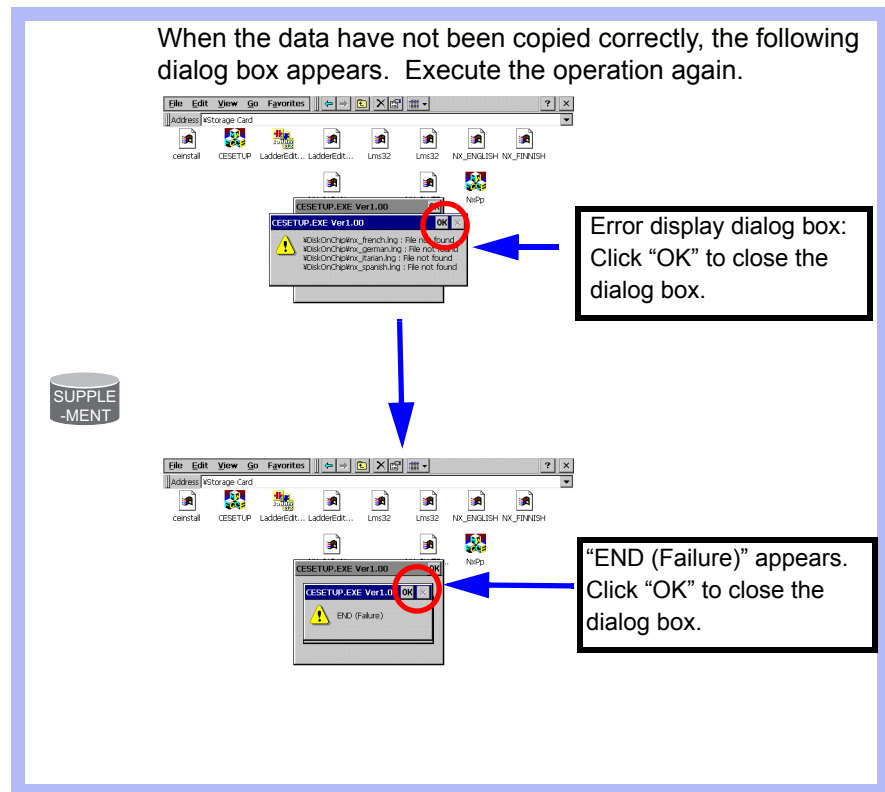
15. Turn OFF the YRC1000micro main power supply. Then be sure to remove the "SD card/USB for operations" from the programming pendant.
The setup of the programming pendant has been completed.

NOTE

Refer to *chapter 4 "Initialization of System Configuration in Maintenance Mode"* for details about putting the license sticker.

4   Initialization of System Configuration in Maintenance Mode

1. Turn ON the YRC1000micro main power supply while pressing [MAIN MENU].

MAIN MENU
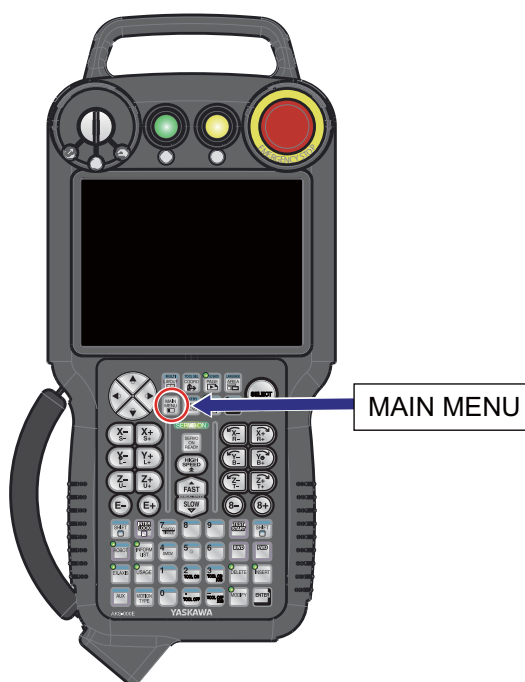
2. The initial window of the maintenance mode appears in approx. 50 seconds. The 7SegLED indicators of the ACP31 indicate "F".

"Maintenance mode" appears.

Please select a Main Menu.

SYSTEM

FILE

EX. MEMORY

DISPLAY SETUP
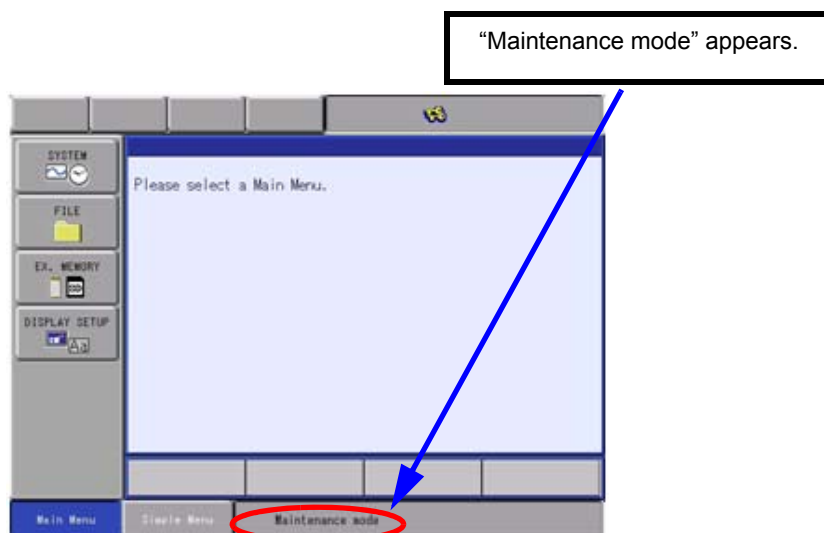
Main Menu   Simple Menu   Maintenance mode

3. Touch {SYSTEM} and then {SECURITY}.
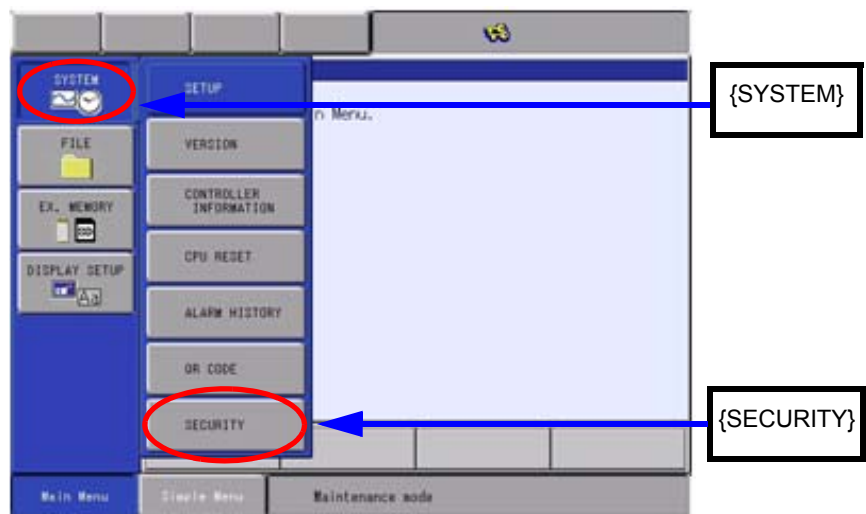
4. Press [SELECT] on the programming pendant.
    The initial status of the mode is the editing mode.
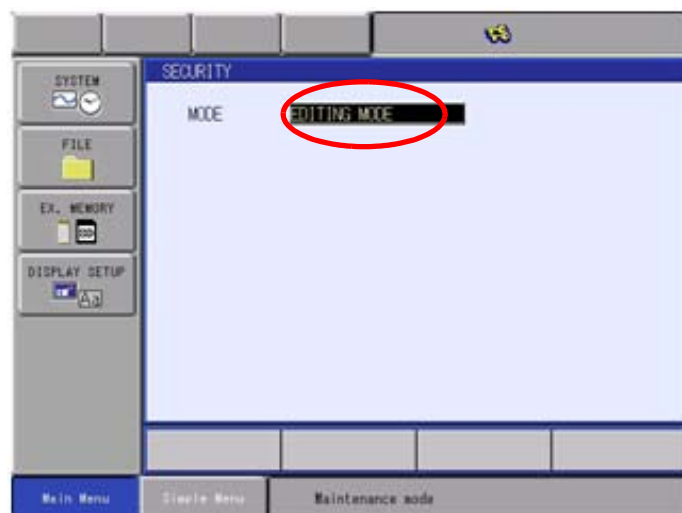
5. Insert the USB for the manufacturer mode to the USB connector of the programming pendant. The programming pendant recognizes the USB, and then while pressing [INTERLOCK] of the programming pendant, press [SELECT].
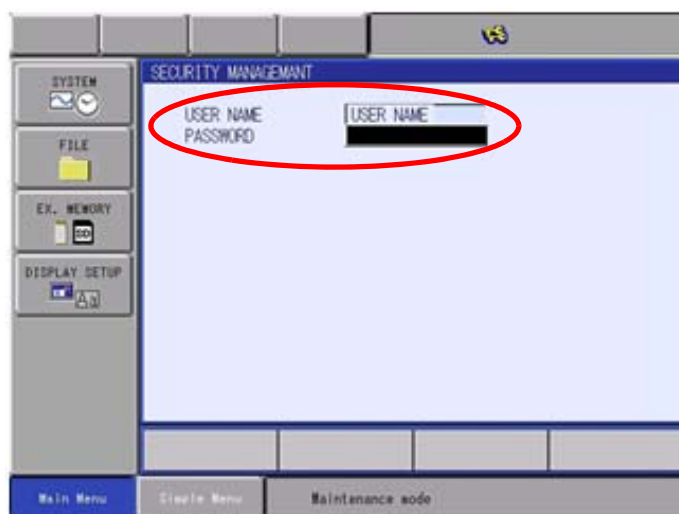
6. Press [SELECT] of the programming pendant to open the password input window. In the password input window, enter the password for the USB for the YASKAWA mode. After entering the password, press [ENTER].
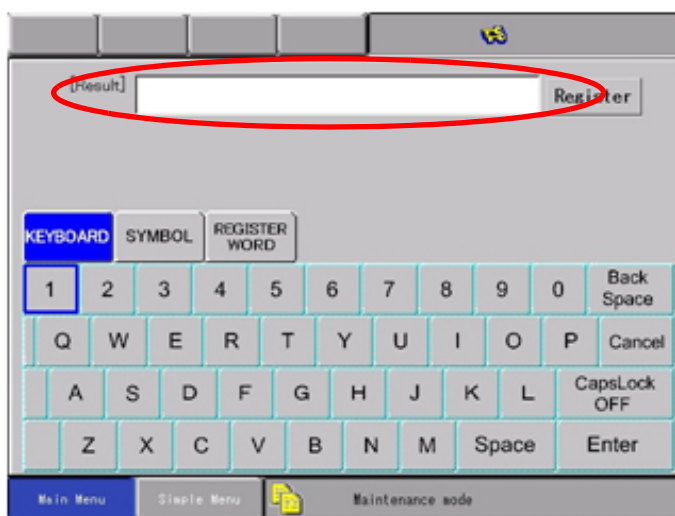
7. The mode changes to YASKAWA mode.
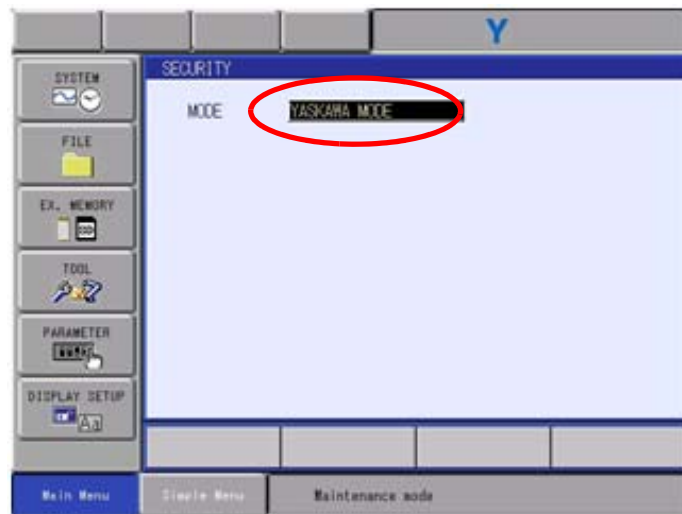
8. Touch {SYSTEM} and then {INITIALIZE}.
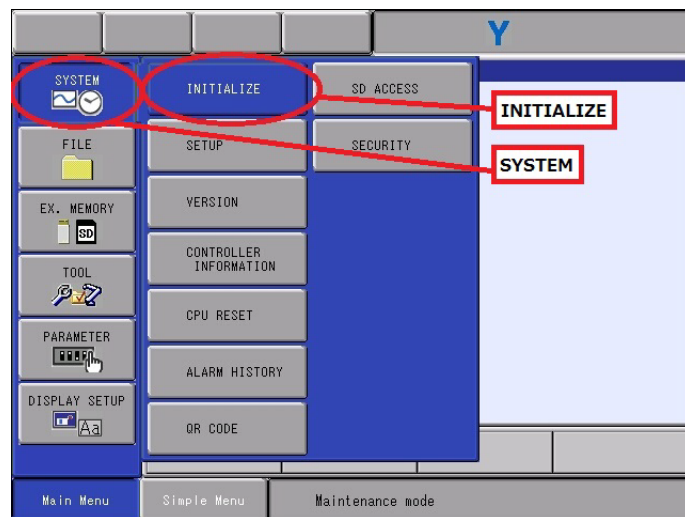
9. The LANGUAGE window to select a language appears. Perform subsequent data settings for initialization in the same manner as the YRC1000micro.
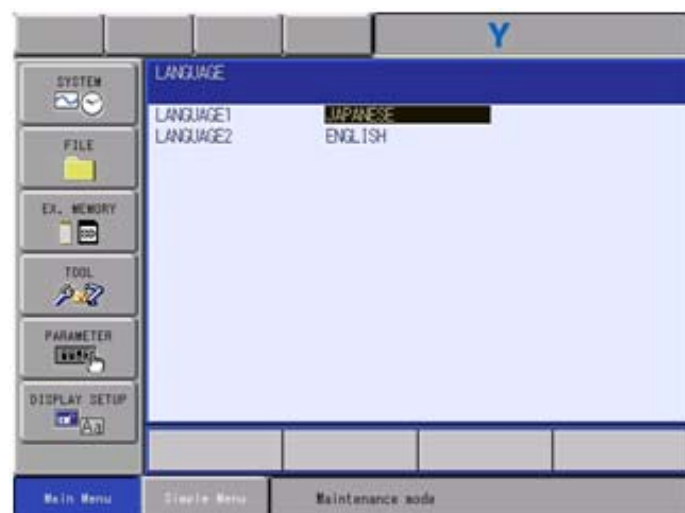
10. When the data settings for initialization is completed, the following window appears. Touch {YES} to execute initialization.

Touch {YES}.
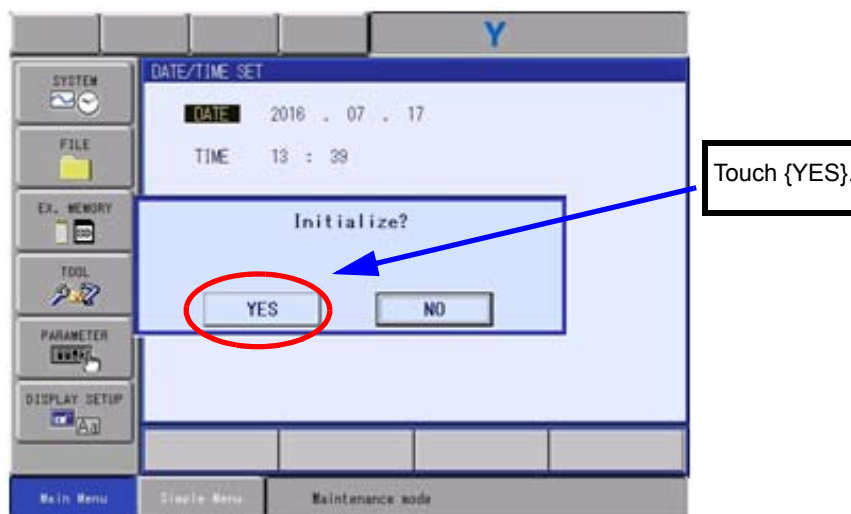
11. During initialization, the message "Initializing system data. Don't turn the power OFF" is displayed. Initialization needs approx. 30 seconds.
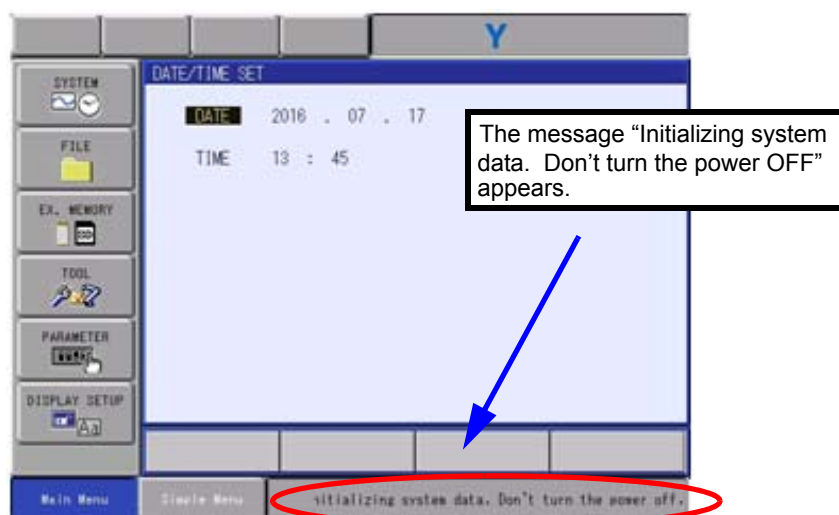
The message "Initializing system data. Don't turn the power OFF" appears.

12. When initialization is completed, the buzzer sounds for a moment, and at the same time, the message "Initializing system data. Don't turn the power OFF" disappears and {Maintenance mode} appears instead.

"Maintenance mode" appears.
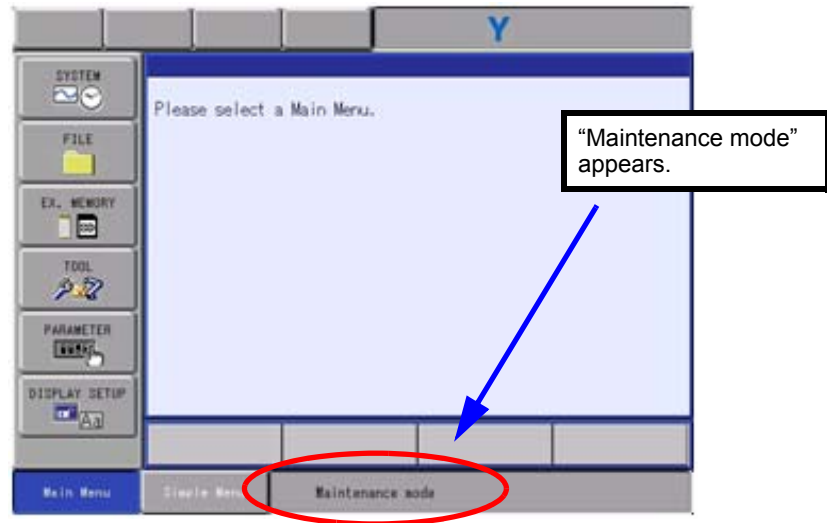
13. Turn OFF the YRC1000micro main power supply.

14. If the SD card is inserted in the SD card slot of the programming pendant, remove it. Then, put the license sticker as shown below.

> Put the license sticker on the programming pendant.
>
> Make sure to put the license sticker in the following manner:
>
> • Place the sticker on the right of and immediately next to the nameplate of the programming pendant.
>
> • Align the tops of the sticker and the nameplate.
>
> NOTE
>
> License sticker
>
> Align the tops
>
> Right next to each other
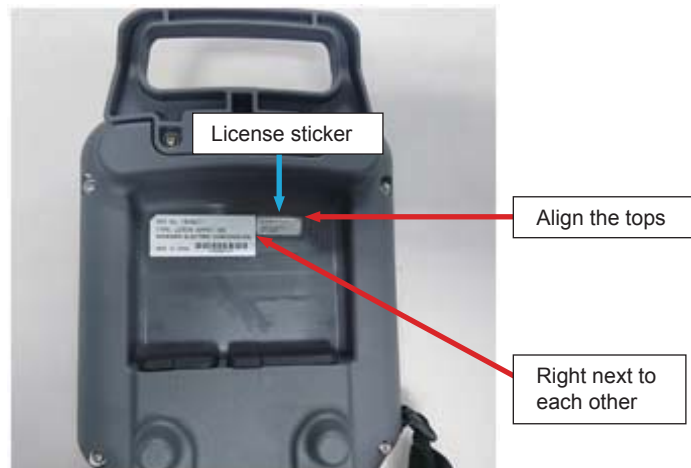
NOTICE

If the system does not start up in the Maintenance mode due to programming pendant hardware failure, never put the license sticker on it.

15. Turn ON the YRC1000micro main power supply.
The main menu appears in approx. 50 seconds. At this time, both 7SegLED indicators of the ACP31 indicates "d".

16. Select {SYSTEM INFO} and then {VERSION} to confirm that the version described in the Software Modification Instructions and the version in the following window are the same.
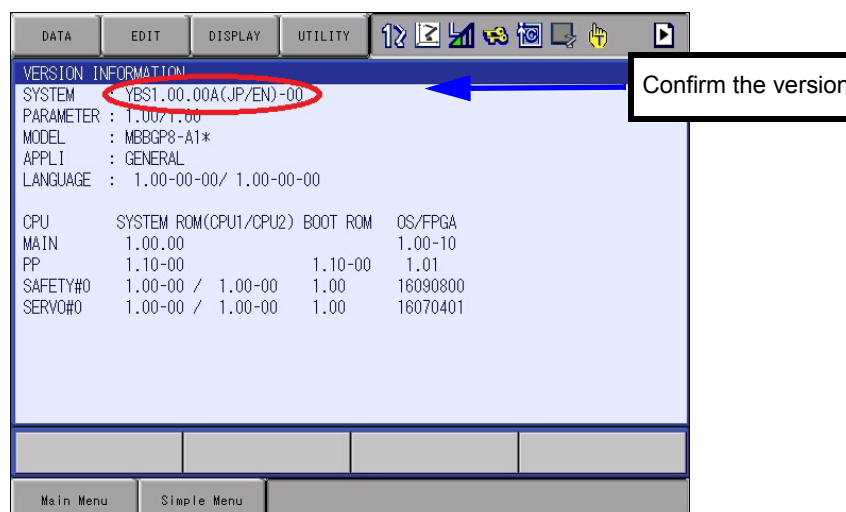
5   Troubleshooting

This section describes the causes and remedies of the possible failures that are assumed to occur during setup.

5.1   Possible Failures at Preparation of the SD Card

These failures may occur during the following operations.

> chapter 2.1 "Preparing the SD Card for ACP31"
>
> chapter 3.1 "Preparing the SD Card/USB for Upgrading"

Failure 1: For "mk_vx_cf" tool, the drive to which SD card is inserted is not indicated.
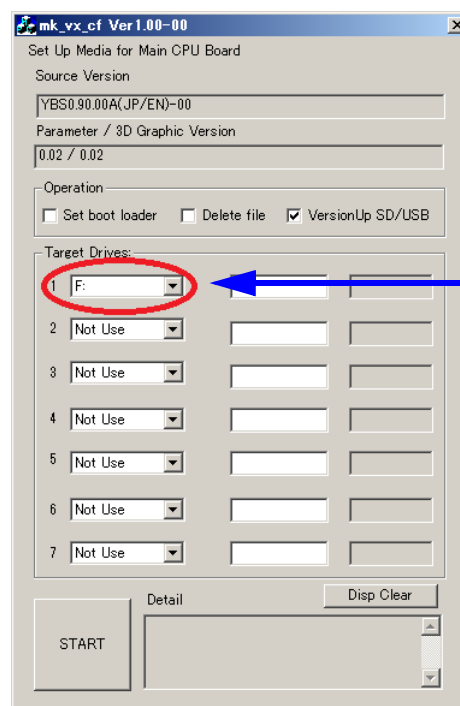
The drive to which the SD card is inserted is not displayed.

No.	Cause	Remedy
1	The card reader is not connected to the personal computer. (For SD card)	Connect the card reader to the arbitrary USB port of the personal computer.
2	The SD card is not connected to the card reader. (For SD card)	Connect the SD card to the card reader.
3	The USB connector is not connected to the personal computer. (For USB)	Connect the USB connector to the arbitrary USB connector of the personal computer.
4	The power is not supplied to the card reader.	Connect the AC adapter to the card reader, and then supply the power. (Only for the type of card reader to which the power is not supplied from the USB port)

5   Troubleshooting
5.1   Possible Failures at Preparation of the SD Card

Failure 2: "NG" appears on the window when the data is written
           into the SD card.

Displays the file where a file copy error has occurred.

No.	Cause	Remedy
1	The card reader is not connected to the personal computer. (For SD card)	Connect the card reader to the arbitrary USB port of the personal computer.
2	The SD card is not connected to the card reader. (For SD card)	Connect the SD card to the card reader.
3	The USB connector is not connected to the personal computer. (For USB)	Connect the USB connector to the arbitrary USB connector of the personal computer.
4	The power is not supplied to the card reader.	Connect the AC adapter to the card reader, and then supply the power. (Only for the type of card reader to which the power is not supplied from the USB connector)
5	The capacity of the SD card/ USB is insufficient.	Click the drive of the relevant removable disc on the personal computer, and delete all the data and files in the SD card/USB. Then, write-in the data to the SD card/USB again.
6	The SD card recommended by YASKAWA design division is not used.	Refer to chapter 3 "Programming Pendant Setup".
7	The SD card/USB is defective.	Replace the SD card/USB with a new one.

5.2 Possible Failure at Setup of the Programming Pendant

This failure may occur during the following operation.

> chapter 3.2 *"Setting Up the Programming Pendant"*

Followings are the alarms occur when turning ON the YRC1000micro main power supply or OS write-in procedure is being done.

Failure: Alarms output by BootLoader during OS write-in procedures.

Alarm	Details
All LED: Lighted Buzzer: Sound	OS is not written into the SD card or OS(NK.BIN) cannot be loaded due to hardware failure.
Start lamp[1]: Lighted Hold lamp[2]: Lighted Other than above LEDs: Unlit	Both the USB and the SD card are not inserted.
Start lamp: Lighted Hold lamp: Unlit Other than above LEDs: Lighted	The USB is formatted by a file system that BootLoader cannot recognize.
Start lamp: Unlit Hold lamp: Lighted Other than above LEDs: Lighted	The SD card is formatted by a file system that BootLoader cannot recognize.
Start lamp: Blink at 1 sec. cycle Hold lamp: Unli Other than above LEDs: Blink at 1 sec. cycle	No referable text file for BootLoader exists in the USB.
Start lamp: Unlit Hold lamp: Blink at 1 sec. cycle Other than above LEDs: Blink at 1 sec. cycle	No referable text file for BootLoader exists in the SD card.
Start lamp: Blink at 1 sec. cycle Hold lamp: Unlit Other than above LEDs: Unlit	The OS(NK.BIN) mentioned in the text file inside the USB doesn't exist.
Start lamp: Lighted Hold lamp: Blink at 1 sec. cycle Other than above LEDs: Unlit	The OS(NK.BIN) mentioned in the text file inside the SD card doesn't exist.
Buzzer: Sound (Either of Start lamp or Hold lamp is lighted.)	OS(NK.BIN) which is on DRAM cannot be written into FlashRom due to the following reasons. 1, Capacity of FlashRom is insufficient (writing area < OS size) Refer to *chapter 5.3 "Programming Pendant FlashRom Format Procedure"* . 2, Hardware failure

1 Start lamp: allocated to the USB
2 Hold lamp: allocated to the SD card

5.3   Programming Pendant FlashRom Format Procedure

FlashRom of the programming pendant can be reformatted with the following procedures. Note that the pendant application software and the programming pendant OS written in the FlashRom of the programming pendant will be deleted if FlashRom of the programming pendant is reformatted.

(1)   While pressing [INTERLOCK], [9], and [SELECT] simultaneously, turn ON the YRC1000micro main power supply.

(2)   Following window appears. Touch "OK" at the right top of the dialog box to close the box.

(3)   Use the pen to touch the left bottom, and the task bar appears. Then touch {START} in the task bar. When START menu appears, touch {Programs} and then {Windows Explorer}.
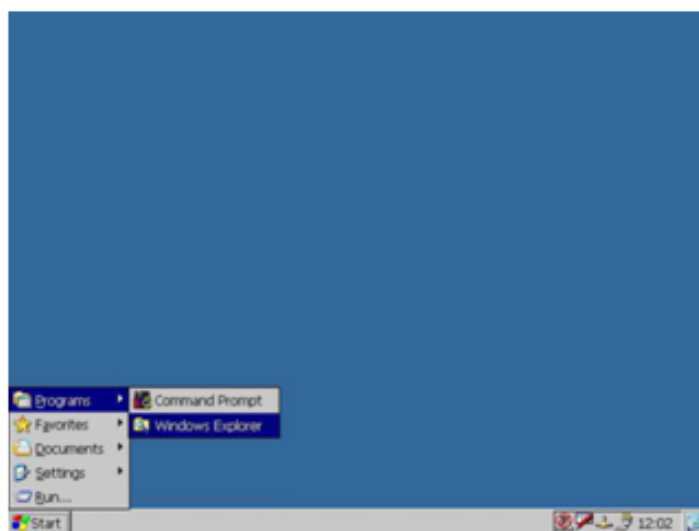
5 Troubleshooting
5.3 Programming Pendant FlashRom Format Procedure

(4) Select "Windows" folder.
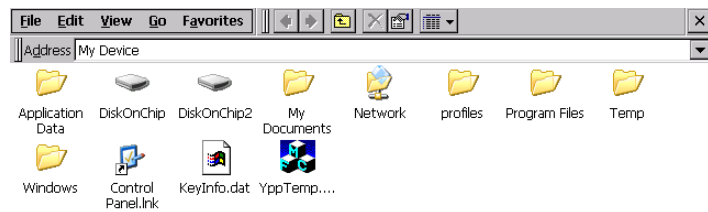
(5) The contents of the "Windows" folder are displayed.
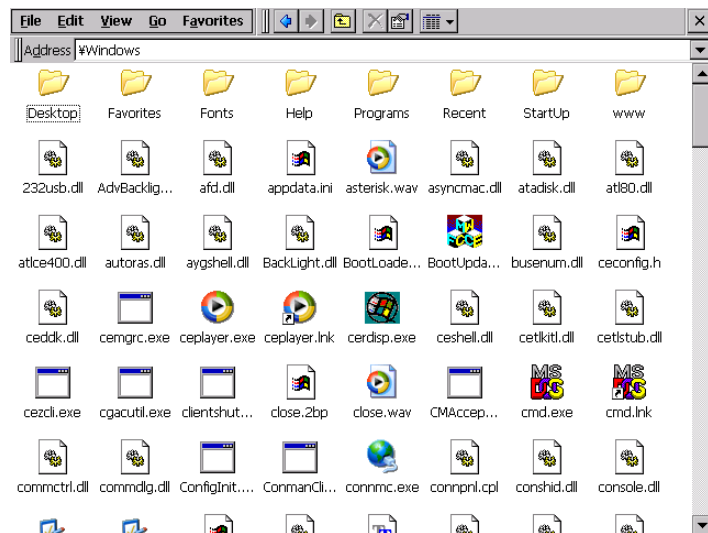
(6) Select {View} menu → {Details}.
Folders and details of them are displayed.

5-5
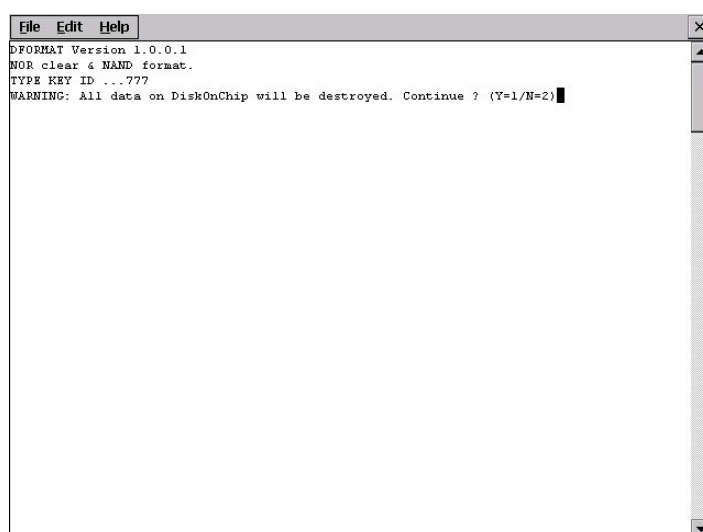
(7) Execute "DFORMAT_ALL_CLEAR.EXE" icon.
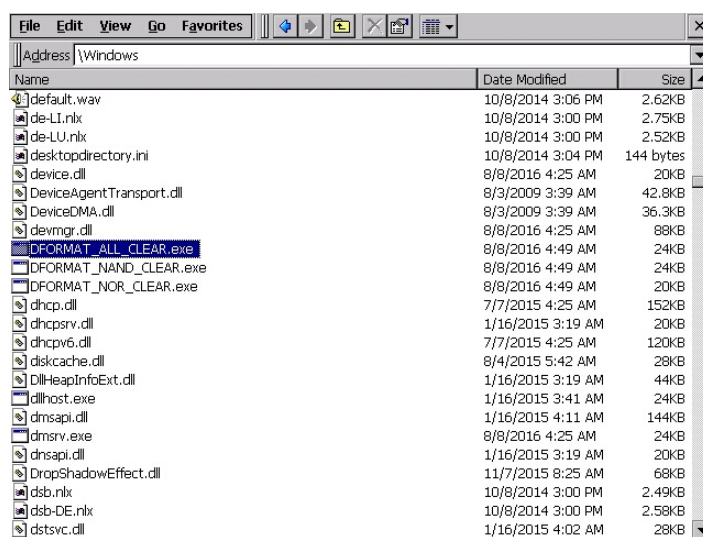
(8) Input TYPE KEY ID '777' and pressing [ENTER].
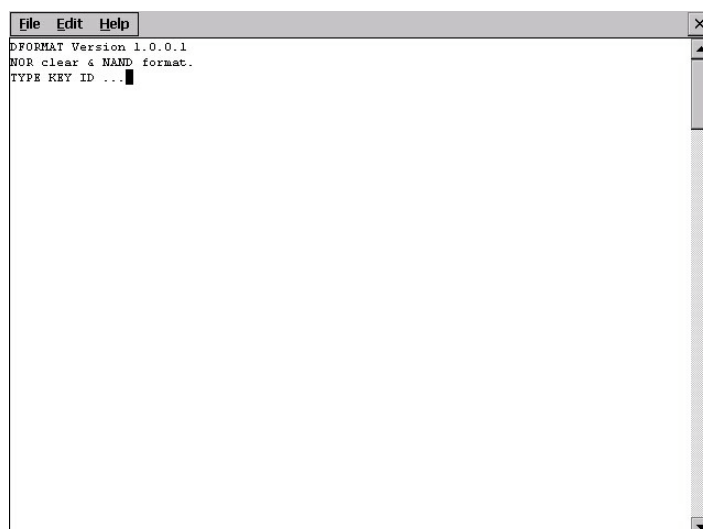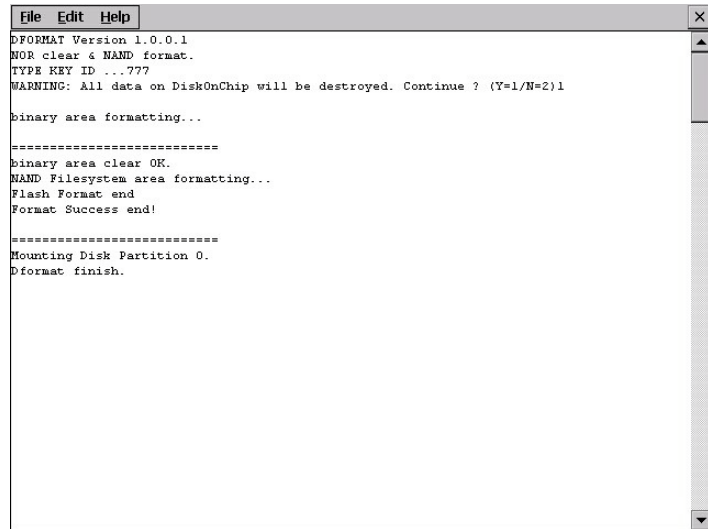
(9) Select [1] on the programming pendant, and then formatting starts.

(10) When the following message appears, turn OFF the YRC1000micro main power supply. "D format finish."

```
File  Edit  Help                                                          ×
DFORMAT Version 1.0.0.1                                                    ▲
NOR clear & NAND format.
TYPE KEY ID ...777
WARNING: All data on DiskOnChip will be destroyed. Continue ? (Y=1/N=2)1

binary area formatting...

============================
binary area clear OK.
NAND Filesystem area formatting...
Flash Format end
Format Success end!

============================
Mounting Disk Partition 0.
Dformat finish.



                                                                          ▼
```

(11) For the setup operation of the programming pendant, refer to chapter 3.2 *"Setting Up the Programming Pendant"* .

5.4   Redisplaying the Touch Calibration Display

The touch calibration display can be redisplayed with the following procedures:

(1) While pressing [HIGH SPEED] and [SLOW] on the programming pendant simultaneously, turn ON the YRC1000micro main power supply.

(2) A crosshair cursor at the center of the display moves in the following order: Center → Upper left → Lower left → Lower right → Upper right.

– Press the center of the cursor for approx. 2 seconds at each point.

– If the touch calibration is failed, the cross cursor returns to the center of the display. In this case, retry the calibration.

Carefully press and briefly hold stylus on the center of the target.
Repeat as the target moves around the screen.
Press the Esc key to cancel.
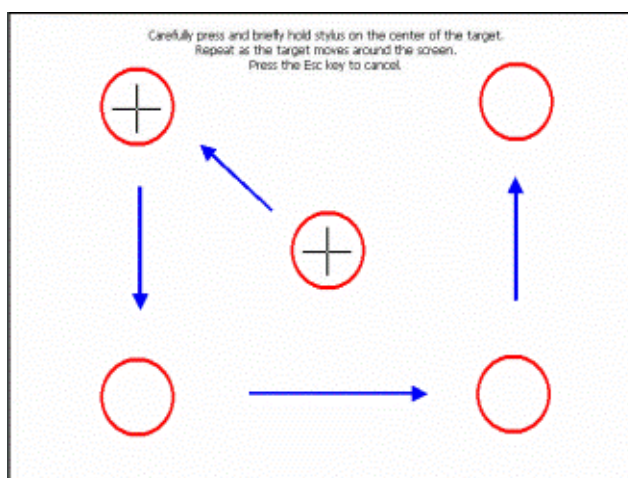
– When the touch calibration is successfully completed, the following display appears.

New calibration settings have been measured.
Press the Enter key to accept the new settings.
Press the Esc key to keep the old settings.

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5 Troubleshooting
5.4 Redisplaying the Touch Calibration Display

(3) The following display appears by pressing [ENTER] on the programming pendant. Close the message box by touching the OK button at the right top of the dialog box.

(4) Make sure the dialog box is closed, then turn OFF the YRC1000micro main power supply.

> **NOTE** Press [ENTER] to save the registry data in the Flash-Rom in the programming pendant. It takes six to seven seconds to save the data. Do not turn OFF the power of the YRC1000micro while saving. To confirm that the saving is completed, touch OK button at the right top of the dialog box and find if the message is disappeared.

5.5   When the Message "Cannot find 'YPP' (or one of its components)." Is Displayed

If the following message is displayed while using the programming pendant, perform the procedures described in *chapter 3.2 "Setting Up the Programming Pendant"* .

5.6   Possible Failures at ACP31 Setup

These failures may occur during the following operations.

> *chapter 4 "Initialization of System Configuration in Maintenance Mode"*

Failure 1: Even 30 seconds after the YRC1000micro main power supply is turned ON, the 7SegLED indicator of the ACP31 remains in "8" and does not start to count up from "0".

No.	Cause	Remedy
1	No SD card is inserted into the SD card slot of ACP31.	Insert an SD card into the SD card slot of ACP31.
2	Boot sector and software are not written in the SD card for the ACP31.	Prepare the SD card for ACP31 following the procedures in *chapter 2.1 "Preparing the SD Card for ACP31"* and then insert the SD card into the SD card slot of ACP31.
3	The SD card recommended by YASKAWA design division is not used.	Refer to *chapter 3 "Programming Pendant Setup"*.
4	The SD card is defective.	Replace the SD card with a new one.

Failure 2: The 7SegLED indicator of the ACP31 displays "P", and the message appears on the programming pendant screen.

No.	Cause	Remedy
1	The connectors of the cable for the programming pendant are not connected to the connectors on the YRC1000micro or on the programming pendant.	Connect the cable for the programming pendant.
2	The programming pendant cable is defective due to disconnection, etc.	Replace the programming pendant cable with a new one.
3	The programming pendant is out of order.	Replace the programming pendant with a new one.

YRC1000micro
SETUP PROCEDURE MANUAL

STANDARD SYSTEM

Specifications are subject to change without notice
for ongoing product modifications and improvements.

YASKAWA

YASKAWA ELECTRIC CORPORATION

MANUAL NO.
HW1484474 ◈   48/48