YASKAWA

YRC1000 OPTIONS
UPGRADE PROCEDURE MANUAL

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

MOTOMAN INSTRUCTIONS

MOTOMAN-□□□ INSTRUCTIONS
YRC1000 INSTRUCTIONS
YRC1000 OPERATOR'S MANUAL (GENERAL) (SUBJECT SPECIFIC)
YRC1000 MAINTENANCE MANUAL
YRC1000 ALARM CODES (MAJOR ALARMS) (MINOR ALARMS)

The YRC1000 operator's manual above corresponds to specific usage. Be sure to use the appropriate manual.
The YRC1000 operator's manual above consists of "GENERAL" and "SUBJECT SPECIFIC".
The YRC1000 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: 178666-1CD
Revision: 0

MANUAL NO.

> ## ⚠ DANGER
>
> - This manual explains the upgrading procedures of the YRC1000 system. Read this manual carefully and be sure to understand its contents before handling the YRC1000. Any matter, including operation, usage, measures, and an item to use, 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 YRC1000 INSTRUCTIONS. To ensure correct and safe operation, carefully read "Chapter 1. Safety" of the YRC1000 INSTRUCTIONS.

> ## ⚠ CAUTION
>
> - 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.

> ## NOTICE
>
> - 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.

NOTES FOR SAFE OPERATION

Read this manual carefully before installation, operation, maintenance, or inspection of the YRC1000.

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 "DAN-GER", "WARNING" and "CAUTION".

<div>

⚠️ **DANGER**

- 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 buttons on the front door of the YRC1000, on the programming pendant, 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 YRC1000 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 buttons are located on the front panel of the YRC1000 and on the right of the programming pendant.

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

</div>

<table>
<tr><td colspan="2" style="background:orange;">⚠ WARNING</td></tr>
<tr><td>

• 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.

• Always return the programming pendant to the hook on the YRC1000 cabinet 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.

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

Definition of Terms Used Often in This Manual

The MOTOMAN is the YASKAWA industrial robot product.

The MOTOMAN usually consists of the manipulator, the controller, the programming pendant, and supply cables.

In this manual, the equipment is designated as follows.

Equipment	Manual Designation
YRC1000 controller	YRC1000
YRC1000 programming pendant	Programming pendant
Cable between the manipulator and the controller	Manipulator cable

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 its symbol printed on them are denoted with [ ]. ex. [ENTER]
	Axis Keys /Numeric 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]
	Displays	The menu displayed in the programming pendant is denoted with { }. ex. {JOB}

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

HW1483594

1   Outline

1.1   Outline of Upgrade Procedure

The upgrading procedures for the YRC1000 is outlined as follows:

```
                    ┌─────────────────────────────┐
                    │      Upgrading Start         │
                    └─────────────────────────────┘
                                  │
                    ┌─────────────────────────────┐
                    │   SD Card/USB Preparation    │
                    │     (Refer to Chapter 2)     │
                    └─────────────────────────────┘
                                  │
                    ┌─────────────────────────────┐
                    │        Data Back Up          │
                    │     (Refer to Chapter 3)     │
                    └─────────────────────────────┘
                                  │
                    ┌─────────────────────────────┐
                    │   System Software Upgrade    │
                    │     (Refer to Chapter 4)     │
                    └─────────────────────────────┘
                                  │
                    ┌─────────────────────────────┐
                    │ Programming Pendant Upgrade  │
                    │     (Refer to Chapter 5)     │
                    └─────────────────────────────┘
                                  │
                                  ▼
                            ◇─────────────◇              No
                    Is the CMOS data compatible? ─────────────┐
                            ◇─────────────◇                   │
                                  │ Yes                       ▼
                                  │              ┌─────────────────────────┐
                                  │              │  Data rebuild procedure  │
                                  │              │ in the Maintenance mode. │
                                  │              │   (Refer to Chapter 6)   │
                                  │              └─────────────────────────┘
                                  │◄──────────────────────────┘
                                  ▼
                    ┌─────────────────────────────┐
                    │     Upgrading Completed      │
                    └─────────────────────────────┘
```

1-1
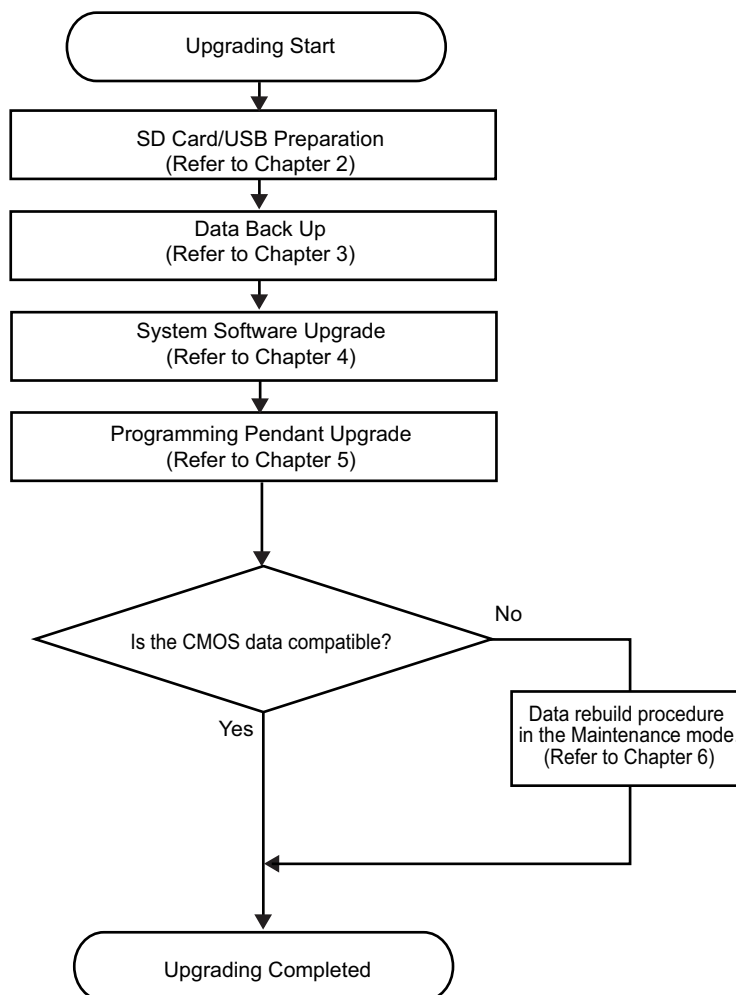
2   SD Card/USB Preparation

To upgrade the YRC1000, it is required to set a SD Card memory card (hereinafter referred to as "SD Card") or a USB memory stick (hereinafter referred to as "USB") into the programming pendant.

This chapter describes on how to prepare the SD Card or USB for upgrading the YRC1000.

2.1   Prearrangements

Prepare the following items when making the SD Card/USB for the YRC1000 upgrade.

- Personal computer with Windows operating system, available to use SD Card/USB. (Windows is a registered trademark of Microsoft Corporation.)

- Data file for upgrade.

- SD Card
  The following SD Card types are recommended for the YRC1000.

<Recommended SD Card>

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

- USB
  The following type is recommended for the YRC1000.

< Recommended USB Memory>

No.	Manufacturer	Model	Remarks
1	Hagiwara Solutions	UDG4-*xGDRJS	1GB, 2GB, and 4GB are available. "x" indicates "1" for "1GB", "2" for "2GB" and "4" for "4GB".

2   SD Card/USB Preparation

2.1   Prearrangements

* 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 upgrading of the programming pendant (refer
> to *chapter 5 "Programming Pendant Upgrade"*).

2.2 Preparing SD Card/USB for Upgrade

Prepare the SD Card/USB for upgrade with a personal computer.

> **NOTE** Be sure to delete all the data in the SD Card/USB before starting the operation.

1. Select the subject file of upgrade.

   – The figure below is an example in case where data exists in E: drive.

2. Run "MK_VX_CF.EXE".

3. Check if the "Source" is correct.
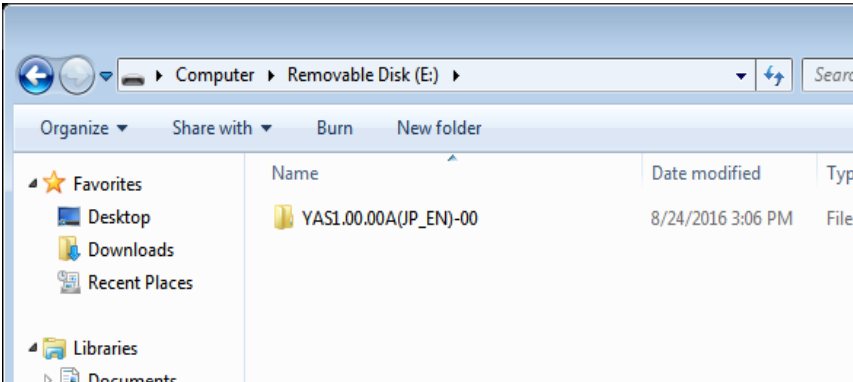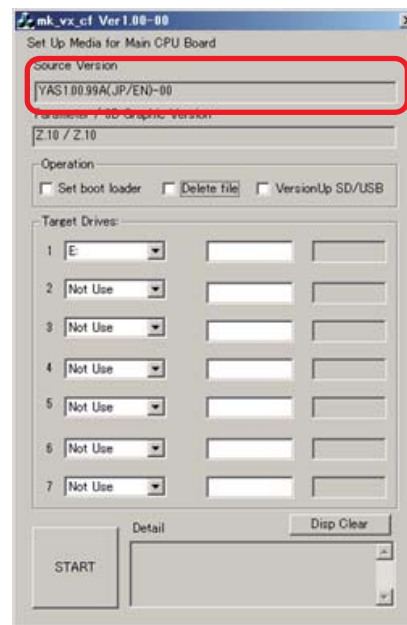
4. Select "VersionUp SD Card/USB".

2   SD Card/USB Preparation
2.2   Preparing SD Card/USB for Upgrade

5. Select a drive to prepare SD Card/USB for upgrade.

SUPPLE
-MENT
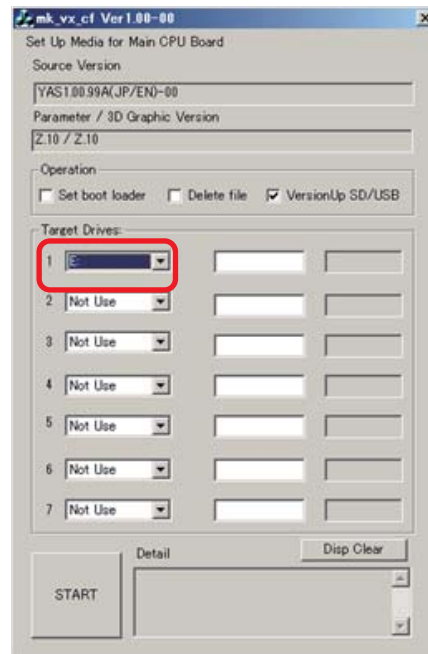
• Up to seven SD Card/USB for upgrade can be prepared at a time. (Depends on the number of drives for SD Card/ USB.)

• The operation will not be executed in case when selecting "Not Use".

6. Start writing data on the SD Card/USB for upgrade by selecting {START}.

7. "OK" indication appears 40 seconds later when the SD Card/USB preparation is successfully completed.
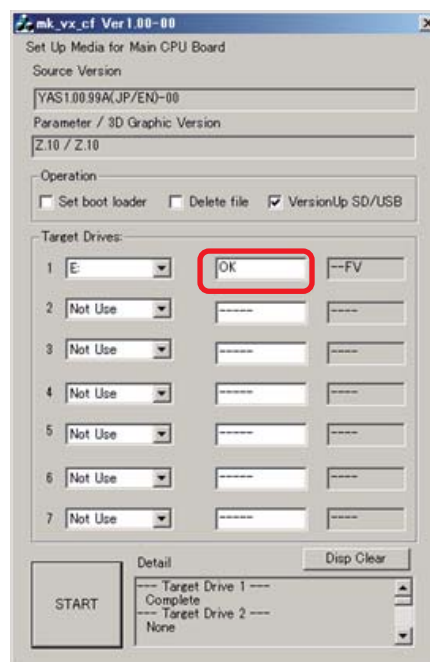
NOTE Even if "OK" is displayed on the above mentioned window, the access lamp on the card reader may not stop blinking. Please check that the lamp is OFF before removing the device from the card reader.

– "NG" indication appears as follows if the operation is unsuccessful.

8. Remove the device.

\<Error causes and countermeasures\>

Cause 1: Out of available space in the SD Card/USB.
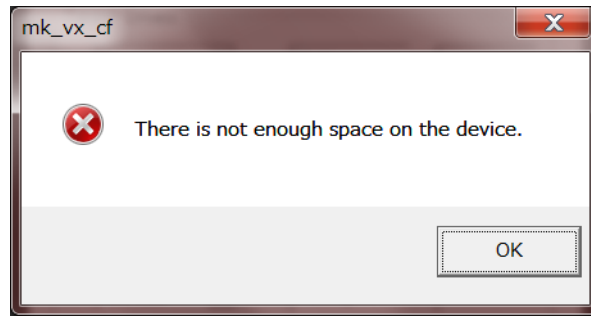
Countermeasure: Delete all the data in the SD Card/USB, and retry the process.

Cause 2: Use of the SD Card/USB not specified in this manual.
Countermeasure: Use the specified SD Card/USB in *chapter 2.1 "Prearrangements"* ".

Cause 3: Damage in the SD Card/USB.
Countermeasure: Replace it with a new one.

3   Data Back Up

Perform the following operation in advance so that the data can be restored if upgrading is unsuccessful.

3.1   Data Back Up

Back up the data which is required for setting up the data after the upgrade in the following procedures:

1. Check if the main power of the YRC1000 is turned OFF.

2. Insert the SD Card or USB prepared in *chapter 2.2 "Preparing SD Card/USB for Upgrade"* into 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.
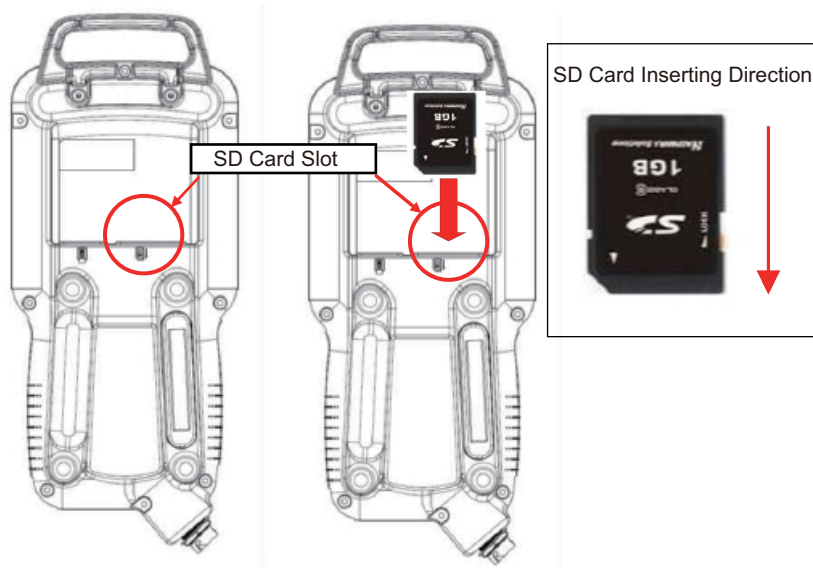
   – Before inserting an USB, remove the rubber cap of the USB connector at the back side of the programming pendant.
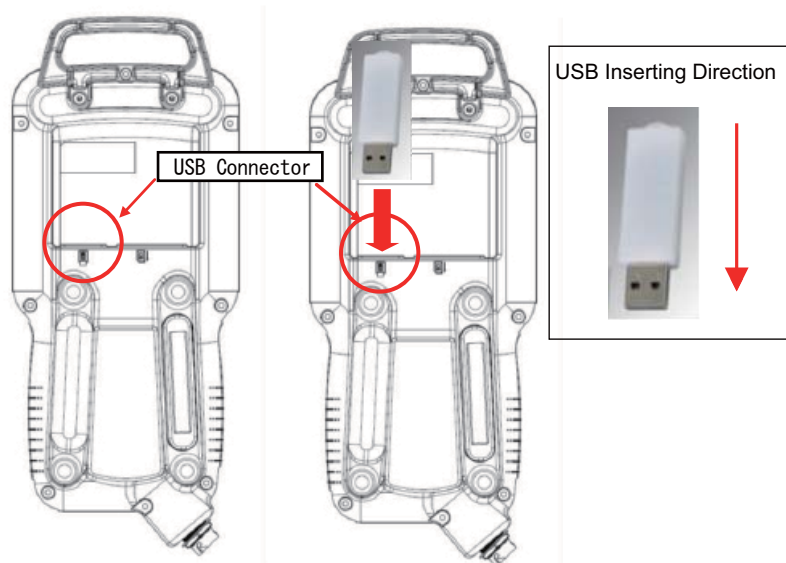
3   Data Back Up
3.1   Data Back Up

3. Turn ON the main power of the YRC1000.

– Approx. 50 seconds later, the main menu window appears on the display of the programming pendant.

JOB	
ARC WELDING	
VARIABLE B001	Please select a Main Menu.
IN/OUT	
ROBOT	
SYSTEM INFO	

Main Menu   Simple Menu   ⓘ Turn on servo power

4. Select {EX. MEMORY} under the main menu. Select {SAVE}, and save all the following data individually:

DATA	EDIT	DISPLAY	UTILITY
EX. MEMORY SD	LOAD		
SETUP	SAVE		
SAFETY FUNC.	VERIFY		
PM	DELETE		
DISPLAY SETUP	DEVICE		
	FOLDER		

Main Menu   Simple Menu
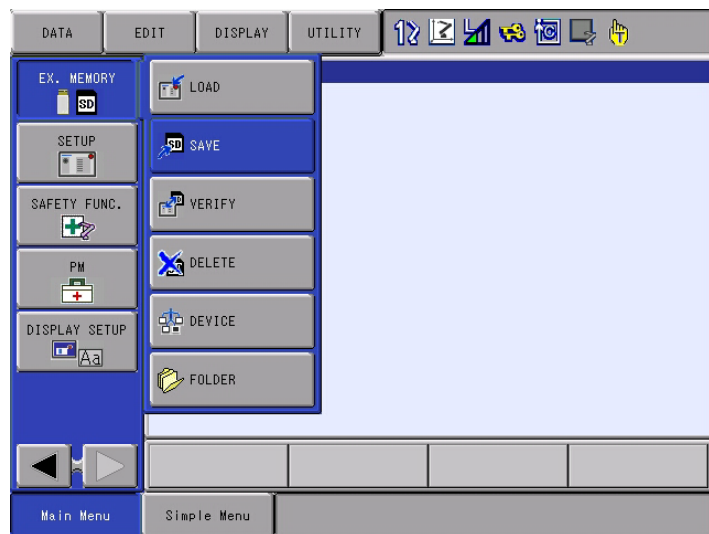
• JOB

• FILE/GENERAL DATA

• PARAMETER

• I/O DATA

• SYSTEM DATA

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3   Data Back Up
3.1   Data Back Up

5. Move the cursor to {JOB} and press [SELECT].
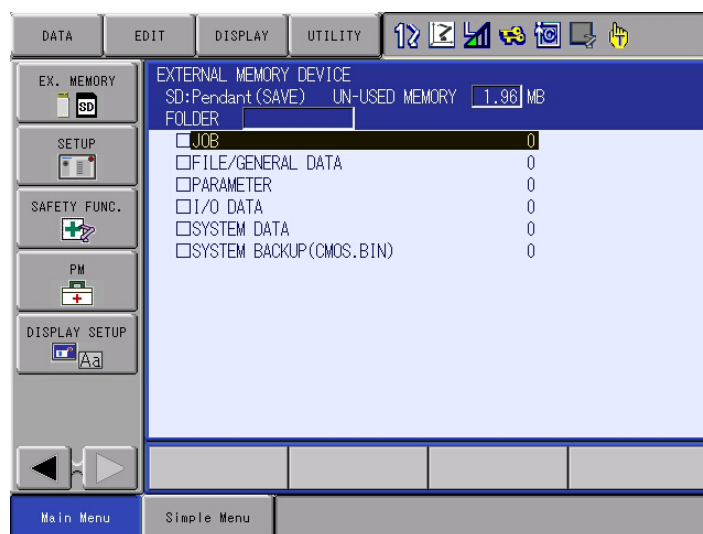
6. Select {EDIT}, then select {SELECT ALL}.
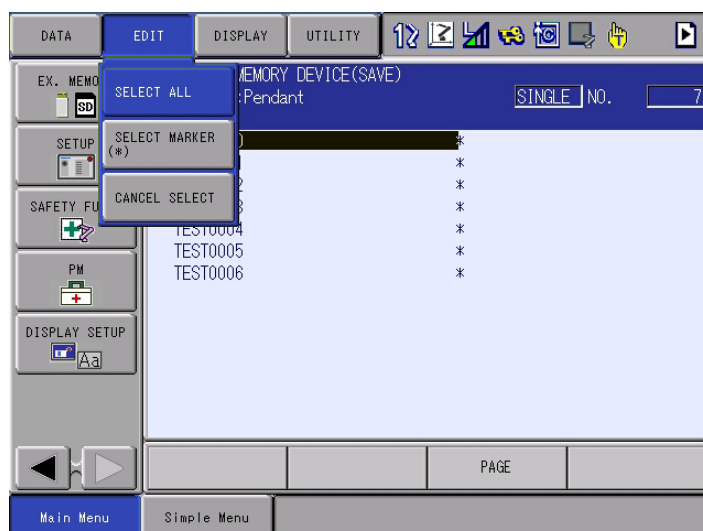
7. When the job is selected, it will be indicated with "★" mark. Press [ENTER] when all the jobs are selected.
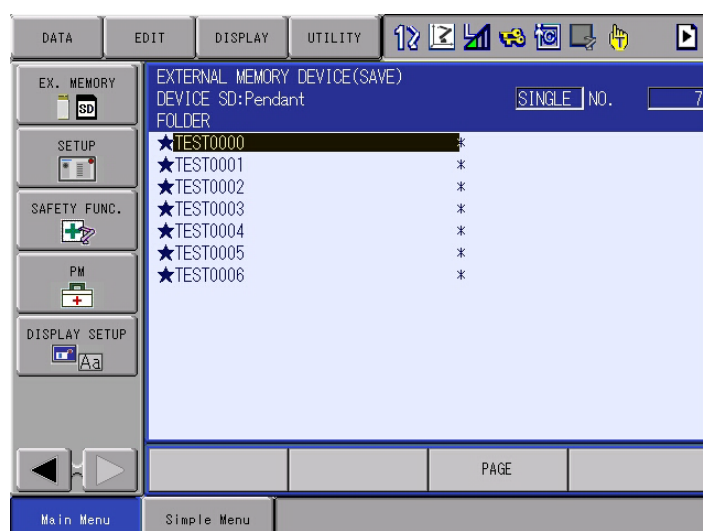
3   Data Back Up
3.1   Data Back Up

8. Select {YES} to start the data saving.
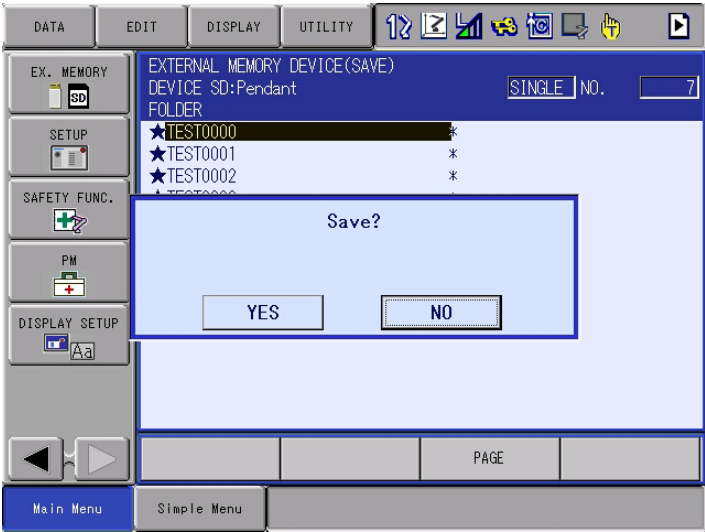
| SUPPLE -MENT | Select [STOP] to stop saving the data. In this case, the window will return to the {JOB LIST} on the step 7. |

9. Each job data is saved individually when the figure on the display changed as shown below.
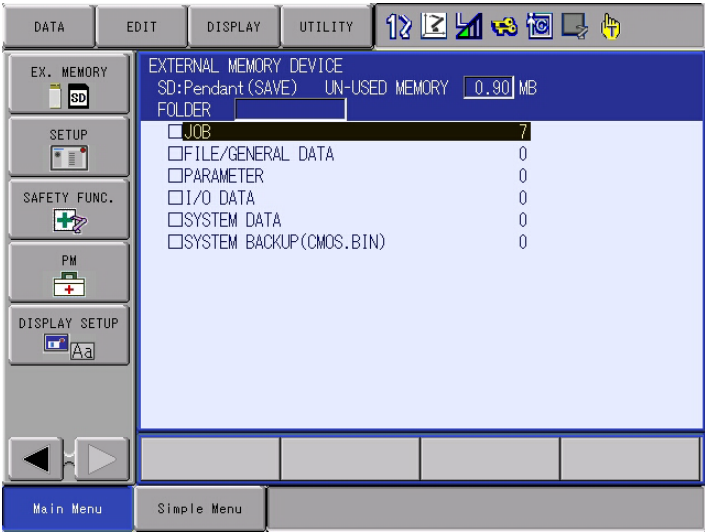
10. Save other individual data in the same way.

3.2 Recording Other Information

The information listed below should be recorded individually because the data are not saved in the SD Card/USB.

- MASTER JOB
- KEY ALLOCATION
- GROUP COMBINATION
- USER ID
- REGISTER SETTING

3.3   Recording Information in Maintenance Mode

1. Turn ON the power supply of the YRC1000 while pressing [MAIN MENU] simultaneously.

MAIN MENU
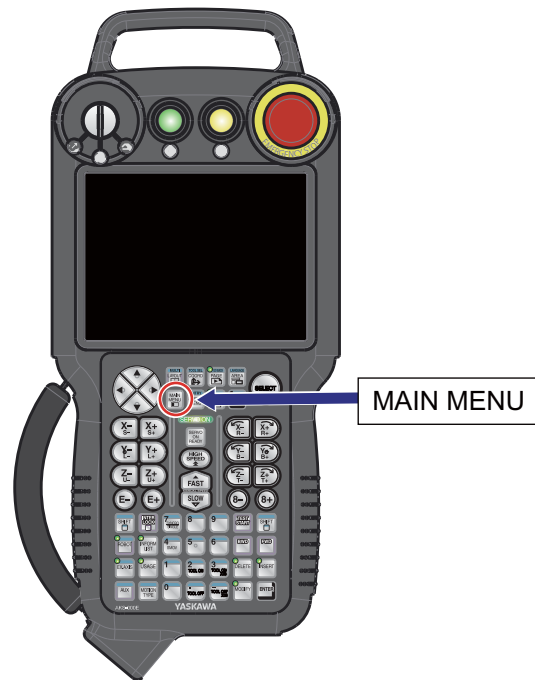
2. Approx. 50 seconds later, the Maintenance mode window appears on the display of the programming pendant.

3. Select {SETUP} under the {SYSTEM}, then save the following data:

  • LANGUAGE

  • CONTROL GROUP (Data of axes configurations, data set for exter-
    nal axis motor, SERVOPACK, etc.)

  • APPLICATION

  • OPTION BOARD (Detailed settings of expansion boards, etc.)

  • OPTION FUNCTION (Detailed settings of optional functions, etc.)

4. Select {EX. MEMORY}, then select {Save}.
    Select {CMOS} to save the binary file "CMOS.BIN".
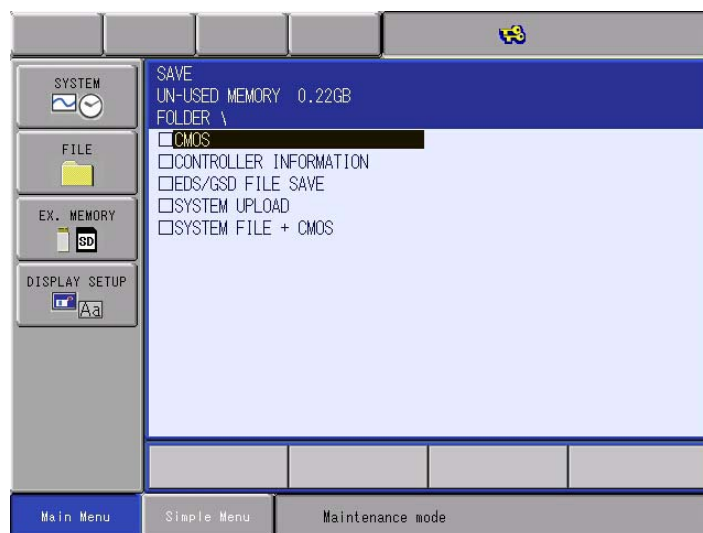
5. Turn OFF the main power of the YRC1000 after the CMOS save is
    completed.

> NOTE   When saving the CMOS.BIN file in a device, specify a
>   device or a folder in advance.

4   System Software Upgrade

4.1   System Software Upgrade

Upgrade the system software following the procedures below.

The upgrade is performed using either the SD Card or USB. If both the SD Card and USB are inserted in the programming pendant, the upgrade is performed using the SD Card.

4.1.1   Upgrade Using SD Card

1. Check if the main power of the YRC1000 is turned OFF.

2. Remove the rubber cap for the SD Card slot on the programming pendant, and insert the SD Card prepared in *chapter 2.2 "Preparing SD Card/USB for Upgrade"* , then insert the SD Card.

   – Pay attention to insert the SD Card in the correct direction.
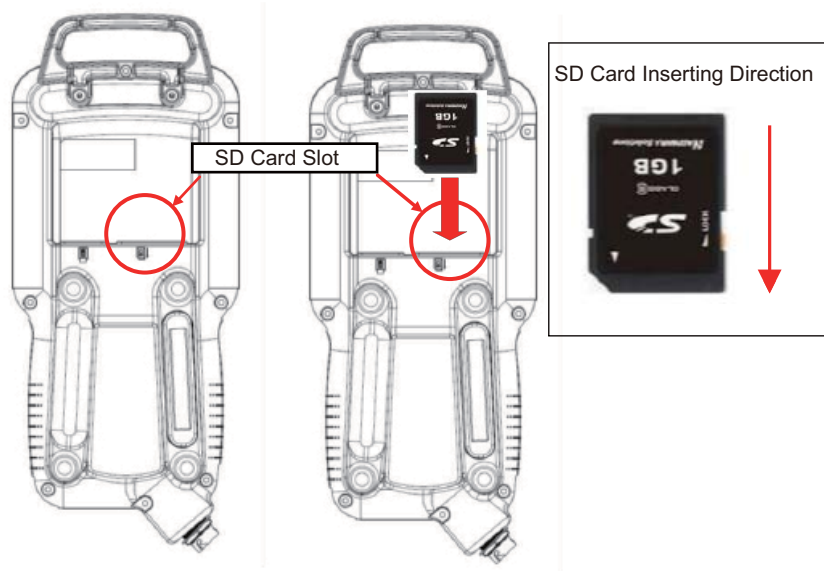
SD Card Slot

SD Card Inserting Direction

4   System Software Upgrade
4.1   System Software Upgrade

3. Turn ON the main power of the YRC1000 while pressing [INTERLOCK] + [8] + [SELECT].

    – Off the hands from the programming pendant when the bitmap image as shown below appears or when the programming pendant beeps.

Bit-map image appears

Press [INTERLOCK] + [8] + [SELECT]

4. The following window appears. Check the version and select {Software Upgrade}.

    – The upgrade starts.

.
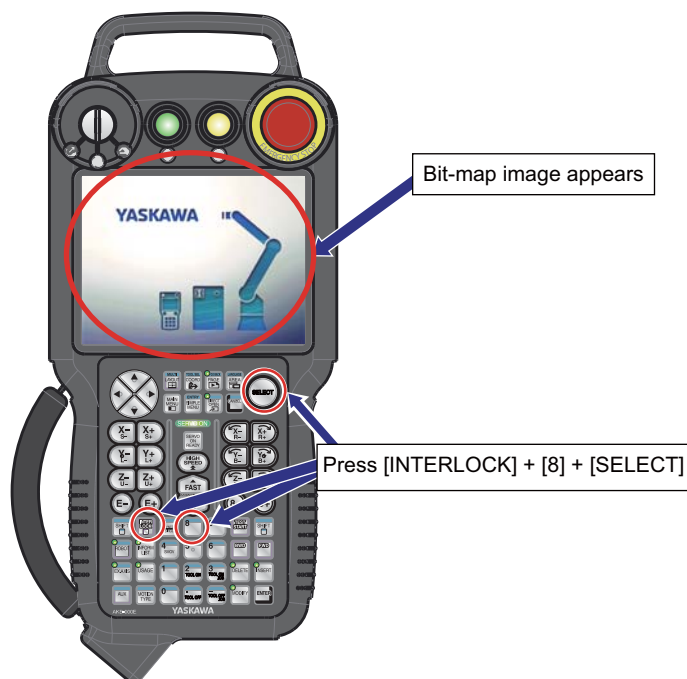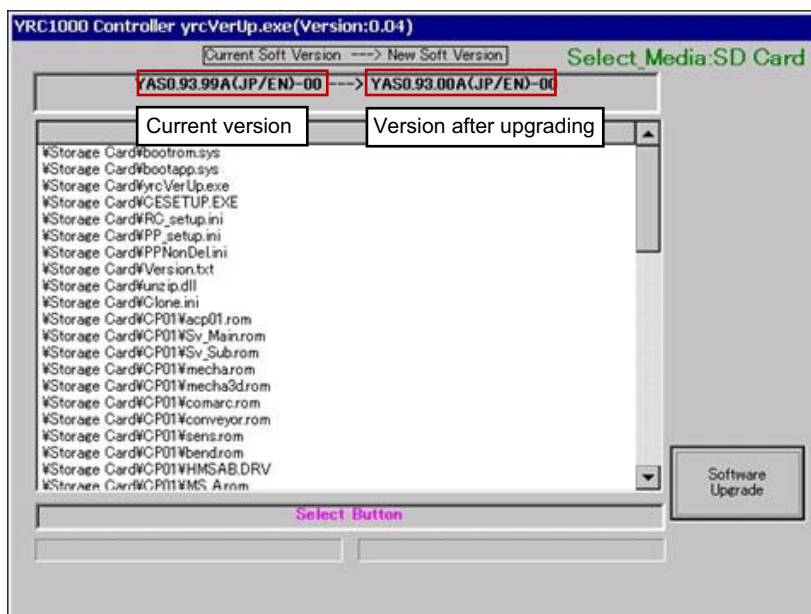
NOTE	If the above mentioned window does not appear, or if an error message appears, perform the corrective actions as follows: (1) Turn OFF the main power of the YRC1000, then remove the SD Card from the SD slot on the programming pendant. Retry the upgrading procedures from *chapter 2.2 "Preparing SD Card/USB for Upgrade"* . (2) If the error status persists in spite of performing the corrective action (1), replace the SD Card or USB with a new one.

– During the upgrade, the lamp of [HOLD] lights, the message "Upgrade Executing" blinks, and the upgrade progress bar and the name of the file being upgraded are shown.

YRC1000 Controller yrcVerUp.exe(Version:0.04)

Current Soft Version ---> New Soft Version   Select_Media:SD Card

YAS0.93.99A(JP/EN)-00 ---> YAS0.93.00A(JP/EN)-00

File Name	Message
¥Storage Card¥bootrom.sys	
¥Storage Card¥bootapp.sys	
¥Storage Card¥yrcVerUp.exe	
¥Storage Card¥CESETUP.EXE	
¥Storage Card¥RC_setup.ini	
¥Storage Card¥PP_setup.ini	
¥Storage Card¥PPNonDel.ini	
¥Storage Card¥Version.txt	
¥Storage Card¥unzip.dll	
¥Storage Card¥Clone.ini	
¥Storage Card¥CP01¥acp01.rom	
¥Storage Card¥CP01¥Sv_Main.rom	
¥Storage Card¥CP01¥Sv_Sub.rom	
¥Storage Card¥CP01¥mecha.rom	
¥Storage Card¥CP01¥mecha3d.rom	
¥Storage Card¥CP01¥comarc.rom	
¥Storage Card¥CP01¥conveyor.rom	
¥Storage Card¥CP01¥sens.rom	
¥Storage Card¥CP01¥bend.rom	
¥Storage Card¥CP01¥HMSAB.DRV	
¥Storage Card¥CP01¥MS_A.rom	

Upgrade Executing

Software Upgrade

PP->RBC 0/60 :   DOCCopy 1/22 : YppMain.zip

Displays the progress of the upgrade operation on the YRC1000 side, and the name of the file being upgraded.	Displays the progress of the upgrade operation on the programming pendant, and the name of the file being upgraded.

5. When the message "Push Power Cycle button" appears, turn OFF the main power of the YRC1000. Or select {Power Cycle} to turn OFF/ON the main power of the YRC1000.

4.1.2   Upgrade Using USB

1. Check if the main power of the YRC1000 is turned OFF.

2. Remove the rubber cap on the back of the programming pendant, and insert the USB prepared in *chapter 2.2 "Preparing SD Card/USB for Upgrade"* .
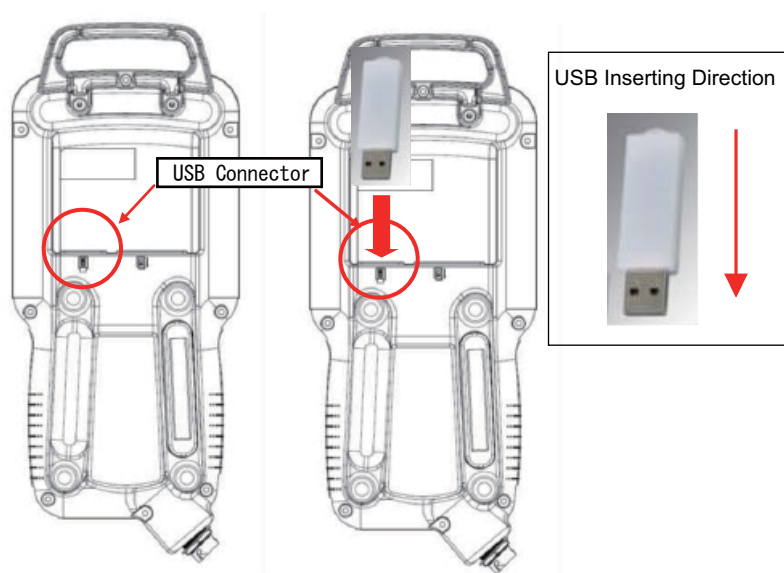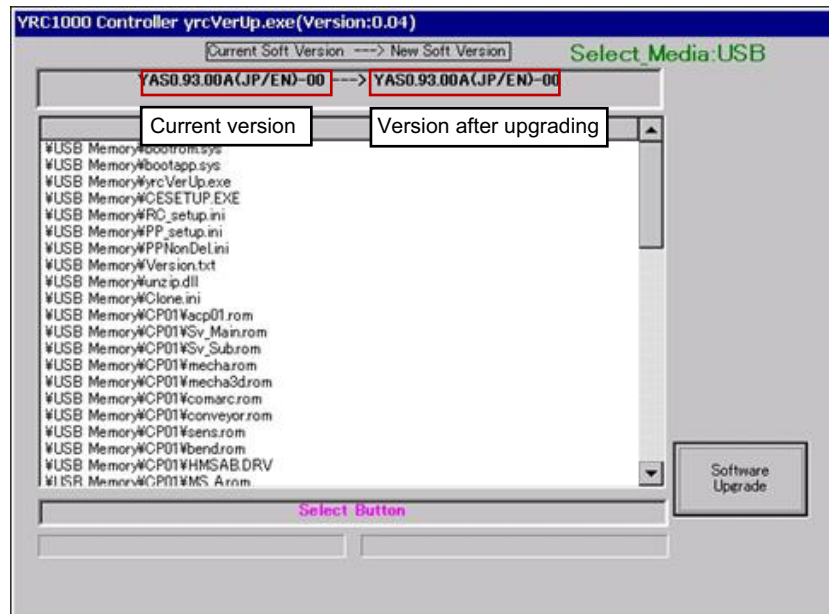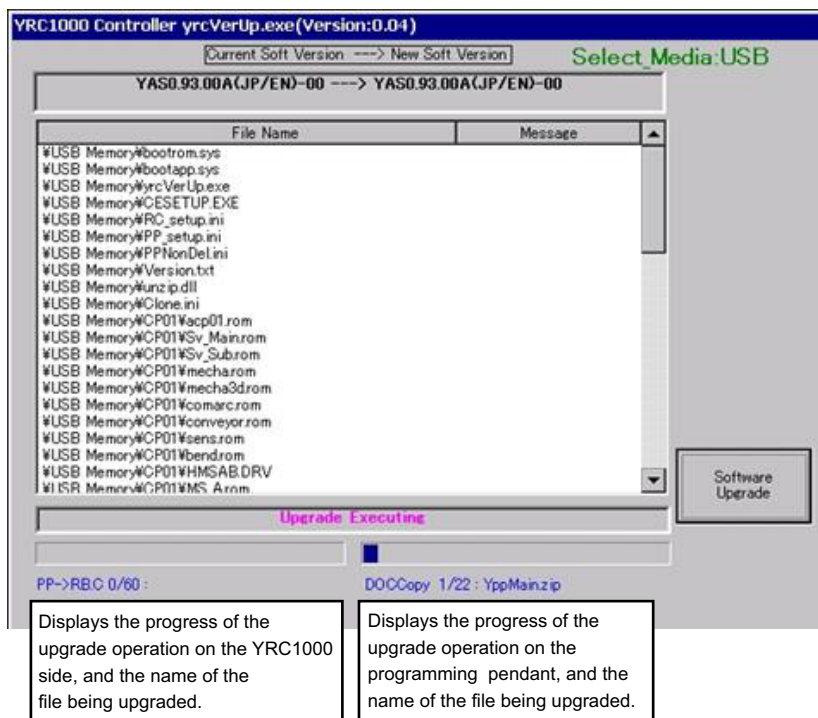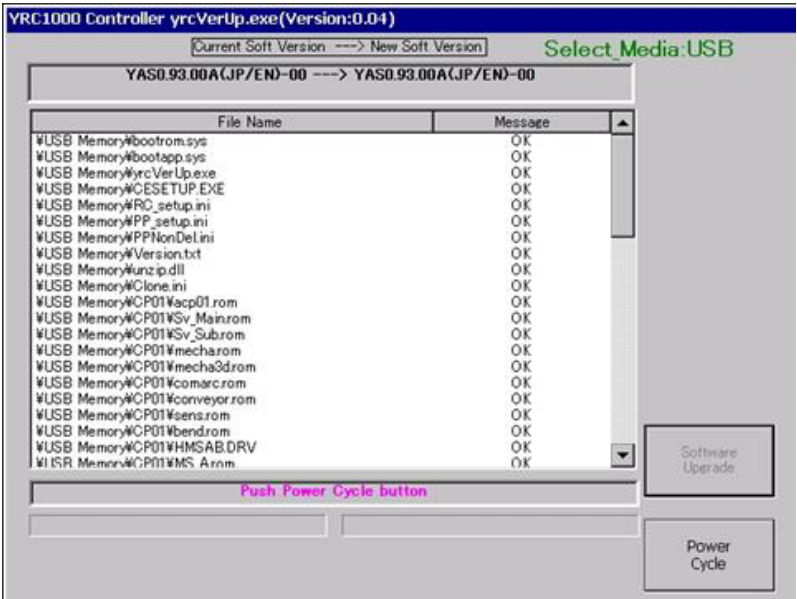
4   System Software Upgrade
4.1   System Software Upgrade

3. Turn ON the main power of the YRC1000 while pressing [INTERLOCK] + [8] + [SELECT].

– Off the hands from the programming pendant when the bitmap image as shown below appears or when the programming pendant beeps.

Bit-map image appears

Press [INTERLOCK] + [8] + [SELECT]
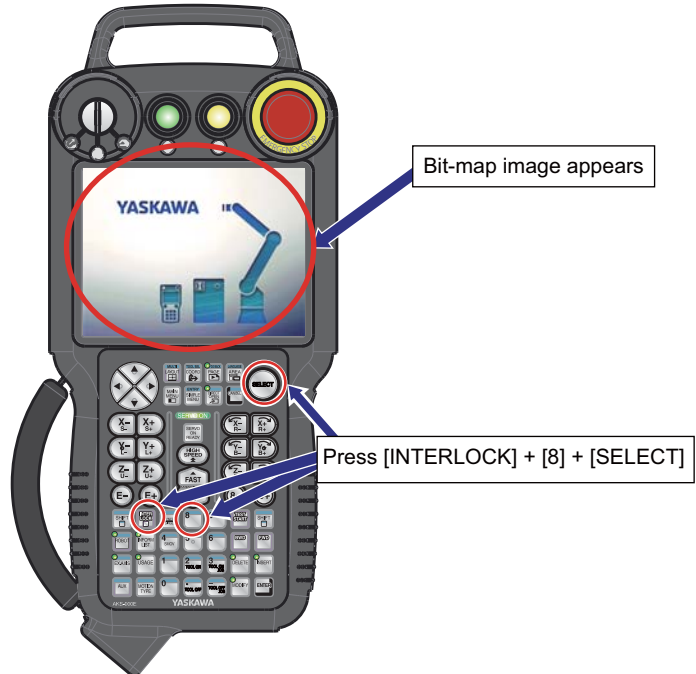
4. The following window appears. Check the version and select {Software Upgrade}.

– The upgrade starts.

> **NOTE**
>
> If the above mentioned window does not appear, or if an error message appears, perform the corrective actions as follows:
>
> (1) Turn OFF the main power of the YRC1000, then remove the USB from the USB connector on the programming pendant. Retry the upgrading procedures from *chapter 2.2 "Preparing SD Card/USB for Upgrade"* .
>
> (2) If the error status persists in spite of performing the corrective action (1), replace the USB with a new one.

– During the upgrade, the lamp of the [START] lights, the message "Upgrade Executing" blinks, and the upgrade progress bar and the name of the file being upgraded are shown. .

| Displays the progress of the upgrade operation on the YRC1000 side, and the name of the file being upgraded. | Displays the progress of the upgrade operation on the programming pendant, and the name of the file being upgraded. |

4   System Software Upgrade

4.1   System Software Upgrade

5. When the message "Push Power Cycle button" appears, turn OFF the
    main power of the YRC1000. Or select {Power Cycle} to turn OFF/ON
    the main power of the YRC1000.

5   Programming Pendant Upgrade

This operation is not necessary when performing a normal upgrade.

Additional information will be provided if this operation is required.

5.1   Programming Pendant Upgrade

Upgrade the system software following the procedures below:

1. Check if the main power of the YRC1000 is turned OFF.

2. Turn ON the main power of the YRC1000 while pressing [2] + [8] +
    [HIGH SPEED].

    –   Off the hands from the programming pendant when the bitmap
        image as shown below appears or when the programming pendant
        beeps.

Bit-map image appears

Press [2] + [8] + [HIGH SPEED]
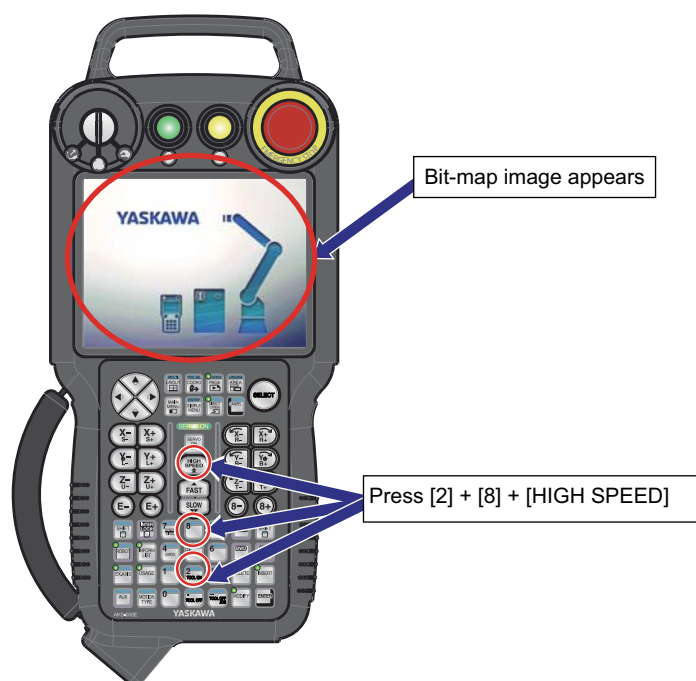
> In case where an alarm sound of the programming pendant
> does not stop with all the LED indications light up, perform
> the corrective actions as follows:
>
> **NOTE**
>
> (1) Turn OFF the main power of the YRC1000, then remove
> the SD Card/USB from the programming pendant. Retry the
> upgrading procedures from *chapter 2.2 "Preparing SD
> Card/USB for Upgrade"* .
>
> (2) If the error status persists in spite of performing the cor-
> rective action (1), replace the SD Card/USB with a new one.

5   Programming Pendant Upgrade
5.1   Programming Pendant Upgrade

– 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>
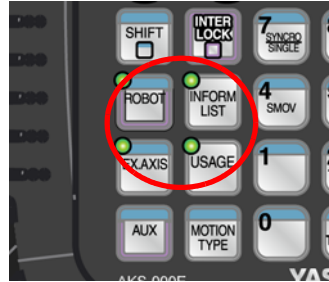
The four LED indicators blink clockwise. The blinking cycle is irregular. (The indicators sometimes blink every one to two seconds, or sometimes four to five seconds.) It takes approx. ten seconds to read the data.

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.

3. The touch panel calibration appears on the display of the programming pendant approx. 7 minutes after turning ON the main power of the YRC1000.

– Press the center of the display panel with a stylus for touch panel for approx. two seconds to perform the touch calibration.
If a stylus for touch panel is not available, use a pointed tool with a soft point, such as a ballpoint pen cap, as a substitute.

4. 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. two seconds at each point.

    – If the touch calibration is failed, the crosshair 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.
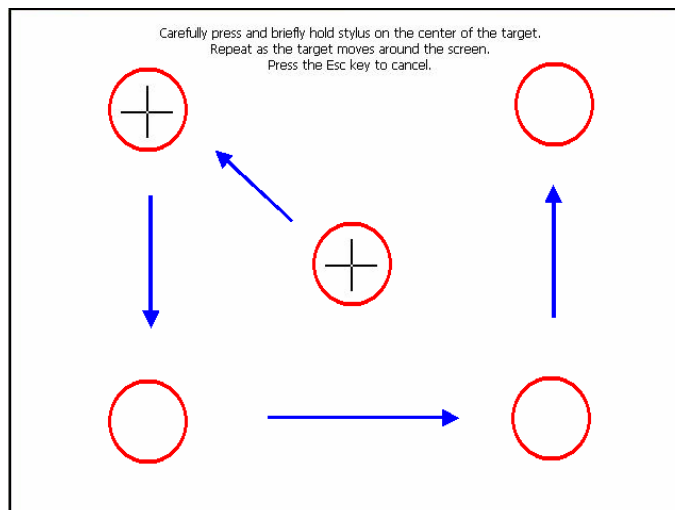
    – When the touch calibration is successfully completed, the following
       display appears.

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

5. The following display appears by pressing [ENTER] on the programming pendant or by touching the display.

(1) Select {OK} to close the dialog box.

(2) Make sure the dialog box has closed, then turn OFF the main power of the YRC1000.
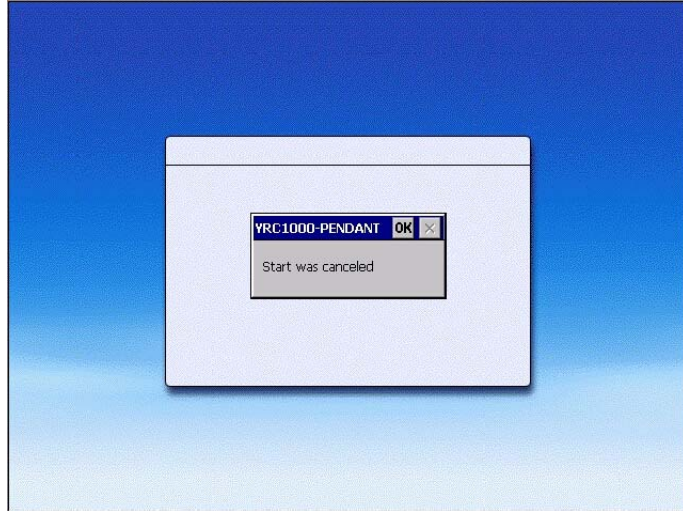
(3) After turning OFF the main power of the YRC1000, be sure to remove the SD Card from the SD Card slot or the USB from the USB connector of the programming pendant.

6. Turn ON the main power of the YRC1000.

– The main menu window appears approx. 50 seconds later.

5   Programming Pendant Upgrade
5.1   Programming Pendant Upgrade

7. Select {SYSTEM INFO} and then {VERSION} under the main menu to confirm the version data.
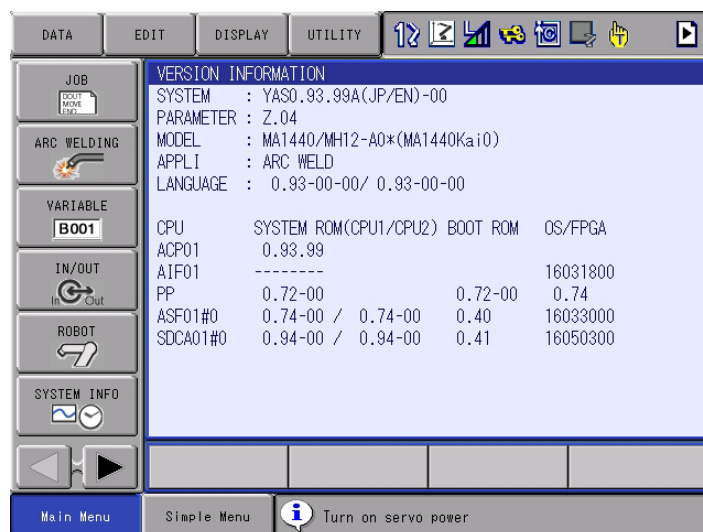
6   Procedure when Data Incompatibility Occurs after Upgrading

Following alarms occur if there is a difference in the data before and after the upgrade.

Alarm			Cause	Remedy
Number	Sub Code	Message (Alarm Name)		
0270	0	MEMORY ERROR (SD BACKUP FILE)	A failure occurs while reading the file defined in the SD Card in the ACP01 board.	Rebuild the data in the Maintenance mode. Perform the procedure in *chapter 6.1 "Data Rebuild Procedure in Maintenance Mode"* .
0300	10	DATA VAERIFICATION ERROR (SYSTEM CONFIGURATION DATA)	A failure occurs due to the data error between the data saved in the safety board and the data sent to the board when the power is turned ON.	Refer to *chapter 6.2 "Reset Procedure for the Safety Board Flash Data in Maintenance Mode"* .
0801	kind of file	FILE LOAD ERROR (ACP01 SD)	A failure occurs while reading the file defined in the SD Card in the ACP01 board.	Rebuild the data in the Maintenance mode. Perform the procedure in *chapter 6.1 "Data Rebuild Procedure in Maintenance Mode"* .
0802	2	FILE I/O ERROR (ACP01 SD)		
0804	None	DATA ACCESS ERROR (VARIABLE AREA)	The structure of the variable data area changed.	
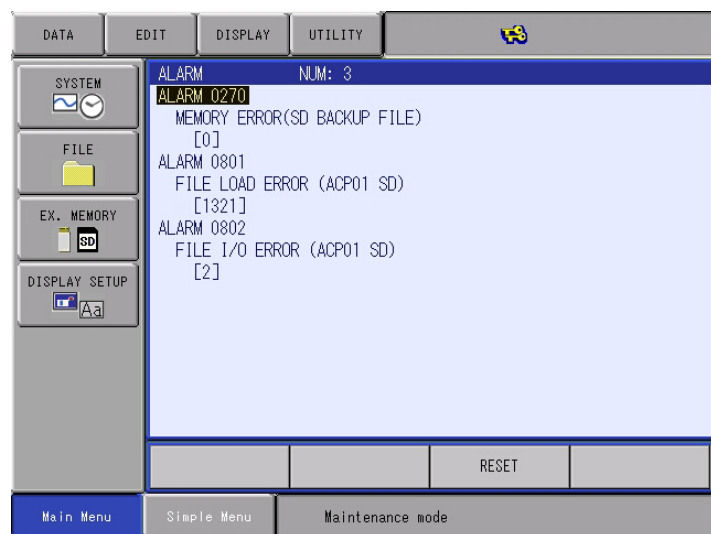
<Example of alarm display window: when a failure occurs while reading the file stored in the SD Card>

6   Procedure when Data Incompatibility Occurs after Upgrading

<Example of alarm display window: when a failure occurs due to the safety board data error>

6.1   Data Rebuild Procedure in Maintenance Mode

Follow the procedure below if the following alarms occur after the upgrade.

- ALARM 0270: MEMORY ERROR(SD BACKUP FILE)

- ALARM 0801: FILE LOAD ERROR (ACP01 SD)

- ALARM 0802: FILE I/O ERROR (ACP01 SD)

- ALARM 0804: DATA ACCESS ERROR (VARIABLE AREA)

1. Select {SYSTEM} then {DATA REBUILD} in MANAGEMENT MODE in the Maintenance mode.

2. Continue the operation by pressing [ENTER]. Select {YES} when "Initialize?" appears.
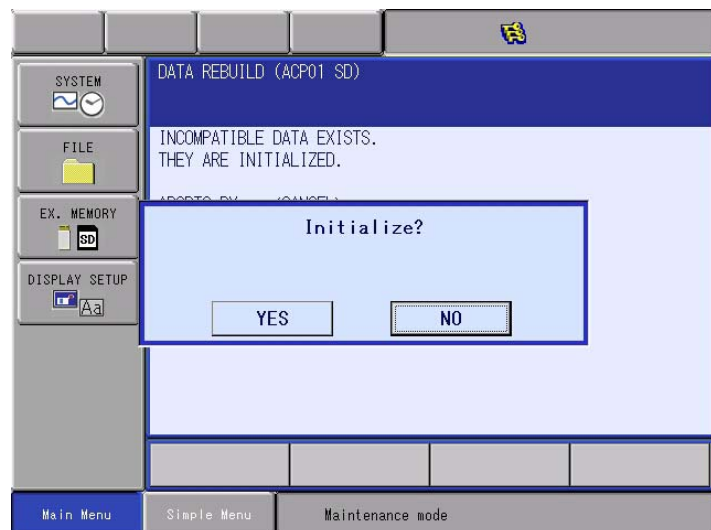
- When the initialization is completed, a beep sounds.

3. After the initialization, turn the power of the YRC1000 OFF then back ON.

6   Procedure when Data Incompatibility Occurs after Upgrading
6.1   Data Rebuild Procedure in Maintenance Mode

4. Turn ON the main power of the YRC1000.

    –   The main menu window appears approx. 50 seconds later.

5. Select {SYSTEM INFO} and then {VERSION} under the main menu to confirm the version data.
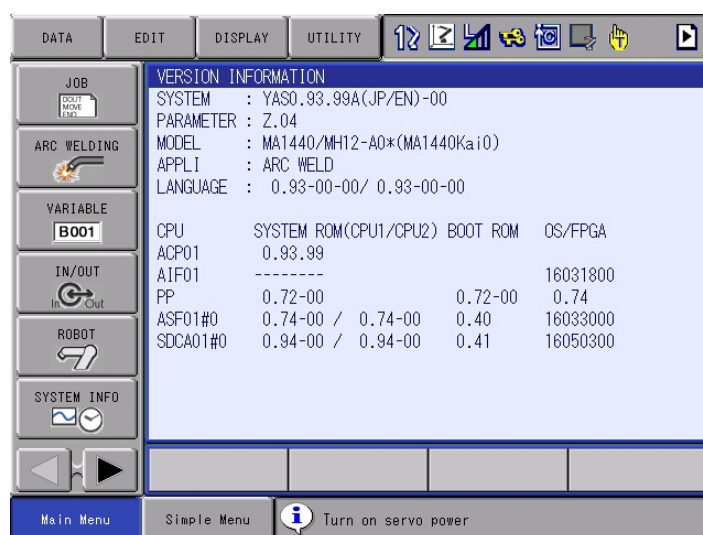
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6 Procedure when Data Incompatibility Occurs after Upgrading
6.2 Reset Procedure for the Safety Board Flash Data in Maintenance Mode

6.2 Reset Procedure for the Safety Board Flash Data in Maintenance Mode

Follow the procedure below if the following alarms occur after the upgrade.

• ALARM 300: VERIFICATION ERROR (SYSTEM CONFIGURATION)

1. Display a window.

   – Select {SYSTEM.INF} - {SECURITY} under the main menu.

2. Change the mode

   – Select {SAFETY MODE}.

   – Input a password for the safety mode and then press [ENTER].

   – A correct password changes the mode to the safety mode.
     When the mode changes to the safety mode, an icon in the status area becomes 🔲 icon.

3. Select Safety Board Flash Reset.

   – Select {FILE} - {INITIALIZE} - "Safety Board FLASH Reset".

4. Select {YES) to a message box saying "Reset?".
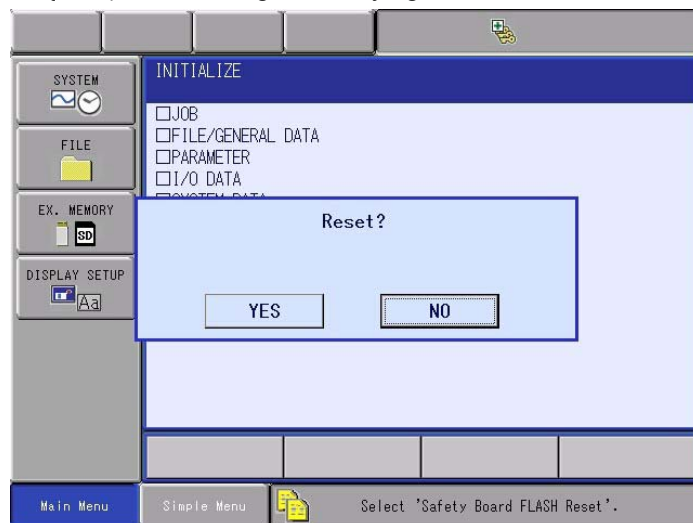
   – When a beep sounds, initialization is complete and a message on the programming pendant disappears.

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6   Procedure when Data Incompatibility Occurs after Upgrading
6.2   Reset Procedure for the Safety Board Flash Data in Maintenance
       Mode

5. Turn OFF/ON the main power of the YRC1000.

    – The main menu window appears approx. 50 seconds later.

6. Select {SYSTEM INFO} and then {VERSION} under the main menu to
    confirm the version data.
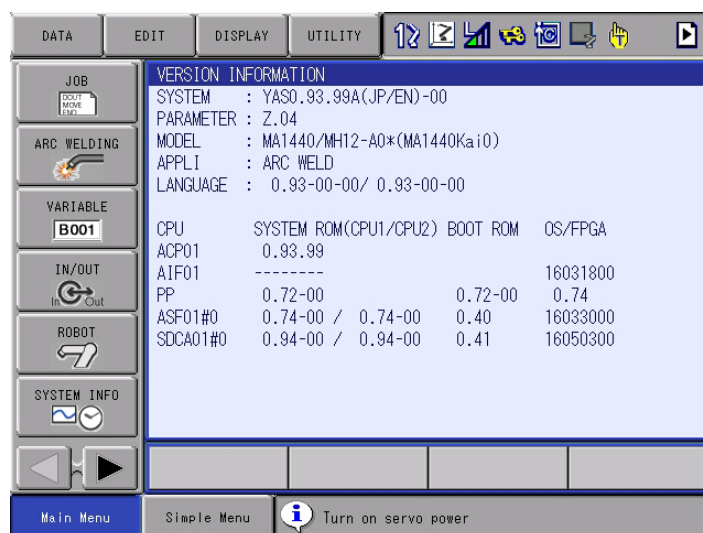
7   Troubleshooting

Perform the following operation if the YRC1000 does not start up normally or does not operate correctly.

7.1   Back Up the SD Card

If the YRC1000 does not start up normally, or if a file load error occurs although the YRC1000 does start up after initialization or data reconstruction, restore the SD Card in the ACP01 board following the instructions below.

ACP01 Board

SD Card Slot
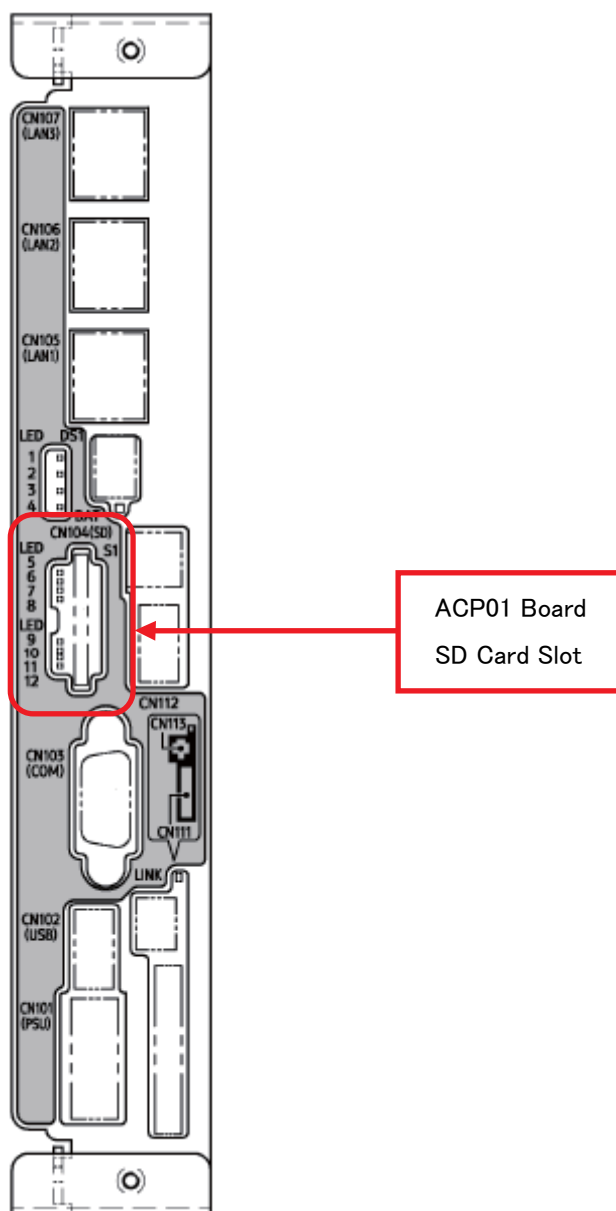
7 Troubleshooting
7.1 Back Up the SD Card

1. Remove the SD Card from the ACP01 board.

2. Connect the SD Card with a personal computer, save the data in the SD Card to an appropriate location.

3. Then delete all the data from the SD Card.

   – If no error occurs when deleting all the data from the SD Card, proceed to the following procedures starting from step 4.

   (1) Right-click on the removable disk drive where the SD Card is inserted, and click {Properties}.
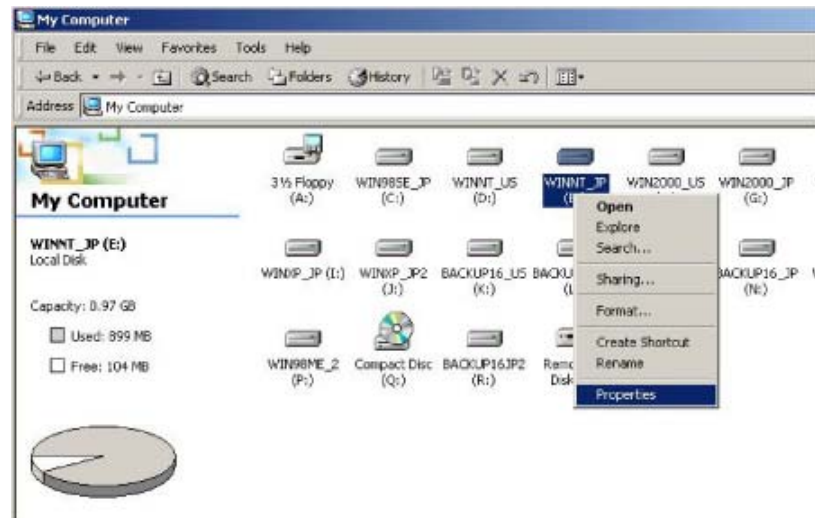
   (2) Then, click the {Tools} tab and click {Check Now} in the "Error-checking" box.

(3) Tick the check boxes in the "Check disk options" and click {Start}.

4. Perform the same operations as described in *chapter 2.2 "Preparing SD Card/USB for Upgrade"*. At this time, do not check any item in the "Operation" box, and just click {START}.

  – Only the files used in the ACP01 board are copied into the SD Card.
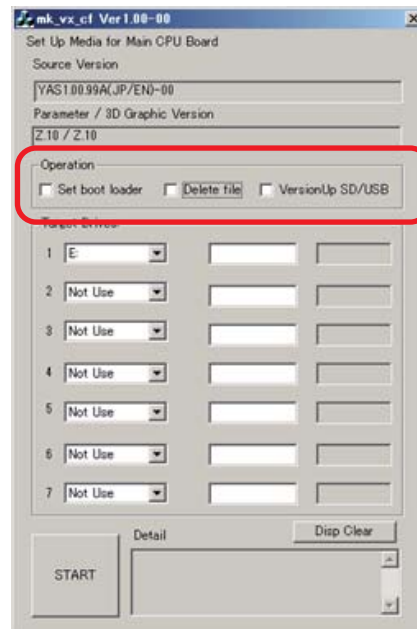
5. After the files are copied into the SD Card, return it to the ACP01 board.

6. Perform initialization in the Maintenance mode.

7.2   How to Restore Programming Pendant when Application Does Not Start

Followings are the restoring procedures when the application of the programming pendant does not start.

1. Prepare the SD Card for upgrading the YRC1000.
   The SD Card can be replaced with the USB.
   The preparing procedure using the SD Card is described in this manual.

2. Insert the SD Card for upgrading the YRC1000 to the SD Card slot on the programming pendant. Turn ON the main power of the YRC1000 by pressing [2] + [8] + [HIGH SPEED]. The YRC1000 is started-up in the Programming Pendant OS (Windows Embedded Compact7) writing mode. Then, calibrate the touch panel. Window 1 appears as follows when the calibration is completed.

Window1

YRC1000-PENDANT OK ✕

Start was canceled

Touch OK or press [ENTER] on the programming pendant,
and the following message box disappears.

3. Select [Start] + [Programs] + [Windows Explorer] in Window 2.
    Then, Window 3 appears.

Window 2

Window 3

4.   When Window 3 appeared as follows, either double click "Storage Card" folder or move the cursor to "Storage Card" folder and press [ENTER].
The list of files stored in "Storage Card" folder appears.
Double click "CESETUP.EXE" folder or move the cursor to "CESETUP.EXE" folder and press [ENTER].
Then, Window 4 appears.

Select "USB Memory" in place of "Storage Card" in case USB is used for the repairing operation.

Window 4
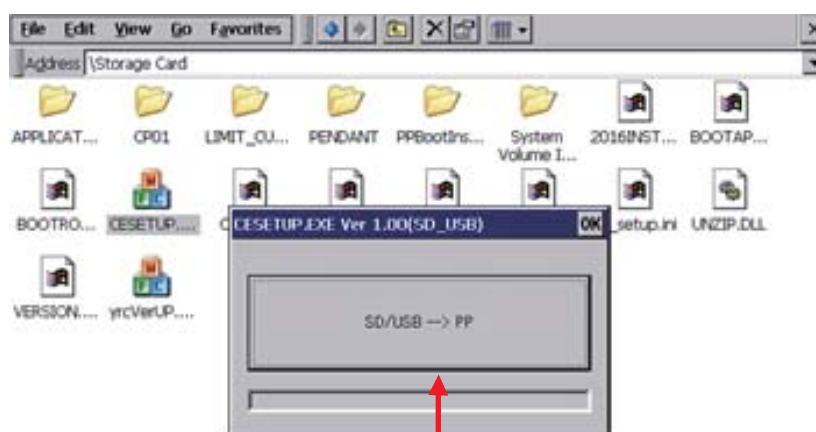
Press "SD/USB--> PP" button, then the programming pendant application file stored in {Storage Card} folder (CompactFlash) is copied to {DeskOnChip} folder.
After copying is completed, Window 5 appears .

5. When Window 5 appeared, turn OFF the main power of the YRC1000. Insert the SD Card for upgrading the YRC1000, then turn ON the main power again by pressing [INTERLOCK] + [8] + [SELECT]. The window for upgrade appears, then, select {Software Upgrade} to execute upgrade.
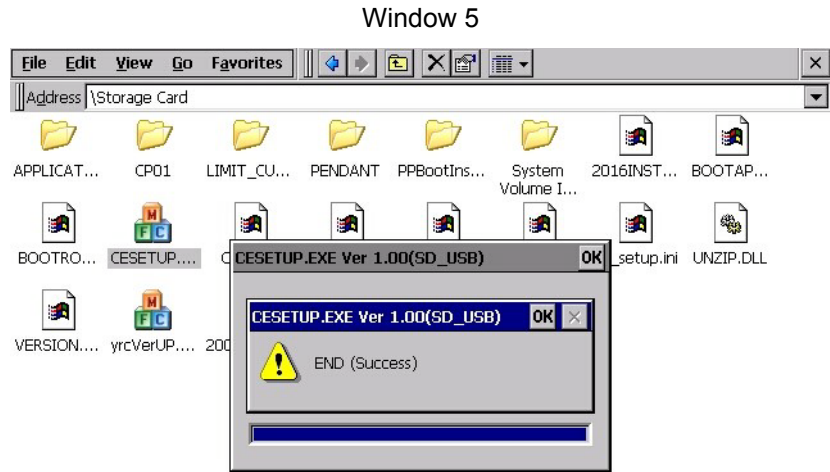
Window 5

6. When upgrade operation is completed, turn OFF/ON the main power of the YRC1000.

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7   Troubleshooting
7.3   Countermeasures when Menu Window does not Appear on the
         Programming Pendant Window.

7.3   Countermeasures when Menu Window does not Appear on the Programming Pendant Window.

Followings show the countermeasures when Menu Window does not appear on the programming pendant window.

Failure 1: Even 30 seconds after the YRC1000 main power supply is turned ON, all the ACP01 7-segment LED indicator remain lit "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 ACP01.	Insert a SD Card into the SD Card slot of ACP01.
2	The SD Card is defective.	Replace the SD Card with a new one.

Failure 2: Although the ACP01 7-segment LED indicator counts up from "0" to "d", the message appears on the programming pendant screen.

No.	Cause	Remedy
1	The Ethernet cable is not connected to CN105 (LAN port) of ACP01.	Connect the Ethernet cable to CN105 (LAN port) of ACP01.
2	The connectors of the cable for the programming pendant are not connected to the connectors on the YRC1000 or on the programming pendant.	Connect the cable for the programming pendant.
3	The programming pendant cable is defective due to disconnection, etc.	Replace the programming pendant cable with a new one.
4	The programming pendant is out of order.	Replace the programming pendant with a new one.

YRC1000 OPTIONS
UPGRADE PROCEDURE MANUAL

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

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