

FS100 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
- FS100 INSTRUCTIONS
- FS100 OPERATOR'S MANUAL
- FS100 MAINTENANCE MANUAL

Part Number: 160725-1CD
Revision: 0



MANDATORY

- This manual explains the upgrading procedures of the FS100 system. Read this manual carefully and be sure to understand its contents before handling the FS100.
- General items related to safety are listed in the Section 1: Safety of the FS100 Instructions. To ensure correct and safe operation, carefully read the FS100 Instructions before reading this manual.



CAUTION

- Some drawings in this manual are shown with the protective covers or shields removed for clarity. Be sure all covers and shields are replaced before operating this product.
- 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.
- YASKAWA is not responsible for incidents arising from unauthorized modification of its products. Unauthorized modification voids your product's warranty.

Notes for Safe Operation

Read this manual carefully before installation, operation, maintenance, or inspection of the FS100.

In this manual, the Notes for Safe Operation are classified as “WARNING”, “CAUTION”, “MANDATORY”, or “PROHIBITED”.



WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to personnel.



CAUTION

Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury to personnel and damage to equipment. It may also be used to alert against unsafe practices.



MANDATORY

Always be sure to follow explicitly the items listed under this heading.



PROHIBITED

Must never be performed.

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



To ensure safe and efficient operation at all times, be sure to follow all instructions, even if not designated as “CAUTION” and “WARNING”.



WARNING

- Confirm that no person is present in the manipulator's operating range and that you are in a safe location before:
 - Turning ON the FS100 power.
 - Moving the manipulator with the programming pendant.
 - Running the system in the check mode.
 - Performing automatic operations.

Injury may result if anyone enters the manipulator's operating range during operation. Always press the emergency stop button immediately if there is a problem. The emergency stop button is located on the right of the programming pendant.

- Observe the following precautions when performing teaching operations within the manipulator's operating range:
 - View the manipulator from the front whenever possible.
 - Always follow the predetermined operating procedure.
 - Keep in mind the emergency response measures against the manipulator's unexpected motion toward you.
 - Ensure that you have a safe place to retreat in case of emergency.

Improper or unintended manipulator operation may result in injury.

- Before operating the manipulator, check that servo power is turned OFF when the emergency stop button on the programming pendant is pressed.
When the servo power is turned OFF, the SERVO ON LED on the programming pendant is turned OFF.

Injury or damage to machinery may result if the emergency stop circuit cannot stop the manipulator during an emergency. The manipulator should not be used if the emergency stop button does not function.

Fig. : Emergency Stop Button



- 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 5-6 pin and 16-17 pin of the robot system signal connector (CN2).
- Upon shipment of the FS100, 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.



WARNING

- Once the emergency stop button is released, clear the cell of all items which could interfere with the operation of the manipulator. Then turn the servo power ON.

Injury may result from unintentional or unexpected manipulator motion.

Fig. : Release of Emergency Stop



CAUTION

- Perform the following inspection procedures prior to conducting manipulator teaching. If problems are found, repair them immediately, and be sure that all other necessary processing has been performed.
 - Check for problems in manipulator movement.
 - Check for damage to insulation and sheathing of external wires.
- Always return the programming pendant to the hook on the cabinet of the FS100 after use.

The programming pendant can be damaged if it is left in the manipulator's work area, on the floor, or near fixtures.

- Read and understand the Explanation of Warning Labels in the FS100 Instructions before operating the manipulator.

Definition of Terms Used Often in This Manual




The MOTOMAN is the YASKAWA industrial robot product.

The MOTOMAN usually consists of the manipulator, the FS100 controller, manipulator cables, the FS100 programming pendant (optional), and the FS100 programming pendant dummy connector (optional).

In this manual, the equipment is designated as follows:

| Equipment | Manual Designation |
|--------------------------------------------------|-------------------------------------|
| FS100 controller | FS100 |
| FS100 programming pendant | Programming pendant |
| Cable between the manipulator and the controller | Manipulator Cable |
| FS100 programming pendant dummy connector | Programming pendant dummy connector |

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

| Equipment | | Manual Designation |
|---------------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Programming Pendant | Character Keys | The keys which have characters printed on them are denoted with []. e.g. [ENTER] |
| | Symbol Keys | The keys which have a symbol printed on them are not denoted with [] but depicted with a small picture. e.g. PAGE key  The cursor key is an exception, and a picture is not shown. |
| | Axis Keys Numeric Keys | “Axis keys” and “Numeric keys” 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. e.g. SHIFT key  + COORD key  |
| | 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 |

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 the SELECT key is pressed.

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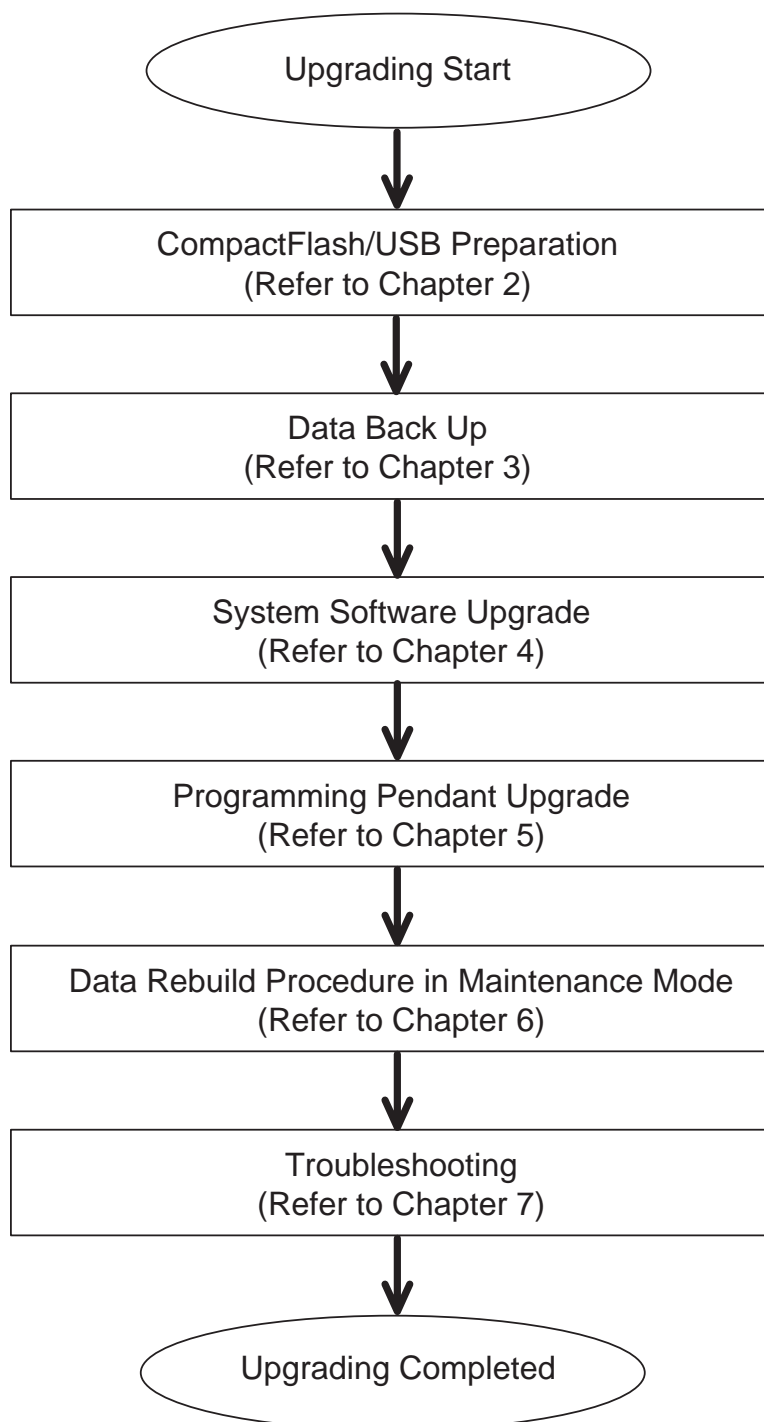
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1 Outline

1.1 Outline of Upgrade Procedure

The upgrading procedures for the FS100 is outlined as follows:



| | | |
|-------|-----|---------------------------------------------|
| | 2 | Preparation of CompactFlash/USB for Upgrade |
| FS100 | 2.1 | Prearrangements |

2 Preparation of CompactFlash/USB for Upgrade

To upgrade the FS100, it is required to set a CompactFlash memory card (hereinafter referred to as “CompactFlash”) or a USB memory stick (hereinafter referred to as “USB”) into the programming pendant.

This chapter describes on how to prepare the CompactFlash card or USB memory stick for upgrading the FS100 (hereinafter referred to as “CompactFlash/USB for upgrade”).

2.1 Prearrangements

Prepare the following items when making “CompactFlash/USB for upgrade”.

- Personal computer with Windows operating system, available to use CompactFlash or USB. (Windows is a registered trademark of Microsoft Corporation.)
- Data file for upgrade.
- CompactFlash or USB
The following types are recommended for FS100.

<Recommended CompactFlash>

| No. | Manufacturer | Model | Remarks |
|-----|------------------------------|--------------|---------|
| 1 | Hagiwara Solutions Co., Ltd. | MCF10P-256MS | 256MB |
| 2 | Hagiwara Solutions Co., Ltd. | MCF10P-512MS | 512MB |
| 3 | Hagiwara Solutions Co., Ltd. | MCF10P-A01GS | 1GB |
| 4 | Hagiwara Solutions Co., Ltd. | MCF10P-A02GS | 2GB |

< Recommended USB>

| No. | Manufacturer | Model | Remarks |
|-----|------------------------------|-------------|----------------------------------------------|
| 1 | Hagiwara Solutions Co., Ltd. | UDG4-xGBRJS | “x” denotes the capacity: 1 GB, 2GB, or 4 GB |



The abovementioned CompactFlash or USB with different capacity can also be used.

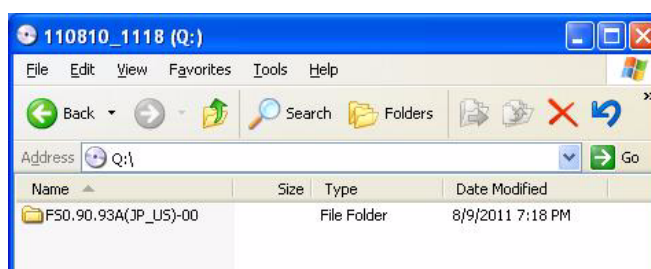
2.2 Preparation of CompactFlash/USB for Upgrade

Prepare “CompactFlash/USB for upgrade” by using a personal computer.

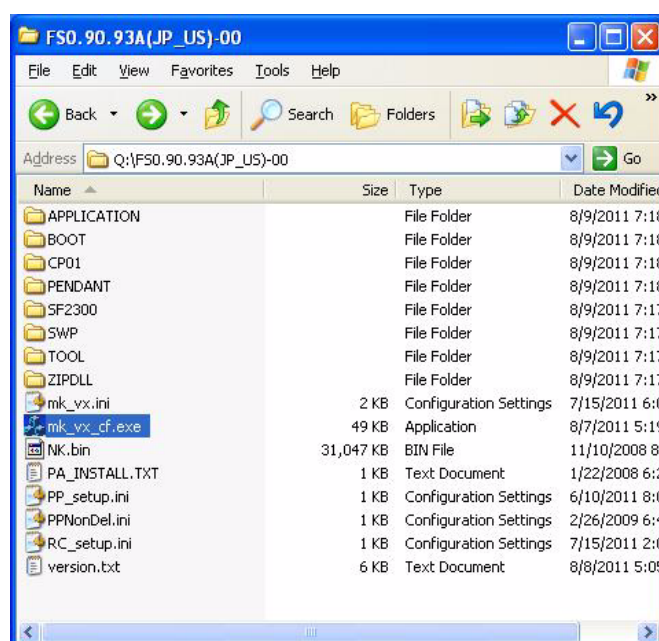


Be sure to delete all the data in the CompactFlash or USB before starting the operation.

1. Select the subject file of upgrade.
 - The figure below is an example in case where data exists in a CD.



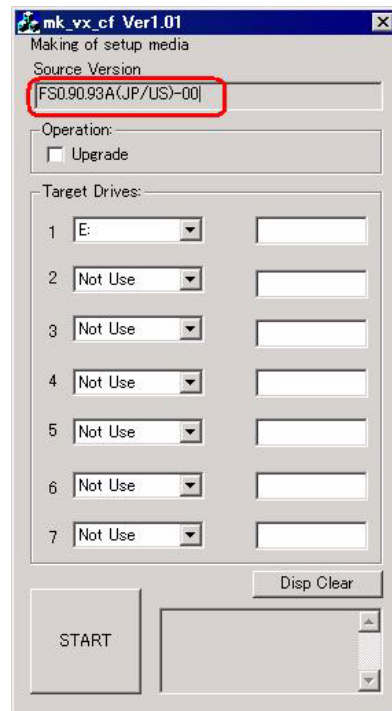
2. Run “MK_VX_CF.EXE”.



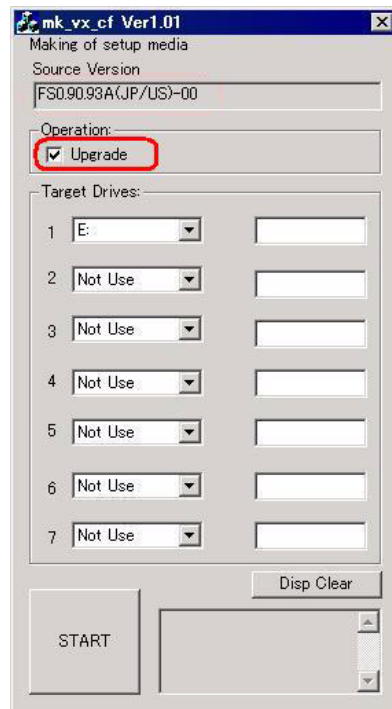
2 Preparation of CompactFlash/USB for Upgrade

2.2 Preparation of CompactFlash/USB for Upgrade

3. Check if the "Source Version" is correct.



4. Select the check box "Upgrade" of "Operation".

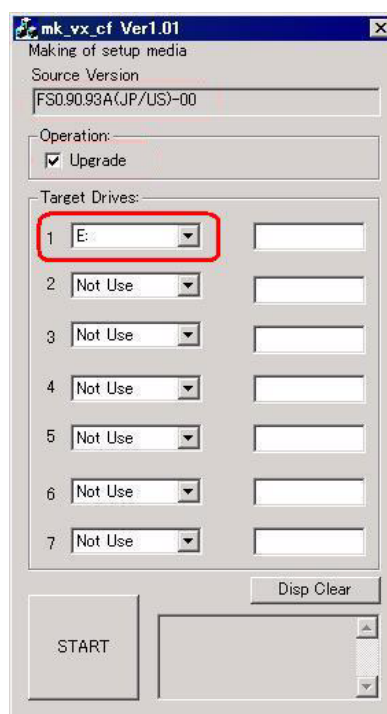


FS100

2 Preparation of CompactFlash/USB for Upgrade

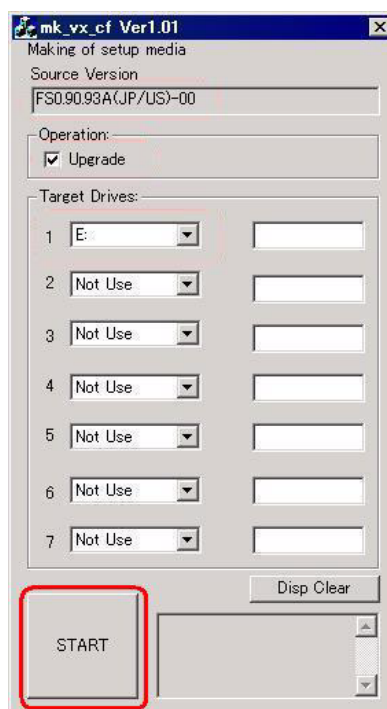
2.2 Preparation of CompactFlash/USB for Upgrade

5. Select a drive to prepare "CompactFlash/USB for upgrade".



- Up to seven "CompactFlash/USB for upgrade" can be prepared at one time. (Depends on the number of drives for CompactFlash or USB.)
- The operation will not be executed in the case when "Not Use" is selected.

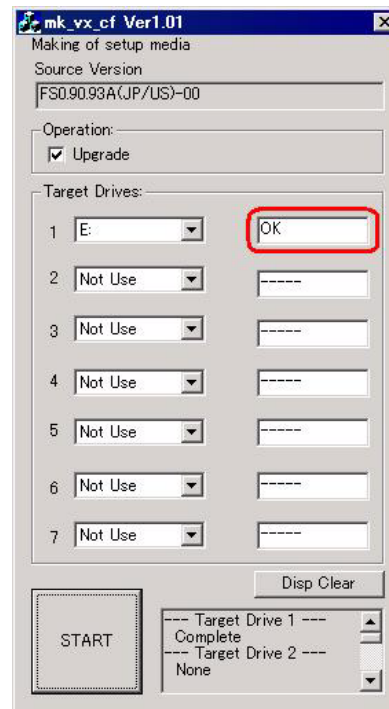
6. Select "START".



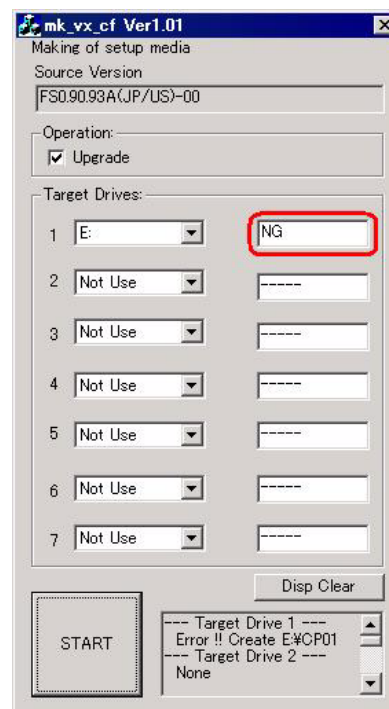
2 Preparation of CompactFlash/USB for Upgrade

2.2 Preparation of CompactFlash/USB for Upgrade

7. "OK" appears 50 seconds later if "CompactFlash/USB for upgrade" preparation is successfully completed.



- "NG" appears if "CompactFlash/USB for upgrade" preparation is not completed.



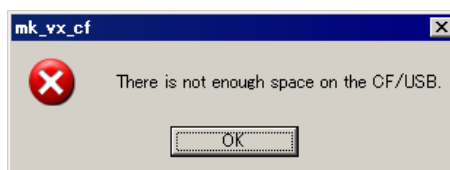
Refer to the following "Error causes and countermeasures".

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2 Preparation of CompactFlash/USB for Upgrade
2.2 Preparation of CompactFlash/USB for Upgrade

<Error causes and countermeasures>

Cause 1: Out of available space in the CompactFlash or USB.



Countermeasure: If the above message box appears, delete all the data in the CompactFlash or USB, and then retry the process.

Cause 2: Use of the CompactFlash or USB not recommended in this manual.

Countermeasure: Use the recommended CompactFlash or USB in *chapter 2.1 "Prearrangements" at page 2-1*.

Cause 3: Damage in the CompactFlash or USB.

Countermeasure: Replace it with a new one.

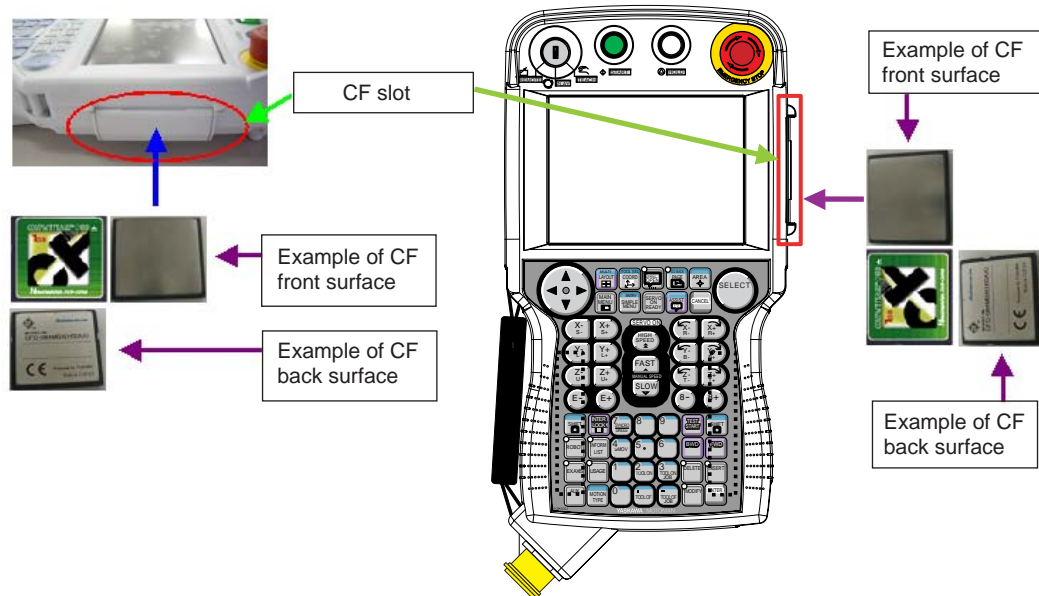
3 Data Backup

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

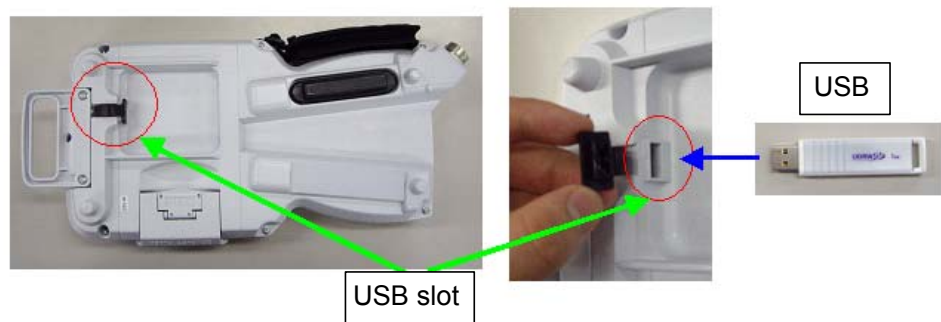
3.1 Data Backup in Online Mode

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

1. Turn OFF the main power of the FS100.
2. Insert the CompactFlash or USB for data backup into the programming pendant.
 - Open the CF slot cover to insert the CompactFlash. Pay attention to insert the CompactFlash in the correct direction. After that, close the CF slot cover.



- When inserting the USB, remove the rubber cap on the USB slot on the back of the programming pendant.



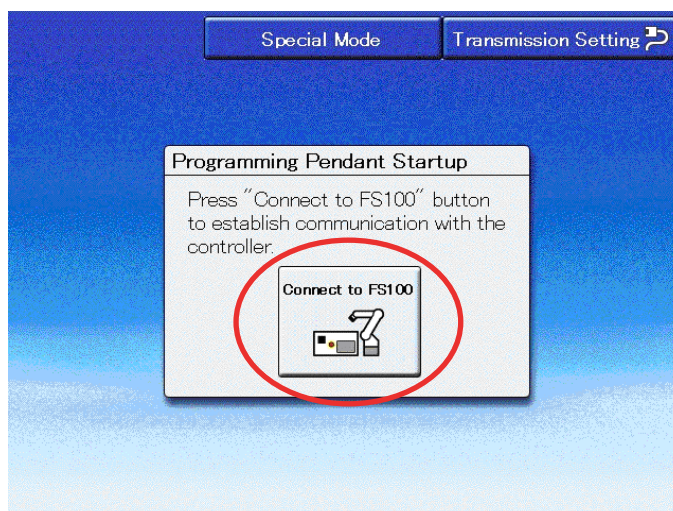
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3 Data Backup

3.1 Data Backup in Online Mode

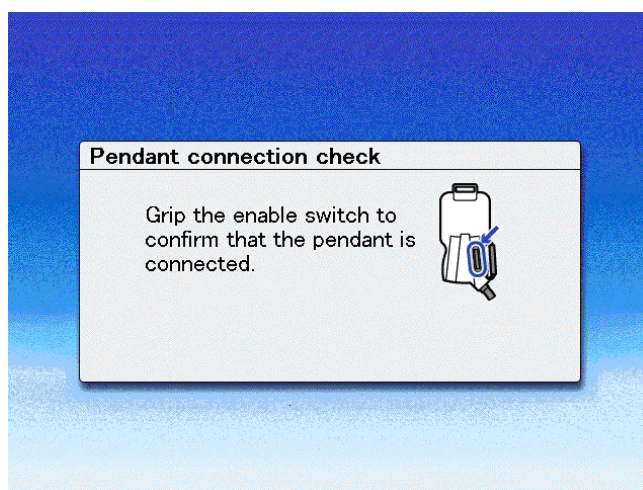
3. Turn ON the main power of the FS100.

- The following window appears. Press {Connect to FS100}.

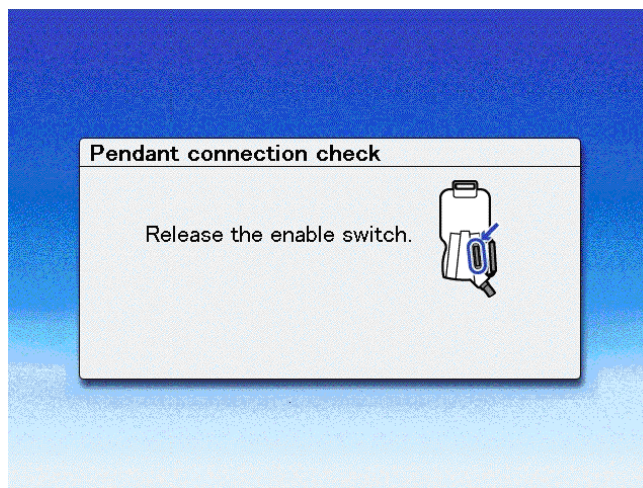


4. "Pendant connection check" window appears.

- Grip the enable switch. Keep gripping the enable switch until the following window appears.



- When the following window appears, release the enable switch.



3 Data Backup

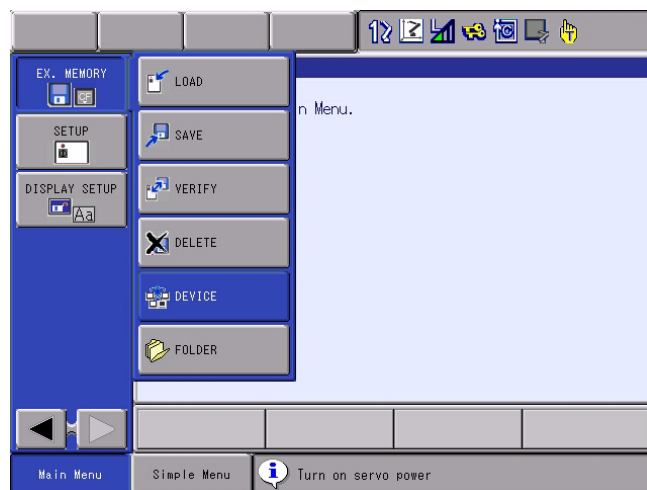
3.1 Data Backup in Online Mode

5. The main menu window appears.

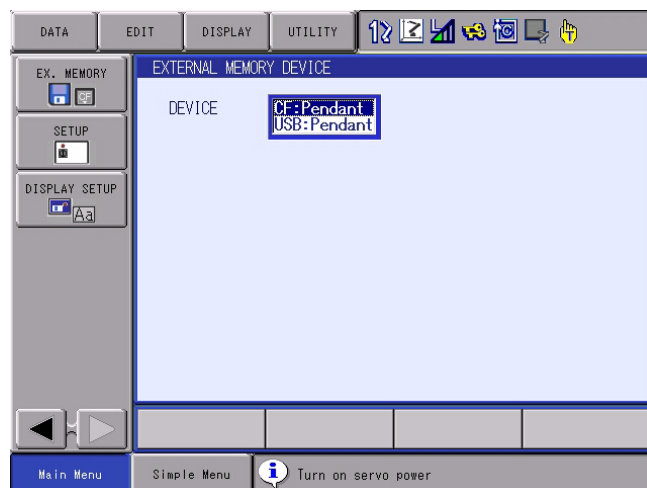
- The main menu window appears on the display of the programming pendant.



6. Select {EX. MEMORY} under the main menu, and then select {DEVICE}. Select the inserted device.



- When the CompactFlash is inserted, select “CF: Pendant”.
- When the USB is inserted, select “USB: Pendant”.



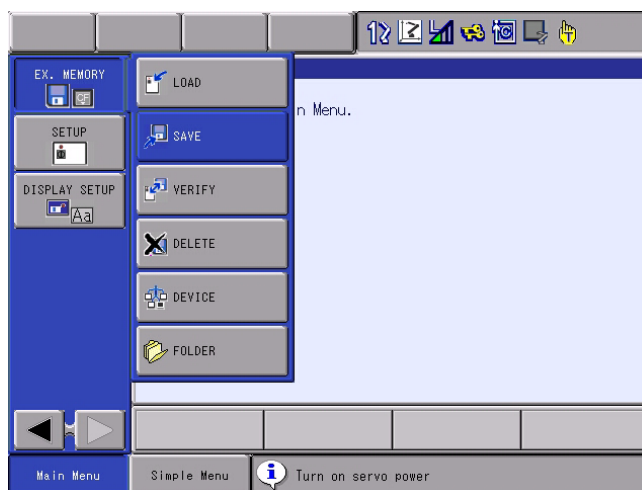
FS100

3 Data Backup

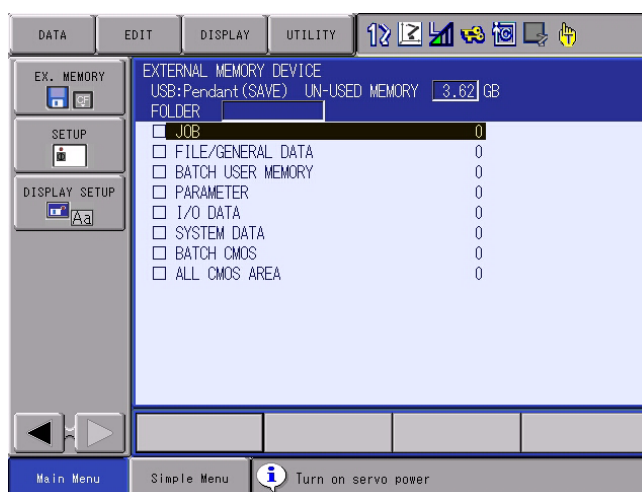
3.1 Data Backup in Online Mode

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

- JOB
- FILE/GENERAL DATA
- PARAMETER
- I/O DATA
- SYSTEM DATA



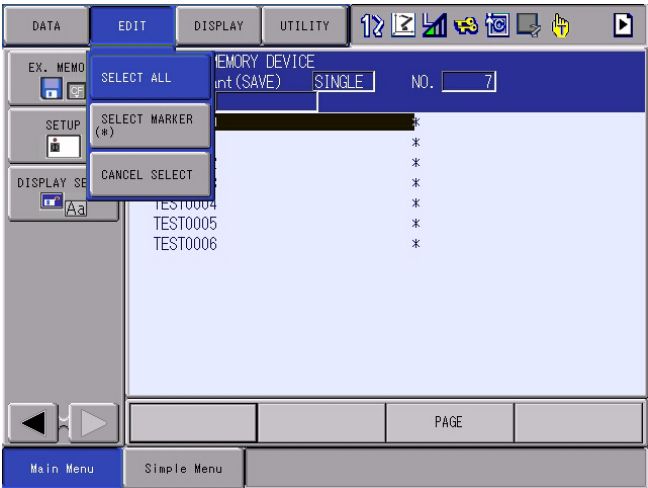
8. Select {JOB}.



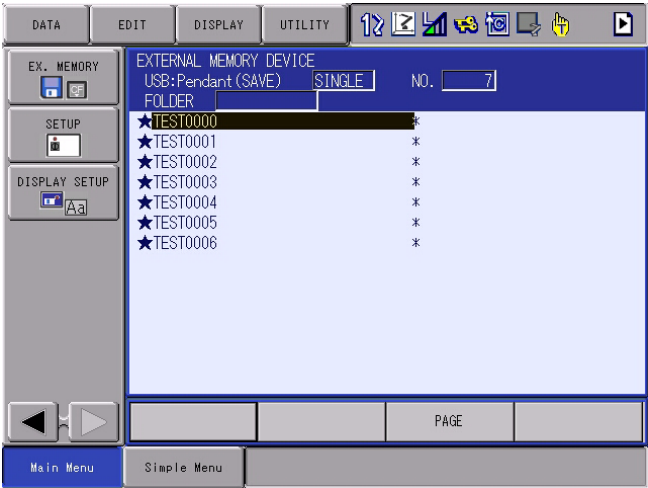
3 Data Backup

3.1 Data Backup in Online Mode

9. Select {EDIT}, and then select {SELECT ALL}.

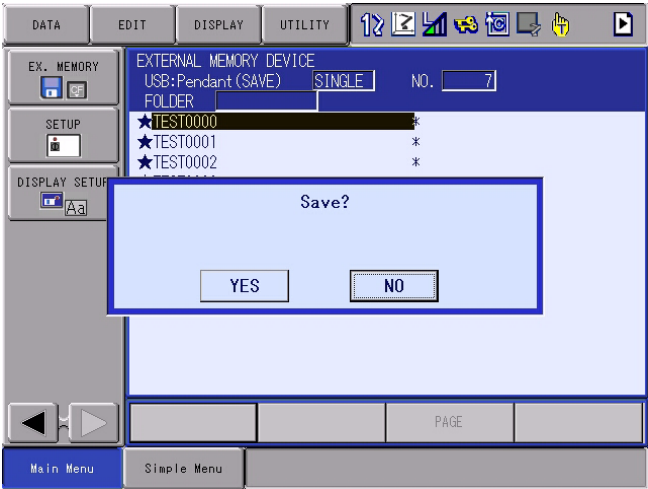


10. When the job is selected, it will be indicated with “★” mark. Press [ENTER] when all the jobs are selected.



11. Select {YES}.

– Data saving starts.



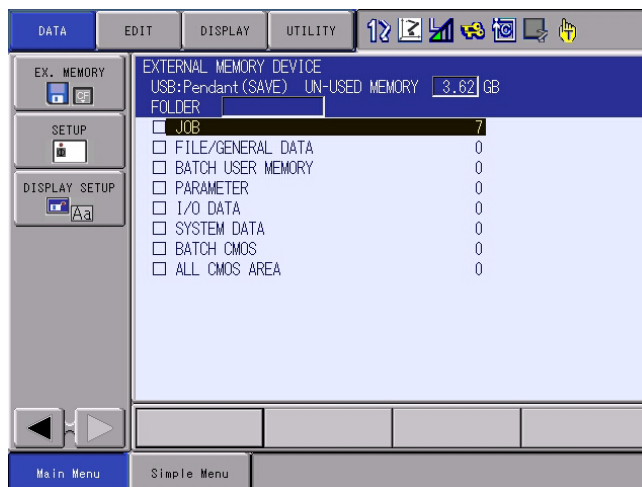
Select {STOP} to stop saving the data.
The data saving stops, and the window will return to the job list.

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3 Data Backup

3.2 Other Data Backup in Online Mode

12. Each job data is saved individually when the number on the right of "JOB" on the display is changed.



13. Save the other data individually in the same way.

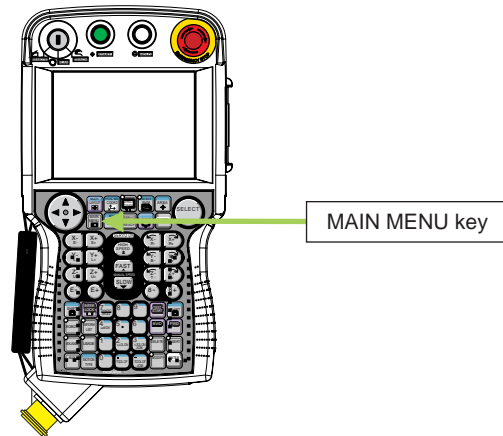
3.2 Other Data Backup in Online Mode

Record the information listed below individually because the data are not saved in the CompactFlash or USB.

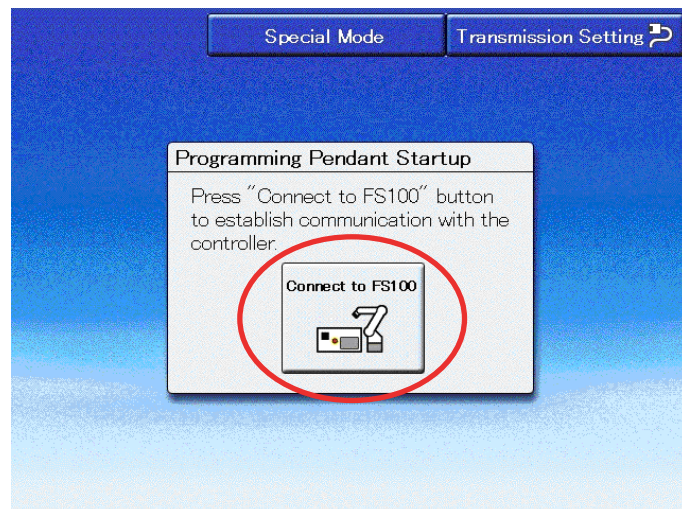
- MASTER JOB
- KEY ALLOCATION
- GROUP COMBINATION
- USER ID
- REGISTER SETTING

3.3 Data Backup in Maintenance Mode

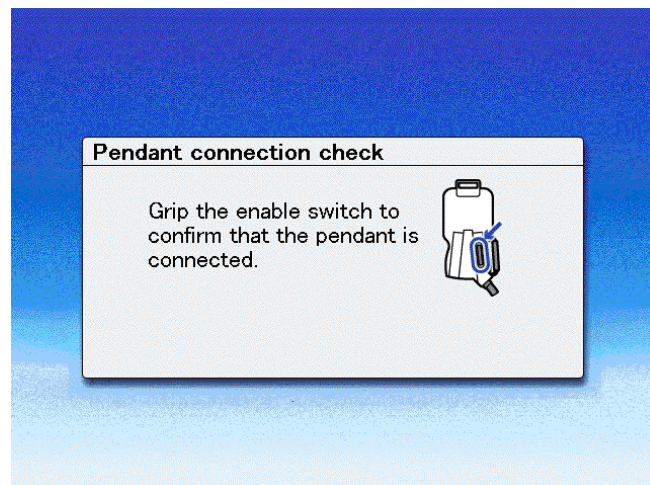
1. Turn ON the power supply of the FS100 while pressing [MAIN MENU] simultaneously.



- The following window appears. Press {Connect to FS100}.



2. The "Pendant connection check" window appears.
 - Grip the enable switch. Keep gripping the enable switch until the following window appears.

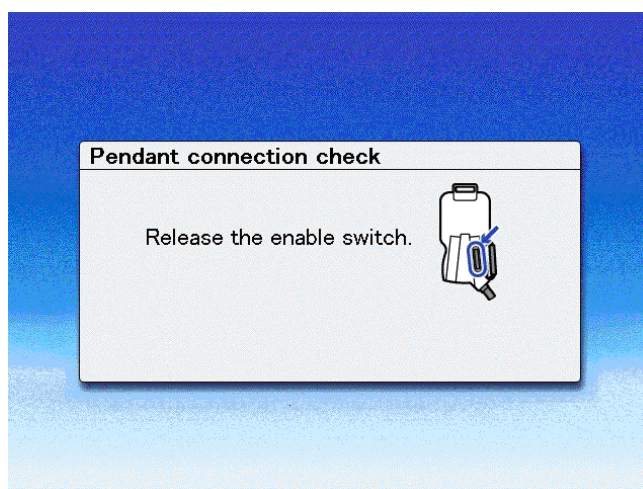


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3 Data Backup

3.3 Data Backup in Maintenance Mode

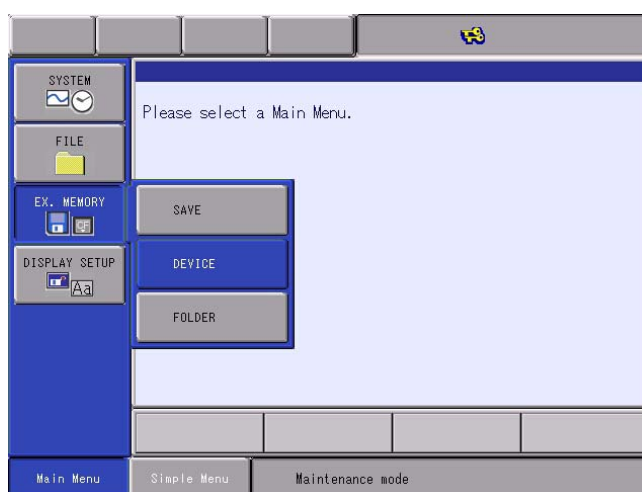
- When the following window appears, release the enable switch.



- The maintenance mode window appears on the display of the programming pendant.



3. Select {EX. MEMORY} under the main menu, and then select {DEVICE}. Select the inserted device.



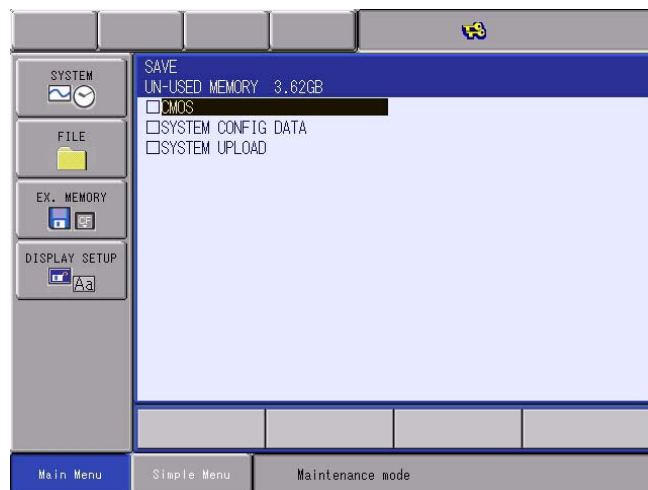
3 Data Backup

3.3 Data Backup in Maintenance Mode

- When the CompactFlash is inserted, select “CF: Pendant”.
- When the USB is inserted, select “USB: Pendant”.



4. Select {EX. MEMORY}, and then select {SAVE}.
Move the cursor to “CMOS”, and save the CMOS binary file (CMOS.BIN).



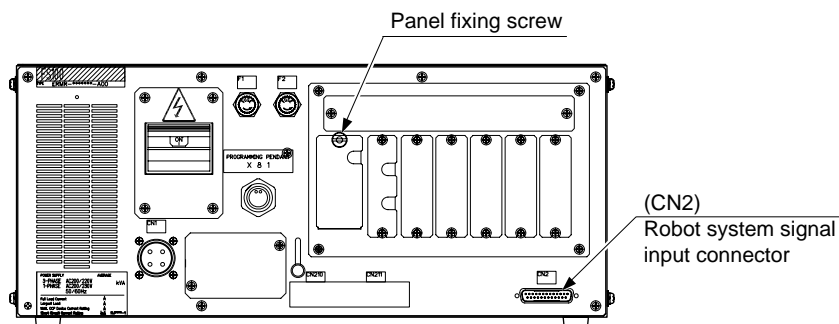
5. After the CMOS save is completed, turn OFF the main power of the FS100.

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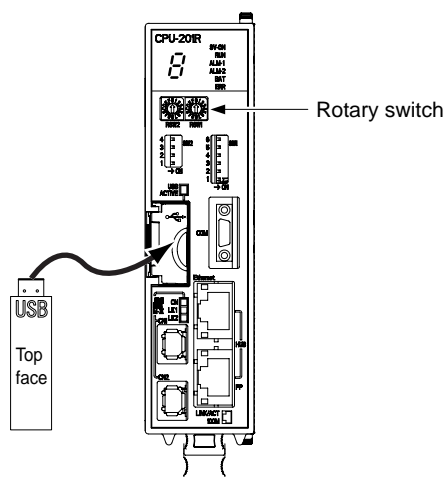
- 3 Data Backup
- 3.4 Data Backup when Programming Pendant Is Not Connected

3.4 Data Backup when Programming Pendant Is Not Connected

1. Turn OFF the main power of the FS100.
2. Change the rotary switch (SW1) on the main CPU board from "0" to "E".
 - Open the panel of FS100, and then change the rotary switch (SW1) on the main CPU board from "0" to "E" by using a precision screwdriver (flathead, 2 mm).

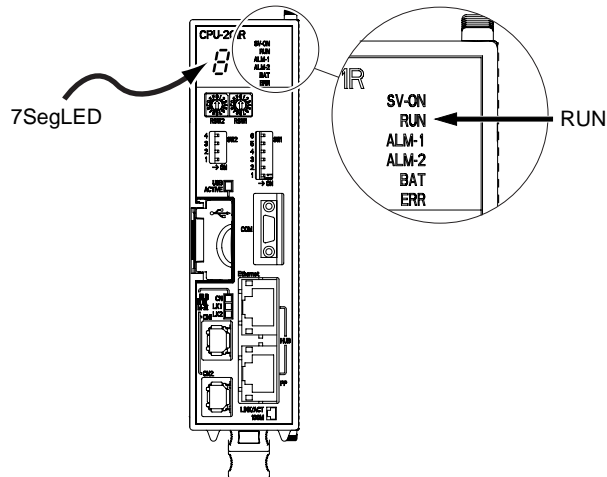


3. Insert the USB into the main CPU board.
 - Insert the USB for data backup into the main CPU board.



| | |
|-------|-----------------------------------------------------------|
| 3 | Data Backup |
| FS100 | 3.4 Data Backup when Programming Pendant Is Not Connected |

4. Turn ON the main power of the FS100.
 - CMOS saving starts.
 - While the data is being saved, “J” lights up on the 7 SegLED of the main CPU board and the LED of RUN blinks.
 - When the data saving is completed, the LED of RUN on the main CPU board lights up.
 - After 10 seconds, turn OFF the main power of the FS100.



5. Turn OFF the main power of the FS100.
 - Return the rotary switch (SW1) on the main CPU board from “E” to “0”.
 - Eject the USB.

4 System Software Upgrade

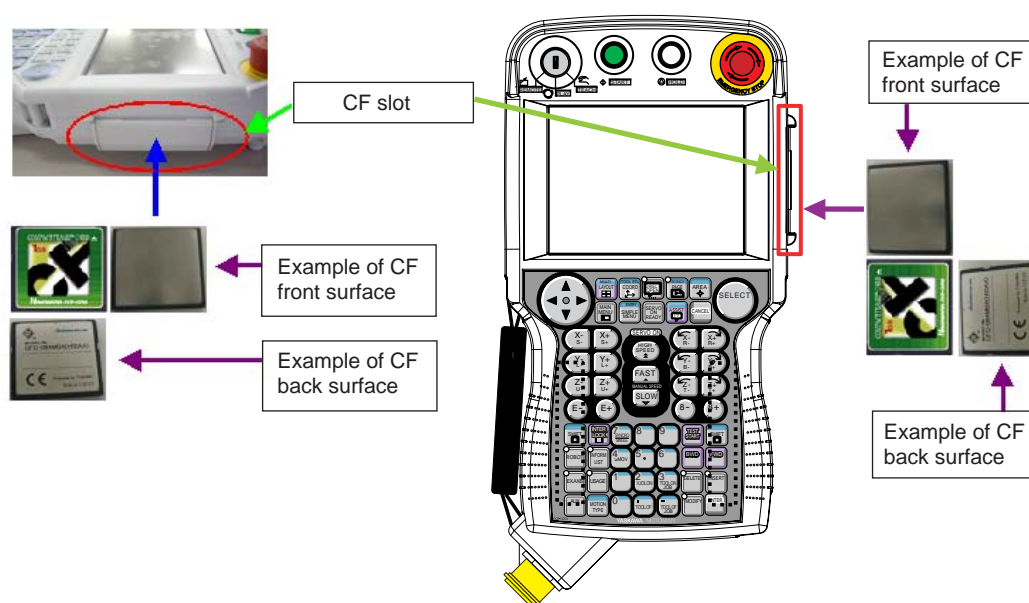
4.1 System Software Upgrade

Upgrade the system software following one of the following procedures. The upgrade is performed using “CompactFlash/USB for upgrade”.

If both the CompactFlash and USB are inserted in the programming pendant, the upgrade is performed using the CompactFlash.


4.1.1 Upgrade Using CompactFlash

1. Turn OFF the main power of the FS100.
2. Insert “CompactFlash for upgrade”.
 - Open the CF slot cover to insert the CompactFlash.
 - Pay attention to insert the CompactFlash in the correct direction.
 - After that, close the CF slot cover.



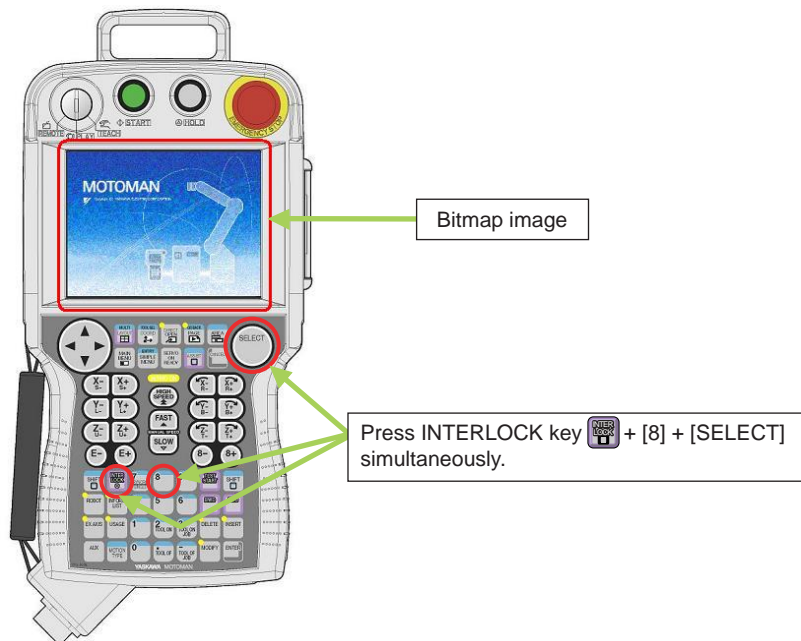
4 System Software Upgrade

4.1 System Software Upgrade

3. Turn ON the main power of the FS100 while pressing INTERLOCK key  + [8] + [SELECT].



- Keep pressing INTERLOCK key  + [8] + [SELECT] until the bitmap image shown below appears or until the programming pendant beeps.

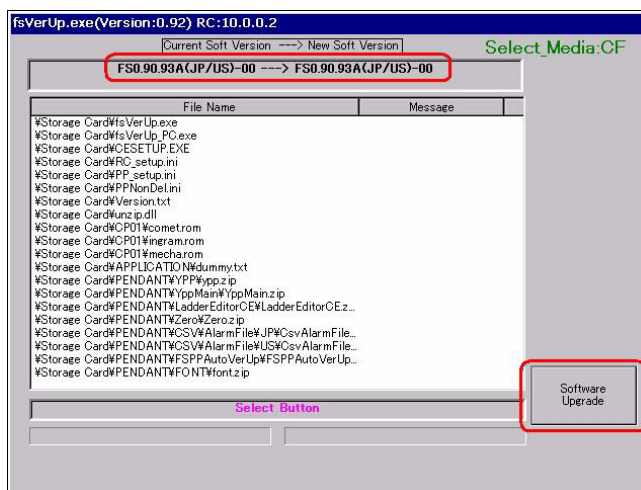


4 System Software Upgrade

4.1 System Software Upgrade

4. Check the version, and then select {Software Upgrade}.

- The upgrade starts.

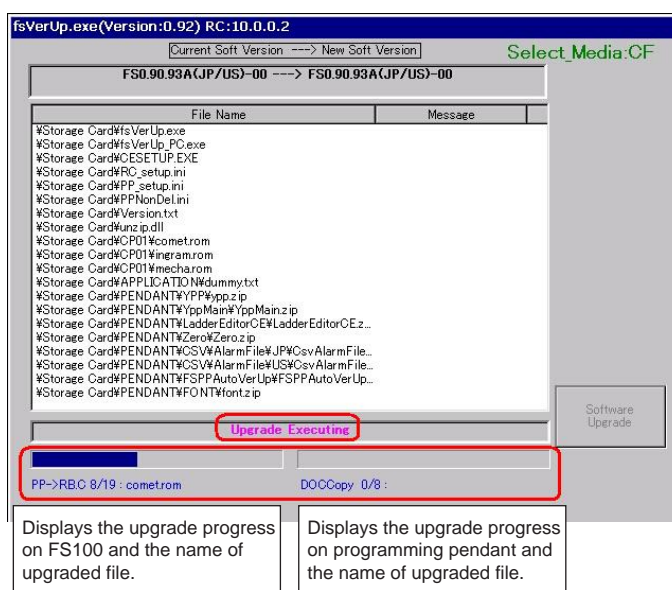


If the abovementioned window does not appear, or if an error message appears, perform the corrective actions as follows:



- (1) Turn OFF the main power of the FS100, and then remove the CompactFlash from the CF slot on the programming pendant. Retry the upgrading procedures from *chapter 2.2 "Preparation of Compact-Flash/USB for Upgrade"* at page 2-2.
- (2) If the error status persists in spite of performing the corrective action (1), replace the CompactFlash with a new one.

- During the upgrade, the "HOLD" button of the programming pendant lights up, and the message "Upgrade Executing" blinks. Also, the upgrade progress bar and the name of the file being upgraded are shown.



- During the upgrade, "U" appears on the 7SegLED of the main CPU board.

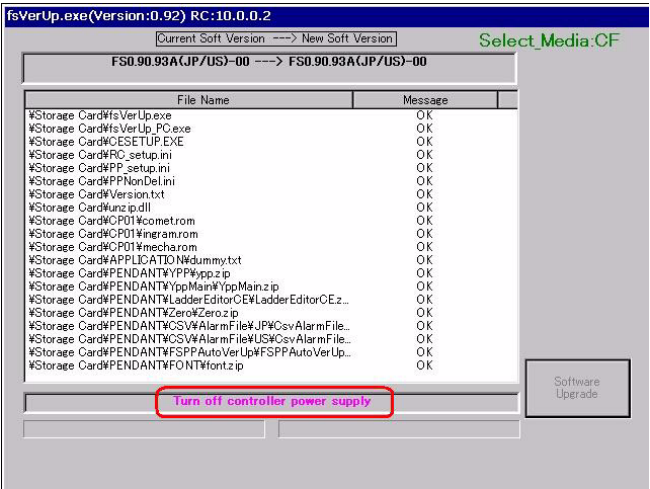
4

System Software Upgrade

4.1

System Software Upgrade

5. After the message “Turn off controller power supply” appears, turn OFF the main power of the FS100.



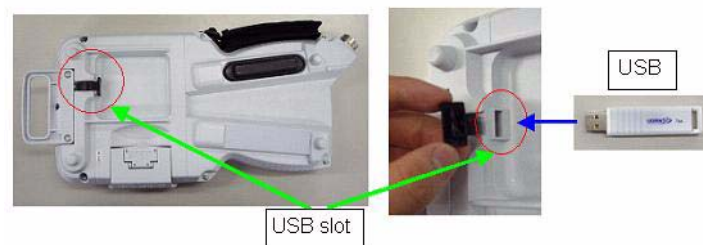
FS100


4 System Software Upgrade

4.1 System Software Upgrade

4.1.2 Upgrade Using USB

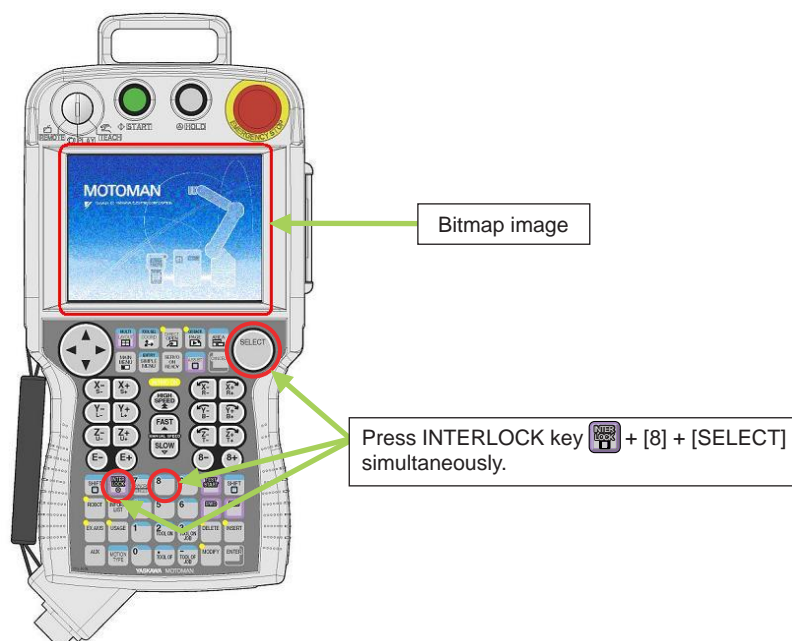
1. Turn OFF the main power of the FS100.
2. Insert "USB for upgrade" into the programming pendant.
 - Remove the rubber cap on the back of the programming pendant to insert the USB.



3. Turn ON the main power of the FS100 while pressing INTERLOCK key  + [8] + [SELECT].



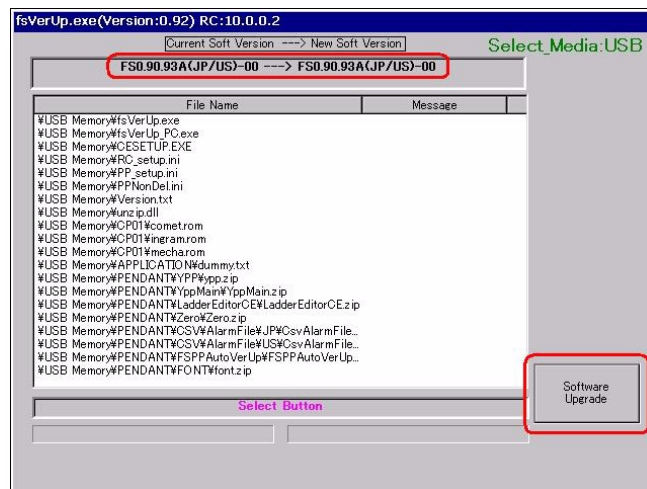
- Keep pressing INTERLOCK key  + [8] + [SELECT] until the bitmap image shown below appears or until the programming pendant beeps.



4 System Software Upgrade

4.1 System Software Upgrade

4. Check the version, and then select {Software Upgrade}.
 - The upgrade starts.

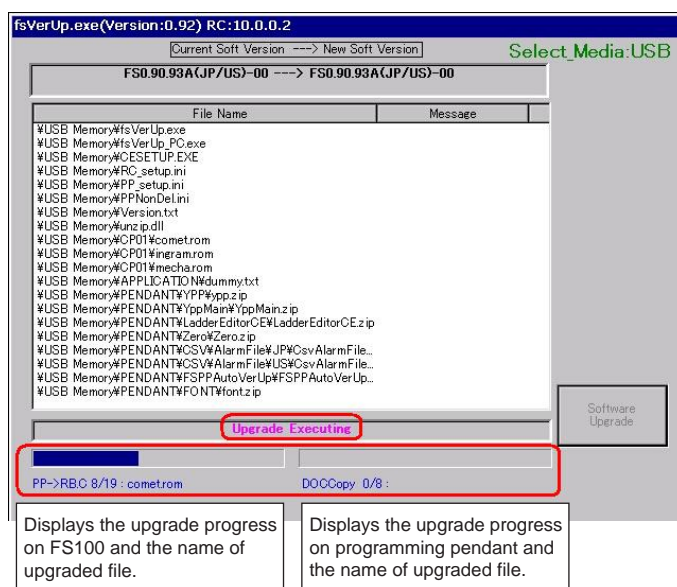


If the abovementioned window does not appear, or if an error message appears, perform the corrective actions as follows:



- (1) Turn OFF the main power of the FS100, and then remove the USB from the USB slot on the programming pendant. Retry the upgrading procedures from chapter 2.2 "Preparation of CompactFlash/USB for Upgrade" at page 2-2.
- (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 "START" button of the programming pendant lights up, and the message "Upgrade Executing" blinks. Also, the upgrade progress bar and the name of the file being upgraded are shown.



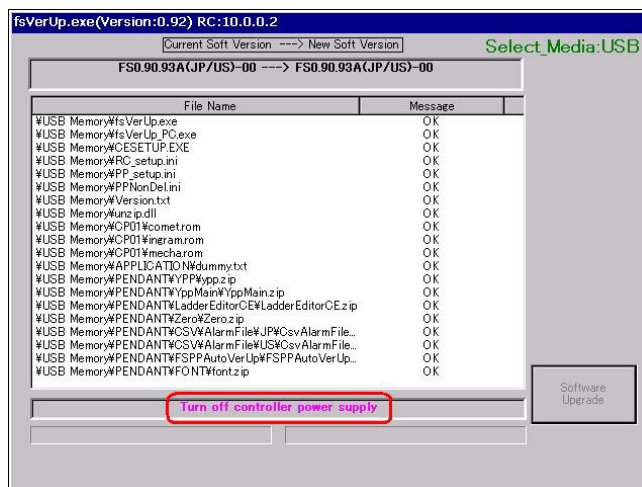
- During the upgrade, "U" appears on the 7SegLED of the main CPU board.

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4 System Software Upgrade

4.1 System Software Upgrade

5. After the message “Turn off controller power supply” appears, turn OFF the main power of the FS100.



| | | |
|-------|-----|-------------------------|
| | 4 | System Software Upgrade |
| FS100 | 4.1 | System Software Upgrade |

4.1.3 Upgrade Using Software Pendant

The procedure of upgrading the system software by using the software pendant (optional) is shown below. If using the programming pendant, this operation is not necessary.

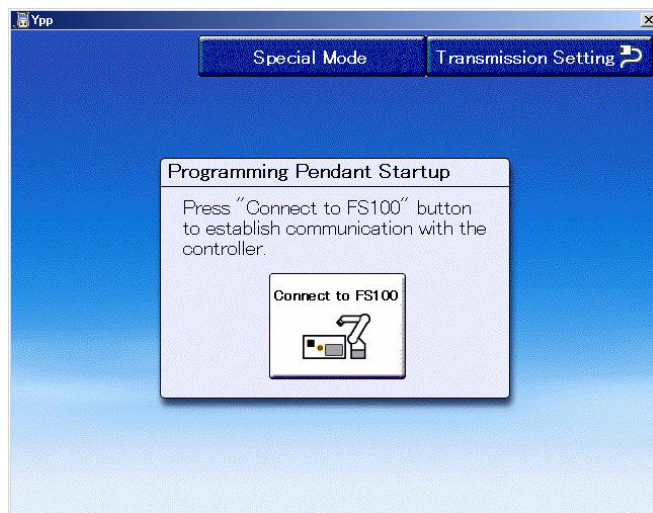


The upgrade operation must be done by the administrator of the PC.



For the basic operation of the software pendant, refer to “FS100 Options Instructions for Software Pendant (HW1480879)”.

1. Insert “USB for upgrade” into the USB slot of the PC.
2. Start the software pendant.
 - The startup window appears.



3. Click {Special Mode} while pressing the “U” key on the keyboard.

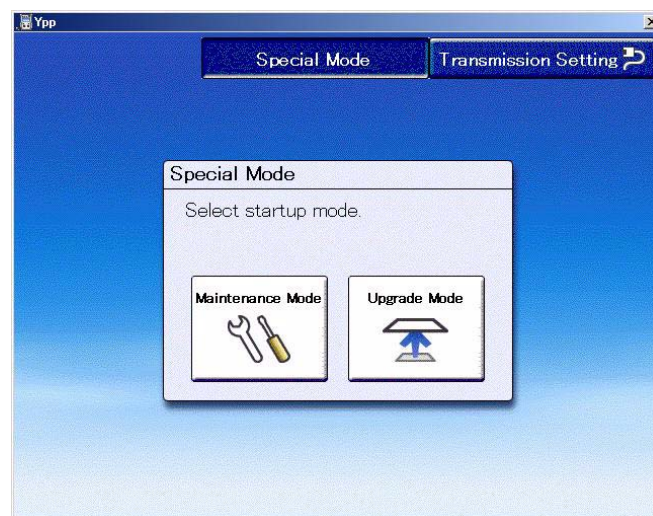


FS100

4 System Software Upgrade

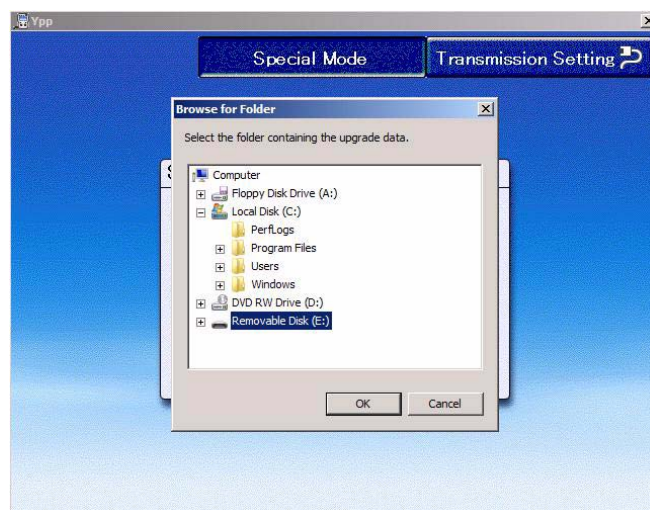
4.1 System Software Upgrade

- The startup mode selection window appears.



The “U” key on the keyboard must be pressed when clicking {Special Mode}. Otherwise, the {Upgrade Mode} button does not appear.

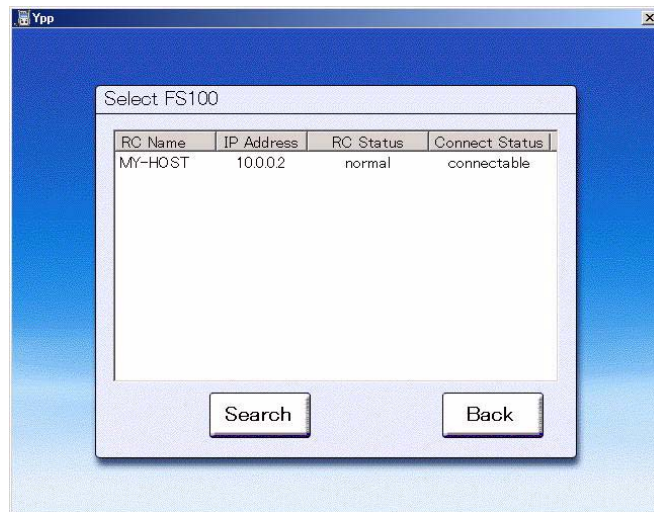
4. Click {Upgrade Mode}.
- The folder selection dialog box appears.



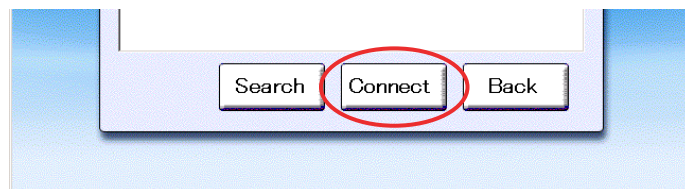
4 System Software Upgrade

4.1 System Software Upgrade

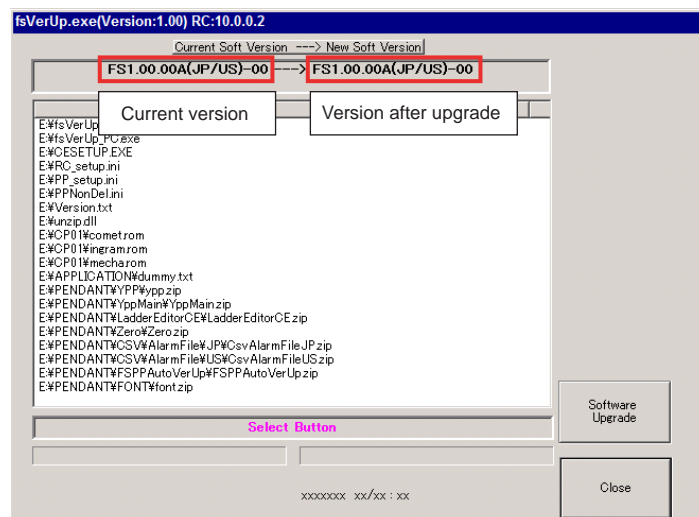
5. Click the drive of "USB for upgrade".
 - The FS100 selection dialog box appears.



6. Click the FS100 to be upgraded.
 - The {Connect} button appears.

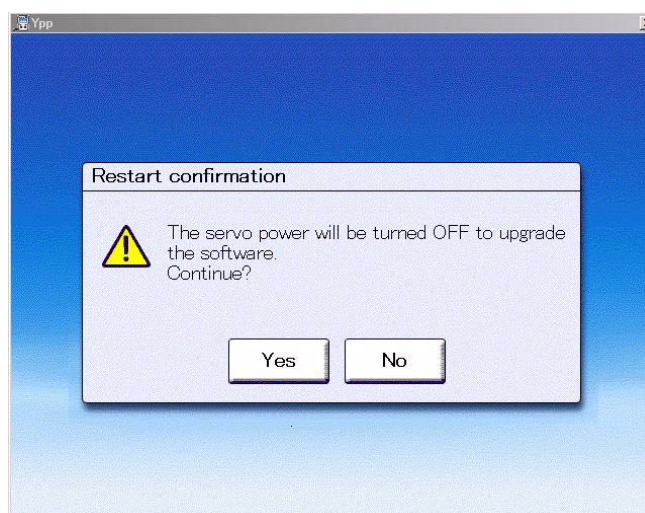


7. Click {Connect}.
 - The upgrade window appears.



While the servo power is ON, the Restart confirmation window appears before connecting to the FS100. If the FS100 is connected for upgrade while the servo power is ON, the manipulator stops its operation, and then the FS100 restarts in the Upgrade Mode.

NOTE



If the upgrade window does not appear, or if an error message appears, perform the corrective actions as follows:

NOTE

- (1) Turn OFF the main power of the FS100, and then remove the USB from the USB slot on the PC. Retry the upgrading procedures from *chapter 2.2 "Preparation of CompactFlash/USB for Upgrade"* at page 2-2.
- (2) If the error status persists in spite of performing the corrective action (1), replace the USB with a new one.

NOTE

The upgrade software (fsVerUp_PC.exe) communicates with the FS100. If the dialog box to unblock the firewall or the dialog box to permit the user account control appears, be sure to unblock the firewall or permit the user account control. The upgrade cannot be performed without unblocking the firewall or permitting the user account control.

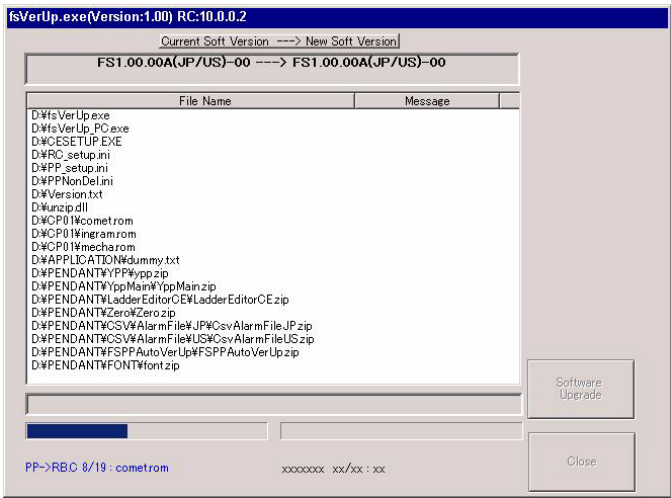
4

System Software Upgrade

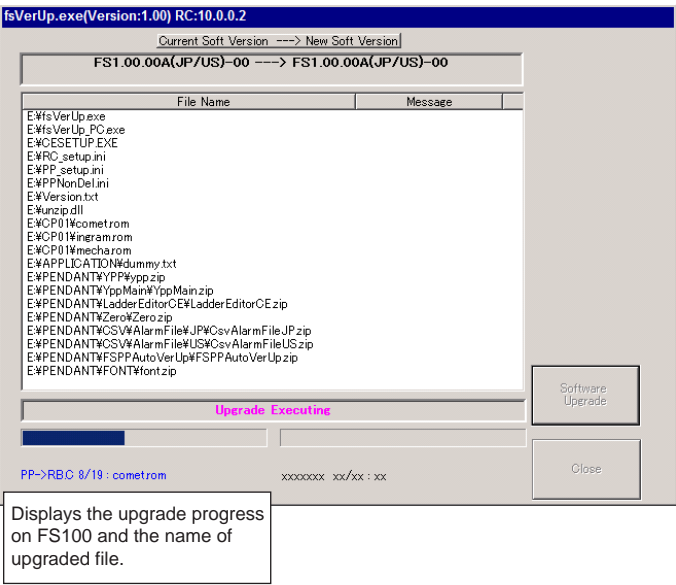
4.1

System Software Upgrade

8. Check the version, and then click {Software Upgrade}.
- The upgrade starts.



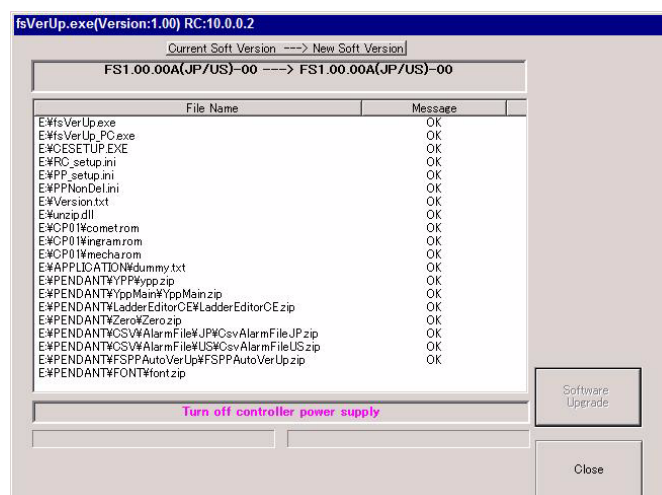
- During the upgrade, the message “Upgrade Executing” blinks, and the upgrade progress bar and the name of the file being upgraded are shown. Also, “U” appears on the 7SegLED of the main CPU board.



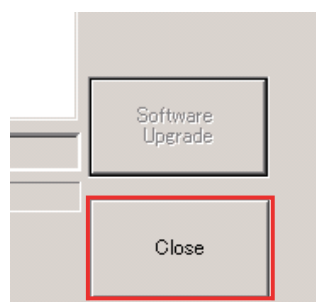
4 System Software Upgrade

4.1 System Software Upgrade

- When the upgrade is completed, the following window appears.



9. After the message “Turn off controller power supply” appears, click {Close}.



10. Turn OFF the main power of the FS100.



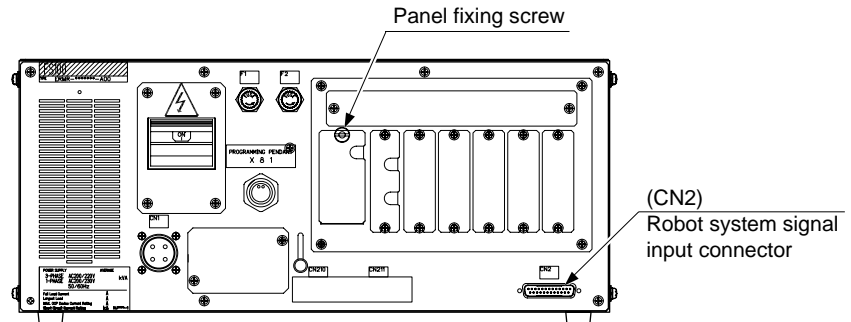
To upgrade the software pendant, refer to “FS100 Options Instructions for Software Pendant (HW1480879)”.

4 System Software Upgrade

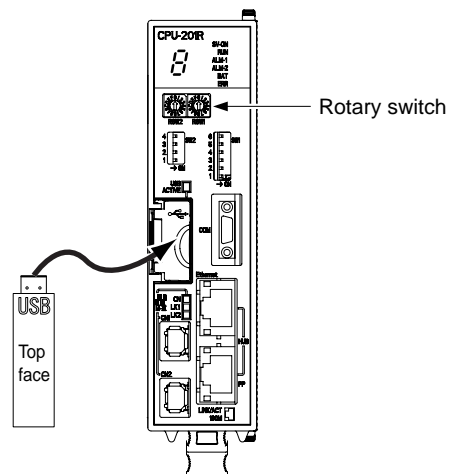
4.1 System Software Upgrade

4.1.4 Upgrade when Programming Pendant Is Not Connected

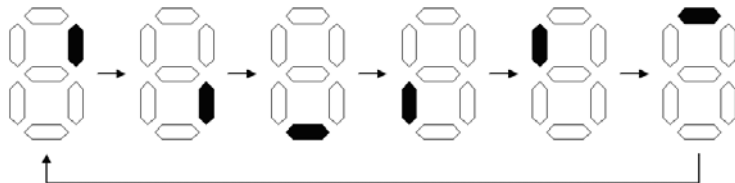
1. Turn OFF the main power of the FS100.
2. Change the rotary switch (SW1) on the main CPU board from "0" to "E".
 - Open the panel of FS100, and then change the rotary switch (SW1) on the main CPU board from "0" to "E" by using a precision screwdriver (flathead, 2 mm).



3. Insert the USB into the main CPU board.
 - Insert the USB for data backup into the main CPU board.



4. Turn ON the main power of the FS100.
 - Upgrade of the system software starts.
 - During the upgrade, the 7SegLED on the main CPU board lights up clockwise as shown below.

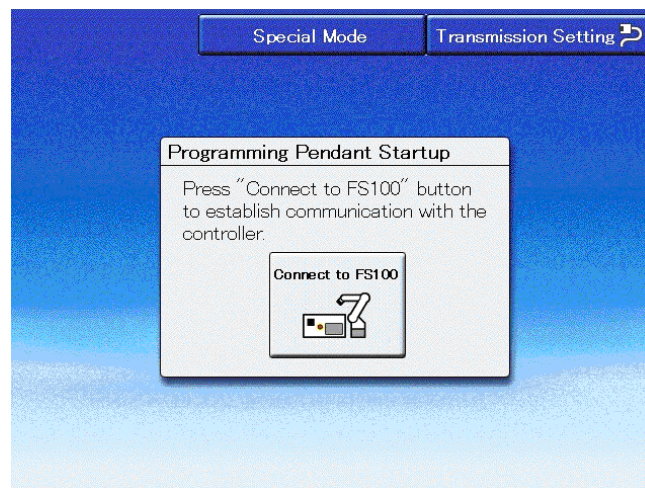


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4 System Software Upgrade

4.1 System Software Upgrade

- When the upgrade is completed, the following window appears.



- Return the rotary switch (SW1) on the main CPU board from "5" to "0".
- Eject the USB.

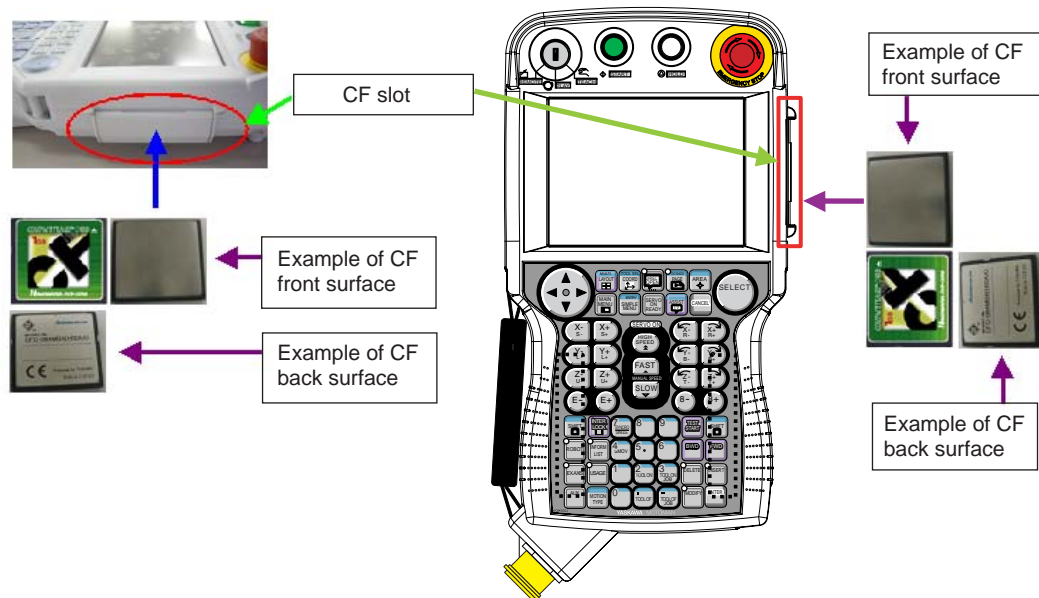
5 Programming Pendant Upgrade

This operation is not necessary when performing a normal upgrade.
 Additional information will be provided if this operation is required.

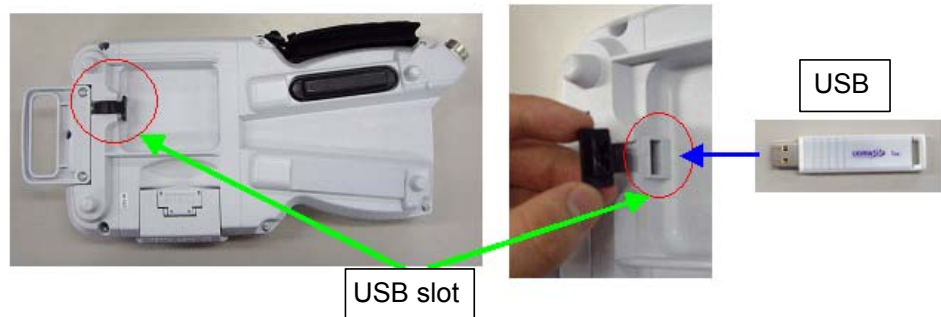
5.1 Programming Pendant Upgrade

Upgrade the programming pendant following the procedures below:

1. Turn OFF the main power of the FS100.
2. Insert the "CompactFlash/USB for upgrade" into the programming pendant.
 - Open the CF slot cover to insert the CompactFlash.
 - Pay attention to insert the CompactFlash in the correct direction.
 - After that, close the CF slot cover.



- When inserting the USB, remove the rubber cap on the USB slot on the back of the programming pendant.



5 Programming Pendant Upgrade

5.1 Programming Pendant Upgrade

3. Turn ON the main power of the FS100 while pressing [2] + [8] + [HIGH SPEED].



- Keep pressing [2] + [8] + [HIGH SPEED] until the bitmap image shown below appears or until the programming pendant beeps.



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:

(1) Turn OFF the main power of the FS100, and then remove the CompactFlash or USB from the programming pendant. Retry the upgrading procedures from *chapter 2.2 "Preparation of CompactFlash/USB for Upgrade"* at page 2-2.

(2) If the error status persists in spite of performing the corrective action (1), replace the CompactFlash or USB with a new one.

5 Programming Pendant Upgrade

5.1 Programming Pendant Upgrade

- NK.BIN (OS: Windows CE.NET) in “CompactFlash/USB for upgrade” is written into RAM in the programming pendant. Then, the NK.BIN (in the RAM) is written into FlashRom.
- The LED indications during the process change as described below:

(When writing NK.BIN from CompactFlash to SDRAM)



Data writing from "CompactFlash/USB for upgrade" to RAM:
4 LED indications on the left blink clockwise.
The blink interval is irregular.
(The interval may be 1 to 2 seconds or 4 to 5 seconds.)
The time required for writing is approx. 3 minutes.

(When writing NK.BIN from SDRAM to FlashRom)

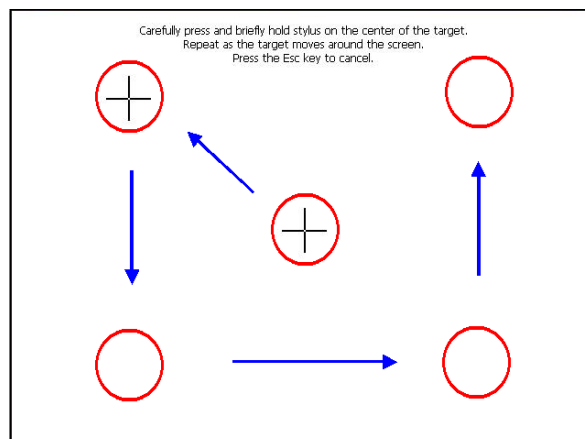


Data writing from RAM to FlashRom:
3 LED indications on the right blink clockwise.
The blink interval is 1 to 2 seconds.
The time required for writing is approx. 4 minutes.



The total time required for data transfer and writing from “CompactFlash/USB for upgrade” to FlashRom is approx. 7 minutes.

- The touch panel calibration window appears on the display of the programming pendant approx. 7 minutes after turning ON the main power of the FS100.
- Touch the center of the crosshair cursor on the display by using a touch-panel pen. The cursor moves in the following order: Center → Upper left → Lower left → Lower right → Upper right. Touch the center of the cursor for approx. 2 seconds at each point.
 - If a touch-panel pen is not available, use a pointed tool with a soft point, such as a ballpoint pen cap, as a substitute.
 - If the touch calibration is failed, the crosshair cursor returns to the center of the display.
 - In this case, retry the calibration.



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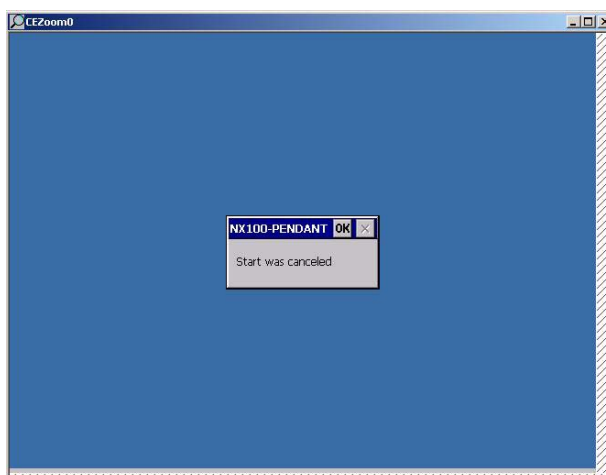
5 Programming Pendant Upgrade

5.1 Programming Pendant Upgrade

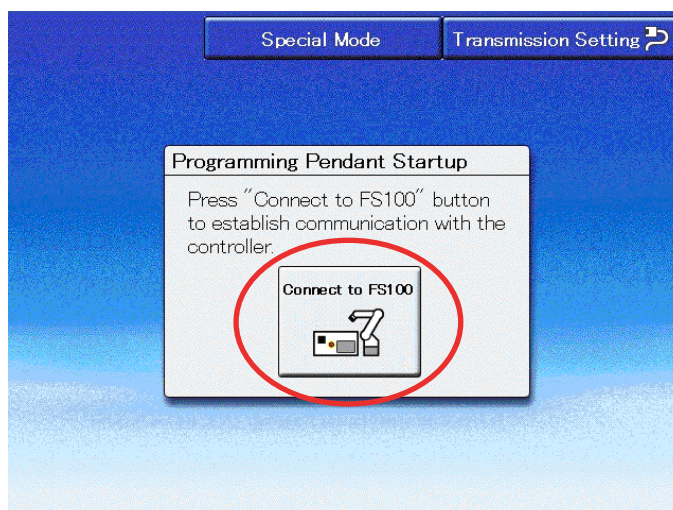
- When the touch calibration is successfully completed, the following display appears.



6. Press [ENTER] on the programming pendant, or touch on the screen.



7. Select {OK} on the message box.
8. After closing the message box, turn OFF the main power of the FS100.
 - Remove “CompactFlash/USB for upgrade” from the programming pendant.
9. Turn ON the main power of the FS100.
 - The following window appears. Press {Connect to FS100}.

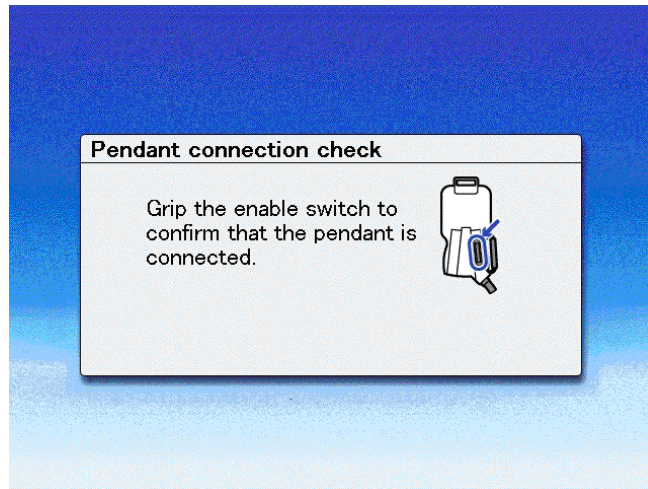


5 Programming Pendant Upgrade

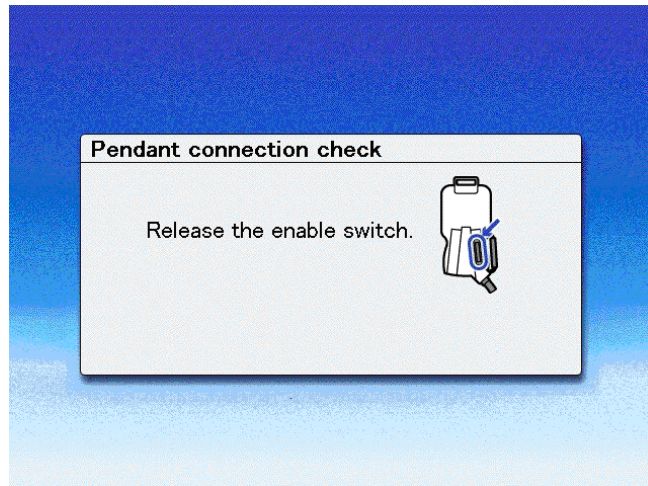
5.1 Programming Pendant Upgrade

10. "Pendant connection check" window appears.

- Grip the enable switch. Keep gripping the enable switch until the following window appears.



- When the following window appears, release the enable switch.



11. The main menu window appears.

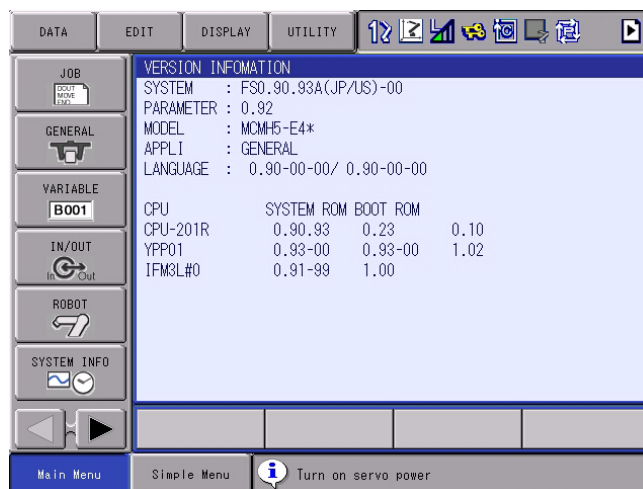


FS100

5 Programming Pendant Upgrade

5.1 Programming Pendant Upgrade

12. Select {SYSTEM INFO} then {VERSION} under the main menu, and then confirm the version data.



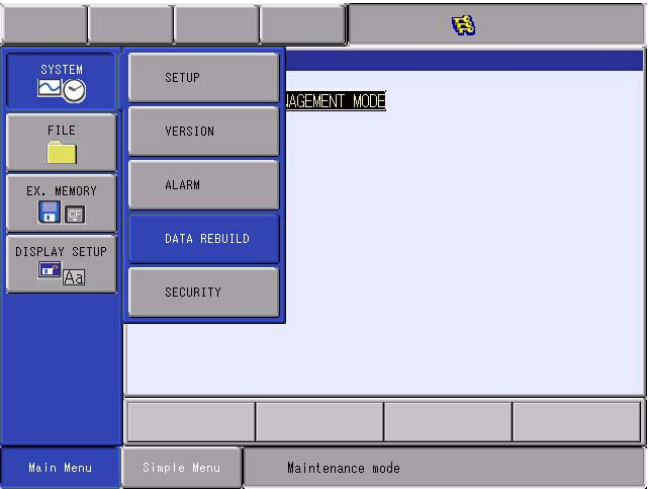
6 Data Rebuild Procedure in Maintenance Mode

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



For these alarms, follow the corrective instructions below.

1. Change the security mode to the management mode.
2. Select {SYSTEM} then {DATA REBUILD} in the maintenance mode.



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6 Data Rebuild Procedure in Maintenance Mode

3. Select {YES} when “Initialize?” appears.



4. After initialization, the following window appears.
- Turn OFF the main power of the FS100.



5. Turn ON the main power of the FS100 to restart.

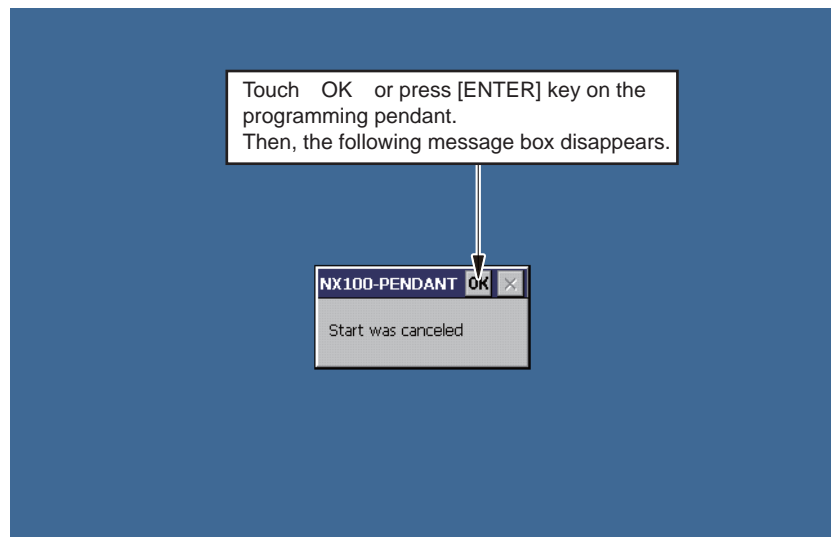
7 Troubleshooting

7.1 How to Repair Programming Pendant when Fonts Are Garbled

Followings are the procedures for repairing the garbled characters on the programming pendant window.

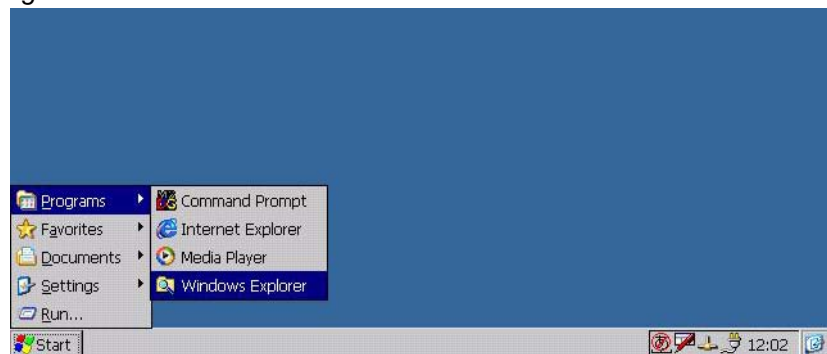
1. Prepare "CompactFlash for upgrade".
The CompactFlash can be replaced with the USB.
The preparing procedure using the CompactFlash is described in this manual.
2. Insert "CompactFlash for upgrade" to the CF slot on the programming pendant. Turn ON the main power of the FS100 by pressing [2] + [8] + [HIGH SPEED]. The FS100 is started-up in the OS(WindowsCE) writing mode. Then, calibrate the touch panel. *fig. 7-1 "Window 1"* appears as follows when the calibration is completed.

Fig. 7-1: Window 1



3. Select {Start}, {Programs}, and {Windows Explorer} in *fig. 7-2 "Window 2"*.
Then, *fig. 7-3 "Window 3" at page 7-2* appears.

Fig. 7-2: Window 2



7 Troubleshooting

7.1 How to Repair Programming Pendant when Fonts Are Garbled

4. When *fig. 7-3 "Window 3"* appeared as follows, either double click "DiskOnchip2" folder or move the cursor to "DiskOnchip2" folder and press [ENTER] key.
Then the list of files stored in "DiskOnchip2". After the list appears, delete all files. After the files are deleted, return to the list of folders like *fig. 7-3 "Window 3"*.
5. Double click "Storage Card" folder or move the cursor to "Storage Card" folder and press [ENTER] key.
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] key.
Then, *fig. 7-4 "Window 4"* appears.

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

Fig. 7-3: Window 3

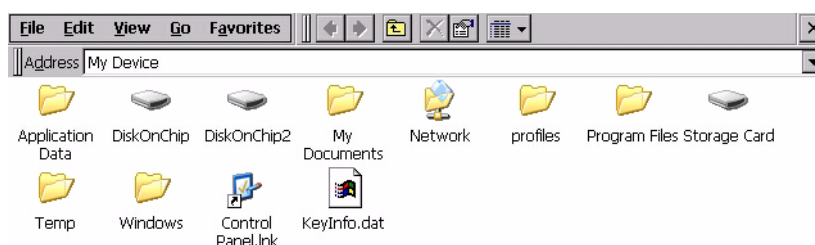
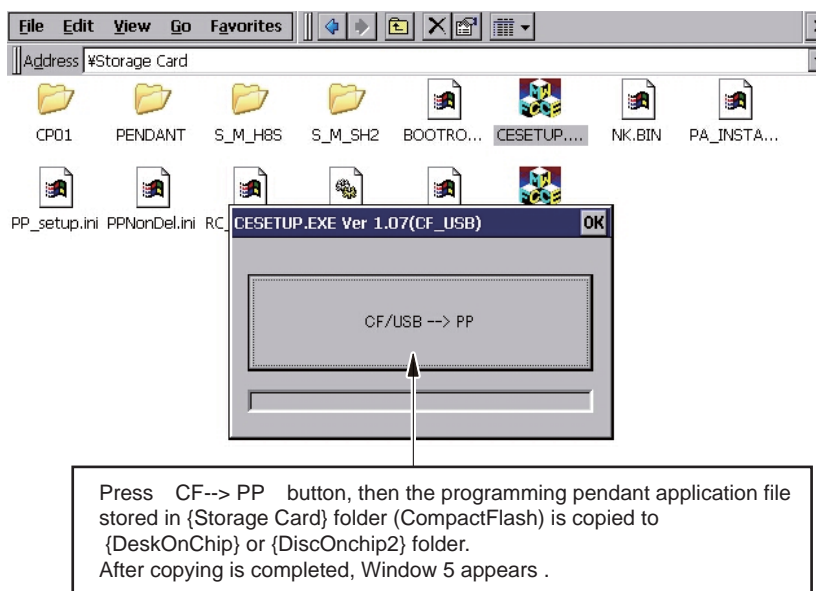


Fig. 7-4: Window 4



7 Troubleshooting

FS100

7.1 How to Repair Programming Pendant when Fonts Are Garbled


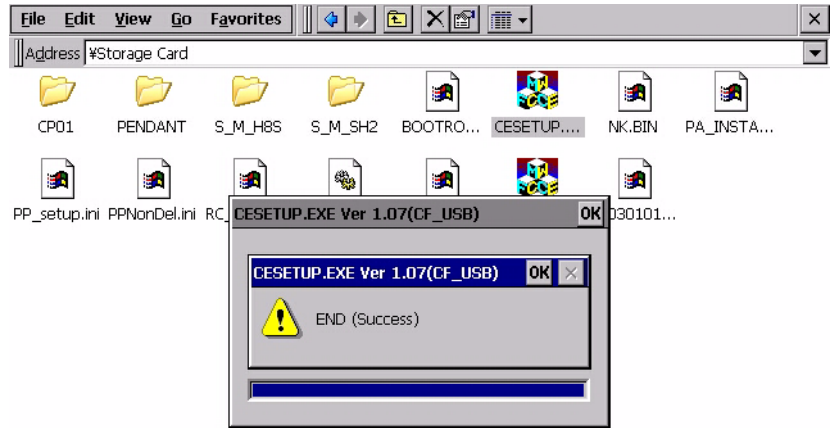
6. When *fig. 7-5* “Window 5” appeared, turn OFF the main power of the FS100. Insert “CompactFlash for upgrade”, then turn ON the main power again by pressing INTERLOCK key  + [8] + [SELECT]. The window for upgrade appears, then, select {Software Upgrade} to execute upgrade.

Fig. 7-5: Window 5



7. When upgrade operation is completed, turn OFF the main power of the FS100.

FS100

UPGRADE PROCEDURE MANUAL

HEAD OFFICE

2-1 Kurosakishi-roishi, Yahatanishi-ku, Kitakyushu 806-0004 Japan
Phone +81-93-645-7745 Fax +81-93-645-7746

YASKAWA America Inc. MOTOMAN Robotics Division
805 Liberty Lane, West Carrollton, OH 45449, U.S.A.
Phone +1-937-847-6200 Fax +1-937-847-6277

YASKAWA Nordic AB
Verkstadsgratan 2, PO Box 504, SE-385 25 Torsås, Sweden
Phone +46-480-417-800 Fax +46-486-414-10

YASKAWA Europe GmbH Robotics Div.
Kammerfeldstr. 1, 80591 Allershausen, Germany
Phone +49-8166-90-0 Fax +49-8166-90-103

YASKAWA Electric Korea Co., Ltd
9F, KYOBO Securities Bldg., 26-4, Yeoido-Dong Yeoungseongpo-ku, Seoul, KOREA
Phone +82-2-784-7844 Fax +82-2-784-8495

YASKAWA Electric (Singapore) PTE Ltd.
151 Lorong Chuan, #04-02A, New Tech Park, Singapore 556741
Phone +65-6282-3003 Fax +65-6289-3003

YASKAWA Electric (Thailand) Co., Ltd.
252/246, 4th Floor, Muang Thai-Phatra Office Tower II Rachadaphisek Road, Huaykwang Bangkok, 10320 Thailand
Phone +66-2-693-2200 Fax +66-2-693-4200

Shougang MOTOMAN Robot Co. Ltd.
No.7, Yongchang-North Road, Beijing E&T Development Area, China 100176
Phone +86-10-6788-0548 Fax +86-10-6788-0548-813

YASKAWA ELECTRIC (SHANGHAI) Co., Ltd.
No.18Xizang Zhong Road, 17F, Harbour Ring Plaza, Shanghai 200001, CHINA
Phone +86-21-5385-0655 Fax +86-21-5385-2770

YASKAWA Robotics India Ltd.
#426, Udyog Vihar, Phase- IV, Gurgaon, Haryana, India
Phone +91-124-475-8500 Fax +91-124-414-8016

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for ongoing product modifications and improvements.