Flex Automation, LLC

USB Upgrade Unit for Floppy Disk Drive
ABB S4 & S4C control systems

Installation and User Manual

Contents

Installation of USB Floppy Drive unit

1a.   **Procedure for removing the old floppy drive for the S4 controller**

- Turn off the power to the robot system
- Open the front door of the robot control system.
- Locate the floppy drive unit on the left, mid way up on the inside of the cabinet
- Remove and retain the two M4 Nuts holding the mounting brackets.
- Lift away the original Floppy drive unit from the studs.
- Disconnect the power cable and ribbon cable from the rear of the unit
- Place the floppy disk drive unit somewhere safe with the screws and washers removed as they are no longer required.

Or

1b.   **Procedure for removing the old floppy drive for the S4C controller**

- Turn off the power to the robot system
- Lift the robot cabinet lid.
- Remove the screws holding down the cover plate protecting the original floppy drive unit.
- Lift the cover plate up carefully to reveal the floppy drive
- Remove/ unscrew the 4 x M3 screws that hold the floppy drive unit to a flat plate
- Disconnect the power cable and ribbon cable from the rear of the unit
- Store the disk drive unit somewhere safe with the M3 screws removed as they are no longer required.

2a. Install the USB Floppy Drive Unit (UFDD) S4 version:

- Mount the brackets to the UFDD using the four self tapper screws provided
- Plug in the floppy disk power connector (5V)
- Plug in the floppy disk ribbon cable (34 way ribbon cable)
- Please ensure that the groove in the UFDD matches the cable keying position.
- Warning: If the cables are reversed, damage may occur in the device.
- Mount the UFDD complete with brackets attached onto the two existing M4 studs and secure with the M4 Locknuts provided (a spare locknut is supplied in case you drop one!) Ensure the front of the UFDD is located at the same position as the old floppy drive.

Or

2b. Install the USB Floppy Drive Unit(UFDD) S4C version:

- Plug in the floppy disk power connector (5V)
- Plug in the floppy disk ribbon cable (34 way ribbon cable)
- Please ensure that the groove in the UFDD matches the cable keying position.

- Mount the UFDD to the vertical bracket using the supplied heavy duty tape so that the front of the unit is in the same position as the original old Floppy disk drive. Re-position and re-attach if necessary until the unit is located correctly.

3. Check all connections and replace any covers as necessary.

4. Ensure that the USB stick is removed from the USB Floppy Drive Unit on initial test

5. Turn on the robot controller
The Green LED) on the front panel of UFDD should be lit.
The red numeric LED displays the code C.4. and indicates the unit is ready and waiting to accept the USB stick.
Note: If the display shows any other code this is abnormal, please switch off the power and re-check the power and data connections to the UFDD unit.

6. Insert the USB stick supplied. This unit is prepared and ready for use.

7. The display will change from c.4. to 00 indicating that folder 00 is selected on the USB stick. Other codes may be displayed briefly (E6,E7) before settling on code 00 and this is quite normal.

Important General Notes and advice

- The user may select other folders within the USB stick (00 to 99) by pressing the buttons on the front of the UFDD. One button increases the folder number and the other decreases the folder number.

- Allow the UFDD unit display to settle to a steady state before removing the USB stick. It can be seen that the display initially shows **0.0.** before **00** when selecting folders using the pushbuttons. The decimal points on the display indicate that the UFDD unit is seeking the desired folder. When the decimal points go off, the unit has successfully selected the desired folder and the USB stick may be removed without damage to files contained on it.

- The selected folder indicated by the display will be used in any load or save action.

- The Green LED will light when the UFDD has 5V power connected.

- The Red LED will light when the UFDD drive is in use. Do not remove the USB stick until the Red Led is turned OFF and the data transfer is complete otherwise data loss and damage may occur on the USB stick

- The two digit display is used to indicate the folder number, code number or the error code number.

- Use the folders 00 to 99 as if they were 1.44Mb disks. A total of 100 folders may be used on the UFDD within one USB stick.

- A practical limit of 1.38Mb for a single file exists within each folder, exactly as the original Floppy drive. The user will not be able to places files of more than the 1.38Mb limit within one folder.

- Warning: Do not allow the floppy drive spring door to damage or snap the USB stick. The supplied USB stick is very short in length to allow the door to close. Damage may be caused to the USB stick or the UFDD unit.

- You will need to use the Software Tool SFD v1.23 to access all 100 areas on the USB stick. The USB stick is divided into 100 x 1.44Mb areas.

Accessing floppy blocks 00 to 99 on the PC

You will probably need to access all the data contained within USB stick using a PC.

A USB Floppy software tool called SFD v123 is used to open up each block individually for you to drag and drop the data.

If you need a copy of this software contact us at info@flexautomationllc.com

Background:
The USB stick is partitioned into blocks that behave just like a standard floppy disk with the same size limitations. The software tool allows the USB stick to be divided up and to create and use up to 100 floppy disk areas which we have called floppy blocks.

Method:

- Start the USB Floppy Software tool SFD v1.23 for Win2K/XP
- Insert the USB stick into to the USB port on the computer.

- Choose **SFD_enhanced edition** TAB

- In the top box **Select usb disk** if necessary

- Click to **Start**(select) Multi-floppy Service
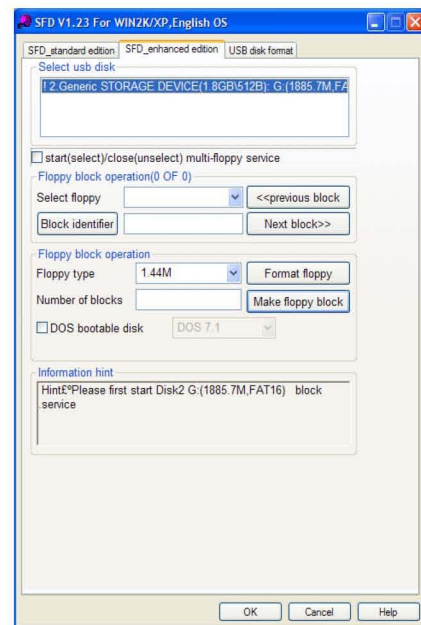
- Press **OK** to acknowledge message "**the function of USB Multiple floppy block is started**"
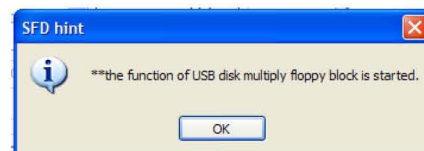
- **Select floppy** to use by using the drop down box. Choose directly which floppy to work with. This will open the selected floppy window to allow you to drag and drop in the normal way.
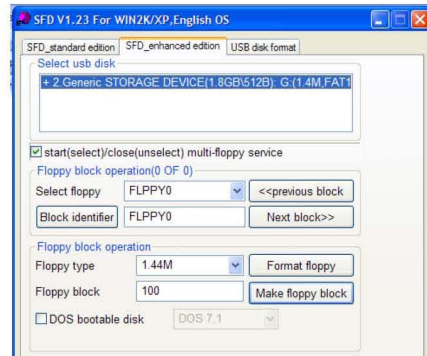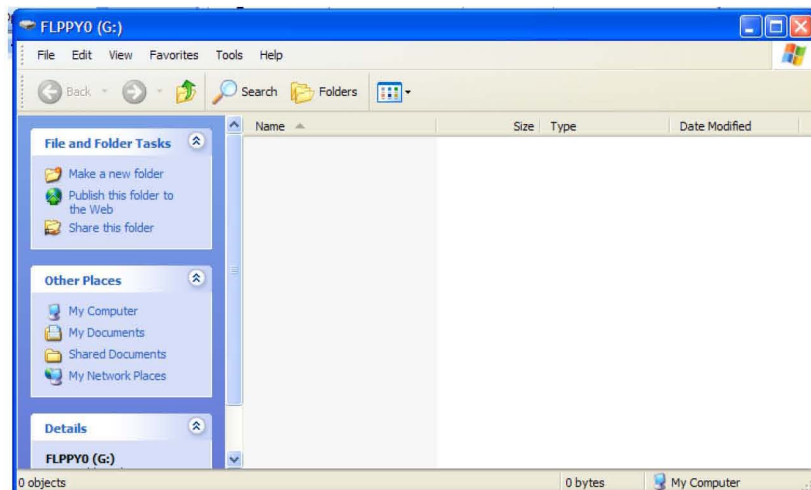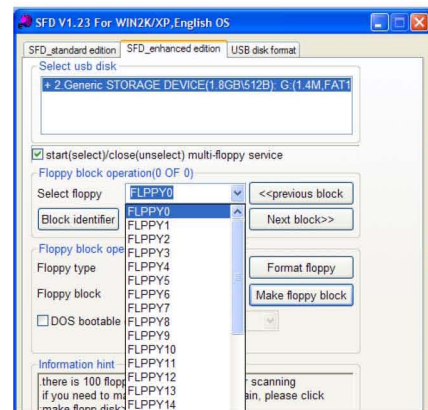
- Choose **<<previous block** or **Next block>>** to move to the next floppy or select as above.

- **Select floppy directly from the list**

  Choose directly which floppy to work with.

- This will open the selected floppy window to allow you to drag and drop in the normal way.

- **Important!** When you have finished with the USB stick, you must close the unit correctly by **de-selecting multi-floppy service.**
- **Please note:**
  Data loss may occur if this final operation is not carried out.
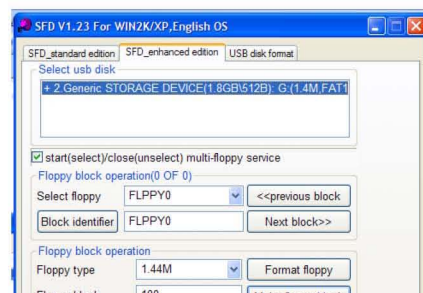
- You will receive the brief message "**the function of USB Multiple floppy block is closed**" press **OK** to acknowledge

- You may now remove the USB Stick from the PC.

Formatting the USB Flash Stick - single block

The USB stick supplied is normally ready to use and does not require formatting

If you need to re-format your USB floppy block 00 to 99 one at a time, you can do this using the normal Floppy format procedure on the robot system. See user robot manual for more information.

Choose the floppy block by selecting by the up/down buttons 00 to 99 and then format in the usual way.
Please Note: All data is lost in the usual way during formatting

If the entire USB stick needs to be formatted floppy blocks from 00 to 99 at the same time) you must use the USB Floppy software tool called SFD v123. It may be requested by contacting us at info@flexautomationllc.com
The procedure for formatting the entire USB stick is listed directly below

Formatting the entire USB Stick using a PC

Background:
In order to use a USB stick in the USB Floppy Unit, it is necessary to Format it when it is used for the first time.

This procedure creates 100 separate areas (0 to 99) on the USB stick for the robot to use.

The USB sticks supplied with the original unit are normally already formatted ready to use and so this procedure may not be necessary.

The formatting procedure will erase all the data on the USB stick, so first you should make a backup if required.

Method:

- Start the USB Floppy Software tool SFD v1.23 for Win2K/XP
- Insert the USB stick into to the USB port on the computer.

- Choose **SFD_enhanced edition** TAB

- In the top box **Select usb disk** if necessary

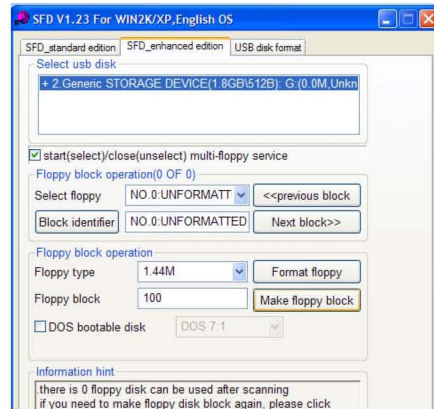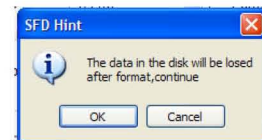- Click to **Start**(select) Multi-floppy Service
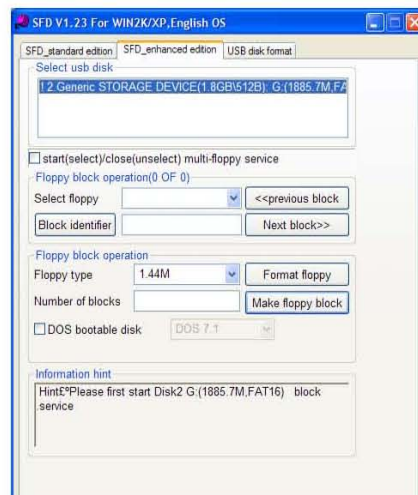
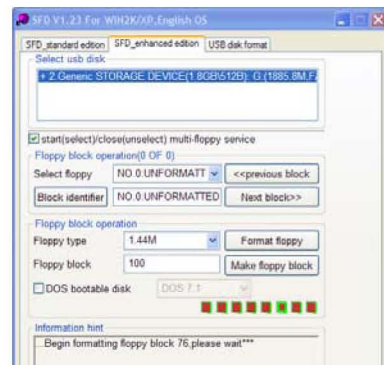- Press **OK** to acknowledge message "**the function of USB Multiple floppy block is started**"
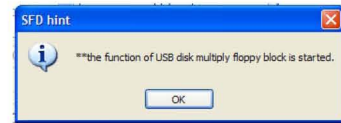
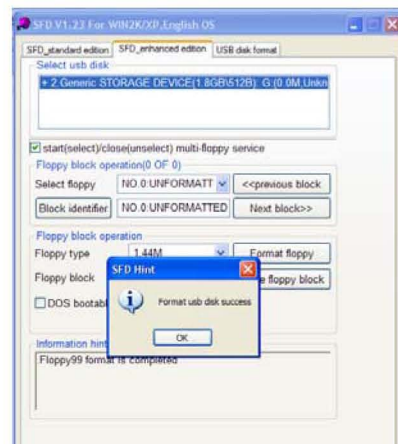- Press **Make floppy block** to format the USB stick with 100 Floppy blocks

- Press **OK** to acknowledge message "**The data in disk will be lost**"

- The format procedure begins and starts to create floppy blocks from 0 to 99. this takes a short while.
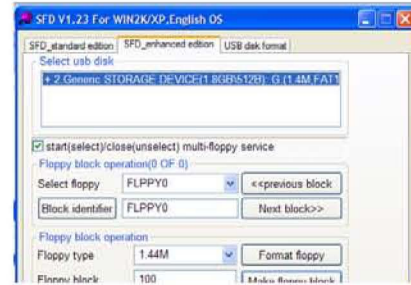
- Press **OK** to acknowledge message " **Format usb disk success**"

- Close down any open windows relating to the USB stick.

- **Important!** When you have finished with the USB stick, you must close the unit correctly by **de-selecting multi-floppy service.**

- **Please note:**
  Data loss may occur if this final operation is not carried out.

Contact details:

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