FW/FPGA Update Software
「SVMUpdater」
Software Manual

Ver. 1.0

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版数	日付	内容	担当
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1. Outline

This document describes the software "SVMUpdater" for FW / FPGA update of SVI-09 / SVM-03 / SVM-MIPI / SVO-03 / SVO-03-MIPI board. "SVMUpdater" is utility software for performing board update. For hardware details of each board, please refer to the attached hardware specifications.

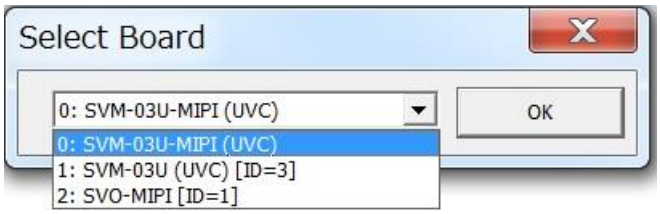
2. SVMUpdater.exe

SVMUpdater updates the firmware and FPGA configuration of SVI / SVM / SVO boards.

2.1. Top Window

When the software is launched, the top screen is displayed immediately if there is one SVI / SVM / SVO board connected. If multiple boards are connected, the Select Board dialog window as shown in [Fig. 1] will be displayed. Select the board you want to operate and press the "OK" button, the top window will be displayed.

[ID =] displays the Board ID set in advance for each board. Please refer to the attached hardware / software specification for how to set Board ID.



【Fig.1】Select Board Dialog

The model number of each board is recognized as follows.

-SVM-03U : SVM-03 (UVC Mode)

-SVM-03 : SVM-03 (HDMI Mode)

-SVM-03U-MIPI : SVM-MIPI (UVC Mode)

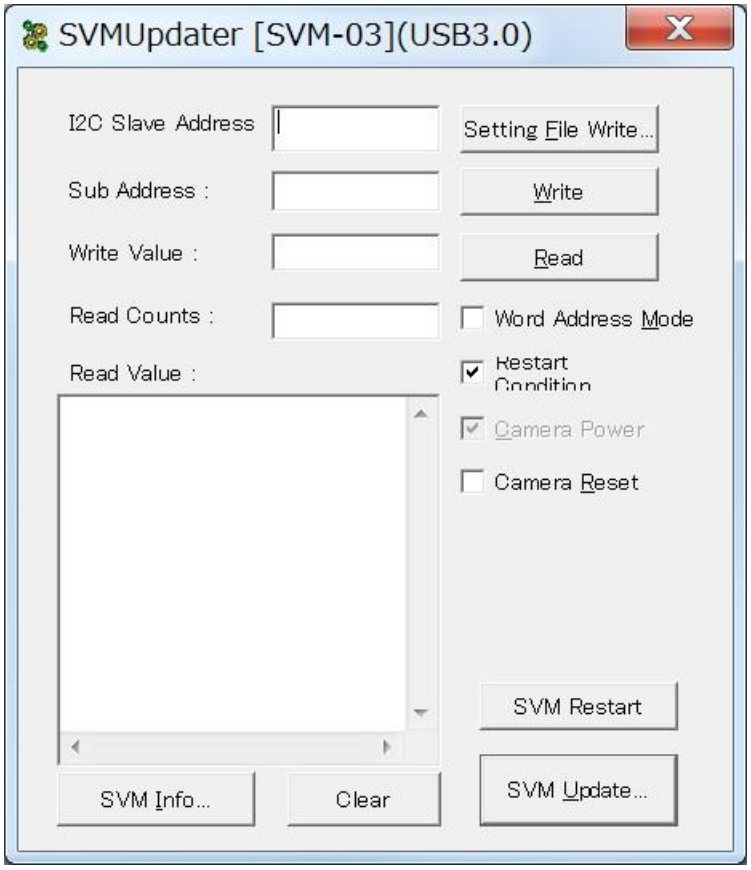
-SVM-03-MIPI : SVM-MIPI (HDMI Mode)

-SVO-03 : SVO-03

-SVO-MIPI : SVO-03-MIPI Normal Operation

-SVI-09 : SVI-09 / SVO-03-MIPI boot loader

The software automatically recognizes the board model number such as SVM-03 or SVO-03 at startup and provides menu items according to the model number. The model name of the recognized board and the version of the connected USB are displayed in the title bar as shown in Fig. 2. The software can use either USB 2.0 / 3.0.



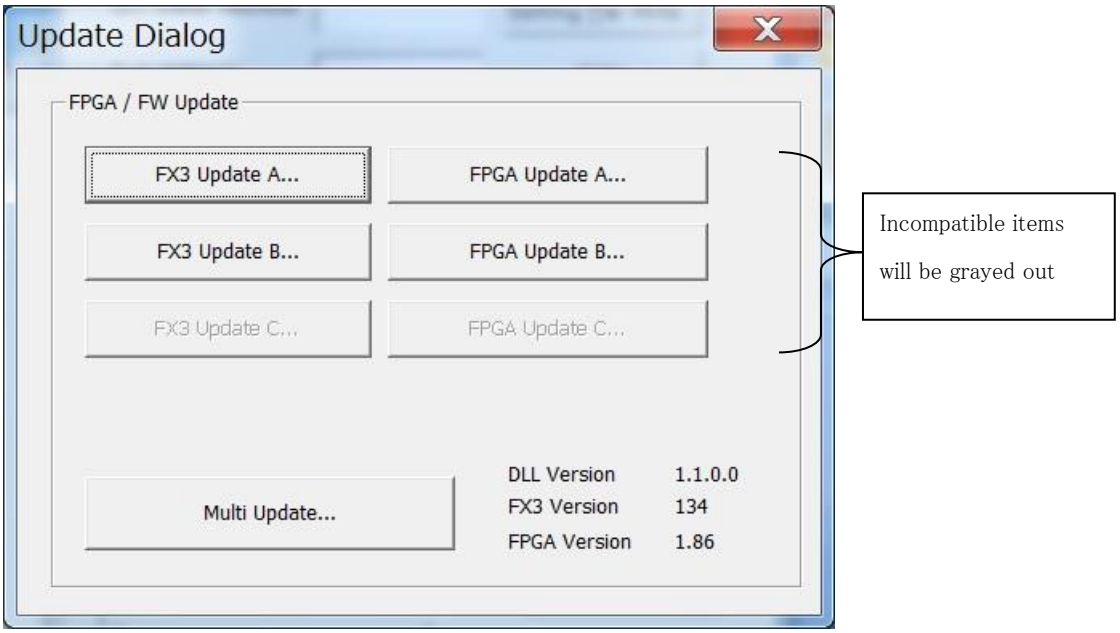
【Fig.2】SVMUpdater Top Window

SVMUpdater only uses the "SVM Update ..." function located on the lower right of the Fig.2.

2.2. Update Dialog Window

To explain the dialog to update the board. The dialog is displayed by pressing the "SVM Update ..." button on the top window.

In the update window, selectable items differ depending on the recognized board type. The following Fig. 3 is the window when SVM-03 is connected.



【Fig.3】Update Dialog Window

The menu list on the Update Dialog window is shown in Table 1.

Item	Expalain
FX3 Update A/B/C...	Update the FX3 firmware of the selected board. Select items A / B / C and specify the area to write to the SPI-ROM. The updated contents will not be applied until the board is rebooted after the update is completed. After the update is complete, it needs to restart the board.
FPGA Update A/B/C...	Update the FPGA Configuration of the selected board. Select items A / B / C and specify the area to write to the SPI-ROM. After the update is complete, it needs to restart the board.
Multi Update...	Update both the firmware and FPGA configuration at once. When updating, follow the instructions for the update file.
DLL Version FX3 Version FPGA Version	Display the DLL being used and the FX3 FW version and FPGA version of the selected board. If the board is not properly connected to the PC, the version will not be displayed correctly.

【Table 1】 Menu List of Update Dialog Window

The items that can be selected with each board are as follows.

-SVM-03 / SVM-MIPI / SVO-03(HDMI Mode or HDMI-UVC Mode)

Update A /B... and Multi Update...

-SVO-03(USB Mode)

Update B... and Multi Update...

-SVI-09 / SVO-03-MIPI

Update A / B /C... and Multi Update...

Table 2 shows a list of files that can be used for various updates.

Item	File format
FX3 Update A...	.img, .fx3
FX3 Update B...	.img, .fx3b
FX3 Update C...	.img, .fx3c
FPGA Update A...	.bin, .fpga
FPGA Update B...	.bin, .fpgb
FPGA Update C...	.bin, .fpgc
Multi Update...	.bin, .multi

【Table 2】List of files that can be used by Update

2.3. DIP Switch (SW2) Setting

When using SVMUpdater on the SVI-09 / SVO-03-MIPI board, it is necessary to set the DIP switch (SW2) on the board appropriately and boot in boot loader mode. The SVM-03 / SVM-MIPI / SVO-03 board is not restricted by the DIP switch (SW2). A list is shown in Table 3.

Board type	DIP #7	DIP #8
SVI-09 / SVO-03-MIPI	ON	OFF
SVM-03 / SVM-MIPI / SVO-03	-	-

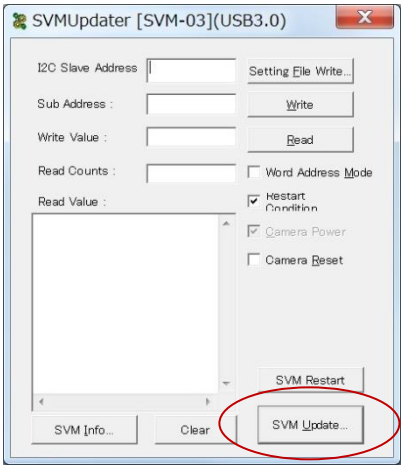
【Table 3】DIP switch (SW2) setting list

3. FX3 / FPGA Update

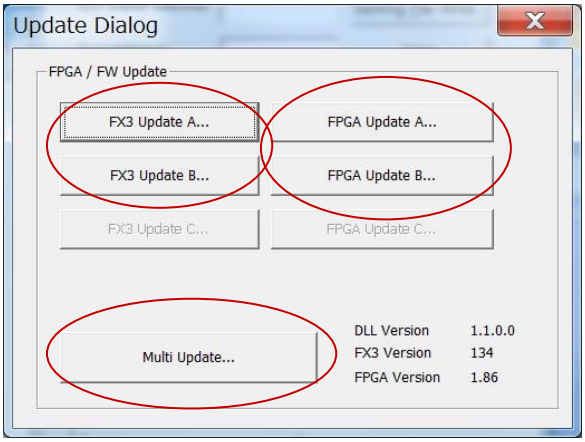
Describes the board's FPGA configuration and FX3 firmware update procedure.

3.1. SVM-03 / SVM-MIPI / SVO-03

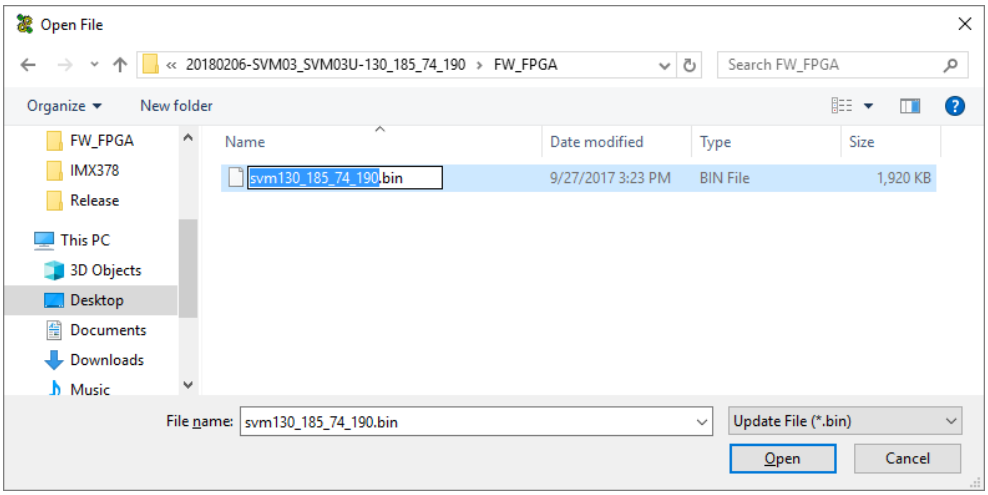
1. Make sure that no heavy processing is done on the PC, connect the board, and start this application.
2. Click the SVM Update button.



3. Click the "FX3 Update A / B ..." button to update only the FX3 firmware, or the "FPGA Update A / B ..." button to update the FPGA. The "Multi Update ..." button is used when performing multi-boot compatible updates.



4. The window for selecting the update file will be displayed, so select the file. The file extensions are as listed in Table 2. In the figure below, Multi Update ... is selected.



5. A dialog asking for final confirmation will be displayed. Select "OK" to update.

6. The update will start. The following dialog is displayed during the update. The update time is the longest if you select Multi Update, and it takes about 5 minutes.

※Be careful not to turn off your PC or disconnect the USB cable until this dialog is closed. If this happens, the board will not boot.

7. A dialog will appear when the update is complete.

＜In the case of success＞

If it ends normally, unplug the USB cable and restart the board. The updated firmware and FPGA are applied after rebooting.

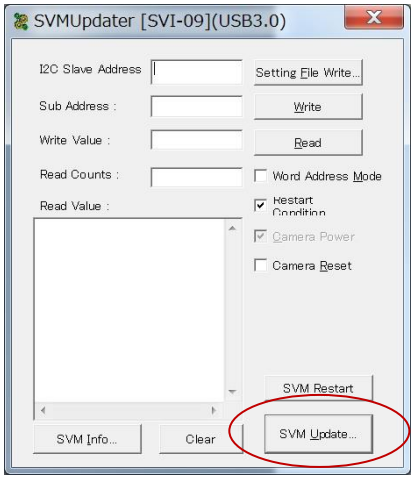
＜In case of failure＞

If the update fails, a dialog is displayed notifying you of the failure. In this case, please update again.

※If it fails, please execute the update again without disconnecting the USB cable.
If you select Multi Update, the board will not boot if you unplug the USB cable after the update has failed.
If you select an item other than Multi Update, the board will not boot in the mode in which the update is selected if the USB cable is disconnected after the update has failed.

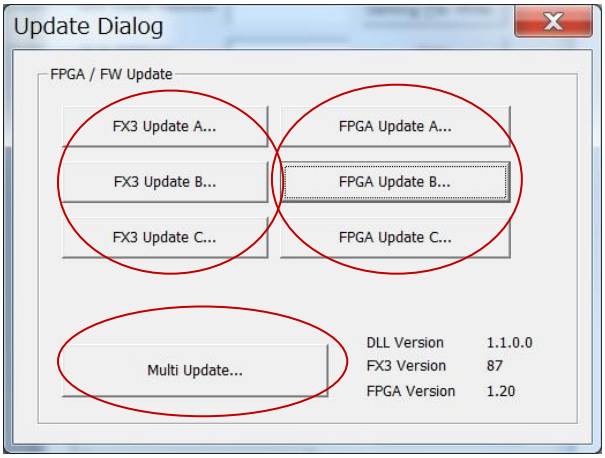
3.2. SVI-09 / SVO-03-MIPI

1. Make sure that no heavy processing is done on the PC, connect the board to PC with DIP switch (SW2) No.7 ON and No.8 OFF, and start the application.
2. Click the SVM Update button.

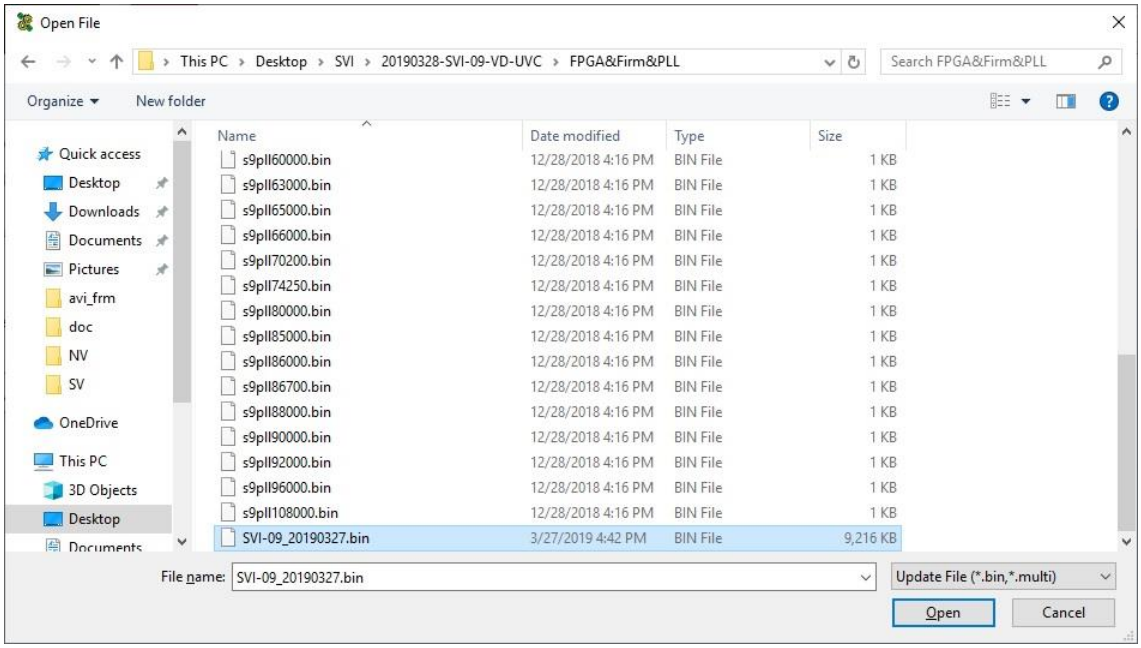


3. Click the "FX3 Update A / B / C ..." button to update only the FX3 firmware, or the "FPGA

Update A / B / C ..." button to update the FPGA. The "Multi Update ..." button is used when performing multi-boot compatible updates.



4. The window for selecting the update file will be displayed, so select the file. The file extensions are as listed in Table 2. In the figure below, Multi Update ... is selected.



5. A dialog asking for final confirmation will be displayed. Select "OK" to update.

6. The update will start. The following dialog is displayed during the update. The update time is the longest if you select Multi Update, and it takes about 15 minutes.

※Be careful not to turn off your PC or disconnect the USB cable until this dialog is closed. If this happens, the board will not boot.

7. A dialog will appear when the update is complete.

＜In the case of success＞

If the process ends normally, disconnect the USB cable and restart the board with the DIP switch (SW2) 7 and 8 set to the operation mode you want to use. The updated firmware and FPGA are applied after rebooting.

＜In case of failure＞

If the update fails, a dialog is displayed notifying you of the failure. In this case, please update again.

※If it fails, please execute the update again without disconnecting the USB cable.
If you select Multi Update, the board will not boot if you unplug the USB cable after the update has failed.
If you select an item other than Multi Update, the board will not boot in the mode in which the update is selected if the USB cable is disconnected after the update has failed.

4. Recommended operating environment of SVMUpdater

PC	: PC / AT compatible machine
CPU	: Pentium 4 1 GHz or more recommended
Memory	: 512 MB or more recommended
USB	: Equipped with USB interface
OS	: Windows7 32/64bit or Windows10 32/64bit

5. Applied version

Mode	FX3 Version	FPGA Version
SVM-03/ UVC	63 or later	1.87 or later
SVM-MIPI/ UVC		1.90 or later
SVM-03/ HDMI	123 or later	1.85 or later
SVM-MIPI/ HDMI		1.90 or later
SVO-03 HDMI-UVC	91 or later	0.92 or later
SVM-03 HDMI		0.93 or later
SVO-03	100 or later	1.02 or later
SVO-03-MIPI		0.30 or later
SVI-09	100 or later	0.70 or later

- SVMUpdater: Ver. 1.4.1 or later