When SVM-03 board does not work

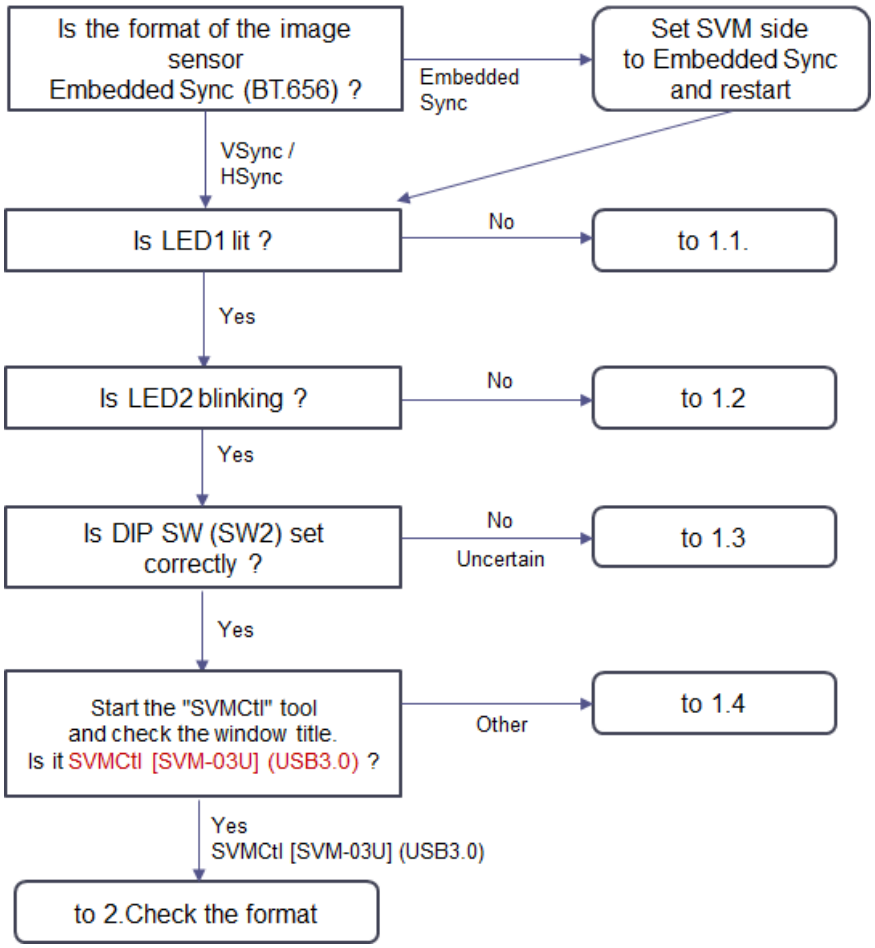
This document shows a check chart when the SVM-03 board does not operate, for example the screen becomes black and cannot be loaded properly, etc...

⇒For SVM-03U mode (USB connection)

⇒For SVM-03 mode(HDMI connection)

・For SVM-03U mode (USB connection)

1. Check the hardware



1.1. The board is powered off

・A blown fuse, insufficient power supply rating, or a board failure may have occurred.

1.2. Video signal is not input properly or VSync is not detected correctly

・Adjust VDDL voltage to the target voltage level.

・When the format is Embedded Sync, set from SVMCtl.

・Check the VS, HS and DCK signals with the check pins on the board.

・If all the LEDs are lit, please contact us because rewriting of SPI-ROM is required.

1.3. DIP SW setting is incorrect

・When the input bit width is 16-24bit, turn on DIP SW No.1.

・When DIP SW No. 8 is OFF, turn it ON and connect the cable again.

1.4. PC does not recognize it correctly

・When the title is "SVMCtl +[No Device]"

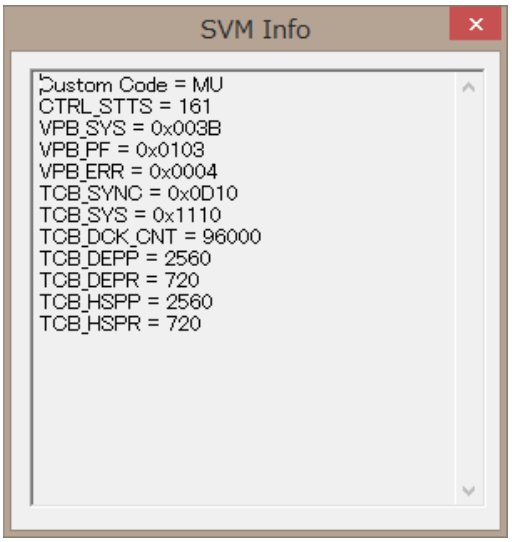
⇒Device is not recognized. Install SVM-03 driver.

・When the title is "SVMCtl +[SVM-03U] (USB2.0)"

⇒It is recognized as USB2.0 device. Check the USB3.0 cable and port.

2. Check the format

Start the "SVMCtl" tool and display the "SVM Info" screen.



■Meaning of main register values

TCB_DCK_CNT: Pixel clock frequency [kHz]

TCB_DEPP: Horizontal resolution after DE-signal processing [CKs]

When not using DE signal, same as TCB_HSPP.

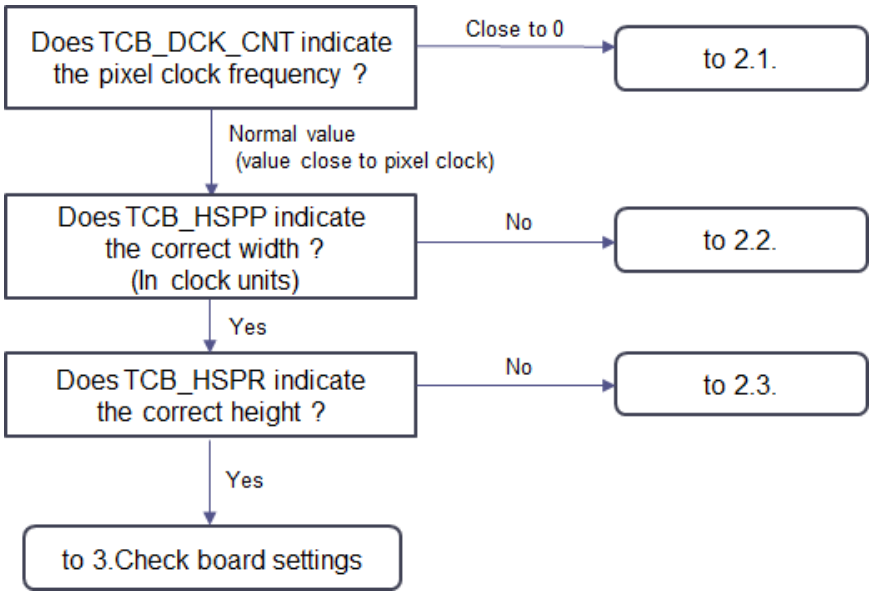
TCB_DEPR: Vertical resolution after DE-signal processing [Lines]

When not using DE signal, same as TCB_HSPR.

TCB_HSPP: Hsync horizontal resolution [CKs]

TCB_HSPR: VSync vertical resolution [Lines]

Left one is for 1280x720 / UYVY / 8bit input



2.1. Pixel clock is not recognized

・Check the DCK signal.

2.2. HSync settings and clock polarity are incorrect

・In the case of TCB_HSPP = (correct width)±2

⇒The polarity of the pixel clock may be different. Invert the clock polarity from SVMCtl and try again.

・In the case of TCB_HSPP < 10

⇒The incorrect HS ync signal is being input. Check the wiring.

・Other than those above

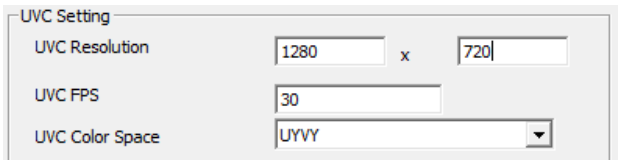
⇒The sync signal is detected, but the setting of the HSync polarity or VSync polarity may be reversed. The clock polarity of HSync / VSync set correctly from SVMCtl, and try again.

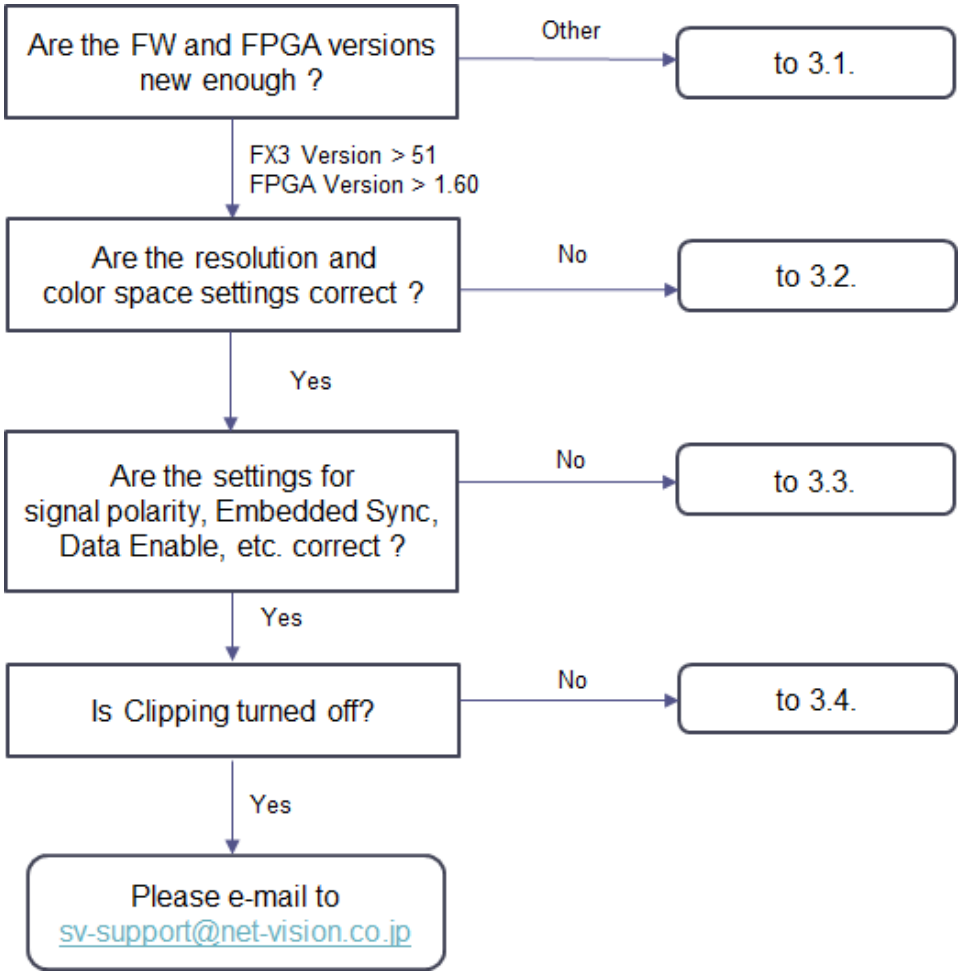
2.3. VSync settings are incorrect

⇒The sync signal is detected, but the setting of the VSync polarity may be reversed. The clock polarity of VSync set correctly from SVMCtl, and try again.

3. Check board settings

Click the "SVM Setting ..." button from SVMCtl to call the SVM Setting screen. The setting items related to import are as follows. After completing the settings, you need to restart the board by pressing the "Set" button.。

	Set the polarity of the clock and synchronization signal from the image sensor.
	Set whether to import as Embedded Sync(BT.656). (Normally OFF)
	Set the polarity of the Data Enable (DE) signal and whether DE signal is enabled. DE signal is input to P1 pin. When not using DE signal, turn OFF "DE Input Mode".
	Displays the ON / OFF status of screen clipping. Make settings in "Detail.."
	Set the resolution, FPS, color space, etc. of the video signal to be captured.
	Displays the firmware and FPGA configuration version.



3.1. If you use an old FW or FPGA version

Please update to the latest image from our web page and try again.

3.2. Resolution and pixel format settings are different

When the resolution setting is different from the input video, the video cannot be received from the PC at all. Make the correct settings and restart the board.

3.3. The signal format and board settings do not match

Make the correct settings and restart the board.

3.4. When the clipping setting is ON, pay attention to the resolution setting

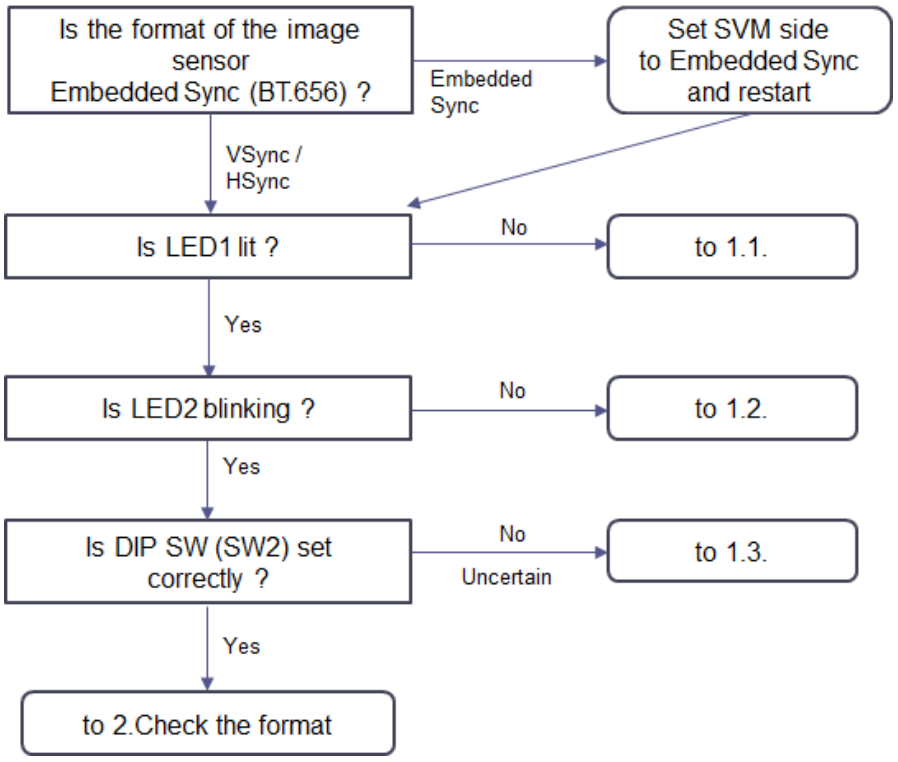
When clipping is enabled, you must enter the resolution after clipping in "UVC Resolution". Also, if the clipping resolution is larger than the resolution of the input video, it cannot capture normally.

4. If the above does not help

⇒Another factor is considered. If the symptom does not change even after changing the PC or connecting to a different USB port, please contact our support with a capture of the SVM Setting screen and SVM Info screen.

For SVM-03 mode (HDMI connection)

1. Check the hardware.



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1.2. Video signal is not input properly or VSync is not detected correctly

・Adjust VDDL voltage to the target voltage level.

・When the format is Embedded Sync, set from SVMCtl.

・Check the VS, HS and DCK signals with the check pins on the board.

・If all the LEDs are lit, please contact us because rewriting of SPI-ROM is required.

1.3. DIP SW setting is incorrect

・When the input bit width is 16-24bit, turn on DIP SW No.1.

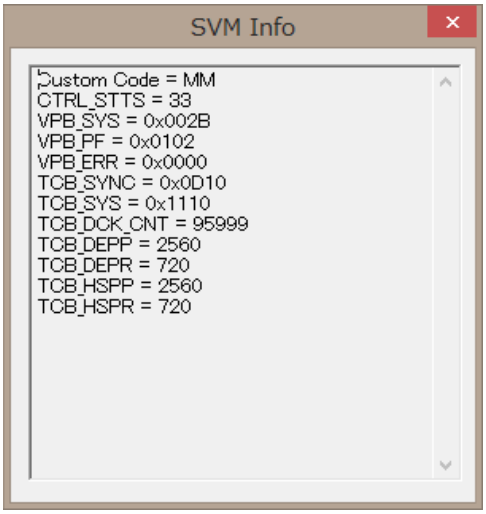
・When DIP SW No.8 is ON, turn it OFF and connect the cable again.

・Output resolution and output mode (HDMI / DVI) can be selected on the SVM-03 side, but some monitors may only support some modes. Try changing the settings below.

SW#	item	OFF	ON
5	Monitor output mode selection	HDMI mode (YUV4:2:2)	DVI mode (RGB4:4:4)
6	Monitor output size setting	1080p (1920 x 1080)	720p (1280 x 720)
7	Monitor output frame rate setting	60 [fps]	30 [fps]

2. Check the format

Start the "SVMCtl" tool and display the "SVM Info" screen.



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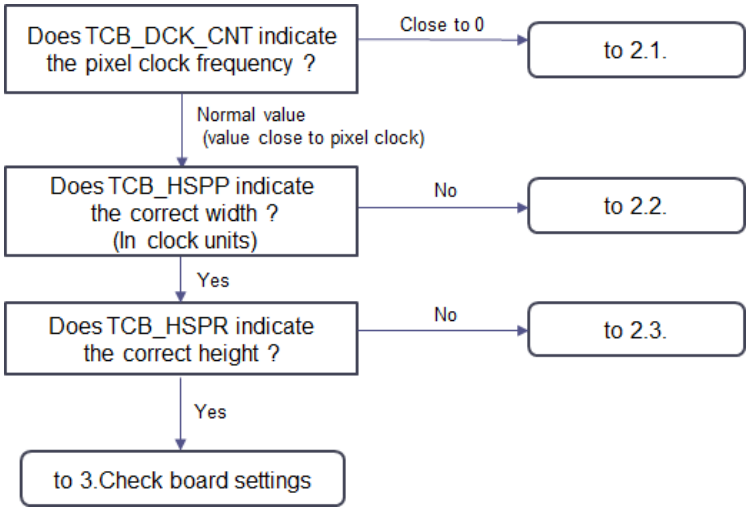

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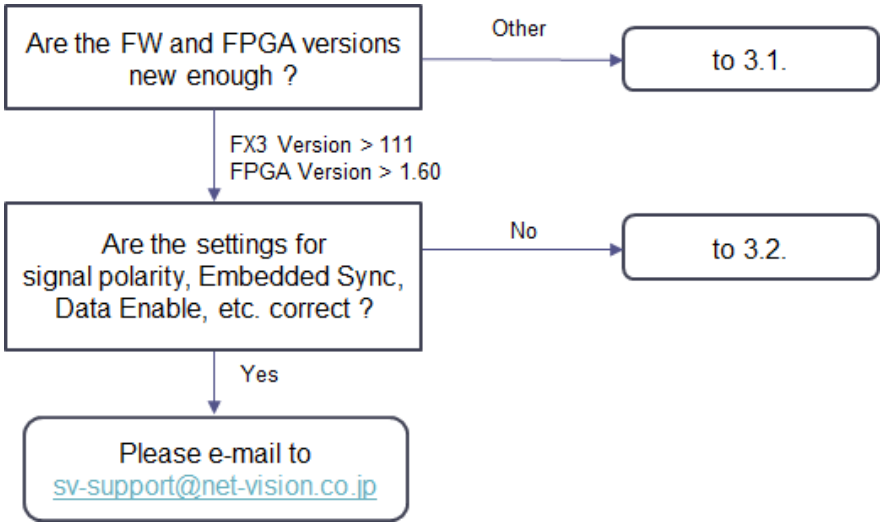
3. Check board settings

Click the "SVM Setting ..." button from SVMCtl to call the SVM Setting screen. The setting items related to import are as follows. After completing the settings, you need to restart the board by pressing the "Set" button.

Polarity of Pixel Clock Edge ↑ (L -> H) ↓ (H -> L) Polarity of H-Sync Low Active High Active Polarity of V-Sync Low Active High Active	Set the polarity of the clock and synchronization signal from the image sensor.
Embedded Sync (BT.656) OFF ON	Set whether to import as Embedded Sync (BT.656). (Normally OFF)
Polarity of DE Low Active High Active DE Input Mode (P1) OFF ON	Set the polarity of the Data Enable (DE) signal and whether DE signal is enabled. DE signal is input to P1 pin. When not using DE signal, turn OFF "DE Input Mode".
Clipping OFF Detail...	Displays the ON / OFF status of screen clipping. Make settings in "Detail.."
FX3 Version 118 FPGA Version 1.82	Displays the firmware and FPGA configuration version.



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