Application Note: User Gamma LUT for SVX-4096



Version: 1.00

Date: 18 Feb 2021

Application Note

User Gamma LUT for SVX-4096 P/N 4175500XX-3

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Revision History

Date	Rev No.	Page	Summary
18 Feb 2021	1.00	All	First issued



for SVX-4096



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(1) Setup :

This application note will show how to use the User Gamma LUT on the SVX-4096 controller.

Please make sure you have the following materials before starting the work :

- 1) Target Panel
- 2) The SVX-4096 LCD controller board: Use firmware version E1.07.00.22 or up for SVX-4096.
- 3) TCP/IP Serial Utility program version 1.11 available as a free download on the Digital View website Accessories / Software page: www.digitalview.com/accessories/software.html
- 4) PC with a RS-232 / network port
- 5) PC with Microsoft Windows 7 or later.
- 6) RS-232 programming cable (e.g P/N 426090100-3) or network cable.

If using RS-232, please connect CN8 socket to PC serial port (2400bps, 8N1), if using network, please make sure the internal network is working.

Use RS-232 programming cable (suggest to use P/N 426090100-3). DB9 connector connected to the serial port, and Molex 51021-0600 / JST XHP-6 or compatible connector to CN8 on the controller board.









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(2) Install the TCP/IP Serial Utility Program

Step 1: Install the TCP/IP Serial Utility program (Version 1.11 or later). <u>(Please uninstall</u> any earlier versions before installing the latest version)



Step 2: Open the TCP/IP Serial Utility Program

File Tools Help
• RS-232 serial port • Network (TCP/IP) • Model: • Version: • Version: • Skip Controller Initialization Checking • Skip Controller Initialization Checking • Select All Source 2 • Source 3 Source 4 Source 5 Source 5 Source 5 Source 6 Source 9 Source 10 Source 11 Source 12 Command Log: Clear All Active Test Item Test Command Measure Value Pass / Fail Status Fail Feedback Command
Comm Rate: 2400 Version: Repeat The Test Times: 2 Start Test Skip Controller Initialization Checking External Memory: Random Test Each test item delay: 0 sec. Source 1 Source 2 Source 5 Source 6 Source 7 Source 9 Source 10 Source 12 Command Log: Clear All Select All Source 1 Source 2 Source 10 Source 11 Source 12 Command Log: Clear All Select All Test Command Measure Value Pass / Fail Status Fail Feedback Command Fail Feedback Command
Port Rate: 2400 External Memory: Random Test Skip Controller Initialization Checking External Memory: Each test item delay: 0 v sec. Source 1 Source 2 Source 4 Source 5 Source 7 Source 9 Source 10 Source 12 Command Log: Clear All Select All Select All Active Test Command Measure Value Pass / Fail Status Fail Feedback Command Image: Clear All Active Test Item Test Command Measure Value Pass / Fail Status Fail Feedback Command Image: Clear All
Skip Controller initialization Checking Each test item delay: 0 v sec. Select All Source 2 Source 4 Source 5 Source 7 Source 8 Source 9 Source 10 Source 11 Source 12 Command Log: Clear All Select All Active Test Command Measure Value Pass / Fail Status Fail Feedback Command Image: Clear All
Select All Source 2 Source 4 Source 5 Source 7 Source 9 Source 10 Source 11 Source 12 Command Log: Clear All Select All Image: Command
Source 1 Source 2 Source 3 Source 4 Source 5 Source 7 Source 8 Source 9 Source 10 Source 11 Source 12 Command Log: Clear All Select All Test Item Test Command Measure Value Pass / Fail Status Fail Feedback Command Image: Clear All Source 12 Command Log: Clear All Source 13 Command Log: Clear All Source 14 Clear All Source 14<
Select All Active Test Item Test Command Measure Value Pass / Fail Status Fail Feedback Command
Active Test Command Measure Value Pass / Fail Status Fail Feedback Command
Test Item: Test Command: Measure Value: Manual send command:
Add New Item
Disconnected 2400 8-N-1





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(3) User Gamma LUT

<u>Setup :</u>

> Use RS-232 serial port :

Select 'RS-232' under OSD menu location > Advanced > Communication > RS-232 :



Choose the communication port (RS-232 serial port) in TCP/IP Serial Utility Program and select corresponding "Baud Rate" (2400) matching with the controller. Then Click **Connect**.

File Tools Help	
RS-232 serial port	Network (TCP/IP)
Comm Ba Port: R	aud 2400 🗸
Comm Bar Port: R Skip Controller Initializ:	aud ate: 2400 ¥

OR :





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> Use Network (TCP/IP) :

Select 'Network' under OSD menu location > Advanced > Communication > Network :

Aspect Ratio	Over Scan	Over Drive	Communication
Press SEL. DN key	to confirm and sa	ve change	
00			
RS-232	Network		
E1.07.00.22		₽ •	< >

Choose the communication port (Network (TCP/IP)) in TCP/IP Serial Utility Program and select the corresponding IP address for the controller you want to control. Then Click **Connect**.

@			Т	CP/IP Serial Utility
File Tools Help				
○ RS-232 serial port ④	Network (TCP/IP)	IP Address	Host Name	MAC Address
IP: 10.1.0.143	Port: 9761	10.1.0.143		00-05-62-07-00-03
Skip Controller Initializ	<		>	
Select All Source	Connect	IP Locator	•	٩

If the connection is success, it should show the SVX-4096 version :

•			TCP/IP Serial Utility	
File Tools Help				
🔘 RS-232 serial port 🛛 🖲 N	Network (TCP/IP)	Model: SVX-4096		📃 Auto S
IP: 10.1.0.143	Port: 9761	Version: E1.07.00.22		Repe
Skip Controller Initializati	ion Checking	External Memory: Installed		Rand
Select All Source	Disconnect			Each tes
ARGB1 DVI1 HDMI1	HDMI 2 HDMI 3 I	Display Port 1		





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Configure User Gamma :

Step 1: Choose 'Gamma Control' under 'Tools' in the TCP/IP Serial Utility Program.



The Gamma Control Window will be shown :







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Step 2: Click "User defined" to configure User Gamma.

Gamma Value		
User defined -	Each time read	Import Gamma Table
○ 2.2 ∨	Write	Export Gamma Table

The "Read User Gamma Data" window message will be shown. If you do not want to read the user gamma data which will take around 3 minutes, Press "No" to bypass it.

Read User Gamma Data	a ×
Do you want to read User Gammer It will take around 3 minutes	na Data?
Yes	No

Step 3: The "Gamma Control" window enables adjustment of the Gamma curve. Select "Adjustment method" to customize which gamma curve is applied in "User Gamma" in the SVX-4096.



- RGB: represents RGB values are the gamma curve

- Red/Green/Blue: represents each color as a different gamma curve

- Mask: when selected the dedicated color (Red/Green/Blue) which will enable to view each color gamma curve configuration.

- Slider Bar: Render the Gamma curve from 0.01 to 100



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Write User Gamma data

Configure the gamma curve value.



Press the "Write" button to write the gamma data to the SVX-4096 (It will take around 3 minutes)







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It will show the message 'Write Gamma Table Success' when completed to indicate the SVX-4096 has successfully stored the User Gamma Data







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<u>Read User Gamma data</u>

If you want to verify the "User Gamma" data in the SVX-4096, you may click "User defined" to read back the User Gamma data from SVX-4096. Press "Yes" when it displays the "Read User Gamma Gata" window. (It will take around 3 minutes)

Gamma Value		
User defined	Each time read	Import Gamma Table
○ 2.2 ∨	Write	Export Gamma Table
Read User Ga	mma Data 🛛 🗙	
Do you want to read It will take around 3	d User Gamma Data? minutes	
Ye	s No	
Gamma Value		
Oser defined —	Each time read	Import Gamma Table
○ 2.2 ∨	Write	Export Gamma Table
	8% Data reading	g





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After that, the Red/Blue/Green gamma curves have be drawn. The slider bar (Blue rectangle) value should be ignored since it is for write process to generate the gamma curve.



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Import Gamma Table

Step 1: If you already have the SVX-4096 Gamma Table, you can use the "Import Gamma Table" function to import the Gamma file



Step 2: Choose the gamma table file to be imported.

*			Open				
Look in:	🐌 New folder			~	G 🤌 🛤	••	
æ	Name	^			Date modi	fied	Туре
Recent places	🖲 gamma-tabl	e-1			2/18/2021	3:03 PM	Microsoft
Desktop							
Libraries							
ikaji This PC							
Network	¢						,
	File name:	gamma-t	able-1				Open
	Files of type:	CSV (Cor	mma delimited) (*.cs	iv)		· [Cancel

Press "Write" button to write the gamma data to the SVX-4096 (It will take around several minutes)

Gamma Value		
User defined ————————————————————————————————————	 Each time read 	Import Gamma Table
0 2.2 V	Write	Export Gamma Table





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Export Gamma Table

Step 1: If you want to read the details of gamma data, you can use the "Export Gamma Table" function to export the Gamma data.



Step 2: Save into a Gamma table file.

. 😤	Save As		×
Save in:	This PC	🗸 🕝 🤌 📂 🛄	-
91	Folders (6)		^ ^
Recent places	Desktop		
Desktop	Documents		
Libraries	Downloads		
This PC	Music		
	Pictures		~
Network	File name: export-gamma-table	~	Save
	Save as type: CSV (Comma delimited) (*.csv)	¥	Cancel



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(4) Gamma Table format description

Requirement	
Each Color depth	14 bit (0 - 16383 / 0x0000 - 0x3FFF)
Color level (steps)	10 bit (0 - 1023)
Format	Must follow the below table format

//R Table
0x00, 0x00, < Line 1, 14 bit Red color data in hex data format
0x00, 0xC7,
0x01, 0x35,
0x3F, 0xF4,
0x3F, 0xFF, < Line 1024, 14 bit Red color data in hex data format
0x3F, 0xFF, < Line 1025, Dummy data which is same as Line 1024 data
0x00, 0x00, < Line 1026, Dummy data which should be 0x00,0x00 data
//G Table
(Same format of R Table)
//B Table
(Same format of R Table)





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(5) CONTACT DETAILS

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Specifications subject to change without notice

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