API Command Set

DV-HDSS-41-TX

Version: V2.0

4x1 4K Scaling Presentation Switcher with Dual Outputs

43238

LIT1628C

RS232 Connection

1. Connect the switcher to PC via a Serial-to-USB cable.
2. Run a UART tool on the PC, configure the serial port as described in the following table.

RS232 Setting

The settings for the RS232 port are:

1. Baud Rate – 57600
2. Data Bits – 8 bits
3. Parity – None
4. Stop Bits – 1 bit
5. Flow Control – None

Note: The data format is ASCII.

Command Set

Take Command *SET AUTOSW_ONOFF prm [CR/LF]* as an example:

1. *[SET AUTOSW_ONOF]* denotes command key words, case in-sensitive.
2. *[prm]* denotes parameters, case in-sensitive, incorrect parameters number will not be recognized.
3. *[CR/LF]* are needed, all commands end up with [CR/LF].

IDX	Function Description	More Details	
API Control			
1	Set API Control Function ON/OFF	**Syntax** **Command:** SET API_ONOFF prm [CR/LF] **Return:** API Mode: prm [CR/LF] **Description:** prm = {on, off} on：Enable API control function off：Disable API control function	**Example** **Command:** SET API_ONOFF on [CR/LF] **Return:** API Mode: on [CR/LF] **Description:** API control : Enable / Disable Scalar API Control
2	GET API Control Status	**Syntax** **Command:** GET API_STATUS[CR/LF] **Return:** API Mode: prm [CR/LF] **Description:** Get API control function status. prm = {on, off} on：Enable API control function off：Disable API control function	**Example** **Command:** GET API_STATUS[CR/LF] **Return:** API Mode: on [CR/LF] **Description:** API control : Enable
Normal Switch Case			
3	Set Auto Switch ON/OFF	**Syntax** **Command:** SET AUTOSW_ONOFF prm [CR/LF] **Return:** Auto Switch: prm [CR/LF] **Description:** prm = {on, off} on: Enable Auto Switch Function off: Disable Auto Switch Function	**Example** **Command:** SET AUTOSW_ONOFF on [CR/LF] **Return:** Auto Switch: on [CR/LF] **Description:** Enable Auto Switch Function;
4	Set Auto Switch Mode	**Syntax** **Command:** SET AUTOSW_MODE prm [CR/LF] **Return:** Auto Switch Mode: prm [CR/LF] **Description:** prm = {priority, last_connected} priority: Switches the highest priority input signal to the output according to the pre-defined priority: **VGA->DP->HDMI1->HDMI2.** Last_connected: Switches the last inserted signal input to the output, last inserted input should be the highest priority.	**Example** **Command:** SET AUTOSW_MODE priority [CR/LF] **Return:** Auto Switch Mode: priority [CR/LF] **Description:** Set Auto switch mode: Priority Dipswitch 2 Overrides API and is read on power up.

5	Switch to Next Source	**Syntax** **Command:** SET SW_NEXT[CR/LF] **Return:** Source Select: prm[CR/LF] **Description:** prm = {vga, dp, hdmi1, hdmi2}	**Example** **Command:** SET SW_NEXT[CR/LF] **Return:** Source Select: DP[CR/LF] **Description:** Switches to DP source if the current source is vga.
6	Switch Input	**Syntax** **Command:** SET SW prm[CR/LF] **Return:** Source Select: prm[CR/LF] **Description:** SW is short for Switch prm= {vga, dp, hdmi1, hdmi2}	**Example** **Command:** SET SW dp[CR/LF] **Return:** Source Select: dp[CR/LF] **Description:** Switches to DP source.
7	Get Switch Status	**Syntax** **Command:** GET SW_STATUS[CR/LF] **Return:** Source Select: prm1[CR/LF] Switch Mode: prm2[CR/LF] **Description:** prm1 = {vga, dp, hdmi1, hdmi2} prm2={Manual Mode, Automatic(Last Connected) Mode, Automatic(priority) Mode}	**Example** **Command:** GET SW_STATUS[CR/LF] **Return:** Source Select: dp[CR/LF] Switch Mode: Manual Mode[CR/LF] **Description:** prm1 = {vga, dp, hdmi1, hdmi2} prm2={Manual Mode, Automatic(Last Connected) Mode, Automatic(priority) Mode}
CEC Control			
8	Set CEC Function ON/OFF	**Syntax** **Command:** SET CECCMD_ONOFF prm[CR/LF] **Return:** CEC: prm[CR/LF] **Description:** prm = {on, off} on: Enable CEC Function off: Disable CEC Function	**Example** **Command:** SET CECCMD_ONOFF on[CR/LF] **Return:** CEC: on[CR/LF] **Description:** Enable / Disables CEC Functions via API and push buttons for both HDMI and HDBaseT outputs

9	Set CEC Autoexec Function ON/OFF	**Syntax** **Command:** SET CECAUTO_ONOFF prm[CR/LF] **Return:** Auto CEC: prm[CR/LF] **Description:** prm = {on, off} on: Enable CEC Autoexec Function off: Disable CEC Autoexec Function	**Example** **Command:** SET CECAUTO_ONOFF on[CR/LF] **Return:** Auto CEC: on[CR/LF] **Description:** Enable / Disable Autoexec CEC Function when a valid signal is applied and when no signals are present
10	Set CEC POWER Delay Time	**Syntax** **Command:** SET CECAUTO_DELAY prm[CR/LF] **Return:** Auto CEC Delay Value: prm Min[CR/LF] **Description:** CECAUTO_DELAY is short for CEC auto Power Delay Time prm = {0,1,2…,30} 1 means 1 minute ,2 means 2 minutes and so on; Default wait time is 2 minutes, which means when no signal detected on the selected source for 2 minutes, the unit will send CEC Command (power-off) automatically; 0 means once no signal detected on the selected source, the unit will send CEC Command (power-off) automatically.	**Example** **Command:** SET CECAUTO_DELAY 3[CR/LF] **Return:** CECAUTO_DELAY 3 Min[CR/LF] **Description:** When no active signal detected on the selected source for 3 minutes, the unit will send CEC Command (power-off) automatically.
11	Send CEC Command (power-on or power-off)	**Syntax** **Command:** SET CECPWR_ONOFF prm[CR/LF] **Return:** Send CEC cmd: HDMI TV prm[CR/LF] Send CEC cmd: HDBT TV prm[CR/LF] **Description:** Send CEC Command prm = {on, off} On: Send Power-On Command via CEC Off: Send Power-Off Command via CEC	**Example** **Command:** SET CECPWR_ONOFF on[CR/LF] **Return:** Send CEC cmd: HDMI TV OFF[CR/LF] Send CEC cmd: HDBT TV OFF[CR/LF] **Description:** Send Power-Off Command via CEC

		Syntax	Example
12	Get CEC Control Status	**Command:** GET CEC_STATUS[CR/LF] **Return:** CEC: prm1[CR/LF] Auto CEC: prm1[CR/LF] Auto CEC Delay Value: prm2 Min[CR/LF] **Description:** prm1 = {on, off} prm2= {0-30}	**Command:** GET CEC_STATUS[CR/LF] **Return:** CEC: ON[CR/LF] Auto CEC: ON[CR/LF] Auto CEC Delay Value: 2 Min [CR/LF] **Description:** CEC Autoexec function is enable, delay time is 2 minutes.
HDCP			
		Syntax	**Example**
13	Set Input HDCP Support ON/OFF	**Command:** SET HDCPSUPPORT_ONOFF in prm1[CR/LF] **Return:** in : prm2[CR/LF] **Description:** HDCPSUPPORT_ONOFF will control source hdcp support on or off prm1 = {on, off} in = {dp,hdmi1,hdmi2} prm2={HDCP Supported, HDCP Not supported}	**Command:** SET HDCPSUPPORT_ONOFF hdmi1 on[CR/LF] **Return:** HDMI1:HDCP Supported[CR/LF] **Description:** Set hdmi1 hdcp support on.
		Syntax	**Example**
14	Get HDMI1/HDMI2 Input HDCP Status	**Command:** GET HDCP_STATUS[CR/LF] **Return:** hdmi1: prm1[CR/LF] hdmi2: prm1[CR/LF] HDMI OUT HDCP Status: prm2[CR/LF] **Description:** prm1 = {HDCP Supported, HDCP Not supported} prm2 = {Non Encryption, Encryption}	**Command:** GET HDCP_STATUS[CR/LF] **Return:** HDMI1:HDCP Supported[CR/LF] HDMI2:HDCP Supported[CR/LF] HDMI OUT HDCP Status: Non Encryption[CR/LF] **Description:** HDMI1 Supports HDCP HDMI2 Supports HDCP

<table>
<tr><th colspan="4">EDID</th></tr>
<tr><td rowspan="2">15</td><td rowspan="2">Set Input EDID</td><td>Syntax

Command:
SET EDID in prm[CR/LF]

Return:
in EDID: prm[CR/LF]

Description:
in = {vga,dp,hdmi1,hdmi2};
VGA:
prm={fix0, fix1, fix2, fix3, fix4}
fix0: 1280x800@60Hz
fix1: 1920x1200@60Hz
fix2: 1920x1080@60Hz
fix3: 1280x720@60Hz
fix4: 1024x768@60Hz
DP/HDMI1/HDMI2: prm={fix0, fix1, fix2, fix3, fix4, fix5, fix6, fix7}
fix0: copy
fix1: 4K@30Hz PCM-2Ch
fix2: 1920x1080@60Hz PCM-2Ch
fix3: 1280x720@60Hz PCM-2Ch
fix4: 1920x1200@60Hz PCM-2Ch
fix5: 1280x800@60Hz PCM-2Ch
fix6: 1920x1080@60Hz Dolby 5.1
fix7: 4K@30Hz Dolby 5.1

Note:
• Fix 1(4K@30Hz PCM-2Ch) is in default;
• When you set EDID in copy mode and detect the display for 4K@60HZ, it will automatically output 4k@30Hz;</td><td>Example
Command:
SET EDID hdmi1 fix1[CR/LF]

Return:
hdmi1 EDID: fix1[CR/LF]

Description:
hdmi1’s EDID is set to 1920x1200@60Hz.</td></tr>
<tr><td>Syntax

Command:
GET EDID_STATUS[CR/LF]

Return:
VGA EDID: prm[CR/LF]
DP EDID: prm[CR/LF]
HDMI1 EDID: prm[CR/LF]
HDMI2 EDID: prm[CR/LF]

Description:
VGA: prm={fix0, fix1, fix2, fix3, fix4}
fix0: 1280x800@60Hz
fix1: 1920x1200@60Hz
fix2: 1920x1080@60Hz
fix3: 1280x720@60Hz
fix4: 1024x768@60Hz
DP/HDMI1/HDMI2: prm={fix0, fix1, fix2, fix3, fix4, fix5, fix6, fix7}</td><td>Example
Command:
GET EDID_STATUS[CR/LF]

Return:
VGA EDID: fix0[CR/LF]
DP EDID: fix2[CR/LF]
HDMI1 EDID: fix2[CR/LF]
HDMI2 EDID: fix2[CR/LF]

Description:
VGA’s EDID is set to 1280x800@60Hz
DP’s EDID is set to 1920x1080@60Hz
hdmi1’s EDID is set to 1920x1080@60Hz
Hdmi2’s EDID is set to 1920x1080@60Hz</td></tr>
<tr><td>16</td><td>Get Input EDID Status</td></tr>
</table>

		fix0: copy fix1: 4K@30Hz PCM-2Ch fix2: 1920x1080@60Hz PCM-2Ch fix3: 1280x720@60Hz PCM-2Ch fix4: 1920x1200@60Hz PCM-2Ch fix5: 1280x800@60Hz PCM-2Ch fix6: 1920x1080@60Hz Dolby 5.1 fix7: 4K@30Hz Dolby 5.1	
Audio			
17	Volume Gain Adjust	**Syntax** **Command:** SET VOLGAIN_DATA aout prm[CR/LF] **Return:** VOLGAIN_DATA aout prm[CR/LF] **Description:** VOLGAIN means volume control aout = {hdmiout, audioout}; prm = {0~100} Minimum delay between commands 500 msec.	**Example** **Command:** SET VOLGAIN_DATA audioout 50[CR/LF] **Return:** VOLGAIN_DATA audioout 50[CR/LF] **Description:** The audio output volume on the HDMI and Audio Out is set to 50
18	Set Audio Mute	**Syntax** **Command:** SET AUDIO_MUTE aout prm[CR/LF] **Return:** AUDIO_MUTE aout prm[CR/LF] **Description:** aout = { hdmiout, audioout}; prm = {on, off}// on means mute; off means not mute. Minimum delay between commands 500 msec.	**Example** **Command:** SET AUDIO_MUTE audioout on [CR/LF] **Return:** AUDIO_MUTE audioout on [CR/LF] **Description:** Audio was muted on HDMIOUT.
Video			
19	Set Force RGB	**Syntax** **Command:** SET FORCERGB prm[CR/LF] **Return:** FORCERGB prm[CR/LF] **Description:** HDMIOUT's colorspace is forced to RGB prm = {on, off}	**Example** **Command:** SET FORCERGB on[CR/LF] **Return:** FORCERGB on[CR/LF] **Description:** HDMIOUT's colorspace is forced to RGB

20	Set Freeze Mode ON/OFF	**Syntax** **Command:** SET FREEZEM_ONOFF prm[CR/LF] **Return:** FREEZEM_ONOFF prm[CR/LF] **Parameter:** *prm* = {on, off} **Description:** prm = {on, off} on: Enable Freeze Mode off: Disable Freeze Mode	**Example** **Command:** SET FREEZEM_ONOFF prm[CR/LF] **Return:** FREEZEM_ONOFF on[CR/LF] **Description:** Enable Freeze Mode
21	Get Freeze Mode ON/OFF Status	**Syntax** **Command:** GET FREEZEM_ONOFF[CR/LF] **Return:** FREEZEM_ONOFF prm[CR/LF] **Parameter:** *prm* = {on, off} **Description:** prm = {on, off} on: Enable Freeze Mode off: Disable Freeze Mode	**Example** **Command:** GET FREEZEM_ONOFF[CR/LF] **Return:** FREEZEM_ONOFF on[CR/LF] **Description:** Enable Freeze Mode
22	Get Force RGB	**Syntax** **Command:** GET FORCERGB [CR/LF] **Return:** FORCERGB prm[CR/LF] **Description:** prm = {on, off}	**Example** **Command:** GET FORCERGB [CR/LF] **Return:** FORCERGB on[CR/LF] **Description:** HDMIOUT's colorspace is forced to RGB
23	Set Output Resolution	**Syntax** **Command:** SET RESOLUTION out prm[CR/LF] **Return:** RESOLUTION out prm[CR/LF] **Description:** prm = {3840x2160@30, 1920x1200@60, 1920x1080@60, 1600x1200@60, 1366x768@60, 1280x1024@60, 1280x720@60, 1280x800@60, 1024x768@60, auto} out = {hdmiout};	**Example** **Command:** SET RESOLUTION hdmiout 1920x1080@60 [CR/LF] **Return:** RESOLUTION hdmiout 1920x1080@60 [CR/LF] **Description:** HDMI out resolution is 1920x1080@60. The Scaler rotary switch must be set to "9" for API Control

System Info			
24	Set Standby ON/OFF	**Syntax** **Command:** SET STANDBY_ONOFF prm[CR/LF] **Return:** STANDBY_ONOFF prm[CR/LF] **Description:** prm = {on, off}	**Example** **Command:** SET STANDBY_ONOFF on[CR/LF] **Return:** STANDBY_ONOFF on [CR/LF] **Description:** Set standby on.
25	Get Scaler Mode Status	**Syntax** **Command:** GET SCALER_STATUS[CR/LF] **Return:** Scaler Info: STANDBY_status prm1[CR/LF] RESOLUTION hdmiout prm2[CR/LF]□□□□□□□□□□ HDCP hdmiout prm1[CR/LF] MUTE audioout prm1[CR/LF] VOLGAIN_DATA audioout prm3[CR/LF] **Description:** prm1 = {on, off} prm2={3840x2160@30, 1920x1200@60, 1920x1080@60, 1600x1200@60, 1366x768@60, 1280x1024@60, 1280x720@60, 1280x800@60, 1024x768@60, auto} prm3={0-100}	**Example** **Command:** GET SCALER_STATUS[CR/LF] **Return:** Scaler Info: STANDBY_status off[CR/LF] RESOLUTION hdmiout 1920x1080@60 [CR/LF]□□□□□□ HDCP hdmiout on[CR/LF] MUTE audioout off[CR/LF] VOLGAIN_DATA audioout 35[CR/LF] **Description:** STANDBY status is off. HDMI OUT's RESOLUTION is 1920x1080@60.□□□□□ hdmi out HDCP on. Audio out mute is off. Audio out volgain is 35.
26	Factory Reset	**Syntax** **Command:** RESET [CR/LF] **Return:** RESET [CR/LF] **Description:** Factory Reset	**Example** **Command:** RESET[CR/LF] **Return:** RESET[CR/LF] **Description:** Factory Reset
27	System Reboot	**Syntax** **Command:** REBOOT[CR/LF] **Return:** REBOOT[CR/LF] **Description:** System reboot	**Example** **Command:** REBOOT[CR/LF] **Return:** REBOOT[CR/LF] **Description:** System reboot

28	Get System Status	**Syntax** **Command:** GET SYS_STATUS[CR/LF] **Return:** ... （Response all system status information） **Description:** Get System Status	**Syntax** **Command:** GET SYS_STATUS[CR/LF] **Return:** ... （Response all system status information） **Description:** Get System Status
29	Get Auto reboot Status	**Syntax** **Command:** GET AUTOREBOOT[CR/LF] **Return:** AUTOREBOOT prm [CR/LF] **Description:** prm = {on, off}	**Syntax** **Command:** Get AUTOREBOOT[CR/LF] **Return:** AUTOREBOOT on [CR/LF] **Description:** Get Auto reboot Status
30	Set Auto reboot	**Syntax** **Command:** SET AUTOREBOOT prm [CR/LF] **Return:** AUTOREBOOT prm [CR/LF] **Description:** prm = {on, off}	**Syntax** **Command:** SET AUTOREBOOT on[CR/LF] **Return:** AUTOREBOOT on [CR/LF] **Description:** Set Auto reboot Mode to “on”

Update Info			
		Syntax	**Example**
31	Enter upgrade mode	**Command:** UPG [CR/LF] **Return:** UPG [CR/LF] **Description:** UPG = upgrade	**Command:** UPG [CR/LF] **Return:** UPG [CR/LF] **Description:** Upgrade module.

Auto Mode

Auto Mode 1 (priority mode): VGA->DP->HDMI1->HDMI2

1. When power is applied to the switcher it will default to the VGA channel unless there is another active source connected. If multiple sources are already connected it will auto switch to the active source with the highest priority.
2. When a new source is connected the switcher will auto switch depending on the priority of the input signals.
3. When a currently selected source is removed the unit will auto switch to the next lower priority input.
4. Manual and API switching is also valid in the Priority Mode. The front panel button will switch through the active sources. Any switch command via the Contact Closures inputs or API commands will be performed on inputs with active sources only. If the selected source is not active the LED indicator will flash twice to indicate the source is not active and will not switch.

Auto Mode 2 (Last Connected):

1. When power is applied to the switcher it will default to the VGA channel. If multiple active sources are present at power up the unit will auto-switch to the input with the highest priority.
2. When any new active source is connected the unit will auto switch to this source.
3. When a currently selected source is removed the unit will auto switch to the active source with highest priority, or remain on the current input if no any active sources are present.
4. Manual and API switching is also valid in the Last Connected Mode. The front panel button will switch through the active sources. Any switch command via the Contact Closures inputs or API commands will be performed on inputs with active sources only. If the selected source is not active the LED indicator will flash twice to indicate the source is not active and will not switch.

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