



Advantiv® ADV7627

Repeater Application System Commands with Advanced Features

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Systems and Software
Engineering
Analog Devices Inc.

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Revision History:

Revisions	Descriptions	Date
0.1	Initial draft including Repeater Application ADV7627 commands only	Aug. 2014

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PRODUCT INFORMATION

Product information can be obtained from the Analog Devices Web site and other Web sources.

Analog Devices Web Site

The Analog Devices Web site, www.analog.com, provides information about a broad range of products—analog integrated circuits, amplifiers, converters, and digital signal processors. To access a complete technical library for each video product family, go to <http://www.analog.com/en/audiovideo-products/products/index.html>.

Also note, [MyAnalog.com](http://www.analog.com) is a free feature of the Analog Devices Web site that allows customization of a Web page to display only the latest information about products you are interested in. You can choose to receive weekly e-mail notifications containing updates to the Web pages that meet your interests, including documentation errata against all manuals. [MyAnalog.com](http://www.analog.com) provides access to books, application notes, data sheets, code examples, and more. Visit [MyAnalog.com](http://www.analog.com) to sign up. If you are a registered user, just log on. Your user name is your e-mail address.

EngineerZone

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Conventions

Command template

All system commands are presented in one of the following formats:

1. Short form: used to present commands without options

Command	
Description:	Command description

2. Long form: used to present commands with multiple options

Command	
Description:	Command description
Syntax:	command <options>
Options:	
Default:	Default value at power on
Example:	An example describing the usage of the command

Notes

- (All informational notes are presented in the bracket and in blue color fonts)

Audio/Video Control Commands

arcrx	
Description:	Controls the ARC (Audio Return Channel) feature on the HDMI Tx
Syntax:	arcrx <on, off>
	on Enable the ARC on audio output interface
	off Disable the ARC on audio output interface
Default:	Off
Example:	arcrx on: Enables the ARC on ap2, in order to try the ARC operation the HDMI SINK device also needs to support the ARC feature

(We need to remove the APx_OUT audio pins from tristate using the audtricommand after or before the arcrx command execution.)

audext	
Description:	Extract Received audio from Rx to APx_OUT pins.
Syntax:	audext <Enable :on or off>
	Enable on - enables audio extraction. off - disables audio extraction.
Default:	Off
Example:	audext on: Enabling Audio Extract from Repeater path 2, to Audio Output Port 2

(We need to remove the APx_OUT audio pins from tristate using the audtri command after or before the audext command execution.)

audtri		
Description:	Enables/disables audio tristate in audio o/p port	
Syntax:	audtri<Audio output port><pin index><Enable >	
Options:	Audio output port	ap1 or ap2
	Pin index	0,1,2,3,4
	Enable	on, off
Default:	On	
Example:	audtri ap2 2 off : Does not tristate AP2_OUT2 audio output pin.	

(audtri command should be used after audext,arcrx)

(audtri can be used after audextins if additional audio pins needs to be removed from tristate.)

Operation/Mode Control Commands

mux	
Description:	Enables/Disables Mux Mode in ADV7625 family chips.
Syntax:	mux <Enable :on, off >
Options:	on Enables Mux mode.
	off Disables Mux mode.
Default:	n/a
Example:	mux on: MUX is enabled for default TXB Repeater path.

cec	
Description:	Controls CEC support functionality
Syntax:	cec<on, off>
Options:	on Enables the CEC support by the software driver
	off Disables the CEC support by the software driver
Default:	n/a
Example:	cec off: disables the CEC support by the software driver

cecsend		
Description:	Sends CEC messages from the console	
Syntax:	cecsend<parameters length><opcode><directly addressed ><parameters>	
Options:	Parameters length	Specify the CEC parameter length in byte
	Op code	Specify CEC operation code
	directly addressed	Specify the address of the destination device
	Parameters	Specify the CEC parameters
Default:	n/a	
Example:	cecsend 0x02 0x70 0x05 0x11 0x00: Reports the current active source is 1100	

ceclen	
Description:	Sets cec parameters length

cecaudio		
Description:	send cec message about audio	
Syntax:	cecaudio<opcode><directly addressed ><parameters>	
	opcode	Specify CEC operation code
	directly addressed	Specify the address of the destination device
	Parameters	Specify the CEC parameters
Default:	n/a	
Example:	cecaudio 0x70 0x05 0x11 0x00	

cecsendnum	
Description:	send cec message <number> per time

enc		
Description:	Controls the HDCP operation at HDMI TxB output	
Syntax:	enc <on, off, us, rxtx>	
Options:	on	Forces the HDCP operation at HDMI Tx output
	off	Disables the HDCP operation at the HDMI Tx output
	us	Follows the upstream device (source) in terms of HDCP operation
	rxtx	Enables the HDCP on HDMI Rx and Tx separately and not as a HDCP repeater
Default:	us	
Example:	enc on:enables the HDCP operation at the HDMI TXB even if the video received from the source is not encrypted (HDCP is not enabled on HDMI Rx)	

audtestmode		
Description:	To test with certification streams from Audio Precision machine	
Syntax:	audtestmode<on or off>	
Options:	on	Turn on the Audio Certification Mode to test with certification streams from AP machine .
	off	Turn off the Audio Certification Mode to test with certification streams from AP machine .
Default:	off	
Example:	audtestmode on	

System Control & General Commands

? or rep help	
Description:	Lists all available console commands

help	
Description:	Lists available additional commands

dbg		
Description:	Selects the debug output information printed on the console	
Syntax:	dbg<rx, tx, hdp, edid, cec, int, none, all>	
Options:	rx	Selects HDMI Rx debug information only
	tx	Selects HDMI Tx debug information only
	hdp	Selects HDCP debug information only
	edid	Selects EDID debug information only
	cec	Selects CEC debug information only
	int	Selects Interrupt debug info only
	none	Selects no debug information
	all	Selects all debug information
Default:	All	
Example:	dbg cec: System prints CEC debug messages	

dbg+, dbg-		
Description:	Adds or Removes the debug output information printed on the console	
Syntax:	dbg + <rx, tx, hdp, edid, cec, int, none, all> dbg- <rx, tx, hdp, edid, cec, int, none, all>	
Options:	rx	Selects HDMI Rx debug information only
	tx	Selects HDMI Tx debug information only
	hdp	Selects HDCP debug information only
	edid	Selects EDID debug information only
	cec	Selects CEC debug information only

	int	Selects Interrupt debug info only
	none	Selects no debug information
	all	Selects all debug information
Default:		
Example:	dbg+ cec: adds CEC debug messages to the existing debug information dbg- edid: removes EDID debug messages from the existing debug information	

Power		
Description:	Operates power modes in the HDMI product (HDMI chip)	
Syntax:	Power <on, off0, off 1, off 2>	
Options:	on	Configures the HDMI product to power on state
	off 0	Configures the HDMI product to standby mode including the CEC module
	off 1	Configures the HDMI product to standby mode while CEC module stays in power on mode. CEC standby message will be sent
Default:	On	
Example:	Power off 0: forces the HDMI product into standby mode	

Reset	
Description:	Restarts the software and reinitializes the reference hardware platform

Rev	
Description:	Prints the software revision

Run	
Description:	Resumes the software driver

Stop	
Description:	Stops the software driver

Stat	
Description:	Prints the HDMI Input/Output status of either Repeater path 2 on the console
Syntax:	Stat
Example:	stat : Prints the status information of input and output of Repeater path 2

xrc+	
Description:	Disables the software driver and enters in XRC mode. In this mode, XRC application controls the reference hardware platform using i2c commands

xrc-	
Description:	Enables the software driver and exits XRC mode

xw											
Description:	XRC write command (Expanded I2C write); xrc+ should have been given atleast once prior to using this command. (If in XRC mode, software driver and input echo in console output will be disabled; to re-enable it execute xrc- command.)										
Syntax:	xw<a><dd><rr><cccc><nn>										
	<table border="1"> <tr> <td>b</td> <td>Register size (1, 2 or 4)</td> </tr> <tr> <td>dd</td> <td>Device address</td> </tr> <tr> <td>rr</td> <td>Register address</td> </tr> <tr> <td>cccc</td> <td>Count of values to write</td> </tr> <tr> <td>nn</td> <td>Values to write</td> </tr> </table>	b	Register size (1, 2 or 4)	dd	Device address	rr	Register address	cccc	Count of values to write	nn	Values to write
b	Register size (1, 2 or 4)										
dd	Device address										
rr	Register address										
cccc	Count of values to write										
nn	Values to write										
Default:	n/a										
Example:	xw 1 1 b0 00 0002 00 a9										

xr		
Description:	XRC read command (Expanded I2C read); xrc+ should have been given atleast once prior to using this command. (If in XRC mode, software driver and input echo in console output will be disabled; to re-enable it execute xrc- command.)	
Syntax:	xr<a><dd><rr><cccc>	
Options:	a	Register address size (1 or 2)
	b	Register size (1, 2 or 4)
	dd	Device address
	rr	Register address
	cccc	Count of values to read
Default:	n/a	
Example:	xr 1 1 b0 00 0003	

Register/Memory Access Commands

i2cr		
Description:	Reads the contents of 8-bit registers with 8-bit addressing scheme from a given device	
Syntax:	i2cr <device><register><byte count>	
Options:	device	Device address (hex value)
	register	Register address (hex value)
	Byte count	Number of bytes to be read, min=1, max=255, for values bigger than 1, the value of the following registers will be printed
Default:	n/a	
Example:	i2cr b8 00 1: reads one byte data showing the chip revision code from the register 0x00 at device address 0xb8 (Main) i2cr b8 00 4:reads the register values for the registers 0x00, 0x01, 0x02, 0x03 from the device address 0xb8	

i2cw		
Description:	Writes an 8-bit value to a register on a given device address	
Syntax:	i2cw <device><register><value>	
Options:	device	Device address (hex value)
	register	Register address (hex value)
	value	8-bit number (hex value)
Default:	n/a	
Example:	i2cw b8 0b 1e: Writes 0x1e into register 0x0b in device address 0xb8 (Main)	

i2cand		
Description:	Performs AND operation of the contents of 8-bit registers with the value specified.	
Syntax:	i2cand <device><register><value>	
Options:	device	Device address (hex value)
	register	Register address (hex value)
	value	8-bit number (hex value)
Default:	n/a	
Example:	I2cr b0 9d 1 9d= 0xff <ul style="list-style-type: none"> • I2cand b0 9d 0 9d=0x00 • I2cand b0 9d 1 9d=0x1 	

i2cor	
Description:	Performs OR operation of the contents of 8-bit registers with the value specified.
Syntax:	i2cor <device><register><value>
Options:	device Device address (hex value)
	register Register address (hex value)
	value 8-bit number (hex value)
Default:	n/a
Example:	I2cr b0 9d 1 9d= 0xff <ul style="list-style-type: none"> • I2cor b0 9d 0 9d=0xff • I2cor b0 9d 5 9d=0xff

i2cxor	
Description:	Performs XOR operation of the contents of 8-bit registers with the value specified.
Syntax:	i2cxor <device><register><value>
Options:	device Device address (hex value)
	register Register address (hex value)
	value 8-bit number (hex value)
Default:	n/a
Example:	I2cr b0 9d 1 9d= 0xff <ul style="list-style-type: none"> • I2cxor b0 9d ff 9d=0x0 • I2cxor b0 9d 0 9d=0xff

Configuring video inputs/outputs

Src	
Description:	Selects the video input.
Syntax:	src<portindex>
Options:	portindex HDMI IN ports- a,b,c,d,e,
Default:	n/a
Example:	src c: selects input RxC to display output.

Configuring outputs

csc	
Description:	Transmitter color space conversion.
Syntax:	csc<colorspace><444,422>
	Color space rgb, rgb_full, 601, 709, auto
	Chroma subsampling 444,422 (required only if we need to convert to YCbCr)
Default:	n/a
Example:	csc 601 444: changes the txb color space to YCC601 444 (YCbCr 444).

edidmod	
Description:	EDID Modification. Modifies Sink's EDID such that additional audio formats like DTS, AC3, DD+, DTS-HD, MLP (MAT) and 8channel PCM are added to Sink's EDID. The EDID modification takes place once the TX cable is hot plugged after giving the 'edidmodon' command.
Syntax:	edidmod<on or off>
Options:	on Enables EDID Modification.
	off Disables EDID Modification.
Default:	Off
Example:	edidmod on: Enables EDID Modification.