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# Advantiv® ADV7625 Cross Point Application System Commands with Advanced Features

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Rev 0.1  
September 2014

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Systems and Software  
Engineering  
Analog Devices Inc.

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## Advantiv® Cross Point Application System commands

### Revision History:

Revisions	Descriptions	Date
0.1	Initial draft including Cross Point Application ADV7625/6 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](http://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

EngineerZone is a technical support forum from Analog Devices. It allows you direct access to Analog Devices technical support engineers. You can search FAQs and technical information to get quick answers to your questions about Analog Devices video products at <http://ez.analog.com/community/video>.

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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

<b>Command</b>	
Description:	Command description

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

<b>Command</b>	
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

<b>arcrx</b>		
Description:	Controls the ARC (Audio Return Channel) feature on the HDMI Tx	
Syntax:	arcrx<ap1,ap2><on, off>	
Options:	ap1	Selects the ARC on ap1 output interface
	ap2	Selects the ARC on ap2 output interface
	on	Enable the ARC on audio output interface
	off	Disable the ARC on audio output interface
Default:	Off	
Example:	arcrx ap2 on: Enables the ARC on ap2, in order to try the ARC operation the HDMI SINK device also needs to support the ARC feature	

<b>audext</b>		
Description:	Extract Received audio from Rx to APx_OUT pins.	
Syntax:	audext<Repeater Path: 1 or 2 ><Audio Port Index: ap1,ap2><Enable :on or off>	
Options:	Repeater Path index	Specify the repeater path index- 1 or 2.
	Audio Port Index	Specify the audio port index- ap1 or ap2.
	Enable	on - enables audio extraction. off - disables audio extraction.
Default:	Off	
Example:	audext 2 ap2 on: Enabling Audio Extract from Repeater path 2, to Audio Output Port 2	

## Operation/Mode Control Commands

<b>mux</b>	
Description:	Enables/Disables Mux Mode in ADV7625 family chips.
Syntax:	mux <Repeater Path index: 1,2><Enable :on, off >
Options:	on      Enables Mux mode.
	off     Disables Mux mode.
Default:	n/a
Example:	mux 1 on:MUX is enabled for TXA Repeater path.

<b>Enc</b>	
Description:	Controls the HDCP operation at HDMI Tx output
Syntax:	enc<Tx: txa,txb><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 txa on: enables the HDCP operation at the HDMI TXA even if the video received from the source is not encrypted (HDCP is not enabled on HDMI Rx)

<b>audtestmode</b>	
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

<b>? or rep help</b>	
Description:	Lists all available console commands

<b>help</b>	
Description:	Lists available additional console commands

<b>dbg</b>		
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
	int	Selects Interrupt debug info only
	cec	Selects CEC debug information only
	none	Selects no debug information
	all	Selects all debug information
Default:	All	
Example:	dbg hdp: System prints hdp debug messages	

<b>dbg+, dbg-</b>		
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
	int	Selects Interrupt debug info only
	cec	Selects CEC debug information only
	none	Selects no debug information



	all	Selects all debug information
Default:		
Example:	dbg+ edid: adds EDID debug messages to the existing debug information dbg- edid: removes EDID debug messages from the existing debug information	

<b>Power</b>		
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	

<b>Reset</b>		
Description:	Restarts the software and reinitializes the reference hardware platform	

<b>Rev</b>		
Description:	Prints the software revision	

<b>Run</b>		
Description:	Resumes the software driver	

<b>Stop</b>		
Description:	Stops the software driver	

<b>Stat</b>		
Description:	Prints the HDMI Input/Output status of either Repeater path 1 or 2 on the console	
Syntax:	Stat <Repeater index 1,2>	
Example:	stat 1: Prints the status information of input and output of first Repeater path	

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

<b>xrc-</b>		
Description:	Enables the software driver and exits XRC mode	

<b>xw</b>		
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><b><dd><rr><cccc><nn>	
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 write
	nn	Values to write
Default:	n/a	
Example:	xw 1 1 b0 00 0002 00 a9	

<b>xr</b>		
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><b><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

<b>i2cr</b>		
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	

<b>i2cw</b>		
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)	

<b>i2cand</b>		
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"> <li>• I2cand b0 9d 0 9d=0x00</li> <li>• I2cand b0 9d 1 9d=0x1</li> </ul>	

<b>i2cor</b>	
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"> <li>• I2cor b0 9d 0 9d=0xff</li> <li>• I2cor b0 9d 5 9d=0xff</li> </ul>

<b>i2cxor</b>	
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"> <li>• I2cxor b0 9d ff 9d=0x0</li> <li>• I2cxor b0 9d 0 9d=0xff</li> </ul>

### Configuring Cross Point Video Inputs/Outputs

<b>route</b>		
Description:	Routes Video input from either RX1 or RX2 to TXA or TXB	
Syntax:	route <portIndex><Tx output>	
Options:	portindex	HDMI IN ports- a,b,c,d,e
	Tx output	txa , txb
Default:	n/a	
Example:	route c txa: routes input RxC to TxA route e txb: routes input RxE to TxB	

(For ADV7626 only two HDMI IN ports are available-a & b)

### Configuring Cross Point Outputs

<b>csc</b>		
Description:	Transmitter color space conversion.	
Syntax:	csc<Tx output><colospace><444,422>	
Options:	Tx output	txa , txb
	colospace	rgb, rgb_full, 601, 709, auto
	Chroma subsampling	444,422 (required only if we need to convert to YCbCr)
Default:	n/a	
Example:	csc txa 601 444: changes the transmitter color space to YCC601 444 (YCbCr 444). When splitter mode is enabled giving either txa or txb in command will set csc for both tx.	

<b>edidmod</b>		
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.	