

AJA Path Delay Chart

The following table summarizes path delays for AJA Video System Mini-Converter, Frame Synchronizers and R-Series Card Modules

Mini-Converters

PRODUCT	DELAY	NOTES
HA5	< 1 line	
Hi5	SD mode < 1 Line HD mode 1 to 3 Lines	
HA5-Plus		
Hi5-Plus		
Hi5-3G	10 lines, 1 field for .psf	
Hi5-3D	1-2 frames	depending upon function
Hi5-4K	1+ frame	Delay is a few lines more than 1 frame.
HA5-4K		
HDP2	1.5 frames-Audio, 1-2 frames-Video	Depending upon framerate
ROI	Interlaced input: max delay = 2 input fields + 1 output field/frame Progressive input: max delay = 1 input frame + 1 output field/frame	Example calculations: 24p to 60p= 58.3mS 24p to 60i: = 58.3mS 60p to 24p: = 58.3mS 60p to 60p: = 33.3mS 30i to 60p: = 50mS 30i to 24p: = 75mS 24p to 24p: = 83.3mS 25i to 24p: = 81.7mS
LUT-box	< 2 lines	Delay is consistent regardless of LUT in use or bypassed.
UDC	1 frame	
HDBaseT	less that 10ms	For all formats and cable lengths

PRODUCT	DELAY	NOTES
3GM	1 field	1-2 lines for 50P
3GAMA	SD -17.2 us HD - 6.3 us 3G level A - 3.2 us 3G level B - 6.1 us	
4K2HD	1+ frame	Delay is a few lines more than 1 frame. When SDI Passthrough is selected, delay is just a few lines.
ADA4	< 3ms	
C10SP	370ns	
C10PS	315ns	
D4E	1.6us	
D5CE	1.6us	
D5D	1.3us	2-line comb mode
D5D	1.3us + 1line=64.9us	3-line comb mode
D5DA	200ns	
D10C	1.2us	
D10A	1.5us	
D10CE	2.5us	
D10C2	2.5us	
D10CEA	2.5us video, 1.0ms audio	
D10AD	1 line	Regardless of format
HD10C	150ns	
HD5DA	50ns	
HD10C2	< 1us	

PRODUCT	DELAY	NOTES
HD10A-Plus	< 1 line for HD formats <4 lines for SD formats	Increased delay on SD formats due to comb filter
HD10MD3	1 frame	
HD10AVA	1ms A/V. Video: less than 250 pixels Audio: 10 video lines or less depending on video format.	The faster the line rate, the longer the audio delay becomes due to a shorter blanking period where we transfer the audio packets.
HD10AM	HD mode video 7us, SD mode video 19us, disembed 290us, embed (SRC off) 290us, embed (SRC on) 1500us	
HD10AMA	D mode video 7us, SD mode video 19us, disembed 900us, embed (SRC off) 1200us, embed (SRC on) 2.5ms	
V2Analog	< 1 line	
V2Digital	< 1 line for HD formats <4 lines for SD formats	Increased delay on SD formats due to comb filter

Frame Synchronizers

PRODUCT	DELAY	NOTES
FS1	1 frame	2 frames with "Freeze"
FS2	2 frames	Can be up to 4 frames depending on function
FS3	2-3 frames	SD/HD Conversions 2 frames 4K/UltraHD Up-Conversion 3 frames
FS1-X	2 frames	3 frames with "Freeze"

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R-Series Card Modules

PRODUCT	DELAY	NOTES
R20D	3 lines+2.2us=195.1us	5 line aperture decoder adjustable w/FSG module
R20D-F	0=1 Frame	
R20E	6.2us	adjustable w/FSG module
R20E-F	0=1 Frame	
R5CE	1.6us	Video Out
R44E	1.6us	
R20CE	2.6us	
R20AD	1 line	Regardless of format