X75 Propagation Delay Specifications

Input	Decoding	FrameSync	SD NR	HD User Video Delay	Up/Down/HD-Cross/SD-ARC	SD User Video Delay	Encoding	Output	Minimum/Maximum Delays			
									Min. Total Delay	Min. Total Delay (ms)	Max. Total Delay (frames)	Max. Total Delay (ms)
CVBS	1 line	0~1 I-frame	1 line ~ 1 I-field	N/A	SD-ARC: 1 ~ 3 I-field	0 ~ 4 I-frames	6.28uS	CVBS, CAV, S-Vid	1 I-field	<20(PAL), <16.7(NTSC)	Up to: 7 I-frames	<280 (PAL), <234(NTSC)
					N/A				< 3 lines	<0.192 (PAL), <0.191(NTSC)	Up to: 5.5 I-frames	<220 (PAL), <184(NTSC)
					SD-ARC: 1 ~ 3 I-field		N/A	SD-SDI	1 I-field	<20(PAL), <16.7(NTSC)	Up to: 7 I-frames	<280 (PAL), <234(NTSC)
					N/A				< 3 lines	<0.192 (PAL), <0.191(NTSC)	Up to: 5.5 I-frames	<220 (PAL), <184(NTSC)
					Up: 1 I-field to 3 I-fields. By default 1 I-frame	N/A	N/A	HD-SDI	1 I-field	<20(PAL), <16.7(NTSC)	Up to: 3 I-frames	<120 (PAL), <100(NTSC)
S-Video/CAV; SD1/ SD2	N/A	0~1 I-frame	1 line ~ 1 I-field	N/A	SD-ARC: 1 ~ 3 I-field	0 ~ 4 I-frames	6.28uS	CVBS, CAV, S-Vid	1 I-field	<20(PAL), <16.7(NTSC)	Up to: 7 I-frames	<280 (PAL), <234(NTSC)
					N/A				< 2 lines	<0.128 (PAL), <0.127(NTSC)	Up to: 5.5 I-frames	<220 (PAL), <184(NTSC)
					SD-ARC: 1 ~ 3 I-field		N/A	SD-SDI	1 I-field	<20(PAL), <16.7(NTSC)	Up to: 7 I-frames	<280 (PAL), <234(NTSC)
					N/A				< 2 lines	<0.128 (PAL), <0.127(NTSC)	Up to: 5.5 I-frames	<220 (PAL), <184(NTSC)
					Up: 1 I-field to 3 I-fields. By default 1 I-frame	N/A	N/A	HD-SDI	1 I-field	<20(PAL), <16.7(NTSC)	Up to: 3 I-frames	<120 (PAL), <100(NTSC)
1080i/59.94	N/A	0~1 I-frame	N/A	0~7 I-frames	Dn: 1 I-field to 3 I-fields. By default 1 I-frame	0 ~ 4 I-frames	6.28uS	CVBS, CAV, S-Vid	1 I-field	<16.7	Up to: 13.5 I-frames	<451
							N/A	SD-SDI				
					1 I-field to 3 I-fields. By default 1 I-frame	N/A	N/A	1080i/59.94	1 I-field	<16.7	Up to: 9.5 I-frames*	<317
					Cross: 1 I-field to 3 I-fields. By default 1 I-frame			720p/59.94				
720p/59.94	N/A	0~1 P-frame	N/A	0~15 P-frames	Dn: several lines to 2 P-frames. By default 1 P-frame	0 ~ 4 I-frames	6.28uS	CVBS, CAV, S-Vid	< 50 lines	<1.11	Up to: 18 P-frames + 4.5 I-frames	<451
							N/A	SD-SDI				
					Cross: several lines to 2 P-frames. By default 1 P-frame	N/A	N/A	1080i/59.94	< 50 lines	<1.11	Up to: 18 P-frames*	<300
					Several lines to 1 P-frame. By default 1 P-frame			720p/59.94			Up to: 17 P-frames*	<284
1080i/50	N/A	0~1 I-frame	N/A	0~7 I-frames	Dn: 1 I-field to 3 I-fields. By default 1 I-frame	0 ~ 4 I-frames	6.28uS	CVBS, CAV, S-Vid	1 I-field	<20	Up to: 13.5 I-frames	<540
							N/A	SD-SDI				
					1 I-field to 3 I-fields. By default 1 I-frame	N/A	N/A	1080i/50	1 I-field	<20	Up to: 9.5 I-frames *	<380
					Cross: 1 I-field to 3 I-fields. By default 1 I-frame			1080p/25				
					Cross: 1 I-field to 3 I-fields. By default 1 I-frame			720p/50				
1080p/25	N/A	0~1 P-frame	N/A	0~7 P-frames	Dn: 0.5 P-frame to 1 P-frame. By default 1 P-frame	0 ~ 4 I-frames	6.28uS	CVBS, CAV, S-Vid	0.5 P-frame	<20	Up to: 9 P-frames + 4 I-frames	<520
							N/A	SD-SDI				
					Cross: 0.5 P-frame to 1 P-frame. By default 1 P-frame	N/A	N/A	1080i/50	0.5 P-frame	<20	Up to: 9 P-frames *	<360
					0.8 P-frame to 1.8 P-frame. By default 1 P-frame			1080p/25	0.8 P-frame	<32	Up to: 10 P-frames *	<400
					Cross: 0.5 1080P-frame to 1 1080P-frame. By default: 1 P-			720p/50	0.5 P-frame	<20	Up to: 9 P-frames *	<360
720p/50	N/A	0~1 P-frame	N/A	0~15 P-frames	Dn: several lines to 2 P-frames. By default 1 P-frame	0 ~ 4 I-frames	6.28uS	CVBS, CAV, S-Vid	< 50 lines	<1.33	Up to: 18 P-frames + 4 I-frames	<520
							N/A	SD-SDI				
					Cross: several lines to 2 P-frames. By default 1 P-frame	N/A	N/A	1080i/50	< 50 lines	<1.33	Up to: 18 P-frames *	<360
					Cross: several lines to 3 720P-frames. By default 2 720P-frame			1080p/25			Up to: 19 P-frames *	<380
					Several lines to 1 P-frame. By default 1 P-frame			720p/50			Up to: 17 P-frames *	<340

* In **HD Processing Bypass**, reduce the delay by the value found in the field **Up/Down/HD-Cross/SD-ARC**.

Video Path

When a block is inserted, the FS phase or SD-ARC will be compensated to maintain output, and the H/V phases won't change. If the SDNR is inserted, the propagation delay may not change or may add one extra I-frame, depending upon the FS phasing. The total FS+SDNR delay will be less than 1.5 I-frames.

If the SD-ARC is inserted, the propagation delay will add an extra 0.5 to 1.5 I-frames, depending upon FS phases and SD-ARC/HD-Dn phase settings.

If the strobe is inserted, the propagation delay most likely will not change; if a delay-line is inserted, the propagation delay will add an extra 0 to 4 I-frames, depending upon the delay line settings. If a keyer is inserted, the propagation delay most likely will not change. Using current software, the SD video path could be as shown in the diagram.