

# Which up and down converter do you need?

	Vision SYSTEM				Indigo SYSTEM												
	UP-DOWN-A-VF	UP-DOWN-ATX-VF	UP-DOWN-AS-VF	UP-DOWN-ATXS-VF	Up-Down 3G	Up-Down-A 3G	Up-Down-AFD 3G	Up-Down-AT 3G	Up-Down-ATX 3G	Up-Down-AS 3G	Up-Down-AFDS 3G	Up-Down-ATS 3G	Up-Down-ATXS 3G	Q-Down-AG 3G	Q-Down-ATG 3G	Q-Down Mini	
Frame system	Vision (3U)	Vision (3U)	Vision (3U)	Vision (3U)	Indigo (2U, 1U, DTB)	Indigo (2U, 1U, DTB)	Indigo (2U, 1U, DTB)	Indigo (2U, 1U, DTB)	Indigo (2U, 1U, DTB)	Indigo (2U, 1U, DTB)	Indigo (2U, 1U, DTB)	Indigo (2U, 1U, DTB)	Indigo (2U, 1U, DTB)	Indigo (2U, 1U, DTB)	Indigo (2U, 1U, DTB)	Indigo (2U, 1U, DTB)	Indigo (minibox)
Product type	Card	Card	Card	Card	Card	Card	Card	Card	Card	Card	Card	Card	Card	Card	Card	Card	Minibox
Converter type (NB. All conversions are at 50Hz and 59.94Hz)	Up / Cross / Down	Up / Cross / Down	Up / Cross / Down	Up / Cross / Down	Up / Cross / Down	Up / Cross / Down	Up / Cross / Down	Up / Cross / Down	Up / Cross / Down	Up / Cross / Down	Up / Cross / Down	Up / Cross / Down	Up / Cross / Down	Up / Cross / Down	Down (with 1080p cross conversions)	Down (with 1080p cross conversions)	Down
Perform two different conversions at same time	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
<b>Conversions for 1080p:</b>																	
Cross conversion to 720p	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Cross conversion to 1080i	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Down conversion to SD-SDI	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Cross conversion to analogue 720p (YUV or RGB)															●	●	
Cross conversion to analogue 1080i (YUV or RGB)															●	●	
<b>Conversions for 720p:</b>																	
Cross conversion to 1080p	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
Cross conversion to 1080i	●	●	●	●	●	●	●	●	●	●	●	●	●				
Down conversion to SD-SDI	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Down conversion to analogue SD (composite / Y/C / YUV / RGB)															●	●	●
<b>Conversions for 1080i:</b>																	
Cross conversion to 1080p	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
Cross conversion to 720p	●	●	●	●	●	●	●	●	●	●	●	●	●				
Down conversion to SD-SDI	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Down conversion to analogue SD (composite / Y/C / YUV / RGB)															●	●	●
<b>Conversions for SD-SDI:</b>																	
Up conversion to 1080p	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
Up conversion to 720p	●	●	●	●	●	●	●	●	●	●	●	●	●				
Up conversion to 1080i	●	●	●	●	●	●	●	●	●	●	●	●	●				
Conversion to analogue SD (composite / Y/C / YUV / RGB)															●	●	●
Maximum video outputs (depends on rear module)	3 feeds of Output 1 and 3 feeds of Output 2	3 feeds of Output 1 and 3 feeds of Output 2	3 feeds of Output 1 and 3 feeds of Output 2	3 feeds of Output 1 and 3 feeds of Output 2	2 feeds of Output A and 3 feeds of Output B	2 feeds of Output A and 3 feeds of Output B	2 feeds of Output A and 3 feeds of Output B	2 feeds of Output A and 3 feeds of Output B	2 feeds of Output A and 3 feeds of Output B	2 feeds of Output A and 3 feeds of Output B	2 feeds of Output A and 2 feeds of Output B	2 feeds of Output A and 2 feeds of Output B	2 feeds of Output A and 2 feeds of Output B	2 feeds of Output A and 2 feeds of Output B	3	3	4 (with one fixed as SDI)
Relocked input loop-throughs					6 with DA6 fitted	6 with DA6 fitted	6 with DA6 fitted	6 with DA6 fitted	6 with DA6 fitted	6 with DA6 fitted	6 with DA6 fitted	6 with DA6 fitted	6 with DA6 fitted	6 with DA6 fitted	2 - or 8 with DA6 fitted	2 - or 8 with DA6 fitted	1
Uses motion adaptive video de-interlacing	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
Uses sophisticated two dimensional filtering															●	●	●
Video proc-amp (RGB and YUV lift and gain controls)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Video proc-amp when HD input/output format identical		●		●				●	●			●	●				
Two framestore synchronisers (NB. One in 3G/HD path and one in SD path)			●	●							●	●	●	●			
Reference timing			From SDI input or from Vision frame dual references (SD Black & Burst or HD tri-level syncs) with reference redundancy	From SDI input or from Vision frame dual references (SD Black & Burst or HD tri-level syncs) with reference redundancy							From SDI input or from SD Black and Burst or HD tri-level syncs	From SDI input or from SD Black and Burst or HD tri-level syncs	From SDI input or from SD Black and Burst or HD tri-level syncs	From SDI input or from SD Black and Burst or HD tri-level syncs			
	UP-DOWN-A-VF	UP-DOWN-ATX-VF	UP-DOWN-AS-VF	UP-DOWN-ATXS-VF	Up-Down 3G	Up-Down-A 3G	Up-Down-AFD 3G	Up-Down-AT 3G	Up-Down-ATX 3G	Up-Down-AS 3G	Up-Down-AFDS 3G	Up-Down-ATS 3G	Up-Down-ATXS 3G	Q-Down-AG 3G	Q-Down-ATG 3G	Q-Down Mini	
Short processing delay (1080p, 720p or 1080i input: 16 or 52 SD lines, depending on aspect ratio; SD input: 3.8us)														●	●	●	
Video delays	40ms additional user delay	40ms additional user delay	1, 2 or 3 frames plus 40ms additional user delay	1, 2 or 3 frames plus 40ms additional user delay	1 frame plus 16 lines additional user delay	1 frame plus 16 lines additional user delay	1 frame plus 16 lines additional user delay	1 frame plus 16 lines additional user delay	1 frame plus 16 lines additional user delay	1 frame plus 16 lines additional user delay	1, 2 or 3 frames additional user delay	1, 2 or 3 frames additional user delay	1, 2 or 3 frames additional user delay	1, 2 or 3 frames additional user delay	3 fixed delays (minimum, fixed and frame) plus 1 frame additional user delay	3 fixed delays (minimum, fixed and frame) plus 1 frame additional user delay	3 fixed delays (minimum, fixed and frame)
Handles four audio groups	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	
Linear AES tracking audio delay			●	●							●	●	●	●			
Dolby E alignment delay			●	●							●	●	●	●			
Audio delays (on top of tracking)			Linear AES: 0-120ms; Dolby E: 1, 2 or 3 frames fixed delay	Linear AES: 0-120ms; Dolby E: 1, 2 or 3 frames fixed delay							Linear AES: 0-120ms; Dolby E: 1, 2 or 3 frames fixed delay	Linear AES: 0-120ms; Dolby E: 1, 2 or 3 frames fixed delay	Linear AES: 0-120ms; Dolby E: 1, 2 or 3 frames fixed delay	Linear AES: 0-120ms; Dolby E: 1, 2 or 3 frames fixed delay			
Audio routing in stereo pairs		●		●				●	●			●	●				
Audio resampling of linear AES			●	●						●	●	●	●				
Aspect ratio conversion when up converting *	●	●	●	●	●	●	●	●	●	●	●	●	●				
Aspect ratio conversion when down converting *	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
HD to HD aspect ratio conversion when input/output format identical *		●		●				●	●			●	●				
SD to SD aspect ratio conversion *	●	●	●	●	●	●	●	●	●	●	●	●	●				
Flexible aspect ratio adjustments (size, position and crop controls)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
AFD reading (uses SMPTE 2016 AFD, WSS or Video index to automatically select the output aspect ratio)		●		●			●	●	●		●	●	●				
AFD insertion of SMPTE 2016 AFD, WSS or Video index for use by downstream equipment		●		●			●	●	●		●	●	●	●	●	●	
Timecode handling	Passes	Passes and converts between ATC and DVITC	Passes	Passes and converts between ATC and DVITC	Passes	Passes	Passes	Passes and converts between ATC and DVITC	Passes and converts between ATC and DVITC	Passes	Passes	Passes and converts between ATC and DVITC	Passes and converts between ATC and DVITC	Passes	Passes and converts between ATC and DVITC	Passes and converts between ATC and DVITC	
Teletext handling (OP-47, SMPTE 2031)		●		●					●			●	●				
Closed captions transport (CEA-608 and CEA-708)		●		●					●			●	●				
Remote control and signal status reporting	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
SNMP control	Complimentary	Complimentary	Complimentary	Complimentary	Available to purchase	Available to purchase	Available to purchase	Available to purchase	Available to purchase	Available to purchase	Available to purchase	Available to purchase	Available to purchase	Available to purchase	Available to purchase	Available to purchase	
Relay bypass protection	● (VR03 option)	● (VR03 option)	● (VR03 option)	● (VR03 option)													
Fibre I/O (for SDI over fibre)	● (FIP-VF, FOP-VF)	● (FIP-VF, FOP-VF)	● (FIP-VF, FOP-VF)	● (FIP-VF, FOP-VF)	● (FIP, FOP)	● (FIP, FOP)	● (FIP, FOP)	● (FIP, FOP)	● (FIP, FOP)	● (FIP, FOP)	● (FIP, FOP)	● (FIP, FOP)	● (FIP, FOP)	● (FIP, FOP)	● (FIP, FOP)	● (FIP, FOP)	● (FIP, FOP)
Frame slots used	1	1	1	1	1, or 2 if DA6 fitted	1, or 2 if DA6 fitted	1, or 2 if DA6 fitted	1, or 2 if DA6 fitted	1, or 2 if DA6 fitted	1, or 2 if DA6 fitted	1, or 2 if DA6 fitted	1, or 2 if DA6 fitted	1, or 2 if DA6 fitted	1, or 2 if DA6 fitted	1, or 2 if DA6 fitted	1, or 2 if DA6 fitted	N/A
Converters in frame (max)	20 in 3U	20 in 3U	20 in 3U	20 in 3U	12 in 2U (6 with DA6)	12 in 2U (6 with DA6)	12 in 2U (6 with DA6)	12 in 2U (6 with DA6)	12 in 2U (6 with DA6)	12 in 2U (6 with DA6)	12 in 2U (6 with DA6)	12 in 2U (6 with DA6)	12 in 2U (6 with DA6)	12 in 2U (6 with DA6)	12 in 2U (6 with DA6)	12 in 2U (6 with DA6)	N/A
	UP-DOWN-A-VF	UP-DOWN-ATX-VF	UP-DOWN-AS-VF	UP-DOWN-ATXS-VF	Up-Down 3G	Up-Down-A 3G	Up-Down-AFD 3G	Up-Down-AT 3G	Up-Down-ATX 3G	Up-Down-AS 3G	Up-Down-AFDS 3G	Up-Down-ATS 3G	Up-Down-ATXS 3G	Q-Down-AG 3G	Q-Down-ATG 3G	Q-Down Mini	

\* See brochures for full list of conversions