

Production Switchers

Feature Comparison

A · C · U · I · T · Y

Ultrix A · C · U · I · T · Y

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PHYSICAL

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	ACU4	ACU8	FR5	FR12
Rack Frame Height (RU)	2	5	5	12
Rack Frame Width	17.50" (444.5 mm)	17.50" (444.5 mm)	17.50" (444.5 mm)	17.50" (444.5 mm)
Rack Frame Depth	7.90" (200.66 mm)	7.90" (200.66 mm)	7.90" (200.66 mm)	15.91" (404.11 mm)
Rack Frame Weight	59.00 lbs. (26.8 kg.)	92.00 lbs. (41.7 kg.)	Frame: 14.00 lbs. (frame only) (6.35 kg.) Blade (approx.) 3 lbs. (1.36 kg.) Ultripower: 10.6 lbs. (4.83 kg.)	Frame: 76.00 lbs. (frame only) (34.47 kg.) Blade (approx.) 3 lbs. (1.36 kg.) Ultripower: 10.6 lbs. (4.83 kg.)
Maximum SDPE Blades per Chassis	N/A	N/A	4	8
Power Consumption	1022W 8.52A 120VAC	1412W 11.76A 120VAC	See Note	
Input Power	100 - 120 V, 220 - 240V, 47 - 63 Hz, 9.0A 650W		See Note	

Note: Power requirements and consumption dependent on I/O and SDPE blade complement

LEGEND: ✓ = Supported
✗ = Unsupported

Specifications subject to change without notice



PORTS

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	ACU4	ACU8	FR5	FR12
Ethernet Port (Frame)	2	2	Blades & Chassis	Blades & Chassis
Tally	36 (maximum)	72 (maximum)	24 per SDPE blade (Up to 96)	24 per SDPE blade (Up to 96)
GPI/O	44 (maximum) 10 in / 10 out + 13 configurable	44 (maximum) 10 in / 10 out + 13 configurable	24 per SDPE blade (Up to 96) (I/O Configurable)	24 per SDPE blade (Up to 96) (I/O Configurable)
Serial Ports (Panel)	8	8	8	8
Serial Ports (Frame)	4	4	1	1
LTC Input	1	1	1	1
AES Input	✗	✗	✗	✗
AES Output	✗	✗	2 per SDPE blade	2 per SDPE blade
Reference Input	1	Up to 2	2 ¹	2 ¹
Reference Loop	1	Up to 2	2 ¹	2 ¹

¹ On Ultrix frame.

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SUPPORTED VIDEO STANDARDS



A · C · U · I · T · Y

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		ACU4	ACU8	FR5	FR12
SD	480i / 59.94	✓	✓	✗	✗
	576i / 50	✓	✓	✗	✗
HD 720p	720p / 50	✓	✓	✓	✓
	720p / 59.94	✓	✓	✓	✓
HD pSF	1080 pSF / 23.98	✓	✓	✓	✓
	1080 pSF / 24	✓	✓	✓	✓
	1080 pSF / 25	✗	✗	✗	✗
	1080 pSF / 29.97	✗	✗	✗	✗
	1080 pSF / 30	✗	✗	✓	✓
HD 1080i	1080i / 25	✗	✗	✗	✗
	1080i / 29.97	✗	✗	✗	✗
	1080i / 30	✗	✗	✗	✗
	1080i / 50	✓	✓	✓	✓
	1080i / 59.94	✓	✓	✓	✓
HD 1080p	1080p / 23.98	✗	✗	✓	✓
	1080p / 24	✓	✓	✓	✓
	1080p / 25	✗	✗	✓	✓
	1080p / 29.97	✓	✓	✓	✓
	1080p / 30	✗	✗	✓	✓
	1080p / 50 (Level A)	✓	✓	✓	✓
	1080p / 59.94 (Level A)	✓	✓	✓	✓
	1080p / 60	✗	✗	✓	✓
UHD 2160p	2160p / 23.98	✗	✗	✓	✓
	2160p / 24	✗	✗	✓	✓
	2160p / 25	✗	✗	✓	✓
	2160p / 29.97	✗	✗	✓	✓
	2160p / 30	✗	✗	✓	✓
	2160p / 50	✓	✓	✓	✓
	2160p / 59.94	✓	✓	✓	✓
	2160p / 60	✗	✗	✓	✓
	Single-Link 12G	✗	✗	✓	✓
	Quad-Link 2SI, 3G Level A	✓	✓	✓	✓

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SDI INPUTS & OUTPUTS

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SDPE SDI / IP INPUTS & OUTPUTS

Ultrix A · C · U · I · T · Y

	ACU4		ACU8		FR5		FR12	
	SD / HD	UHD	SD / HD	UHD	HD	UHD	HD	UHD
Inputs	Up to 60	Up to 15	Up to 120	Up to 30	18	18	18	18
Outputs	Up to 40	Up to 10	Up to 60	Up to 15	18	18	18	18
					¹ Up to eighteen (18) SDI or IP Ultrix router outputs to each Acuity bus and up to eighteen (18) SDI or IP Acuity outputs per bus to the Ultrix router			
					Note: Each SDPE blade = one (1) Acuity ME.			



SDI INPUTS & OUTPUTS

IP INPUTS & OUTPUTS

	FR5 ¹	FR12 ¹	FR5	FR12
	HD / UHD	HD / UHD	HD / UHD	HD / UHD
Inputs / Outputs	1 SDPE + 8 HDX-IO 142 x 142	1 SDPE + 15 HDX-IO 270 x 270	1 SDPE + 8 IPX-IO 128 + 128	1 SDPE + 15 IPX-IO 240 + 240
	2 SDPE + 7 HDX-IO 124 x 124	2 SDPE + 14 HDX-IO 252 x 252	2 SDPE + 7 IPX-IO 112 + 112	2 SDPE + 14 IPX-IO 224 + 224
	3 SDPE + 6 HDX-IO 106 x 106	3 SDPE + 13 HDX-IO 234 x 234	3 SDPE + 6 IPX-IO 96 + 96	3 SDPE + 13 IPX-IO 208 + 208
	4 SDPE + 5 HDX-IO 88 x 88	4 SDPE + 12 HDX-IO 216 x 216 ¹	4 SDPE + 5 IPX-IO 80 + 80	4 SDPE + 12 IPX-IO 192 + 192
		5 SDPE + 11 HDX-IO 198 x 198		5 SDPE + 11 IPX-IO 176 + 176
		6 SDPE + 10 HDX-IO 180 x 180		6 SDPE + 10 IPX-IO 160 + 160
		7 SDPE + 9 HDX-IO 162 x 162		7 SDPE + 9 IPX-IO 144 + 144
		8 SDPE + 8 HDX-IO 144 x 144		8 SDPE + 8 IPX-IO 128 + 128

¹ Assumes all available slots and Aux Ports are populated.

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FRAME FEATURES (SD / HD)



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	ACU4	ACU8	FR5	FR12
ME Banks	Up to 6.5	Up to 8	Up to 4	Up to 8
Multifeed PGM	6 PGM, 2 PVW	6 PGM, 2 PVW	4 PGM, 2 PVW	4 PGM, 2 PVW
Keyers per ME	8	8	7 (6 Full Keyers + 1 Transition Keyer)	7 (6 Full Keyers + 1 Transition Keyer)
Aux Transition/Keyers	✓	✓	✗	✗
2D DVEs	16 per ME	16 per ME	14 per ME	14 per ME
ME-based 3D DVEs	2 per ME (4 Tiles)	2 per ME (4 Tiles)	4 per ME	4 per ME
System 3D DVEs	✗	✗	8 ²	8 ²
3D Preprocessor Effects	✓	✓	✓	✓
3D Warp/Curvilinear Effects	1 per ME	1 per ME	4 ²	4 ²
UltraChrome Chroma Keyers	2 per ME	2 per ME	2 per ME	2 per ME
Custom Control Logic with Visualization View	✓	✓	✓	✓
Input Frame Syncs	8 per board ¹	8 per board ¹	Ultrasync	Ultrasync
Input Format Conversion	8 per board ¹	8 per board ¹	Bus-based 3G --> 12G autoconversion	Bus-based 3G --> 12G autoconversion
Input Colour Correctors/ Proc Amps	Input-based ME Input-based ME Bus-based Aux Bus-based	Input-based ME Input-based ME Bus-based Aux Bus-based	ME Bus-based	ME Bus-based
Input SDR <=> HDR Conversion	✗	✗	UltriProc	UltriProc
Input Rec 709 <=> Rec 2020 Conversion	✗	✗	UltriProc-3DLUT	UltriProc-3DLUT
Output FC	✗	✗	UltriProc	UltriProc
Output SDR <=> HDR Conversion	✗	✗	UltriProc	UltriProc
Output Rec 709 <=> Rec 2020 Conversion	✗	✗	UltriProc3DLUT	UltriProc-3DLUT
I/O MultiViewers	Up to 3 ¹	Up to 6 ¹	Ultrascape (Up to 3 per HDB/SFP or 2 per IP blade)	Ultrascape (Up to 3 per HDB/SFP or 2 per IP blade)
Production MultiViewers	Up to 5 x four-head MV	Up to 7 x four-head MV	Ultrascape (Up to 3 per HDB/SFP or 2 per IP blade)	Ultrascape (Up to 3 per HDB/SFP or 2 per IP blade)
Global MediaStore	4	4	ME Stores (video & key) available system wide	ME Stores (video & key) available system wide
ME MediaStore	4 x video or 2 x video/key	4 x video or 2 x video/key	4 x video or video/key	4 x video or video/key
Audio MediaStore	4	4	2 per ME	2 per ME
MediaStore RAM Capacity	8GB per ME MediaStore 4GB GlobalStore	8GB per ME MediaStore 4GB GlobalStore	8GB per ME	8GB per ME
Internal SSD Capacity	240GB	240GB	256GB	256GB
Frame Simulator (DashBoard)	✓	✓	✓	✓
Ross Platform Manager (RPM) Support	✗	✗	✓	✓
Audio Mixer	✗	✗	Ultrimix	Ultrimix

¹ Requires 12G Multi-Processing boards. One (1) I/O MultiViewer per board

² Requires SDxE Software Defined RossCompute Engine

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	ACU4	ACU8	FR5	FR12
ME Banks	Up to 3	Up to 4	Up to 4	Up to 8
Multifeed PGM	3 PGM, 1 PVW	3 PGM, 1 PVW	4 PGM, 2 PVW	4 PGM, 2 PVW
Keyers per ME	4	4	7 (6 Full Keyers + 1 Transition Keyer)	7 (6 Full Keyers + 1 Transition Keyer)
Aux Transition/Keyers	✗	✗	✗	✗
2D DVEs	8 per ME	8 per ME	6 per ME	6 per ME
ME-based 3D DVEs	1 per ME (2 Tiles)	1 per ME (2 Tiles)	1	1
System 3D DVEs	✗	✗	4 ²	4 ²
3D Preprocessor Effects	✗	✗	✗	✗
3D Warp/Curvilinear Effects	✗	✗	2 ²	2 ²
UltraChrome Chroma Keyers	1 per ME	1 per ME	2 per ME	2 per ME
Custom Control Logic with Visualization View	✓	✓	✓	✓
Input Frame Syncs	2 per board ¹	2 per board ¹	Ultrasync	Ultrasync
Input Format Conversion	2 per board ¹	2 per board ¹	Bus-based 3G --> 12G autoconversion	Bus-based 3G --> 12G autoconversion
Input Colour Correctors/ Proc Amps	Input-based ME Input-based ME Bus-based Aux Bus-based	Input-based ME Input-based ME Bus-based Aux Bus-based	ME Bus-based	ME Bus-based
Input SDR <-> HDR Conversion	✗	✗	UltraProc	UltraProc
Input Rec 709 <-> Rec 2020 Conversion	✗	✗	UltraProc-3DLUT	UltraProc-3DLUT
Output FC	✗	✗	UltraProc	UltraProc
Output SDR <-> HDR Conversion	✗	✗	UltraProc	UltraProc
Output Rec 709 <-> Rec 2020 Conversion	✗	✗	UltraProc-3DLUT	UltraProc-3DLUT
I/O MultiViewers	Up to 3 ¹	Up to 6 ¹	Ultrascope	Ultrascope
Production MultiViewers	Up to 5 x four-head MV	Up to 7 x four-head MV	Ultrascope	Ultrascope
Global MediaStore	1	1	ME Stores (video & key) available system wide	ME Stores (video & key) available system wide
ME MediaStore	2 x video or 1 x video/key	2 x video or 1 x video/key	4 x video or video/key	4 x video or video/key
Audio MediaStore	1 (Global MediaStore)	1 (Global MediaStore)	2 per ME	2 per ME
MediaStore RAM Capacity	8GB per ME MediaStore 4GB GlobalStore	8GB per ME MediaStore 4GB GlobalStore	8GB per ME	8GB per ME
Internal SSD Capacity	240GB	240GB	256GB	256GB
Frame Simulator (DashBoard)	✓	✓	✓	✓
Ross Platform Manager (RPM) Support	✗	✗	✓	✓
Audio Mixer	✗	✗	Ultrimix	Ultrimix

¹ Requires 12G Multi-Processing boards. One (1) I/O MultiViewer per board

² Requires SDxE Software Defined RossCompute Engine

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SUPPORTED PROTOCOLS



A · C · U · I · T · Y

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	ACU4	ACU8	FR5	FR12
INBOUND				
RossTalk	✓	✓	✓	✓
OverDrive / Caprica	✓	✓	✓	✓
TSL 3.1	✓	✓	✓	✓
TSL 5.0	✓	✓	✓	✓
GVG 100/110, 200, 4000	✓	✓	✓	✓
OUTBOUND				
Ross Audio Protocol (RAP)	✓	✓	✓	✓
Lawo Ember+ (Audio Consoles)	✓	✓	✓	✓
Lawo___A (Audio Engines)	✓	✓	✓	✓
VDCP	✓	✓	✓	✓
AMP	✓	✓	✓	✓
Betacam / BVW-75	✓	✓	✓	✓
CII	✓	✓	✓	✓
RossTalk	✓	✓	✓	✓
TSL 3.1	✓	✓	✓	✓
TSL 5.0	✓	✓	✓	✓
Contribution Serial Tally	✓	✓	✓	✓
Ross CamBot	✓	✓	✓	✓
Ross Furio	✓	✓	✓	✓
Telemetry	✓	✓	✓	✓
Visca (Serial)	✓	✓	✓	✓
Visca (Ethernet)	✓	✓	✓	✓
Shotoku	✓	✓	✓	✓
Panasonic	✓	✓	✓	✓
Eagle	✓	✓	✓	✓
Canon BU series	✓	✓	✓	✓
PBUS II	✓	✓	✓	✓
ProBel (SWP-P-08)	✓	✓	✓	✓
GVG NP / 7000	✓	✓	✓	✓
NVISION (NVSP) / NV9000	✓	✓	✓	✓
Quartz / Evertz	✓	✓	✓	✓

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FRAME / PANEL COMPATIBILITY (Current Panels)

	DIMENSIONS*		A · C · U · I · T · Y		Ultrix A · C · U · I · T · Y	
	WIDTH x HEIGHT		ACU4	ACU8	FR5	FR12
	Non-Modular ¹	Modular ²				
CB9	16.20 x 10.06 (in.) 411.48 x 255.52 (mm)		×	×	×	×
	WIDTH x HEIGHT					
	Non-Modular ¹	Modular ²				
TD1C	17.50 x 12.91 (in.) 444.5 x 327.91 (mm)	17.94 x 12.78 (in.) 455.68 x 324.61 (mm)	×	×	✓	✓
TD1	28.29 x 9.86 (in.) 718.57 x 250.44 (mm)	27.94 x 9.92 (in.) 709.68 x 251.97 (mm)	×	×	✓	✓
TD2	28.33 x 15.77 (in.) 718.60 x 400.56 (mm)	27.94 x 15.76 (in.) 709.68 x 400.30 (mm)	×	×	✓	✓
TD2S	41.04 x 15.77 (in.) 1042.42 x 400.56 (mm)	41.04 x 15.76 (in.) 1042.42 x 400.30 (mm)	×	×	✓	✓
TD3S	41.00 x 21.23 (in.) 1041.40 x 539.42 (mm)	41.04 x 21.25 (in.) 1042.42 x 539.76 (mm)	×	×	✓	✓
TD3		58.36 x 20.22 (in.) 1482.34 x 513.59 (mm)	×	×	✓	✓
TDx3		58.36 x 20.22 (in.) 1482.34 x 513.59 (mm)	×	×	✓	✓
TD4		58.36 x 25.37 (in.) 1482.34 x 644.40 (mm)	×	×	✓	✓
TDx4		58.36 x 25.37 (in.) 1482.34 x 644.40 (mm)	×	×	✓	✓
	¹ Pre-Sept. 2023	² Post Sept. 2023				
	*Download dimension files (.pdf & .dxf) and Panel Cutouts at www.rossvideo.com					

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FRAME / PANEL COMPATIBILITY (Legacy Panels)

	DIMENSIONS*	A · C · U · I · T · Y		Ultrix A · C · U · I · T · Y	
		ACU4	ACU8	FR5	FR12
A1S / A1SDD	41.00 x 16.00 (in.) 1041.40 x 406.40 (mm)	✓	✓	✗	✗
A2M / A2MDD	48.00 x 16.00 (in.) 1219.20 x 406.40 (mm)	✓	✓	✗	✗
A2X / A2XDD	54.50 x 16.00 (in.) 1384.30 x 406.40 (mm)	✓	✓	✗	✗
A3M / A3MDD	48.00 x 21.50 (in.) 1219.20 x 546.10 (mm)	✓	✓	✗	✗
A3 / A3DD	54.50 x 21.50 (in.) 1384.30 x 546.10 (mm)	✓	✓	✗	✗
A4 / A4DD	61.50 x 27.50 (in.) 1562.10 x 698.50 (mm)	✓	✓	✗	✗
C10 (CPS-1012)	15.85 x 10.77 (in.) 402.59 x 273.56 (mm)	✗	✗	✗	✗
C1 (CPS-1016)	21.70 x 10.76 (in.) 551.18 x 273.30 (mm)	✗	✗	✗	✗
C1A	24.70 x 12.49 (in.) 627.38 x 316.99 (mm)	✗	✗	✗	✗
C1M	29.77 x 12.48 (in.) 756.16 x 316.99 (mm)	✗	✗	✗	✗
C2	24.71 x 18.24 (in.) 627.63 x 463.30 (mm)	✗	✗	✗	✗
C2M	29.77 x 18.23 (in.) 756.16 x 463.04 (mm)	✗	✗	✗	✗
C2S	33.74 x 18.25 (in.) 857.00 x 463.55 (mm)	✗	✗	✗	✗
C2X	39.48 x 18.25 (in.) 1002.70 x 463.55 (mm)	✗	✗	✗	✗
C3S	33.74 x 24.13 (in.) 857.00 x 612.90 (mm)	✗	✗	✗	✗
C3X	39.48 x 24.13 (in.) 1002.79 x 612.90 (mm)	✗	✗	✗	✗
CB1	23.42 x 10.72 (in.) 594.87 x 272.29 (mm)	✓	✓	✓	✓
CB1S	32.51 x 10.72 (in.) 825.75 x 272.29 (mm)	✗	✗	✗	✗
CB2	23.42 x 16.24 (in.) 594.87 x 412.50 (mm)	✓	✓	✓	✓
CB2S	32.51 x 16.24 (in.) 825.75 x 412.50 (mm)	✗	✗	✗	✗
CB3S	32.51 x 21.76 (in.) 825.75 x 552.70 (mm)	✗	✗	✗	✗
CB3X	38.19 x 21.76 (in.) 970.02 x 552.70 (mm)	✗	✗	✗	✗
V1	28.50 x 16.50 (in.) 723.90 x 419.10 (mm)	✗	✗	✗	✗
V1M	35.00 x 16.50 (in.) 889.00 x 419.10 (mm)	✗	✗	✗	✗
V2	34.00 x 16.50 (in.) 863.60 x 419.10 (mm)	✗	✗	✗	✗
V2M	39.50 x 16.50 (in.) 1003.30 x 419.10 (mm)	✗	✗	✗	✗
V2X	51.00 x 16.50 (in.) 1295.40 x 419.10 (mm)	✗	✗	✗	✗
V3M	45.30 x 20.50 (in.) 1150.60 x 520.70 (mm)	✗	✗	✗	✗
V3	51.00 x 20.50 (in.) 1295.40 x 520.70 (mm)	✗	✗	✗	✗
V4	55.50 x 26.00 (in.) 1409.70 x 660.40 (mm)	✗	✗	✗	✗

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