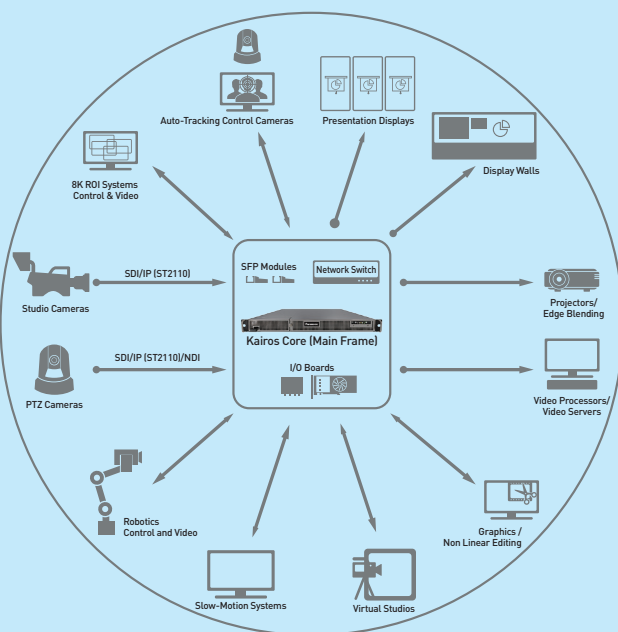




## KAIROS CORE 100 SWITCHER / MAINFRAME / SERVER

### KAIROS CORE 100: KC100

KAIROS Core 100 is the entry-level Core supporting a 100Gb network with a more modest GPU. A simple KAIROS system can be built around a single KC100 utilizing the Deltacast input modules or a small 100Gb network switch and ST 2110 gateways sufficient to support up to a 32 x 16 3G SDI configuration. Such a system is a powerful, middle-market system perfect for a House of Worship, a small TV Station as well as a multi-room AV deployment on a corporate or college campus. It can also be used for a simple multi-camera production and is also especially powerful for a hybrid remote production, which simultaneously utilizes remote streaming and local base-band inputs.



### CHOOSING A KAIROS CORE:

The KAIROS Core is a processing mainframe. While the Kairos Creator is an easy-to-use desktop application for a PC or Mac, the KAIROS Core runs on an Enterprise-grade Linux server and as such, it is more stable and does not require regular OS patches or other desktop-type maintenance. KAIROS Core is designed to be up 24/7.

#### Inputs

Each KAIROS Core has a maximum simultaneous input set by the IP Network Bandwidth. For a 100Gb core, that means thirty two 3G-SDI inputs or eight simultaneous 12G inputs or any combination of these. This is not a limit on the overall KAIROS system, it is simply the throughput of a single core (excluding internal sources like RAM player). Additional sources on the network can become available at the touch of a button.

#### Streaming/Compressed Inputs and Outputs

KAIROS will accept compressed streaming inputs via the Gb control network. These inputs are decoded by the CPU, so they can be processed with the other uncompressed sources. The power of the specific KAIROS Core CPU determines the number of streaming inputs and outputs that can come in on the control network. Additional streaming inputs will require a separate gateway to decode streams and convert them to ST 2110 or base band.

#### Outputs

The output capacity of each KAIROS Core is determined by the GPU specific to that core. This includes both the maximum number of outputs as well as the overall number of layers for the core. Overall layers are distributed across all the outputs. A KAIROS Core with 16 outputs may not be able to build scenes with four or five layers on all 16 outputs. In addition to utilizing a more powerful KAIROS Core, a KAIROS system can be built with multiple cores on the same network.

# KAIROS CORE 100 SWITCHER / MAINFRAME / SERVER

## AT-KC100 Specifications

GENERAL	
Power requirement	AC 100-240V, 50Hz/60Hz, 8-4A. AC1, AC2 for redundant power
Operating temperature	5 to 35° C
Operating humidity	10% to 90% (no condensation)
Storage temperature	-20 to 60° C
Weight	23.36lb / 10.6kg
Dimensions (W x D x H)	17.2 x 24.4 x 1.7 in. / 438 x 621 x 43.5 mm *excluding protrusion
VIDEO FORMAT	
4K	3840/60p, 59.94p, 50p, 30p, 29.97p, 25p, 24p, 23.98p Option [AT-SF001G]
HD	- 1080/60p, 59.94p, 50p, 30p, 29.97p, 25p, 24p, 23.98p *No PsF support - 720/60p, 59.94p, 50p - 1080/59.94i, 50i. Supports only Input.
Signal processing	Y, Pb, Pr: 4:2:2 10bit. No RGB 4:4:4 support.
AUDIO FORMAT	
ST2110-30 [AES67]	ST2110-30 [AES67] @ 48KHz/24bit
SYNCHRONOUS	
PTP Sync	Supports both via QSFP & LAN port
FS (Frame Synchronize)	For each CH, Always ON (No ON/OFF support)
Frame Delay	0 to 12 frame w/ 1 frame step
IP	
QSFP	QSFP x 2, 100Gbps, ST2110, NDI, PTP Sync
LAN	LAN x 2, 1Gbps. Control, NDI, RTP/SRT/RTMP/RTSP
BASEBAND	
Display Port	DP1.4 x 2. For multiviewer.
Gateway Port	Gateway Port x 8. Deltacast FLEX connection port
SDI	Recommended device: 12G-SDI x 1, 3G-SDI x 3. Deltacast FLEX-12G 10 [Input], FLEX-12G 01 [Output], 3G-SDI x 4. Deltacast FLEX-3G 40 [Input], FLEX-3G 04 [Output]
HDMI	Recommended device: HDMI2.0 x 1. Deltacast FLEX-HDI 10 [Input], FLEX-HDI 01 [Output].
Display Port	Recommended device: DP1.2 x 1. Deltacast FLEX-DP 10 [Input], FLEX-DP 01 [Output].
INPUT CH	
4K	Max. 6 CH. Option [AT-SF001] Max. 8 CH. Option [AT-SF001 + AT-SF002]
HD	Max. 24 CH. Max. 32 CH. Option [AT-SF002]
FUNCTION	
Layer [ME]	No restriction, depends on GPU performance
Key	No restriction, depends on GPU performance
Hardware Control Panel	AT-KC10C1G: Up to 8 unit connections. Up to 8 units for setting memory in GUI.
Still Image store	750MB, up to FHD resolution. Up to 4K resolution w/ option [AT-SF001]. Supports .rr, .png, .jpg, .tga, .tif file format
RAM Player	8CH, 24GB, Uncompressed, up to FHD. Up to 4K resolution w/ option [AT-SF001]. Supports .rr, .png, .jpg, .tga, .tif, .mov, .mp4file format
Clip Player & Supported Codecs	2CH, 70GB, Compressed, up to 4K. Supports AVC-Intra, H.264. DNxHD format: Supports .rr, .png, .jpg, .tga, .tif, .mov, .mp4 file Up to 4K resolution w/option [AT-SF001]
DNxHDCoDec	YUV 422 10 Bit, YUV 422 10 Bit LE, YUV 420 10 Bit, YUV 420 8 Bit
H264 Codec	YUV 422 10 Bit, YUV 420 10 Bit, YUV 420 8 Bit
AVC-Intra Codec	YUV 422 10 Bit, YUV 420 10 Bit, YUV 420 8 Bit
ST2110 Support	ST2110-10, ST2110-20, ST2110-30
NDI Support	2CH IN and 2CH OUT, HD video only. NDI Native only (No support for NDIHX). Possible to use NDI and RTP/SRT/RTMP simultaneously.
RTP/SRT/RTMP support	6CH IN and 2CH OUT, HD video only. H.264, # of I/O is total # of RTP/SRT/RTMP/RTSP CH. Possible to use NDI and RTSP simultaneously.
Canvas function	Option [AT-SF003]: Up to FHD each CH. Up to 4K each CH w/ option [AT-SF001]. Supports internal Canvas resolution up to 8K (32Mpixels)
Delay	1 frame w/o DVE and PiP. +2 frame w/ DVE and PiP
Audio Mixer	Option [AT-SF005]: Max.16CH (Stereo/Mono) adjustment per source, mixing, routing and mute. Support master level adj. and tone generator
Title generator	Supports GFX based title editing

FUNCTION (continued)	
I/O scalar	6CH IN, HD video only. H.264, # of I/O is total # of RTP/SRT/RTMP/RTSP CH. Possible to use NDI and RTP/SRT/RTMP simultaneously. Possible to use NDI and RTSP simultaneously.
RTSP support	8CH IN, HD video only. H.264, # of I/O is total # of RTP/SRT/RTMP/RTSP CH. Possible to use NDI and RTSP simultaneously.
MULTIVIEWER	
Output format	HD / 4K switchable
Display	Max. 36 PiPs
Layout preset store/recall	YES
GPU meter	YES
Clocks	YES
Countdowns	YES
Images	YES
Tally indicators	YES
Audio level meter	Up to 16CH display per source
MV over IP	YES
EFFECT	
Luminance Key	Linear/Additiv
Chroma Key	YES
DVE [2D] effects	Glow, Pageturn, Pageroll, etc.
Border w/ Softness	YES
Corner Pinning	YES
Color Correction	RGB, YUV, HSL, 3D-LUT
TRANSITION	
Multimix	YES
Offset Transitions	YES
Transition Effects	Mix, Wipe, DVE
MACRO	
Scene specific Macros	YES
LUA scripting support	YES
COLOR MATS	
Bi-Color wash mattes	YES
Test patterns	YES
TALLY	
Tally by IP protocol	Support TSL5.0 [incl. AK-UC4000] and AW-PTZ camera
External GPIO box support	Support BFE GPIO box
STANDARD / PROTOCOL / PARTNER SUPPORT	
NMOS support	IS-04, IS-05. For use in Orchestrator, Automation system
AW-PTZ command	Supports Panasonic AW-PTZ camera command
REST API	Can download protocol and command list from PASS KAIROS site
GrassValley server control	Support T2 server control [AMP protocol]
Blackmagic recorder control	Support Hyper Deck Studio control [TCP/IP]
LAWO vsmSNAP panel support	AUX panel: Supports AUX bus and Macro control from LAW0 vsmSNAP panels

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