

KAIROS

Kairos Core 200 AT-KC200L1 for Innovative Live Video Production in SDI

Flexible and Diverse Video Production

GPU-based video processing enables multi-layer configurations not limited by the number of MEs or keys, a canvas function that enables use of irregular aspects such as 32:9 and portrait, and support for various resolutions such as 16:10,* DCI* and 5:4.* With such capabilities and more, KAIROS ensures highly flexible and diverse video production.

* Requires Kairos Software Version 1.8. Supported only with IP input/output.

Increased Efficiency and Productivity

With a network connection, a single system can be operated via multiple control panels or intuitive GUI software. And KAIROS supports Multiple Core Control,*1 enabling two mainframes to be operated from a single control panel. Remote operation, pre-building of scenes (effects) and training using the Kairos Emulator*2 are also possible.

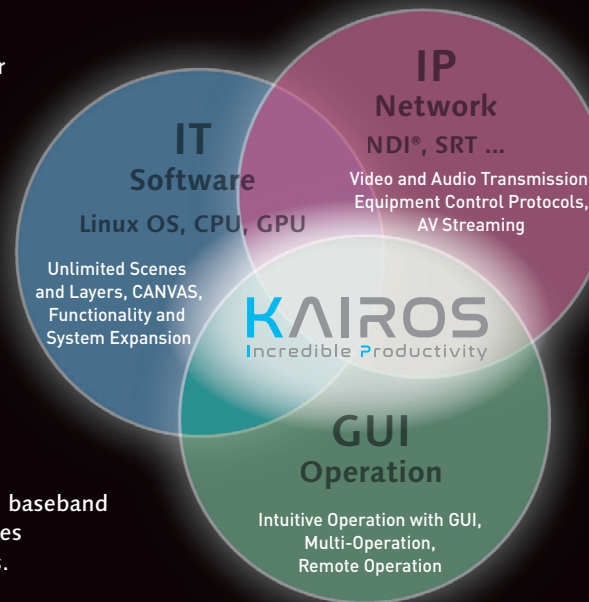
*1: Requires Kairos Software Ver. 1.8. *2: Requires Kairos Software Ver. 1.7.

High Flexibility and Expandability

Support is available for a wide variety of video inputs and outputs, including not only SDI baseband but also IPs such as ST 2110,* SRT and NDI®. The software-based open-architecture enables easy integration with external devices and third-party systems through software upgrades.

* Please contact your distributor for details on using ST 2110 inputs and outputs.

•NDI® is a registered trademark of Vizrt NDI AB in the United States and other countries.



AT-KC200L1 front panel



AT-KC200L1 rear panel

Kairos Core 200 AT-KC200L1 Specifications

General

Power Requirement:	AC IN x 2, 100-127 V/200-240 V, 50/60 Hz, Redundant power supply
Current Consumption:	10.0 A / 5.0 A
Operating/Storage Temperature:	5 to 35 °C / -20 to 60 °C
Operating Humidity:	10% to 90%, no condensation
Weight:	Approx. 17.8 kg / 39.24 lb, without accessories & options
Dimensions (W x H x D):	430 mm x 176 mm x 505 mm / 16-15/16" x 6-15/16" x 19-7/8" (4 RU size) excluding protruding parts
OS:	Linux

Number of Video I/O

SDI: *1	1.5G:	24 in / 12 out (Max. 32 in / 16 out) *1
	3G:	24 in / 12 out (Max. 32 in / 16 out) *1
	4K:	12 in / 6 out (Max. 16 in / 8 out) *1
ST 2110: *2	1.5G:	64 in / 40 out
	3G:	32 in / 40 out
	4K:	8 in / 10 out
NDI* High Bandwidth:	2 in / 2 out, 16 CH audio for each, HD only	
SRT/RTSP/RTP/RTMP:	8 in / 2 out (only input for RTSP), HD only	

I/O Terminals

QSFP: *2	100G QSFP28 x 2	
DisplayPort:	DisplayPort 1.4 x 4, for Multiviewer Output	
LAN:	RJ-45 x 2, 1 GbE	
SDI IN/OUT:	Micro BNC, 24 in / 12 out (Max. 32 in / 16 out) *1	
REF IN/OUT:	Micro BNC, 3 in / 3 out (Max. 8 in / 8 out)*1	
HDMI IN/OUT:	Use external converters (Please refer to tested third party products)	
VGA:	Dsub-15 pin, for system installation	
USB:	USB 3.2 Gen1 Type-A x 4, for system installation	

Video/Audio Format

4K	3840 x 2160	60p, 59.94p, 50p, 30p, 29.97p, 25p, 24p, 23.98p
FHD	1920 x 1080	60p, 59.94p, 50p, 30p, 29.97p, 25p, 24p, 23.98p, 60i, 59.94i, 50i
HD	1280 x 720	60p, 59.94p, 50p, 30p, 29.97p, 25p, 24p, 23.98p
SD NTSC*3	720 x 480	59.94i
SD PAL*3	720 x 576	50i
DCI 2K*3	2048 x 1080	60p, 59.94p, 50p, 30p, 29.97p, 25p, 24p, 23.98p
DCI 4K*3	4096 x 2160	60p, 59.94p, 50p, 30p, 29.97p, 25p, 24p, 23.98p
16:9*3	1366 x 768, 1600 x 900	60p, 59.94p, 50p, 30p, 29.97p, 25p, 24p, 23.98p
4:3*	640 x 480, 1024 x 768, 1400 x 1050, 1600 x 1200	60p, 59.94p, 50p, 30p, 29.97p, 25p, 24p, 23.98p
16:10*3	1280 x 800, 1440 x 900, 680 x 1050, 1920 x 1200, 3840 x 2400	60p, 59.94p, 50p, 30p, 29.97p, 25p, 24p, 23.98p
5:4*3	1280 x 1024	60p, 59.94p, 50p, 30p, 29.97p, 25p, 24p, 23.98p

Color Model and Bit Depth/Audio Format

Color Model and Bit Depth:	YCbCr 4:2:2 - 8/10/12 bit YCbCr 4:4:4 - 8/10/12 bit *3 RGB - 8/10/12 bit *3 RGBA - 8/10/12 bit *3 Key - 8/10/12 bit *3
Audio Format:	ST 2110-30 (AES67)*2, 48 kHz/24 bit

Synchronization

PTP Sync:	QSFP and GbE, both ports supported
FS (Frame Synchronizer):	All input channels, always ON (without ON/OFF)
Frame Delay	0 frame to 12 frame, by 1-frame step
Latency	Min. 1-frame

Player

Still Store:	7 GB storage, up to 4K
RAM Player:	8 CH, 32 GB storage, uncompressed *4
Clip Player:	2 CH, 400 GB storage (share with audio player), compressed, AVC-Intra/H.264/DN x HD/ProRes
Audio Player:	4 CH, 400 GB storage (share with clip player), compressed, WAV/MP3/Ogg/FLAC/AIFF

Functions

*Functions listed here are only a part of the features. For details, please check our website.

Multiviewer:	HD/4K x 4 out, max. 36 PiP for each Display: GPU Meter, Audio Level Meter, Clock, Vectorscope, Waveforms, etc.
Canvas:	Up to 8K (32 M-pixels)
Layer:	No restriction on the number of Layers, Scenes (ME) and Keyers, depend on GPU performance, Visible usage with GPU meter
Effect:	Luminance Key, Chroma Key, DVE(2D/2.5D), Soft Border, Corner Fix, Color Correction, Crop, Film-look Effect*, Glow Effect*5 etc.
Transition:	Multimix, Offset Transition, Transition Effects
Macro:	Scene-Specific Macros, LUA Script Support
Color Mat:	Bicolor Wash Mat, Test Pattern
Other Functions:	Audio Mixer *6, Title Generator, Snapshot, User Management Function

Supported Standards and Protocols: REST API, Ross Talk*7, TSL 5.0*2, NMOS*8, AMP, ST 2110-10*2, ST 2110-20*2, ST 2110-30*2, HTML5 Graphics*9, SNMP*5

- *1: Three boards are pre-installed and one additional board can be installed.
- *2: Please contact your distributor for details on using ST 2110 input/output.
- *3: Requires software version 1.8. Supported only with IP input/output.
- *4: Max. RAM capacity is reduced with SDI I/O boards installed. The maximum capacity is reduced by 2 GB when updating to Ver 1.8. For details, please check SDI I/O board web page.
- *5: Requires software version 1.7.0 or after.
- *6: Optional software key AT-SF005 is required.
- *7: Optional software key AT-SFE01 is required.
- *8: Optional software key AT-SFE03 is required.
- *9: Requires software version 1.8.

•NDI* is a registered trademark of Vizrt NDI AB in the United States and other countries.

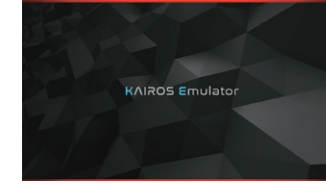
KAIROS System Equipment



AT-SFC10

Kairos Creator (GUI Software/Software Key)
Intuitive GUI for easy configuration of inputs/outputs, scenes, layers, etc.

OS: Windows 10/11, macOS Ventura/Sonoma/Sequoia
* Please contact your distributor to purchase.



Kairos Emulator

Free software that allows production and training with Kairos Creator in offline environments such as outside the studio or at home.

OS: Windows10/11
*Requires version 1.7.0 or after. Some functions can't use on Kairos Emulator.



AT-KC10C1

Kairos Control (Control Panel), Standard type

AT-KC10C2

Kairos Control (Control Panel), Compact type

KAIROS Option

AT-KC20M1 SDI I/O Board

Equipped with 8 SDI input terminals, 4 output terminals and REF IN/OUT. One board can be installed to the AT-KC200L1.*1

AT-SFTC10

Touch Control Panel Software

Intuitive touch-screen operation for video selection via multi-viewer.*2

AT-SFCM10

Kairos Core Manager *3

Backup, media synchronization and data transfer with multiple Kairos Core units possible.*2

AT-SF005

Audio Mixer Option

Synthesize, tune and control up to 16 assignable video sources, each with their 16 audio channels.

AT-SFE01

RossTalk Option

Supports RossTalk Xpression character-generator protocol.

AT-SFE03

NMOS Option

Please contact your distributor for details on using ST 2110 inputs and outputs.

Kairos Creator Subset Software*2

Kairos Media, Kairos Painter and Kairos Audio Mixer *4
Free for Kairos Creator users.

*1: Installation on the main frame is carried out by the dealer. Always consult your dealer for installation.

*2: Operating system requirements: Windows 10 or 11, macOS not supported.

*3: Free for use with up to two Kairos Core units; a licence must be purchased for use with three or more units.

*4: The AT-SF005 Audio Mixer Option is required.

•RossTalk, Ross and Xpression, are trademarks or registered trademarks of Ross Video Limited.
•NMOS (Networked Media Open Specifications) is a protocol standardized by AMWA (Advanced Media Workflow Association) for controlling and managing devices via IP networks.

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Specifications are subject to change without notice.

KAIROS Alliance Partners



An update list of KAIROS Alliance partners and test-verified devices can be found on the website.

Update



KAIROS Support Webpages

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FAQ

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Tutorial Videos



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Contact Details



For more information, please visit Panasonic web site
https://pro-av.panasonic.net/en/

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