Broadcast Technologies

Panasonic Takes Live Broadcast Production to New Heights

TO ACHIEVE ITS GOAL TO LEAD INNOVATIONS IN THE AUDIO AND VIDEO FIELDS, THE COMPANY HAS PUT PREMIUM TECHNOLOGIES TOGETHER IN ITS NEXT-GENERATION LIVE PRODUCTION PLATFORM FOR INCREDIBLE PRODUCTIVITY AND EFFICIENCY IN PRODUCTION WORKFLOW.

Panasonic Corporation continues to reinforce its lineup in the film and broadcasting fields to meet the rising expectations around quality of video production, and streaming contents. Nowadays, production teams have been reinforcing ways to broadcast with flexible and cost-effective operation and this is something the company puts into

Kairos Core (main frame)

KAIROS' IT/IP-centric platform

focus as it continues to introduce new products and technologies and address the challenges and possibilities ahead.

Panasonic continues to amplify its portfolio and realize its goal to lead in innovations in audio and video technologies for a more immersive production experience and increased productivity among professionals.

KAIROS: High Performance, New Concept Architecture

Panasonic has announced its latest cutting-edge technology KAIROS, a next generation live production platform that provides incredible productivity. This new IT/IP video processing platform offers an open architecture system for live video switching with complete input and output flexibility, resolution and format independence, maximum central processing unit (CPU) and graphical processing unit (GPU) processor utilization and virtually unlimited ME scalability.
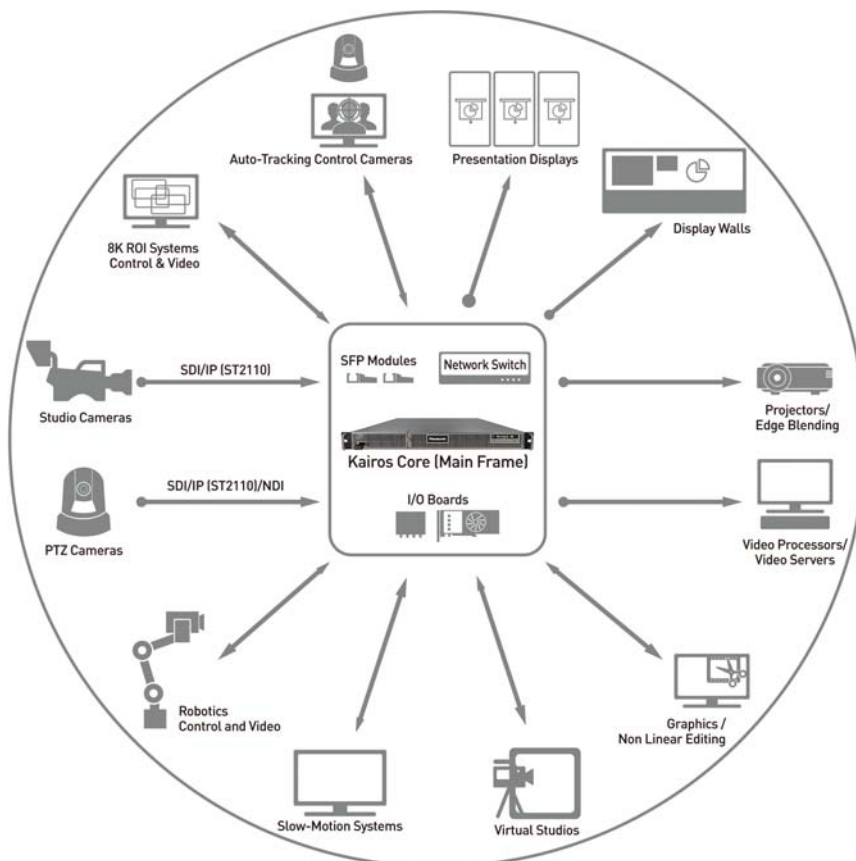
As a native IP, ST 2110 system, KAIROS, which will be available to the market in Q3 of 2020, supports transitions to live IP workflows and can eliminate dedicated hardware constraints. This system creates new production opportunities involving a mosaic of IT ecosystems with a variety of vendor components from several industries.

"KAIROS is introduced as the content creation industry transitions to live IP workflows, requiring broadcast and event producers to think about how they will future-proof their productions and facilities," said Michael Bergeron, Panasonic Senior Product Manager for Live Production Systems. "With an ever-growing set of tools and hardware, producers need a comprehensive solution for multiple applications to break free of the boundaries of traditional hardware. As an IT/IP platform based on an open software architecture, KAIROS takes the various components of a broadcast program and virtualizes them, so productions are flexible, dynamic and powerful."

KAIROS delivers creative and operational freedom for efficient production of expressive

From left to right: AK-HRP250GJ remote operation panel; AK-HCU250 camera control unit; AK-HC3900 HD studio camera with AK-HVF75G 7-inch LCD color view finder

live video. The platform features standardized IP connectivity in place of one-to-one video inputs and outputs, which enables KAIROS to support baseband and IP signals in any combination. KAIROS also features uncompressed processing of SDI, ST 2110 as well as NDI streams of any resolution such as HD and UHD and in any format, whether 16:9 or non-traditional formats such as 32:9 for an LED backdrop display.

The GPU-based processing platform also allows users to allocate processing power with 100 percent efficiency to achieve performance matching a larger scaled hardware system. KAIROS processing latency can be as low as one frame and also supports Precision Time Protocol (PTP) synchronization.

KAIROS system centers around the Kairos Core main frame, which handles all video processing. Version 1 main frame will manage video I/O through a Deltacast gateway card and/or a Mellanox 100GbE Network Interface Card (NIC) connection to COTS IP devices and standard definition interface (SDI) and High Definition Multimedia (HDMI) gateways. Control will all be managed on devices operating over a separate gigabit Ethernet including Kairos Creator, graphical user interface (GUI) software for set up and software-based control panel and Kairos Control, Panasonic's premium quality 2ME style hardware control panel.

Panasonic also announced it has established a KAIROS Alliance Partners program which includes IP COTS hardware manufacturers and leading vendors of graphics, automation, and media servers.

New Studio/Field Camera with 4K Upgrade Path

In an expansion to its AK Series studio/field camera line, Panasonic has announced the cost-effective AK-HC3900 1080p HDR studio camera system, which will be upgradable to native 4K 60p/50p. The new HC3900 follows the company's AK-HC3800.

Improvements distinguishing the AK-HC3900 include a full simultaneous HDR/SDR feature set, expanded multi-format capability and future optional upgrade to 4K 60p/50p production. The AK-HC3900 captures its raw image from an internal 4K imaging system to deliver its stunning HD HDR images with ITU-R BT.2020 wide color space. The Internal 4K capture also means that the future optional 4K system upgrade will yield a full 2000 TV lines both horizontal and vertical resolution.

The AK-HC3900 achieves a high sensitivity of F10 at 59.94Hz (2,000 lx) and a signal-to-noise (S/N) ratio of 62dB. The camera offers a built-in motorized ND filter.

The new cost-effective AK-HCU250 camera control unit (CCU), in combination with the new AK-HRP250GJ remote operation panel (ROP), will connect the high-grade uncompressed video and control to the camera head via optical fiber or utilize SMPTE Hybrid cable to provide camera power as well.

Support Wide Range of IP Video Transmission

Panasonic has also announced the AW-UE100W/K, a 4K integrated camera that includes various output interfaces such as 12G-SDI and high bandwidth NDI, which enables high-quality 4K 60p/50p video to be transmitted with low delay.

The camera supports high bandwidth NDI that can transmit 4K video at speeds of up to approximately 250Mbps and full HD video up to approximately 100Mbps to provide high-quality low latency live video transmission with a single LAN cable. Secure Reliable Transport (SRT) is also supported to maintain stability while transmitting high-quality video, even in unstable network environments. Real-Time Messaging Protocol/Real-Time Messaging Protocol Secure (RTMP/RTMPS) provides direct streaming to live broadcasting services such as YouTube Live and Facebook Live from the camera.

The camera also includes 12G-SDI, 3G-SDI, HDMI, and IP output terminals, and can handle system construction and operation in a wide range of situations, thanks to support for various video output formats including 4K 60p/50p.

A wide-angle lens with a horizontal angle of view of 74.1 degrees enables wide area to be shot with a high degree of freedom, regardless of the installation location, and 24x optical zoom enables faraway subjects to be clearly depicted at high-quality 4K resolution.

Various user-friendly functions meet on-site needs and support a wide range of content production, from live streaming of events to the shooting of TV programs in a studio. ❑

AW-UE100K (left) AW-UE100W (right)
4K integrated camera