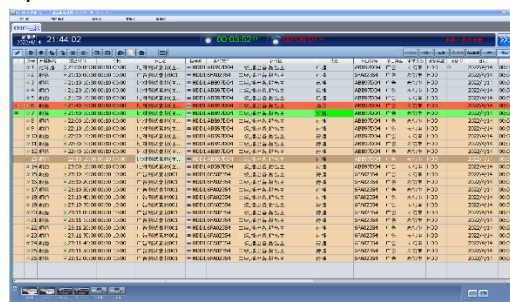


Dayang 8K series products integrate intoPIX JPEG XS technology for ultimate performances

Dayang's self-produced VIPS-8K-IP broadcast video server products & Dayang's self-produced IP multi-screen platform products

Over the past years, Dayang has made remarkable achievements in 8K workflows. Firstly with Dayang's completion of the setup of China's first 8K Ultra-High-Definition TV channel in China Central Radio and Television Station. Recently, in preparation for the 2022 Beijing Winter Olympics and Winter Paralympics, Dayang also helped China Central Radio and Television and Beijing Radio and Television to complete the setup of two new 8K Ultra-High-Definition TV channels. This was not only a joint effort to promote the 8K cause, it was also proving the maturity of Dayang in 8K Ultra-High-Definition broadcast technology and products, which accelerates the continuous innovation and evolution.

8K is the development path of a next-generation television. Compared with High-Definition channels, 8K Ultra-High-Definition TV channels bring users a more immersive audio-visual experience, which has also higher technical requirements. With the increase of video resolution and frame rate, the demand for uncompressed IP video bandwidth is growing rapidly. HD requires 1.5Gb/sec bandwidth, 4K requires 12Gb/sec bandwidth, and 8K requires up to 48Gb/s bandwidth. In order to reduce the network bandwidth load, Dayang introduces JPEG XS technology, and integrated intoPIX's self-developed FastTicoXS SDK in several core products, such as 8K XS IP video server, 8K XS IP multi-screen. For 8K IP-based video transmission, JPEG XS format allows compressing IP stream input and output such that a single IP stream enables 8K broadcast with a bandwidth reduced to 2Gb/s, which greatly reduces the network load.



During initial testing and prototyping phases with Ocean 8K series products, the results have shown that the JPEG XS standard is a good replacement of XAVC: it meets the requirements in terms of 8K encoding quality and it delivers higher compression efficiency. At least 2 channels of 8K real-time encoding and decoding requirements were achieved. In addition, SMPTE ST2110-22 can be used for JPEG XS IP streaming to achieve consistent stream and file compression formats, which can greatly reduce the bandwidth of IP streaming and reduce encoding and decoding overhead in many scenarios while satisfying low latency and visual lossless quality. Therefore, Dayang 8K NLE software and 8K recording software both plan to use 8K JPEG XS encoding format files.

On January 24, the CCTV-8K Ultra-High-Definition TV channel of the China Central Radio and Television Station was launched, and the "One Hundred Cities Thousand Screens" public large screen project was launched at the same time. During the Beijing Winter Olympics Ceremony, the design of the Dayang VIPS-8K-IP broadcast server was used by this channel introducing the JPEG XS codec technology provided by the international leading expert intoPIX, and it was used for a variety of Olympic Games to the audience accessing to 8K technology.



Take **IMAGING** to the **NEXT LEVEL**

www.intopix.com

On December 31, 2021, for the new 8K Ultra-High-Definition broadcast platform of Beijing Radio and Television Station, the contractor Dayang introduced the JPEG XS codec technology provided by the international leading expert intoPIX to successfully produce and broadcast high bandwidth 8K video. To overcome all the challenges related to Live production, Dayang has deployed a complete broadcast platform offering 8K Ultra-High-Definition broadcast file preparation including lightweight 8K compressed IP signal scheduling, real-time 8K File compositing, 8K external signal access, and lightweight 8K signal encoding and transmission.

In the two 8K projects of Beijing TV and CCTV, the Dayang's VIPS-8K-IP broadcast video server was used. This product adopts the 2RU modular design method, the system is simple and stable, and supports 8K Pro Res, 8K JPEG XS single file, 8K XAVC single file and other encoding format files are decoded and broadcasted, and it supports multiple protocols such as uncompressed, light compression and other IP streaming functions. Built-in



superposition of various types of subtitles: station logo, hanging angle, clock, etc., the final output is uncompressed, lightly compressed IP stream, and supports 2022-7 redundant stream input and output to ensure the security of the output stream, and can also Stream from recorded as 8K JPEG-XS MXF encoded files. The broadcast server supports the standard VDCP protocol, and uses the open control layer protocol to be controlled by third-party control software: file decoding and playback, external signal switching, upper and lower subtitles and other functions. It can be used as a broadcast server, gasket server, and upload server. In the master control broadcast system.

In the Beijing station 8K project, the IP multi-screen platform product produced by Dayang is also used. This product supports signal input of various IP protocols, including SMPTE 2022-6 signal, SMPTE 2110-20 uncompressed signal, compressed TS stream signal, SMPTE 2110- 22 JPEG-XS lightly compression signal, etc. It can also collect multiple signals for centralized echo monitoring, and can monitor and analyze each IP signal in real-time. After the introduction of JPEG XS encoding format for video and audio stream transmission, the transmission bandwidth is greatly reduced, to meet the input requirements of multi-screen 8-channel 8K signals. In addition, the unique encoding and decoding resolution layering characteristics of JPEG-XS signals are applied, and the 8K signals are layered and decoded into high-definition signals for processing. Compared with the traditional uncompressed signal processing, the performance of the product is greatly improved.



Dayang will continue to focus on technological innovation, continuously improve the construction of the 4K/8K UHD industry ecosystem, strengthen close cooperation with industry partners such as intoPIX, and inject a steady stream of innovative power into the ecological prosperity of the UHD video industry.

Dayang is a world-leading manufacturer and developer of broadcast-quality digital solutions for standard-definition, high-definition, and web-based products for content creation, ingest, archiving, transcoding, broadcast playout and Media Asset Management. Dayang Technology Development Inc. pioneered the development of character generators, non-linear editing equipment and completes digital networking systems for the Chinese market with full international compatibility too. www.dayang.com.cn

About intoPIX

intoPIX is a leading technology provider of innovative compression, image processing and security solutions. We deliver unique FPGA/ASIC IP cores and efficient software solutions (on CPU & GPU) to manage more pixels, preserve quality with no latency, save cost & power and simplify connectivity. We are passionate about offering people a higher-quality image experience. Our solutions enable the Broadcast industry to build new bandwidth-efficient live production workflows, reducing operating costs in HD, 4K or even 8K, replacing uncompressed video, enabling remote production, and always preserving the lowest latency and the highest quality. www.intopix.com

Press contact:

Julie Van Roy

+32 10 23 84 70

press@intopix.com

>> [Download Press images here](#)