Shikino Initiative to Commence Licensing of New High-speed JPEG Codec IP to Obtain Ultra-high Definition Images

Featured Japan's First High Bit Depths (12-bit/10-bit) and Lossless Processing Function

Shikino High-Tech Co., Ltd. ("Shikino") today announced that it has launched a new high-speed JPEG codec IP , "KJN-7EX_LSC", and commences sales today.　As a new product from the "KJN series" with the world's top share in the still image compression/decompression technology, "KJN-7EX_LSC" equips with high bit depths (12-bit/10-bit) to obtain ultra-high definition images and the lossless processing function to provide outstanding images without the image quality deterioration due to the image compression/decompression.　The product is most suitable for the medical/broadcasting/aerospace fields and so forth.

●Obtain ultra-high definition images by high bit depths
In addition to the existing 8-bit depth in JPEG, the first high bit depths (12-bit/10-bit) mounted in Japan attains high image quality.　This product is most suitable for the medical/broadcasting/aerospace/industrial camera fields requiring color reproducibility and high gradation.

● Achieve outstanding images without the image quality deterioration by the image compression/decompression technology
The lossless processing function makes it possible to achieve outstanding images without the image quality deterioration when compressing them.　This KJN-7EX_LSC technology is optimally applied to highly advanced medical equipments, image processing inspection devices and aviation/aerospace equipments that have required customers to use the uncompressed and large-volume RAW images to prevent the image quality deterioration.

●Attain 60 consecutive 4K2K still images per second using the lossless processing function
The lossless processing function provides users with the 8X (8 Data/clock) processing speed (data rate).　This is optimal for consumer devices requiring high-speed consecutive shooting (e.g., DSC, DSC-SLR, Smartphones, 8K4K displays and so forth).

The product is anticipated to meet the market demands for medical equipments, image inspection devices, high-definition image devices, consumer devices and so on.　Also, Shikino has developed and released "KJN-7EX" for the 12-bit/10-bit/8-bit JPEG processing that gives customers options to choose their most suitable lineups to satisfy their requests.

＊Gradation: A unit expressing color and brightness

 Number of colors: Cubed gradation numbers in the RGB color model

    8 bit: 256 gradations per color/16.77 million colors (8 bit applied to PC)

   10 bit: 1024 gradations per color/1.07 billion colors

   12 bit: 4096 gradations per color/68.71 billion colors

【About JPEG Extended DCT-based process /JPEG Lossless process】

The 12-bit JPEG (Extended DCT-based process) employed in "KJN-7EX_LSC" is an international standard to extend general 8-bit JPEG to 12 bit in the ITU-T Recommendation T.81 and ISO/IEC International Standard 10918-1. As for the lossless process, it complies with the lossless compression of Annex H following the same standard.

Features of "KJN-7EX_LSC", a still image codec IP for the lossless/lossy process

- Support 8, 10 and 12-bit depth for both Lossless and Lossy formats.

- Enable 1600M Sample/sec (200 MHz) processing.

- Obtain high-speed, small-scale and power-thrifty processing by Shikino's original algorithms.

- Achieve high compression performance by using our original Huffman table for 12-bit/10-bit JPEG.

Specifications

- CPU bus   : 32 bit

- Image data bus   : 96 bit

- Code data bus   : 64/96/128 bit

- Quantization table   : 4 tables(RAM)

- Huffman table   : 4 tables for DC and AC respectively (RAM) *1

- Color format   : YUV444, YUV422, YUV420, YUV411, Gray-Scale and CMYK

*1 Huffman table

Lossless mode

For compression: 4 programmable tables in DC

For decompression: 4 tables in the stream in DC

Lossy mode

For compression: 2 original fixed tables (12-bit/10-bit) and 2 standard fixed tables (8-bit) in DC and AC respectively

For decompression: 4 tables in the stream in DC and AC respectively

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