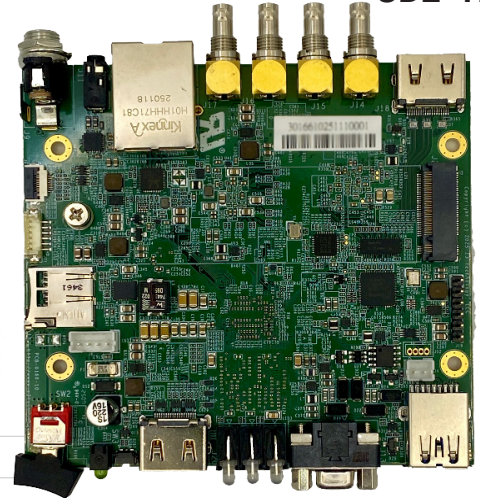# 12G-SDI Encoder
Hardware Accelerated AI Processing
SBE-12G

- CVflow processor with convolutional neural network (CNN), deep learning and transformer network support
- High Performance ISP with low power consumption
- H.265 and H.264 Video Encoding
- HD, 4Kp30 and 4Kp60 Resolutions Support
- HDMI and 12G-SDI to 3G-SDI Inputs Supported

ONVIF® | **S T M**

Technical

Interfaces

•Video Inputs	4x HD-BNC and HDMI
•Modes of Operation	12G-SDI + 3G-SDI + 3G-SDI **OR** 6G-SDI + 3G-SDI + 3G-SDI **OR** HDMI (4Kp60) + 3G-SDI + 3G-SDI **OR** 12G Quad Link (SMPTE 452)
•Additional Interfaces	Serial I/O - (RS-485, RS-422, RS-232), Micro DB9, RS-232 2.5mm, GPIO x 6, PCIeNVMe M.2 Expansion Slot Storage/Wi-Fi/SSD, USB Type A 3.2, I2C Header
Video Codecs	H.265, H.264 and MJPEG
Encoding Resolutions	4Kp60, 4Kp30, 1080p60 and 720p60
Additional Frame Rates	60, 50, 30, 29.97, 25, 24, 23.98
Output Formats	RTP, RTSP, MPEG-2 TS, RTMP and SRT (up to 4Kp60) *AI Ready with Video Tracking Demo Available
Features	• Low Latency, Low Power • Cyber Secure Features Available, SNMPv2, SNMPv3 and the ability to turn off unneeded services • User Level Authentication Settings Available • Simultaneous encode of H.265/HEVC and H.264 • Record to USB or Network File System • Control via HTTP/HTTPS web GUI, API, ONVIF or SSH/Serial • SRT Modes Supported: Caller Listener, Rendezvous, SRT Encryption, AES-128, 192, 256 • Live Video Preview in the Web Gui • Multicast and Unicast Support • CBR and VBR Support • Text Overlay via Web GUI or custom placement of Text or PNG via HTTP/S API • Pelco D Support • STANAG 4609 Compliant • High Precision Timestamps Across Multiple Streams, MISB 0604 Compliant • Pass VISCA Camera Controls over IP or serial • AI Ready for on the edge analytics or custom library implementation • Human Detection and Tracking Demo Available

Specifications

Encoder Board Size	101.6 x 93.98 mm (4 x 3.7 in)
Encoder Board Weight	104g
Power Consumption	4.5W
Power Supply	12V DC

ORDERING OPTIONS

SBE-12G
OEM Production Set
- SBE-12G Encoder

SBE-12G-RPS
OEM Starter Kit
- SBE-12G Encoder
- Power Supply
- Software SDK
- Documentation
- (2) SDI Cables

Note: Camera sold separately

APPLICATIONS

Military
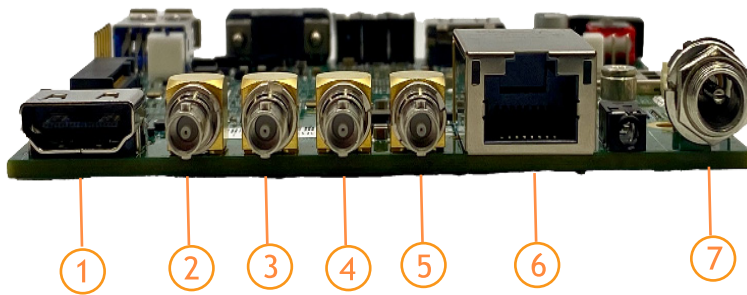
Medical

Robotic Applications

Surveillance

NDAA
TAA

Made in the USA

REACH · COMPLIANT · COMPLIANT

RoHS COMPLIANT

CE FC
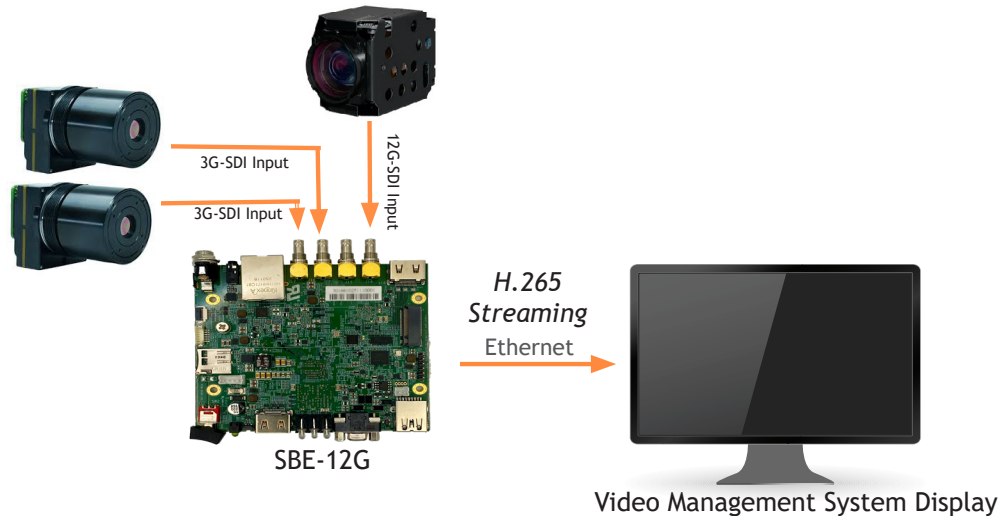
- An embedded dual-core Arm® Cortex® -A76
- Clock frequency 1.6 GHz
- CVflow processor with convolutional neural network (CNN), deep learning and transformer network support
- Supports hardware acceleration for transformer networks
- CNN toolkit for easy porting of neural networks implemented in Caffe, TensorFlow, PyTorch, or ONNX frameworks
- Image Signal Processor and Encoding supporting up to 4Kp60
- ISP with HDR processing, dewarping and 3D motion-compensated Temporal Filtering
- RAM: 8 GB of LPDDR5 (GBytes)

1 HDMI up to 4Kp60
2 12G/6G/3G-SDI
3 3G-SDI (Quad Link mode only)
4 3G-SDI Camera
5 3G-SDI
6 Gigabit Ethernet
7 12V DC

USE CASE

3G-SDI Input

3G-SDI Input

12G-SDI Input

SBE-12G

H.265 Streaming
Ethernet

Video Management System Display

*See other modes of operation on page 1

Z³ Technology is an industry-leading, USA-based manufacturer of production-ready embedded multimedia solutions and IP camera systems. From our founders to our world-class engineers to our sales and customer service team, we understand your requirements and speak your language. Our experience allows us to provide cost-effective solutions to meet your multimedia product requirements. With the assistance of our robust worldwide distribution and sales networks, we can provide a simple solution for your multimedia needs.

Z³ Technology, LLC incorporates HDMI technology. The terms of HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing, LLC in the United States and other countries.

HDMI®
HIGH-DEFINITION MULTIMEDIA INTERFACE