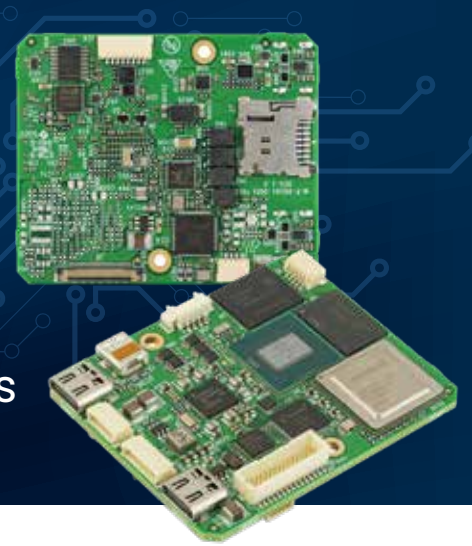
Jupiter SB / SB-AI

Multi-channel H.264/5 codec & AI accelerator for Sony block-based applications



A high-end multi-channel h.264/5 codec, Jupiter SB is integrated with an onboard AI accelerator that enables highly accurate AI-powered detection and tracking capabilities and other customer AI processes.

Jupiter SB supports up to four video inputs simultaneously: **A main channel** primarily for Sony Block FCB-9500/7520 cameras, **a secondary channel** for Tenum 640 camera, USB 3.0 for Boson FLIR camera, and SPI for Lepton FLIR camera.

End-to-end ultra-low-latency enables streaming over wired and wireless networks, supporting Unicast, Multicast, Broadcast in UDP, RTP, RTSP. Capabilities include video and audio capture, encoding, decoding, transcoding and display, and video raw-data pre-processing, with ONVIF support including PTZ control over RS485.

The system is available in two configurations: Jupiter SB and Jupiter SB-AI.

Markets and applications

Professional Civilian
Autonomous vehicles, agriculture and visual inspection

Homeland Security
Search and rescue, border protection, intelligence gathering

Defense
Target recognition, observation, and situational awareness

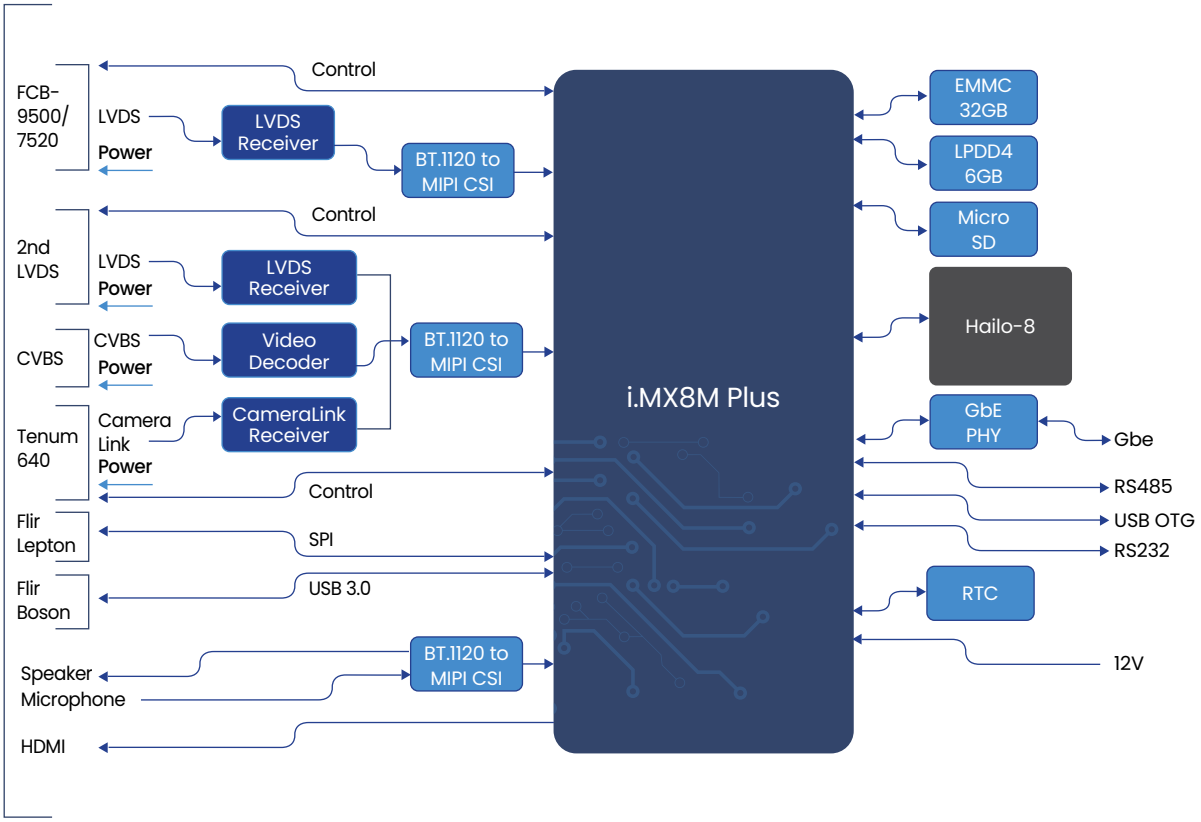
Key Benefits

- Handles multiple channels simultaneously
- Supports Sony block-based applications

Key Features

- Acts as H.264/5 encoder and handles up to 4 video inputs simultaneously
- Video and audio capture, encoding, decoding, transcoding and display
- Video raw-data pre-processing, including scaling, graphics overlay, picture-in-picture
- Transport Stream (including meta data) container generation
- Video, audio and data simultaneous local recording and playback
- Streaming over wired and wireless networks supporting Unicast, Multicast, Broadcast in UDP, RTP, RTSP
- End-to-end 100msec ultra-low-latency streaming over networks using Maris SE player for Windows, Linus and Android
- Two configurations: Jupiter SB and Jupiter SB-AI

Block Diagram



Technical Specifications

SoC	NXP i.MX 8M Plus
Memory	6GB LPDD4 32GB EMMC
AI accelerator	Hailo-8
Video in	Simultaneous support for: 2 x LVDS or 1 x LVDS + 1 x CVBS or 1 x LVDS + 1 x Cameralink USB 3.0 SPI
Video out	HDMI
Audio in	Microphone
Audio out	Speaker
H.264/5 codec	VBR & CBR Encoding performance: Up to 4 x 1080p60 Decoding resolutions: Up to 1 x 1080p60
Network	GbE
Storage media	32GB EMMC Up to 1TB micro-SD
Serial interfaces	RS232 RS485
USB	USB-OTG (mass storage device)
Dimensions	50 x 50 mm
Operating temperature	-40°C to +85°C
Power	12V <4W 1 x 1080p60 (excluding AI accelerator and camera power consumption) <5W 2 x 1080p60 (excluding AI accelerator and camera power consumption)

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