

OPAL

Tactical Edge Computing System



A multi-channel H.264/H.265 streaming, recording platform with AI acceleration capabilities. The Opal is based on Maris' Jupiter-AI platform (NXP iMX8M Plus, based platform with onboard HAILO-8 AI accelerator) enabling advanced AI capabilities such as detection, classification, and tracking, designed for professional and tactical operations.

The system enables ultra-low latency streaming over networks using Maris player, supporting Unicast, Multicast, and Broadcast in UDP, RTP, and RTSP. Capabilities include video, audio and data telemetry simultaneous local recording and playback, encoding, and decoding. The system is designed to meet environmental conditions in compliance with MIL-STD-810F, MIL-STD-810G, MIL-STD-461F.

Opal addresses multiple markets and applications

Defense

Target recognition, observation, and situational awareness

Homeland Security

Search and rescue, border protection, intelligence gathering

Professional Civilian

Autonomous vehicles, agricultural and visual inspection

Key Benefits

- Low power
- High video quality over narrow-band wireless networks
- Low-latency streaming
- Powerful AI acceleration enabled by Hailo-8

Key Features

- H.264/H.265 encoder/decoder capabilities
- Video, audio and telemetry data capture
- Simultaneous multi-stream video processing
- Streaming over wired and wireless networks
- Video, audio and data simultaneous local recording and playback
- Onboard Hailo-26 8 TOPS AI accelerator
- End-to-end 100msec ultra-low latency streaming
- 4 channel analog SD inputs
- HD-SDI input
- 1 Tb Micro SD Memory detachable storage



Technical Specifications

J1 Main MIL-STD connector for I/O:

2 x Gigabit Ethernet ports supporting IP b Gige
 USB 3
 Input power: 16-36VDC
 4 x RS170/PAL/NTSC analog video inputs
 1 x PAL/NTSC Analog Video output
 1 x Analog audio input (line/Mic)
 1 x Analog audio output

J2 connector: 1 x HD-SDI video input 1080@p60

J3 connector: 1 x HD-SDI video output 1080@p60

VoIP (MP2)

H.264/265 encoding/decoding

1 Tb Micro SD Memory detachable storage

Input power: 28VDC MIL-STD-704A & MIL-STD-1275D compatible

Max power consumption: 10W

Operational temp: -29°C to 65°C | Storage temp: -46°C to 71°C

MTBF: >8000 hours

Warranty: 12 months

Dimensions: 127 x 130 x 50mm

Weight: 1 Kg

Opal unit color: RAL6003

Environmental conditions: IP67

Designed to meet MIL-STD-810H, MIL-STD-810F, MIL-STD-810G, MIL-STD-461F

ESS test

Package content: 1 x Opal unit, 1 x Memory storage unit,
 1 x Cardboard packaging for carrying
 1 x Memory Reader

MEMORY STORAGE

1 TB Micro SD Memory detachable storage

P/N: M-Z-00060-00002

Technical Specifications

1 Tb Micro SD Memory detachable storage

Compatible only with OPAL P/N M-Z-00060-00000

Based on SanDisk Ultra microSDXC UHS-I Card or similar

Up to 120Mb/s read speed

For full HD Video

Warranty: 12 months

Dimensions: ~80 x ~34 x ~25mm

Weight: 58 g

Environmental conditions: IP67

Designed to meet MIL-STD-810H, MIL-STD-810F, MIL-STD-810G, MIL-STD-461F

Package content: 1 x Opal Memory detachable storage

Features

- Waterproof
- Temperature proof
- Shockproof
- X-ray proof

MEMORY READER

P/N: M-Z-00060-00001

Technical Specifications

Compatible only with OPAL P/N

M-Z-00060-00000

Dimensions: ~100 x 40 x 40mm

Weight: 170 g

Environmental conditions: IP67

Designed to meet MIL-STD-810H, MIL-STD-810F, MIL-STD-810G, MIL-STD-461F

Warranty: 12 months

Package content: 1 x Opal

Memory Reader, 1 x USB cable

Date: 01/2025