

OPAL

Tactical Edge Computing System



P/N: M-Z-00060-00000

A multi-channel H.264/5 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.264/5 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
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	