ATOMAS Micro

Full HD 1080p60 H.264 IP Encoder Module

The ATOMAS Micro encoder module is a feature-rich IP video encoder designed for a wide range of OEM camera designs. The unique miniaturized form factor of the ATOMAS Micro makes it especially well suited for integration to small HD camera modules.

Features

- HD parallel video interface
- High profile H.264 video compression
- Supports input resolutions at up to 12 megapixels
- IP video streaming at up to 1080p60
- Local recording to SD card
- Onvif Profile S compliant
- Web-based administrative user interface
- 5.5VDC to 14VDC power input range
- Optional PoE power input module
- Low latency IP video streaming
- On-board RTC and hardware watchdog

HD Parallel Video Interface

The ATOMAS Micro is the smallest module in the ATOMAS series and is designed for direct connection to any parallel video input source, such as small form factor CMOS cameras and sensor modules. This combination allows for significant reduction in the size of finished products and is therefore ideal for a wide range of applications.

High Performance Video Engine

The ATOMAS Micro features a powerful video codec engine capable of generating multiple H.264 IP video streams at different quality settings. For instance, in dual streaming, it can generate a primary stream at full HD (1080p60) as well as a secondary stream at D1 30 FPS - and with a latency of less than 80ms.
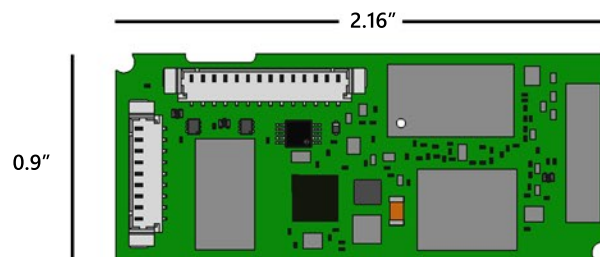
Full Embedded Software Stack

The ATOMAS Micro comes with an extensive list of embedded software functions including:
RTSP streaming, administrative web interface, Onvif Profile S, local recording, mobile viewer for smartphones and tablets.

Target Applications

- Video surveillance cameras
- Industrial image processing
- Handheld or mobile devices
- UAV / military applications

DIMENSIONS

2.16"

0.9"

Standard / Integrated Interfaces

Network	1 x 10/100 Base-T Ethernet
Video Interface	45-pin parallel video interface * Parallel 16bit (YCbCr422) * Matches SONY FCB Micro specifications
Serial Port	1 x UART * Software accessible * Interface possible to PTZ controller
I/O	2 x GPIO 1 x Board Reset Signal 1 x Dual Color Status LED Signal 1 x Mobile Host Storage Controller (SD/MMC)

Video Performance

Video Resolution	Supports sensor inputs at up to 12 megapixels
Video Compression	H.264/MPEG-4 AVC (up to high profile) MPEG4 Part 2 JPEG
Still Images	Still image capture at up to 12 megapixels
H.264 Performance	Total D1@390 fps or Full HD 1080p@65 fps Examples: 1 x 1080p60 fps + 1 x D1 @ 30 fps 2 x 1080p30 fps + 1 x D1 @ 30 fps (SONY FCB Micro limited to 1080p@30 fps)
Video Latency	Can reach less than 80ms latency
Image Processing	Lens distortion correction Motion adaptive deinterlacing Arbitrary image resizing and scaling ratio 2D/3D noise reduction Edge enhancement Frame difference motion detection Privacy masks ROI based video compression

System

Operating System	Linux
HW Watchdog	Auto-boot, OS supervision, temperature monitoring, software monitoring
Other	Realtime Clock (RTC)

Storage

Internal	1GB NAND Flash
External	External Storage via SD/MMC

Protocols

Networking	IPv4/v6, UDP, TCP, IGMP, ARP, DHCP, DNS, NTP
Streaming	RTSP, RTP, HTTP, Web Sockets
Management	HTTP, HTTPS, Bonjour, ONVIF, PSIA, ION API, SNMP, SMTP
Security	Basic / Digest Authentication, SSL

Software

Web GUI	System configuration and maintenance Live video and PTZ control Cross-browser support Smartphone and tablet support
Programming Interface	ION API, ONVIF Profile S
System Monitoring	Video signal, storage medium, temperature, memory, CPU, network
Media Recording	Recorded ASF audio/video to SD/MMC
Software Update	Fault-tolerant, remote accessible
Alarm Triggers	I/O input, motion detection, system monitor
PTZ Control	Full Pelco D implementation Can interface to PTZ controller (UART) Programmable preset tours User-defined custom commands
Other Features	Email notifications (on event or schedule) Text overlay OEM rebranding / customization

Mechanical / Environmental

Dimensions	2.16 inch x 0.9 inch (main board)
Power Input	5.5VDC to 14VDC PoE (option, via sister board)
Operating Temp.	Dependent on customer mechanical design * All components are -40C to 85C (Tcase)
Storage Temp.	Components are rated for -40C to 85C when in storage
Warranty	2 Years Standard