

Appendix C: RiderM-04 Mobile DVR

ELS-RiderM-04-3G-W



RiderM-04 is the key product within the ElSight's Rider Product Line among other several mDVR (Mobile Digital Video Recorder) devices in various interfaces, all design to fit into any vehicle where high quality video recording and live transmission are essential to fulfil the proper surveillance purposes. RiderM offers excellent encoding resolution (WD1) on all 4 channels (for transmission or recording), Wi-Fi automatic off load of recorded files, Storage Hard-Disk Shock vibration proof, 2-way audio in between the Command and Control Center and the vehicle where it is installed into.

For complement information Look also for [Commander360](#), ElSight software for command and control centers for simultaneous monitoring of scenarios, recording services, alarming services and dispatching video back to filed. The commander360 software also performs a continuous throughput optimization process to minimize the data over cellular consumed from the mobile operator and thus lead to significant operational cost reduction.



Key Features

- 4 analog channels of audio & video inputs connectable; each channel supporting up to WD1 resolution with H.264 encoding technology
- 2-way Audio in between the Command and Control Center.
- Embedded GNSS (Global Navigation Satellite System) module – location information integrated within the recorded and transmitted streams.
- 0.5TByte/1.0Tbyte hard-disk installed in removable shelf.
- Embedded Wi-Fi module for off-loading recorded files.
- RS-232/485 interface for configuration and for control/communicate with peripheral devices.
- Strong aluminum chassis, fanless design and Aviation connectors to ensure signals quality.
- Wide Range power input (+8VDC – 36VCD) designed for connection to the vehicle ignition system.

Technical edge points

- 1) **In-house development of HW and SW** – in compare to other vendors, our product developed in-house while having a full control on modification, improvements and maintenance. There are many vendors who actually offers mobile DVR but they are actually resellers who do not have full control on the embedded HW/SW. As a result, maintenance cycles and bugs suffers from very long cycles.
- 2) **Wi-Fi Automatic offload of the video storage** – When identifying friendly Wi-Fi (bus have reached the garage at the end of the day/shift) an automatic offload of all the video recorded is offloaded to the server.
- 3) **Dual Compression** – for simultaneous video real-time transmission while recording in best quality.
- 4) **Interoperability with MRM (Mobile Resources Management) fleet-management and mobile assets solutions** – Should the customer have MRM already deployed or planning in the future, the Rider can easily be integrated with using RS-485/422/232 interface to communicate with these MRM devices.



- 5) **Shock resistance patent for HDD storage** – Unique patented method for absorbing for absorbing tremulous and shocks during vehicle traveling on roads in order to enable reliable operation of the R/W operations on the HDD storage.
- 6) **Powerful Command and Control (C&C) software**– in-house feature reach software for monitoring, recording, alarming and distribution of inner and outside each vehicle. Alternatively, our SDK can interface any existing C&C.
- 7) **H.264 Video Compression** – in compare to many vendors who uses MPEG technology, the Rider-H uses H.264 for better quality, less bandwidth consumption (e.g. less payment to the Mobile Operator) and more efficient local in device storage.
- 8) **Built-in Cellular modem (in the Rider-H04-W-3G only)** – in compare to many other vendor who require an external 3G dongle (which not always its drivers suits the DVR). External 3G dongle is less reliable for mobility and significantly cause to increase the overall MTBF of the system.
- 9) **Ruggedized device** – the Rider-H is ruggedized and designed to operate in extreme conditions like 55°C and 90% environment humidity.
- 10) **Family of products** – El-Sight offering include also Tactical units, Multichannel, Various Cameras and more – all working with same C&C Software. As a result, El-Sight is one stop-shop solution for video-one the move for vehicle/wearable/fix mounted applications.
- 11) **Bandwidth Saving Mode** – an optimization done on the Commander360 (C&C software) in order to perform a significant reduction of the bandwidth utilization of transmission over cellular network from all ElSight devices as a function of the real-time monitoring usage.
- 12) **Adaptive compression** – By connecting the Rider to the ElSight Multichannel device (which consists up to 4 cellular 3G/LTE channels) the Multichannel measures in real-time the available bandwidth in each of his channels and accordingly accumulates the total bandwidth from all 4 channels and instruct the Rider to perform the adaptive compression per the available bandwidth, In this case, an full optimization of the video quality vs. available bandwidth is achieved.
- 13) **WD1 resolution (Model M version)** – For the project in India, we will provide Rider with WD1 resolution on all 4 channels.



Specifications

Video/Audio input	Analog video input	4-ch Aviation plug (1.0 Vp-p, 75 Ω), PAL / NTSC self-adaptive
	Audio input	4-ch Aviation plug (linear level, 1k Ω)
	IP video input	None
	Video/Audio output	VGA output
CVBS output		1-ch; Aviation plug (1.0 Vp-p, 75 Ω); resolution: PAL: 704 x576, NTSC: 704 x480
Audio output		1-ch; aviation plug (linear level, 600 Ω)
Encoding/Decoding parameters	Video compression	H.264
	Encoding resolution	Main stream: WD1 / 4CIF / 2CIF / CIF
		Sub stream: CIF / QCIF
	Frame rate	PAL: 1025fps; NTSC: 1030fps
	Video bitrate	32Kbps-2Mbps; custom (Max.: 4Mbps)
	Audio compression	G.711
	Audio bitrate	16Kbps
	Stream type	Video, Video & Audio
Dual stream	Supported	
Hard disk	Type	One 2.5-inch SATA HDD/SSD
	Capacity	Up to 1TB capacity supported
	Installation	Pluggable
	Protection	3-generation hard disk box
	Backup	USB interfaces on hard disk box and device front panel supporting data backup In addition, a simultaneous Recording to SD card can be configured.
Wireless Network	3G	WCDMA (2G module optional)
	4G-LTE	Optional
	Wi-Fi (optional)	802.11 b/g/n supported, 2.4GHz
Positioning	GNSS	GPS; BDS (optional)
External interface	Two-way audio	G.722
	Alarm in	7-ch high/low level signal input; 1-ch pulse signal input; 3mm connector
	Alarm out	2-ch; 3mm connector
	Network interface	1 x RJ45; 10M/100M self-adaptive Ethernet interface
	Antenna interface	SMA interfaces on pluggable module including one for 3G, one for Wi-Fi and one for GPS
	Serial interface	RS-232, RS-485, 3mm connector
	USB port	1 x USB2.0
	SIM card	1 x standard SIM card slot



Tel: +972-77-7515600

Fax: +972-77-2016900

e-mail: info@el-sight.com, sales@el-sight.com

Address: El-Sight Ltd. 11, Gush Etzion St. Givat Shmuel, Israel

	SD/SDHC card	1 x standard SD/SDHC card slot
General	Operating system	Linux
	Operating method	IR remote control
	Power supply	Input: +80 +36VDC; Output: 12VDC/2A, 5VDC/1A
	Consumption	Standby: Max. 0.5W;
	Power Consumption	Full load: Max.20W (without 7-inch screen)
	Working temperature	-10 °C 0 +55 °C (14 °F 0 131 °F)
	Working humidity	10%-90%
	Dimensions (WxDxH)	178mmx170mmx50mm
	Weight	Aprox.1.6kg (without hard disk or SD/SDHC card)

