

Engineering Performance

# SUMMIT M Vipa

The vibration monitoring system for blast monitoring, infrastructure, engineering and micro-seismic applications



SUMMIT M Vipa is a three channel seismograph for vibration monitoring with an additional auxiliary channel e.g. to connect a microphone for air blast measurements. Powered by an internal Li-Ion battery, the VIPA is the ideal system for autonomous mobile measurements. Being fully remote controllable with automatic data transfer functionality, the individual units can be linked together easily via a local Ethernet network or over the Internet using the integrated radio modem to build up larger monitoring networks. High resolution 24 bit digitizing technology ensures high dynamic range and ultrasensitive vibration monitoring for continuous and event based recording.

# **Mobile Vibration Monitoring!**

- Easy to use, lightweight, ruggedized
- 24 bit technology
- 4 GB internal data storage, virtually unlimited external storage via USB port
- Internal GPS for time sync
- Internal modem and Ethernet for easy remote access and network setup
- Internal Li-lon battery

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Windows-based report software

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#### **Technical specifications**

Channels	3 channels (X-, Y-, Z-vibration) 1 aux-channel (acoustic)			
Sample Interval	1 kHz, 2 kHz, 5 kHz, 10 kHz			
Frequency Range	DC -5 kHz			
Recording Mode	Continuous or event based			
Trigger Mode	Amplitude threshold for each channel, trigger also on KB and vector sum			
Record Length	1 sec to 60 sec per file			
Pre-trigger Length	0 sec to record length-1			
A/D Converter	24 bit			
1. Signal Input Range	$\pm 5$ V (10 V <sub>pp</sub> ) differential input			
Measurement Range	175 mm/s with standard sensor DMT-3D/DIN, larger ranges on request			
Time Synchronisation	Internal GPS module (ext. Antenna), absolute time accuracy: < 10 μs			
Data Storage	Internal 4GB or external USB-mass-storage device			
Instantaneous Dynamic Range	≥ 113 dB @ 1000 Hz sample rate			
Crosstalk Rejection	≥ 110 dB (between all channels)			
THD	≤ -100 dB			
Common Mode Rejection	≥ 105 dB			
Data Communication	100base-TX Ethernet, internal HSPA/EDGE/GSM modem			
Internal Battery	Li-lon, typical life time >40 hours			
External Power Supply	9-18 V DC, max 15 W during battery charge			
Display	Colour graphical LCD with 320 x 240 resolution			
Dimensions	30 x 25 x 12 cm			
Weight	3.6 kg			

Environmental Specifications				
Operation Temperature	- 20°C bis + 70°C			
Humidity Range	0 - 95 %			
Protection Class	IP 67			
Case	Solid waterproof housing deployable in any surface environment			
Connectors				
USB	External storage on memory stick or hard disk drive			
Ethernet-LAN	Router, Switches, PC			
Mobile Antenna	External mobile GSM antenna			
GPS Antenna	External GPS antenna for precise time stamp			
Vibration Sensor	<ul> <li>External geophone vibration sensor</li> <li>3D sensor or splitted sensors, borehole sensors</li> <li>12 V DC power supply provided for active sensors</li> </ul>			
AUX Channel	Additional recording channel, e.g. for microphone - 12 V DC power supply - Switchable phantom power (24 V / 48 V) for microphones			
Digital IO	Multipurpose IO for accessories (alarm devices, trigger devices,)			
Serial IO	External RS232 for external printer			
Power	External 9-18 V DC power supply			

Specifications may be subject to technical changes

### Available Extension / Accessories

Seismology Extension	Alarm Switch
Increased sensitivity and	External relays to switch
dynamic range of up to 122	external alarm devices, can
dB, additional sample rates:	be operated either via digital
125 Hz 250 Hz, 500 Hz,	I/O interface of VIPA or
optional SpeedLink server	remotely via mobile network
Intelligent Sensor Supply	(requires SIM-card)
External sensor supply	<b>Printer</b>
for connecting third party	External serial protocol
ICP-type sensors	printer

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Disposal information: : Our products are subject to the WEEE directive. DMT has committed itself to take back all electrical and electronic components sold and to dispose of them professionally. Please contact: <u>products@dmt-group.com</u>

