Visualize. **A**nalyze. **R**ecord.

Product Leaflet

VOYAGER

MOBILE DATA ACQUISITION & VIBRO-ACOUSTIC ANALYSIS

MICROFLOWN // CHARTING SOUND FIELDS

VOYAGER

MOBILE DATA ACQUISITION & VIBRO-ACOUSTIC ANALYSIS

The Voyager is a portable NVH testing device that merges multiple functional units like data acquisition, signal conditioning and storage into a powerful tablet device for vibro-acoustic data recording, visualization and analysis.

This new generation Voyager device is set to transform the NVH testing industry as the frontrunner of on-site measurements.

The success of the Scan & Listen device led to the development of Voyager that allows one to gain understanding about the sound field in addition to real-time visualization, listening and audio filtering. The embedded touch controlled software offers the ability to run targeted vibro-acoustic analysis intuitively on the spot. Monitor soundscapes and locate sound sources reliably over a broad frequency range with short, quick scans.

Compatibility with the Microflown range of sensors ensures exploiting the superior advantages of the Microflown, in terms of background noise cancellation and signal-to-noise ratio. This allows locating sound sources directly at the test location.

Visualize, analyze and record data by means of just a single handheld device, making the Voyager an indispensable portable NVH testing tool.

KEY FEATURES

THE VOYAGER AT A GLANCE

- **Quad-core powered compact touchscreen tablet NVH testing tool**

- **Real-time listening & audio filtering along with signal playback and recording options**

- **Integrated data analysis software modules**

- **Applicable in (real) operating environments e.g. reverberant environment**

- **Built-in battery and internal storage capacity for autonomous operation**

- **Compatibility with all Microflown probes and other (IEPE) sensors**

- **Integrated camera for comprehensive project management**

STANDARD OR ADVANCED, CHOICE IS YOURS

STANDARD

Real-time listening & filtering, spectrum visualization, alongside post-processing capabilities A conventional go-to measurement tool for wide range of data analytic capabilities on all data channels for extensive vibro-acoustic analysis.

- 6-channel system with 2 dedicated channels to connect IEPE sensors
- Audio recording and playback
- Real-time IIR audio filtering on all channels: low pass, band-pass , band-stop and high pass filter
- Octave band analyzer: 1, 1/3 and 1/12 octave band spectra
- Spectrogram analysis
- Built-in camera for pictures
- Data storage and exporting

ADVANCED

Transform your Voyager in to a powerful portable measuring station with embedded processing and signal conditioning units. Use the device automomously or as a portable frontend for our PC based VELO software platform.

Additional to *Standard*
- Device compatibility as data acquisition on our PC based VELO software platform
- Plug-and-play compatibility with Microflown product solutions e.g. Scan&Paint 2D & 3D
- Additional vibro-acoustic data analysis options

Intuitive quick access toolbar
Overview of different modes on quick access toolbar allows switching between operation modes

Interactive visual representation
Range of tools to analyze the graphical data representation. Go ahead: pinch, zoom or take a snapshot

A TOUCH OF SOFTWARE INGENUITY

The device interface is intuitive to operate, and the modular applications enable easy usage by NVH experts and technicians alike. Inspired by the workflow operation, as daily used on mobile devises such as smartphones and tablets, a target was set to bring a similar approach and experience to the Voyager.

All operations are easily done, fully configurable in a matter of seconds. The touch controlled interactive icons provides ready access to different modes & settings: you can listen to the signal in real-time, switch to playback or analysis mode with just a single touch operation icon. All settings and options are directly accesable and directy visible, leading to easy and fast operation.

Intuitive toggles provide single touch activation or deactivation of many features. The icon based menus leave a clear & large space ope to displayall your analysis data, offer the perfect balance between intuitive usage and visual display.

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LISTEN & VISUALIZE

Gain an acoustic impression of a sound event by listening to the probe signal in real-time. Benefit from the superior advantages of the Microflown particle velocity sensor in terms of background noise cancellation and signal-to-noise boost for locating sound sources and visualizing power spectra in real-time.

RECORD & PLAYBACK

The Voyager sets another milestone in monitoring soundscapes and locating sound sources. Recording and playback of the captured data ensures sound sources are not only located based on human perception but reliable validation and analysis can be carried out on the spot at the testing location.

DATA ANALYSIS

All recorded data in the project can be selected here for playback and comprehensive analyses: FFT, Octave bands, Waveform time signal including Spectrogram analysis for the study of transient noise. The intuitive software offers ready access to the analysis settings in the form of an all-in-one overview with just a single touch command.

TARGETED BAND FILTERING

Implementation of real-time filters provides deeper insight into the analyzed data. Manage multiple IIR filters up to 20 orders for low, band-pass, band-stop or high pass filter on a single or all the channels interactively. The phase and magnitude response of the filters can be set individually in the dedicated settings pane.

DATA MANAGEMENT

The data storage onboard offers a reliable solution to structure and manage data under projects. Raw data, filtered data, analyzed data or snapshots: save and seamlessly export across multiple platforms, including the Microflown Velo software platform.
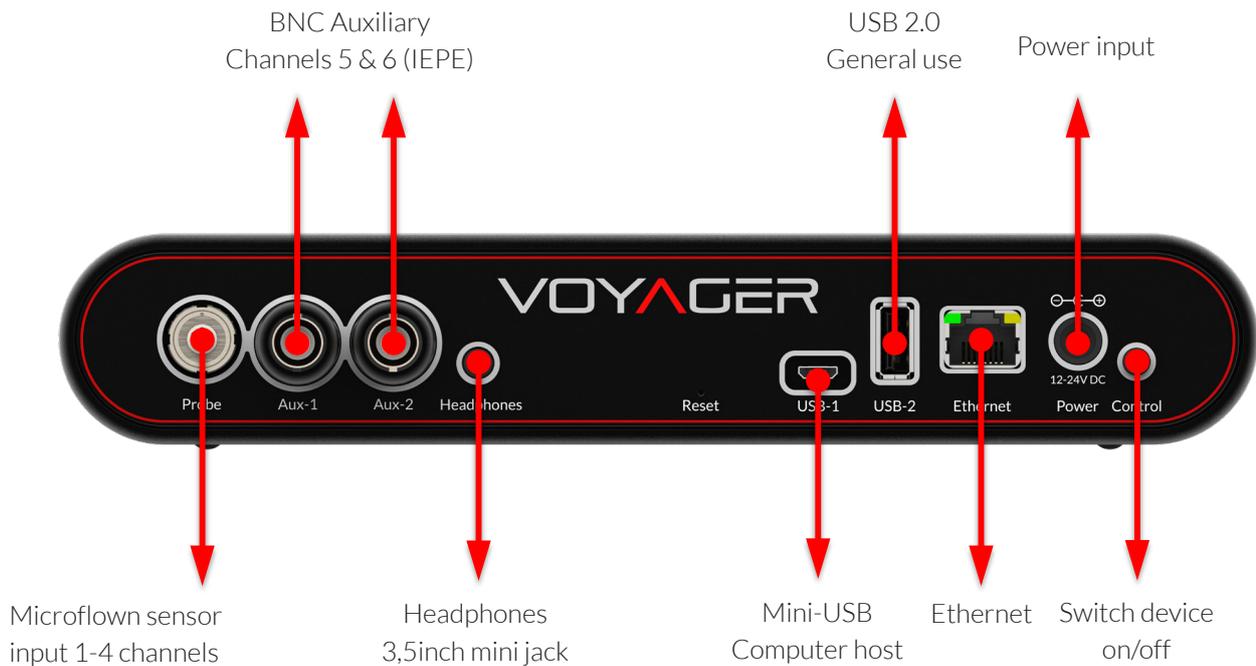
"VISUALIZE, ANALYZE & RECORD...

...FLEXIBLE AND RELIABLE AT THE TEST LOCATION"

"VISUALIZE, ANALYZE & RECORD...

...PLUG & PLAY HARDWARE WITH 6 INPUTS CHANNELS"

BNC Auxiliary
Channels 5 & 6 (IEPE)

USB 2.0
General use

Power input

Microflown sensor
input 1-4 channels

Headphones
3,5inch mini jack

Mini-USB
Computer host

Ethernet

Switch device
on/off

Parameter	Value
Channels	6 1 x LEMO 7-pin (4 channels), 2 x Analog/IEPE in
Connector interfaces	LEMO 7-pin, 2 x Analog/ICP in (BNC), Micro USB Host, USB 2.0, Ethernet, DC Power connector
CPU	Quad Core 1GHz
Resolution	Up to 24 bit
Input voltage range	0.1, 1 or 10 V
Internal Memory	32 GB
Sampling frequencies	8, 16, 32, 48 kHz
TFT display touchscreen	7" LCD Color TTL Screen resolution: 800 x 480 pixels
Operating & Storage temperature	-10 to 40 °C
Dimensions	225 x 135 x 40 (WxDxH) mm
Weight	1300 g

LEMO INPUT CHANNEL 1-4

The input for the main sensor and compatible with all Microflown sensors. Naturally including the new robust PU Voyager probe, enabling new applications and bringing particle velocity to a broader world.

BNC AUXILIARY CHANNELS 5&6

Two multipurpose BNC input channels 5 & 6, either analogue or IEPE enabled, can be used with a variety of common sensors e.g. microphones or accelerometers. The signals could be used for expample for relative phase information or transfer functions.

HEADPHONES | 3,5 INCH MINI JACK

Connect the headphones for either real time listening or audio playback, with or without filtering applied to the signal. Exploiting the superior advantages of the Microflown, in terms of back ground nofise reduction and signal-to-noise boost.

MINI-USB | COMPUTER HOST

Connect this port to your computer and two options will be available. Firstly, it will be recognized as external memory device to tranfer data. Secondly, it enables updating the software and firmware on the device.

USB 2.0

The USB 2.0 is for general usage. For example to connect external devices such as a mouse and keyboard or connect an USB storage device.

ETHERNET

Next to autonomous use, the *Voyager Advanced* is compatible as frontend with our computer based VELO software platform. Connect the device by ethernet to your computer.
TO BE IMPLEMENTED | COMING

POWER INPUT

The power input can be used for charging the internal battery. Furthermore it enables using the device on net power.

CONTROL SWITCH

Switch the device on or off when longer pressed. It can also be used to put the screen in sleep/unlock mode to safe battery life by short pressing.

EMBEDDED CAMERA

Take pictures as visual reference and link them to your measurements and projects stored on the device.

REDUCE THE PRESSURE IN YOUR WORK
GO FOR
PARTICLE VELOCITY

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