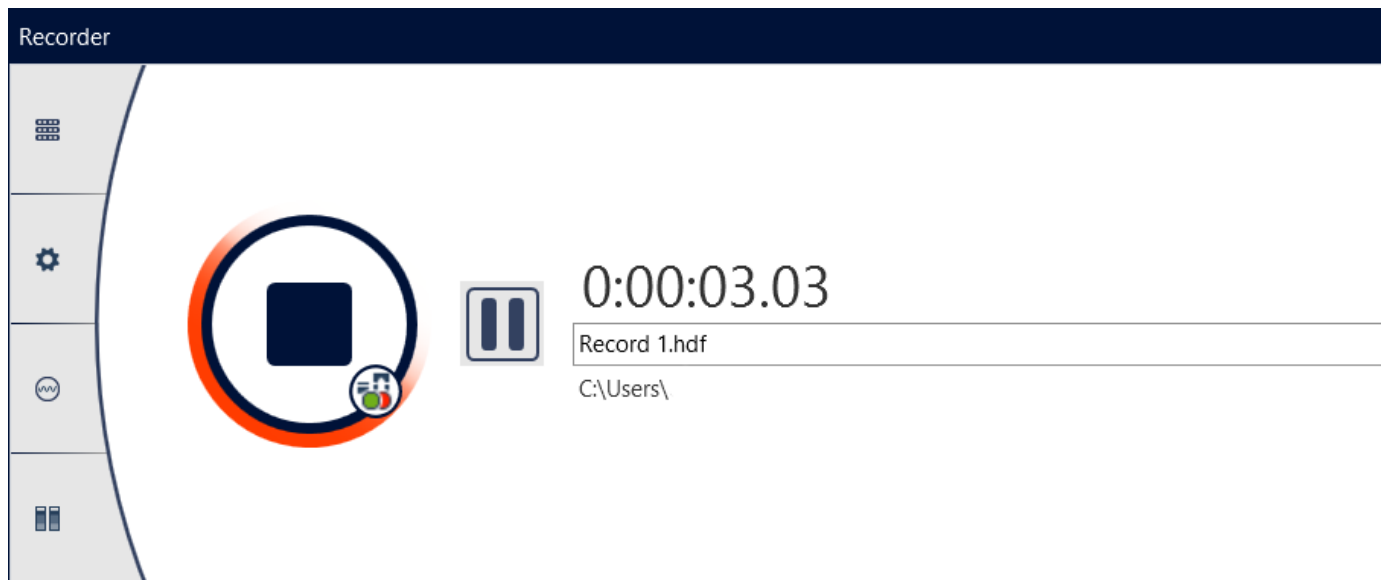




ArtemiS SUITE
PRoject

Code 50040

APR 040 Recorder

The universal Recorder of ArtemiS SUITE is suitable for all types of measurements from very simple start/stop recordings to complex tasks. Features include Flow Control, triggers, real-time analyses, and seamless transfer to the Report for instant and automated display.

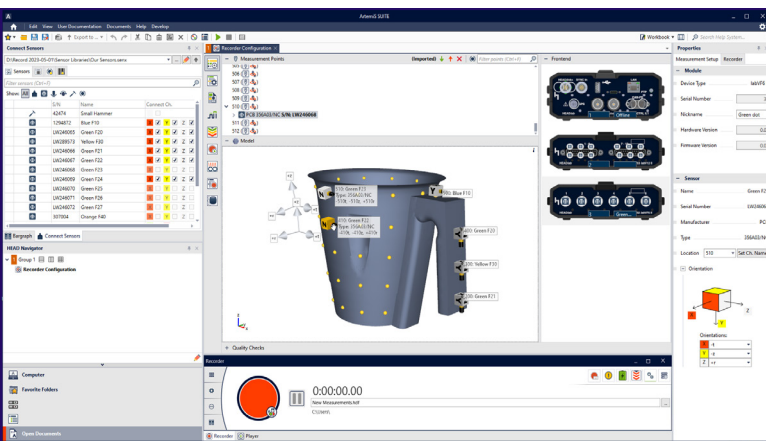
OVERVIEW

APR 040 Recorder

Code 50040

In combination with HEAD^{lab}, our second-generation modular and high-quality data acquisition system, the Recorder provides subsample-accurately synchronized measurements (typ. $<1\ \mu\text{s}$) with several hundred channels and sampling rates from 2.048 kHz up to 204.8 kHz. In addition, artificial head measurement systems, the SQadriga III and SQobold mobile recording and playback systems, and other hardware fit in easily.

One example of the innovative concept is the visual representation of the measurement chain elements and the inclusion of 3D models. After loading a Measurement Point Library (included in APR 000), you can simply drag and drop the sensor onto the measurement points of a 3D model and onto the respective channels of the visualized frontend to connect them with each other accordingly.



KEY FEATURES

General Benefits

- › Universal Recorder for all measurement tasks
- › Task-oriented, clearly structured user interface

Frontend Selection

- › Automatic recognition of frontends supported by HEAD acoustics
- › Offline frontends

Channel Configuration

- › Defining and configuring channels easily
- › Using an individual Sensor Library
- › Wizards to calibrate sensors, read out TEDS information, and adjust levels, for example

Measurement Setup

- › Visual representation of the measurement setup for intuitive and safe configuration
- › Structured planning and performing of measurements using measurement points and 3D models

Adding User Documentation and further information that are automatically available for a Report, for example

Individually adjustable triggers

Flow Control for automated control of recurring tasks (programming knowledge is not required)

Online Monitoring using 2D and 3D analyses, tachometers, single value displays, etc.

Shaker excitation with direct measurement of the effects on a test object

DETAILS

Frontend Selection

Frontend Selection automatically shows all connected and supported frontends and modules as graphics. Using Offline Frontends, you can easily prepare future measurements even without any hardware currently available. Configure your measurement system intuitively using drag-and-drop which is quick and easy even for larger measurement systems with several hundred channels. All settings made can then be transferred to the actual frontend once it has been connected.

Recorder Configuration

The task-oriented, clearly structured Recorder Configuration covers all aspects of data acquisition. Each aspect is accessible via an icon, allowing you to easily and conveniently focus on the relevant settings.

Channel Configuration

Channel Configuration displays signal and pulse channels as well as coded and calculated channels with all the relevant information in separate tabs. With just a few clicks of a mouse, you can select and intuitively configure the channels to be recorded and set the optimal level. Sensor Calibration (AC/DC) guides you quickly and safely through the calibration procedure of the connected sensors. The TEDS function automatically queries all TEDS information.

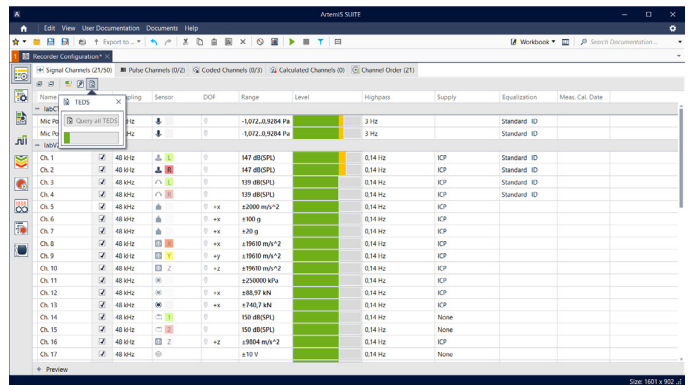
Measurement Setup

Measurement Setup is used to connect sensors, connectors of the frontends, and measurement points quickly and securely with each other. For this purpose, a sensor is dragged onto the respective frontend connectors and measurement points. The orientation of the sensors can be adjusted individually.

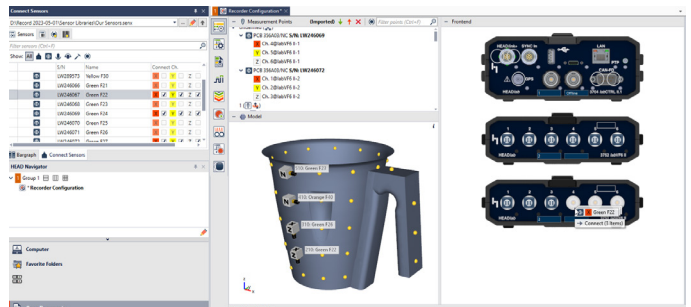
As an alternative, simple measurement tasks can also be performed with generic sensors and without measurement points.



Frontend Selection



Channel Configuration



Measurement Setup

User Documentation

User Documentation can be used to supplement measurements with technical information right at the start of the measurement chain, thus making stored information available for the reporting, for example.

Triggers

Triggers can be specifically used to start and stop measurements automatically when certain conditions occur.

Flow Control

Use Flow Control to create simple to complex program sequences for individual tasks – with no programming knowledge required.

Excitation

Excitation enables an excitation signal (sinus, sweep, pseudo-noise, ...) to be played back in order to record its effects on a test object.

Online Analysis

Online Analysis provides the following analyses for optical control: FFT, 1/n Octave, Level, FFT vs. RPM, Level vs. RPM, Sound Power, Order, Order Cut vs. RPM, Partial and Multiple Coherence. You can also use specific analysis results as triggers and define the start and end of a recording.

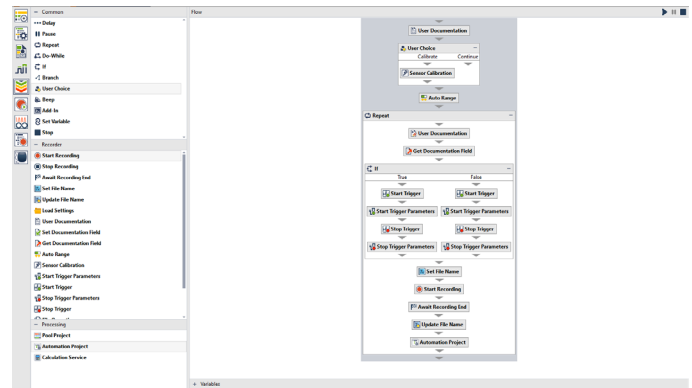
Task List

Task List enables you to configure and process a list of recordings to be created. Task List is particularly useful in Standardized Test Projects (APR 220 is required), e.g., when performing a test series in accordance with a required quality standard or for quick and uncomplicated execution of openMDM® measurement tasks using MDM Recording (ASP 702 is required).

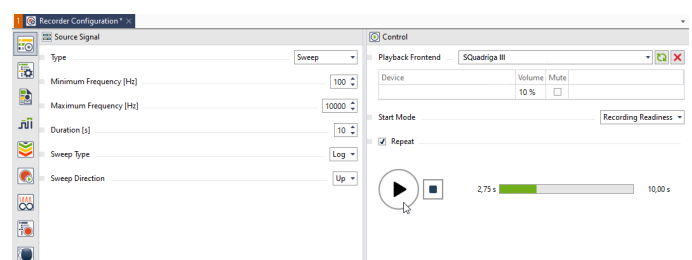
Shaker Configuration

labV12-O4 II, the combined HEADlab input and output module, is particularly suitable for shaker measurements, since it can be used to excite structures with shakers while measuring the resulting responses at the same time.

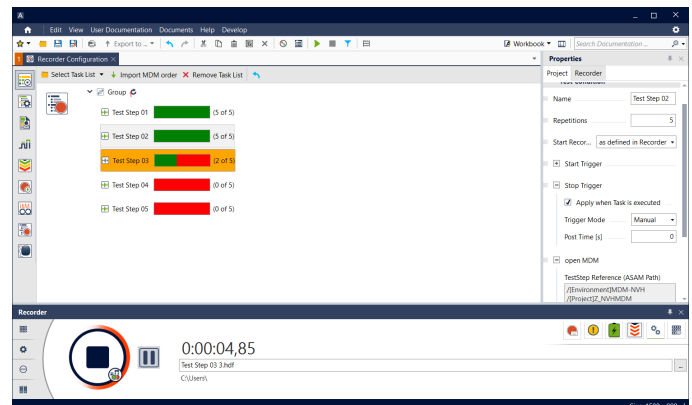
The Partial Coherence and Multiple Coherence analyses are available as Online Analysis to support the Measurement Setup and troubleshooting of the shaker measurement.



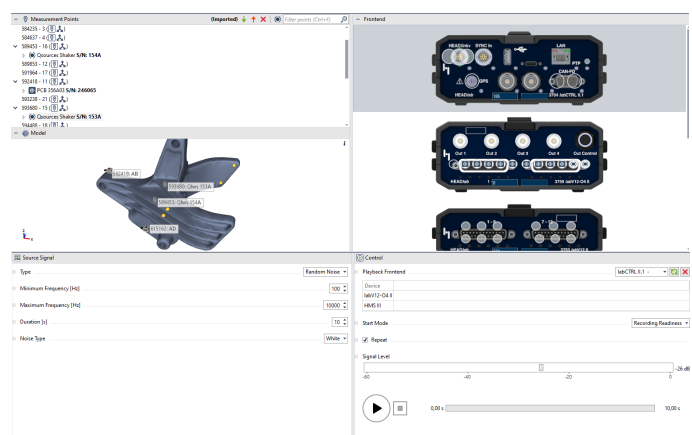
Flow Control



Excitation



Task List



Shaker Configuration

Online Monitor

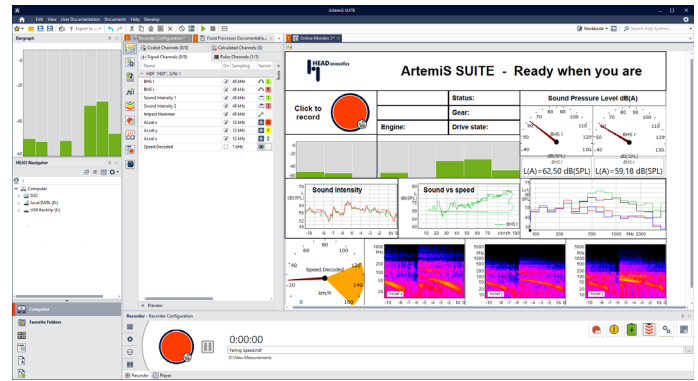
Online Monitor includes 2D and 3D diagrams, such as Floating, Floating vs. RPM, XY Floating, and Point Map, and also provides bargraphs, tachometers, single value displays, etc. for optical monitoring of incoming signals. The Point Map Diagram can be used to display analysis results as a function of two reference quantities, for example. The selection, arrangement, and size of the windows can be customized.

Supported Frontends

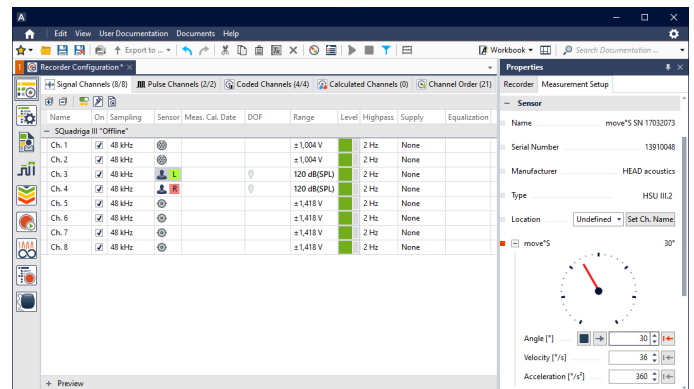
The highly flexible and modular HEADlab systems are the first choice when it comes to supported frontends. HEADlab controllers and modules can be synchronized with subsample accuracy via the HEADlink interfaces, PTP (Precision Time Protocol), or by using navigation satellite systems to make optimal use of RPM, pressure, charge, and temperature sensors, strain gauges, ICP and condenser microphones, artificial heads, and much more.

Selected third-party frontends can also be used. In combination with the labCTRL II.1 HEADlab controller, gateways and modules from CSM GmbH can be used to measure high-voltage signals, and network interfaces from Vector Informatik GmbH can be used to record Automotive Ethernet signals.

The HMS/HSU upgrade for motorized head rotation, move°S, is available for both the HSU III.2 artificial head (from model year 2021) and all HMS II measurement systems, providing precise, repeatable motorized head rotation with a fixed shoulder in order to realistically simulate the head movements of a real person. move°S is controlled via Channel List or Flow Control to perform consecutive measurements with different angles, for example.



Online Monitor



move°S configuration for turning/rotating the head section of HSU III.2



SUPPORTED HARDWARE

HEADlab Products from HEAD acoustics

Code	Product name	Description	Availability
3704	labCTRL II.1	Controller	Available
3701, 3702	labCTRL I.1, labCTRL I.2	Controller	No longer available
31020, 31021	labCOMPACT12 II, labCOMPACT24 II	Compact system	Available
3708, 3708-V1, 3709, 3709-V1	labCOMPACT12, labCOMPACT12-V1, labCOMPACT24, labCOMPACT24-V1	Compact system	No longer available
3710	labHSU	2-channel frontend	Available
37XX	labVF6 II, labVF6-Iso II, labV6HD, labV12 II, labV24 II, labM6 II, labV8x3-Iso II, labV12-O4 II, labSG6, labT6, labCF6, labDX-B, labHRT6	Module	Available
37XX	labV6, labVF6, labV12, labV12-V1, labV12-V2, labM6, labM6-V1, labDX, labHMS	Module	No longer available

Other Systems from HEAD acoustics

Code	Product name	Description	Availability
1502	HMS V	Digital artificial head measurement system	Available
1500	HMS IV	Digital artificial head measurement system	No longer available
3324	SQuadriga III	Mobile recording and playback system	Available
3320	SQuadriga II	Mobile recording and playback system	No longer available
3302	SQobold	Mobile recording and playback system	Available
3420	AQuire V4	4-channel frontend	Available
1346	BEQ II.0	2-channel frontend	No longer available
1347	BEQ II.1	Binaural frontend	No longer available

Gateways and Modules from CSM GmbH

Product name	Description	Availability
XCP Gateway Basic, XCP Gateway pro, XCP Gateway 4S pro (only one of the four gateways displayed can be used)	Gateway	Available
HV AD4 OW1000, HV AD4 XW1000, HV AD4 IF1000, HV BM 1.1, HV BM 1.2, HV BM 1.2 C, HV BM 1.2+S, HV BM 1.2+U, HV BM 3.1, HV SAM 1.1, HV IEPE FL100, AD4 OG100, AD4 OG1000, AD4 IG100, AD4 IG100 pro, AD4 IG1000, AD4 IG1000 pro, AD4 IE100, AD4 IE1000, AD4 OE100	Ethercat module	Available
HV AD4 XW4000, HV BM 3.1 OBC, HV BM 3.3, HV BM 3.3 C, HV SAM 3.3	XCP module	Available

Network Interfaces from Vector Informatik GmbH

Product name	Description	Availability
VN5430, VN5620, VN5640	Interface	Available

LICENSES AND OPTIONS

General Requirements

Code	Product Name	Description	Availability
50000	APR 000 APR Framework	Basis of ArtemiS SUITE	Available
50040	APR 040 Recorder	Universal Recorder of ArtemiS SUITE for all types of measurements	Available

Options (Recommended Tools of ArtemiS SUITE)

Code	Product Name	Description	Availability
51702	ASP 702 MDM Recording	Performing openMDM measurement tasks	Available
51801	ASP 801 Basic Decoder	Decoding CAN FD, CAN, OBD-2, and FlexRay signals as well as GPS data, pulse signals, resolver and Ethernet signals, etc.	Available

5094	ASX 04 Data Acquisition API	Programming interface for interactive control of the Recorder from user-specific software solutions	Available
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Contact Information

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