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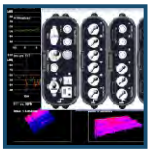
DATA SHEET

HEAD Recorder (Code 4630)

Recorder software for front ends supported by HEAD acoustics



The HEAD Recorder

is a versatile recording software with innovative concept, which represents a convincing synthesis of advanced functionality and easy handling thanks to its sophisticated concept. This becomes obvious already in the main window with its large, clearly arranged buttons, which can be operated conveniently even in mobile use. Additional buttons in the main window can be freely assigned to frequently used functions by the user in order to automate various tasks.

Other functionalities and windows can be individually configured and arranged on the screen independently of each other. For different tasks, the respective working environment can be saved and restored again when needed.

The principle of the HEAD Recorder to perform even extensive measurement processes in a safe and easy way is also reflected by the measurement control system. It allows the user to predefine entire measurement procedures, which are then performed automatically. Furthermore, the front-end view, the online monitoring system with up to 16 analysis windows and other features make the HEAD Recorder a safe and convenient tool even for unexperienced users, greatly facilitating their daily working routine.

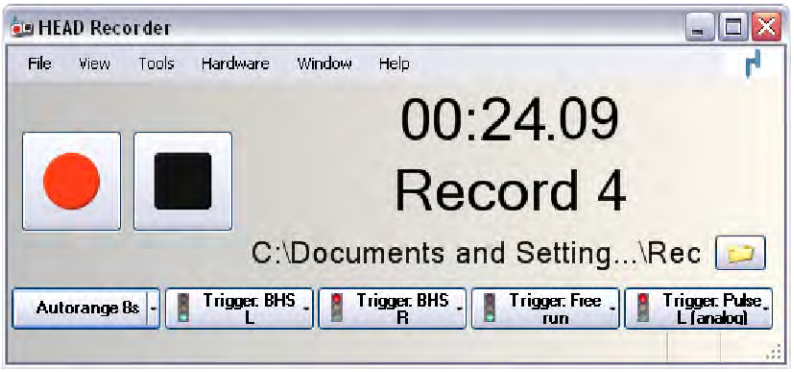
Features

- Versatile recorder software with modern, innovative concept for front ends supported by HEAD acoustics
- Safe operation especially in mobile mode thanks to clearly arranged main window with large buttons
- Highly convenient mouse- or keyboard-controlled recording
- Easy handling via user-configurable buttons for frequently used functions
- Different task-specific layouts and configurations can be saved in the archive of the HEAD Recorder
- Intuitive front end configuration via graphical representation of the supported front-ends; allows the connection of sensors via copy & paste
- Configuration of virtual front-ends for future transfer to real front ends
- Safe handling and optimal recording level via automatic level control
- For an uncomplicated acquisition of RPM or other parameters: Recording of OBD-2 information (e.g. by means of the controller *lab*CTRL I.1 of the HEAD*lab* series)
- Trigger functions, including additional triggers based on analysis results (hysteresis adjustable)
- Direct visual online monitoring of incoming signals (up to 16 windows with various analysis types), level and audio signal display (up to 6 channels with the same unit in one window)
- Online generation of
  - new channels (calculated individually from existing channels), e.g. for determining the average, the difference, but also more complex calculations,
  - pulse signals from analog signals, e.g. if the front-end has no (or not enough) pulse channels

  The generated channels can be used to trigger a recording and can be saved.
- Quick „diagnosis“ of the pulses shown in an analysis window
- Acoustic control via playback
- Automatic performance of simple or complex measurement procedures via programmable flow control
- UDI (User Defined Information) can be conveniently saved along with the recorded data
- Interface to the ArtemiS analysis software (version 7 or later)
- Recording of triggered video signals and the corresponding audio signals (synchronized playback of the videos in ArtemiS)
- Saving of user documentation for use with HEAD Data Portal and ArtemiS

Applications

Recordings e.g. with the multi-channel front-end HEAD*lab*, the artificial heads of the HMS III and HMS IV generation, the DATaRec 4 series, the BEQ II two-channel front-end, the multi-channel systems SQlab II and III, the OctoBox+ eight-channel front-end, the SQuadriga four-channel front-end as well as front-ends from SONY (EX series), TEAC (GX1) or SINUS Messtechnik GmbH and with digital soundcards



The main window of the HEAD Recorder with its large, easily accessible recording buttons and the five programmable buttons below.

Main Window

The modern concept of the HEAD Recorder allows you to customize the software for a wide variety of tasks. For example, if you only need the recording controls and a few additional functions, for example in mobile operation, the main window with its large, clearly arranged recording buttons and its user-programmable function buttons is all you need. The software can be controlled with the mouse as well as with the keyboard.

All other windows can be freely configured and arranged on the screen. Each window has a convenient docking function.

That way, you can create exactly the working environments you need and save them for future use with all settings including the window layout.

Programmable Buttons

The five programmable buttons (below the Start/Stop buttons in the main window) can be configured very easily and can be assigned to frequently needed functions by the user.

Sensor Connection / Front End View

The front-end view displays the connected front-end and the sensors. The current sensor setup and the configuration of the front end are detected automatically.

The sensor symbols can be intuitively dragged with the mouse onto the corresponding front end connectors or modules, thus connecting them. It is also possible to copy sensor symbols via drag & drop. A click on a sensor symbol opens a convenient dialog window, where you can individually configure the respective sensor.

Alternatively, the HEAD Recorder also provides a channel list, where sensors can be connected „conventionally".

Even without a connected front end, a (pre)configuration is possible. By using a virtual front-end, custom settings can be configured, saved and used, for example, at a different workstation. After connecting a real front-end, the entire configuration of the virtual front-end can be transferred to it.

Sensor Calibration

For the quick calibration of the used sensors, the HEADRecorder offers various methods depending on the sensor type.

Generated (virtual) Online-Channels

From existing channels, the HEADRecorder can generate the sum, the average etc. or user-defined quantities. For example, the slip (RPM 1 - RPM 2) can be determined online, or various CAN bus data can be combined in a new channel. This is facilitated by the easy-to-use Calculation Term Editor.

If a front end has no (or not enough) pulse inputs, pulse channels can be generated by analog signals.

All generated channels can be saved and used, for example, for triggering, just like other channels.

The front end view shows a photo of the connected front-end (HEAD*lab*, SQlab III, SQuadriga, OctoBox+, DATaRec 4) and allows an intuitive connection of the sensors.

Trigger

Various trigger options offer broad possibilities for individual settings; an acoustic trigger feedback signal is available, too. A hysteresis can be used to avoid unwanted multiple triggering from noisy signals.

A special feature is offered with the additional analysis triggers, which allow, for example, a certain A-weighted level value or, when using the FFT spectrum, a user-defined frequency to be used as the trigger criterion.

Online Monitoring

The online monitoring function allows a direct visual control of the incoming signals. For up to 16 diagrams, the analysis type and the display parameters can be configured. In one window, up to 6 channels with the same unit can be displayed.

Automatic Recording Level Adjustment (Autorange)

The automatic recording level adjustment examines the incoming signal and determines the optimal recording level for all channels. Each channel can also be adjusted manually.

The recording level (range) of each channel can be adjusted via the context menu or manually via the arrows.

Audio Signal View / Level View / Tachometer

Besides the online monitoring function, the HEAD Recorder offers additional possibilities for visual control:

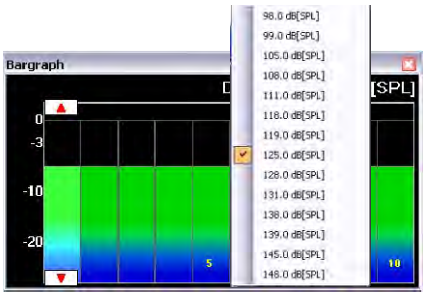
The audio signal view shows the current incoming signal similarly to an oscilloscope. In the level view, the recording levels can be adjusted for each channel.

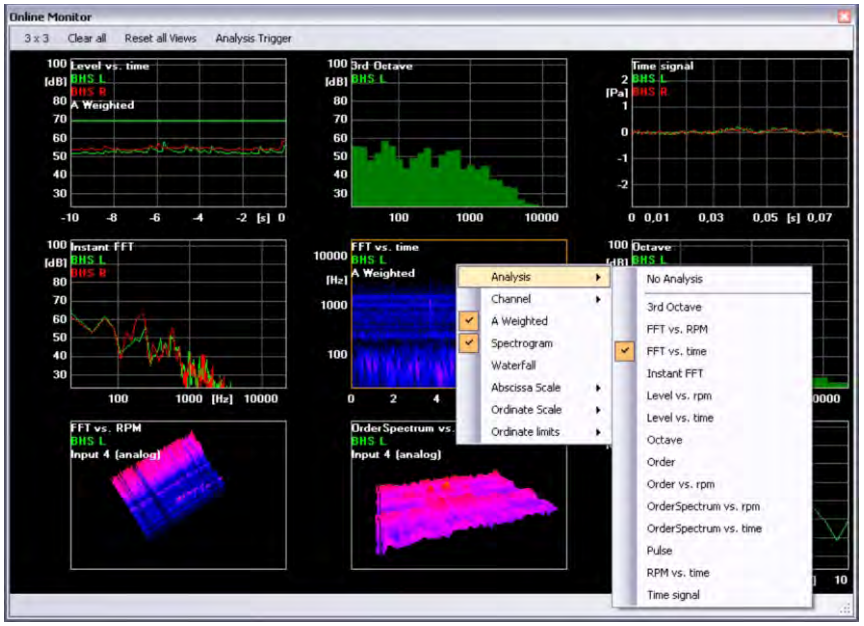
Any number of tachometers can be displayed on the screen to visualize pulse channels. RPM / speed values can be displayed in an analog or digital fashion.

UDI (User Defined Information)

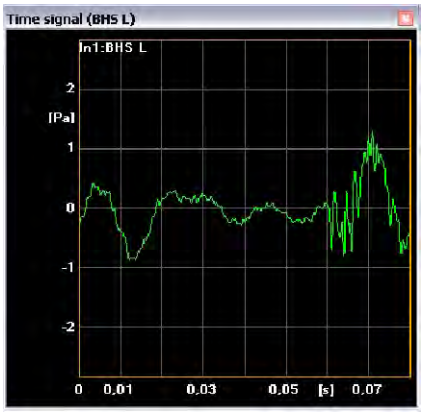
UDI entries (UDI = User Defined Information) are information added to a recording by the user and saved along with it. The entries can be specific comments, but can also be generated automatically, for example date and time (via the UDI form editor).

The UDI is made available again when the recording is analyzed in ArtemiS or other HEAD acoustics programs.

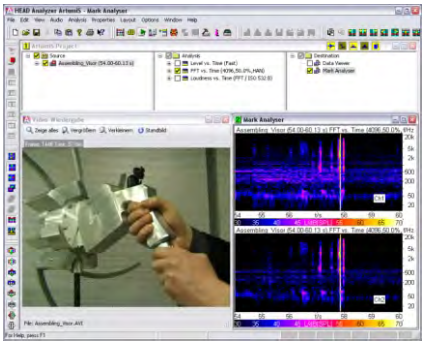




The following analysis types are available for online monitoring: FFT spectrum, FFT vs. time, octave, audio signal, A-weighted level vs. time, RPM, analyses, third octave band spectrum, FFT vs. RPM, level vs. time, level vs. RPM, order, order vs. RPM, order spectrum vs. time, order spectrum vs. RPM, RPM vs. time. Selectable display parameters are spectrogram, waterfall and pulse channels. The waterfall diagram can be dragged into any desired position with the mouse.



The audio signal view allows a visual control of the incoming signal (oscilloscope).
Furthermore, it displays the status during the calibration of sensors.



In ArtemiS, videos recorded with the HEAD Recorder can be played back and analyzed synchronously to the playback cursor in the Mark Analyzer.

Recording of Video Files

The HEAD Recorder allows triggered video signals to be recorded along with the corresponding audio signals. The synchronization of the data is achieved by means of stored time stamp information, which is retained even after the HDF file has been processed.

Videos (AVI) can be played back in ArtemiS (with ATP 01). Single frame display, zoom etc. are possible.

The video function can be used, for example, to attribute transient sound events to a filmed action.

Recording Flow Control

A flow control editor for controlling the recording procedure allows you to define simple or complex program sequences – with no programming knowledge required – which are then executed automatically (at the click of a button or triggered). A fully automated measurement process is possible as well as user interaction via dialogs and buttons.

Export and Further Processing with ArtemiS

Recordings made with the HEAD Recorder can be automatically transferred into the Source Pool of the ArtemiS analysis software (version 7 or later), where they are available for further processing.

Connection between HEAD Recorder and HEAD Data Portal

As from version 2.0 the HEAD Recorder is equipped with an interface to the HEAD Data Portal, the software for efficient data management. This allows for the completely automatic creation of user documentation with the HEAD Recorder during the recording process and to search and use this documentation with the data organization in the HEAD Data Portal afterwards.

Requirements

- Up-to-date graphics driver with DirectX9 support
- 8 MB graphics card (graphics card with 64 MB or 128 MB recommended)
- Windows XP (32 bit: languages: US / Western European)
  1.5 GHz Pentium M (or comparable)
  1 GB RAM

or

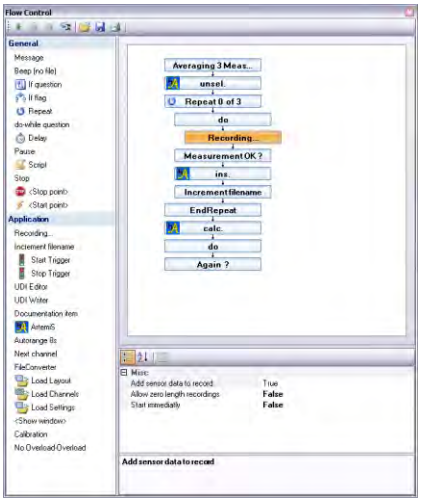
- Windows VISTA™ (64 bit and 32 bit: Business, Ultimate - languages: US / Western European)
  Core2Duo Processor 2 GHz
  2 GB RAM

or

- Windows 7 (64 bit and 32 bit: Professional, Enterprise, Ultimate - languages: US / Western European)
  Core2Duo Processor 2 GHz
  2 GB RAM

Scope of supply

- HEAD Recorder (Code 4630)
- Dongle

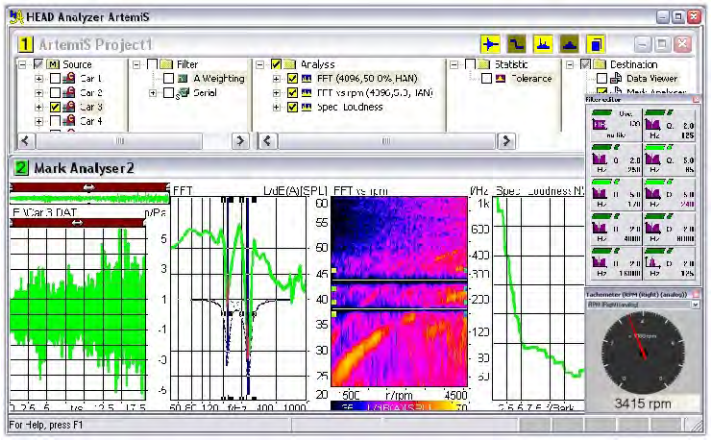


Example of a programmed automatic recording of a run-up and a run-down.

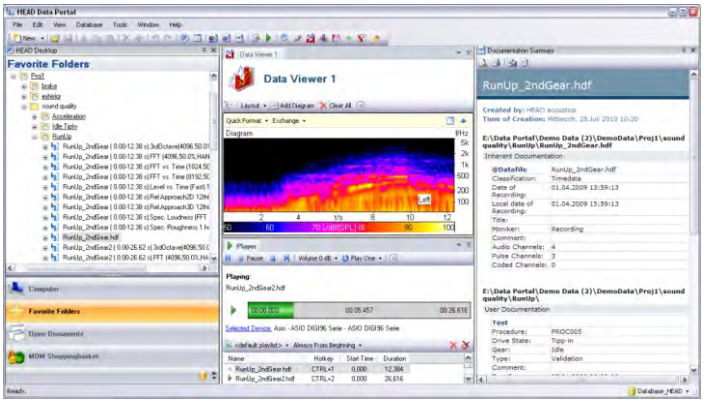
Archive

In the archive of the HEAD Recorder, complete recorder environments including their individual settings (window layout, recording procedures, channel configuration, programmable buttons, triggersettings etc.) can be saved for future use.

That way, the archive can be filled with any number of working environments for different tasks and requirements. When loading an environment, you can choose whether you want to restore the complete recorder environment or only a part of the settings.



The flow control can also trigger additional processing steps (analysis, filtering, mark analyzer etc.) in ArtemiS fully automatically.



HEAD Data Portal HEAD Data Portal is a user-friendly software being used for an efficient data management and information management

Supported front-ends

- Multi-channel front-end system HEAD*lab*
- HMS III and HMS IV artificial heads
- DATa-Rec 4 series HEAD edition
- BEQ II two-channel front-ends
- SQlab II und III multi-channel systems
- OctoBox+ eight-channel front-end
- SQuadriga four-channel front-end
- MHS II und III Headset for NoiseBook
- DATaRec 2 series (A80, A160, DISC16)
- DATaRec 3 series (A480, DICS6)
- DataRec 4 series
- SONY EX series
- TEAC GX1 front-end
- Sinus Harmonie front-end
- Digital sound cards
- PEAK CAN adapter
- ASIO front-end (e. g. RME HSDP series)
- GPS receiver