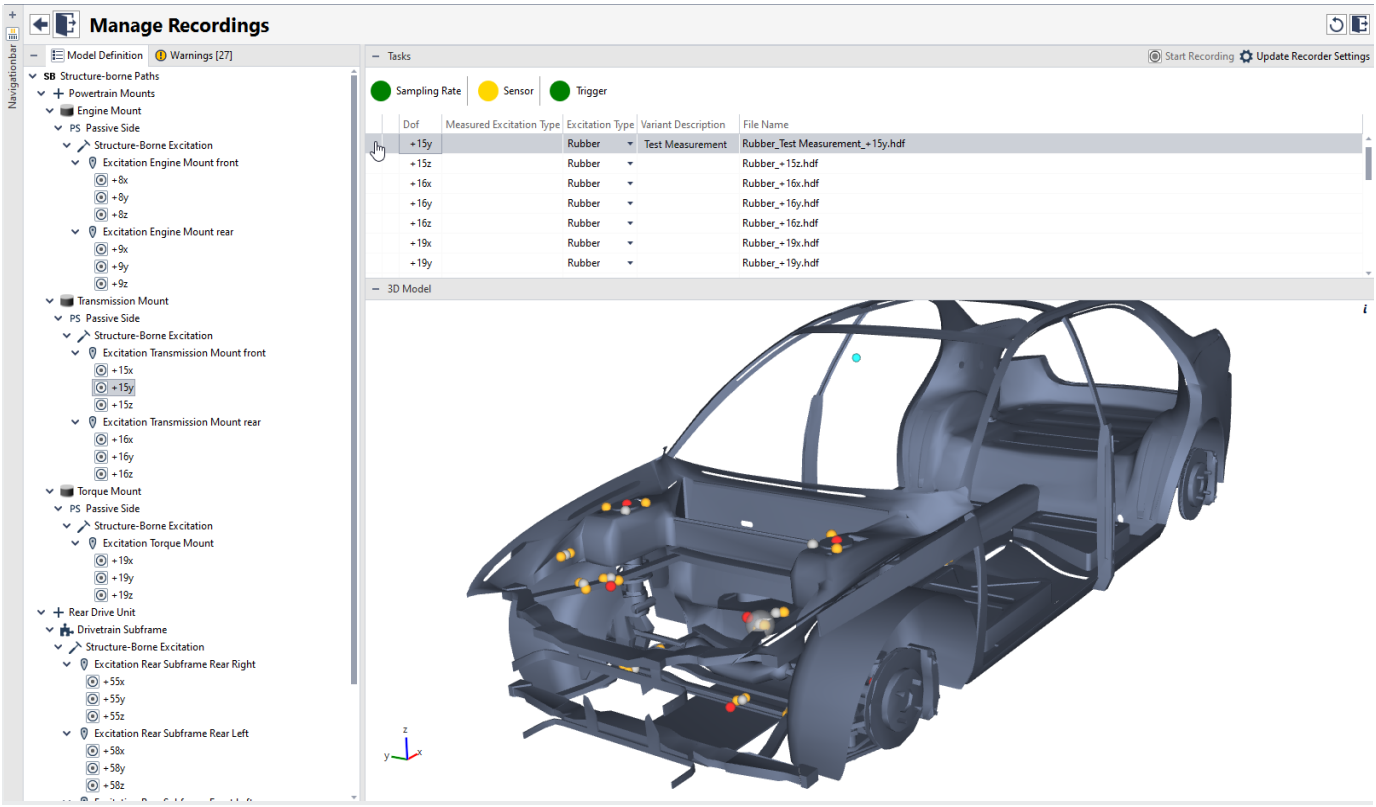
HEAD acoustics

DATA SHEET



ArtemiS SUITE
PRoject

Code 50610

APR 610
TPA Data Acquisition

TPA Data Acquisition of ArtemiS SUITE enables quick and reliable measurement of transfer functions for a TPA Project (APR 620 is required) using the Recorder (APR 040 is required).

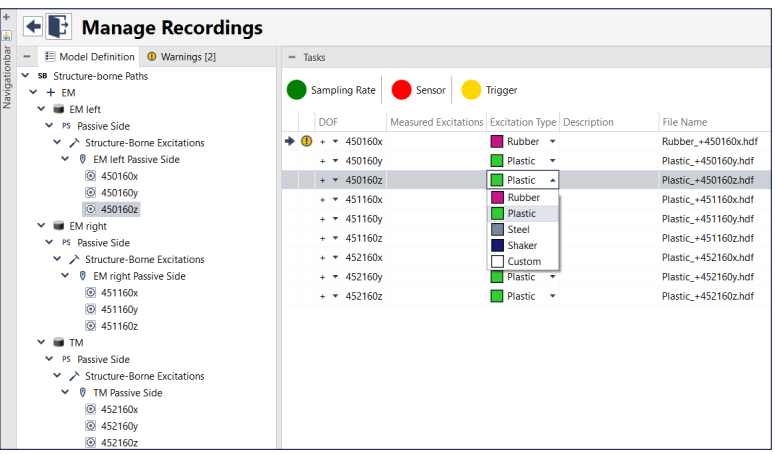
OVERVIEW

APR 610 TPA Data Acquisition

Code 50610

TPA Data Acquisition enables transfer functions required for a TPA Project to be measured safely and intuitively with the Recorder of ArtemiS SUITE. The Measurement Point Library, the model tree from the TPA Project, and the 3D model are available to configure the measurement setup and to perform the measurements.

To support even less experienced users, APR 610 offers various visual assistance and guides users through the entire setup and measurement procedure. Thanks to the Measurement Point Library, the model tree from the TPA Project, and the 3D model, all steps can be performed intuitively.



KEY FEATURES

Measuring transfer functions for a TPA Project (APR 620 is required)

Using the Measurement Point Library (included in ARP Framework) and an optional 3D model for an excellent visualization and assistance in defining the measuring points and connecting the sensors

Automatic check of the measurement setup for incorrect configurations

Assistance-guided procedure for the setup and the measurements

Measurement methods
- Structure-borne measurements
- Volume-source measurements
- Speaker measurements

Seamless integration of the Recorder (APR 040 is required) for easy integration of the frontends

Interconnecting the 3D model and the model tree for intuitive configuration of the measurement setup and for a clear performance of the entire measurements

Easy configuration of the HEAD acoustics frontends

APPLICATIONS

- Simple and user-friendly data acquisition of transfer functions for a TPA Project without expert knowledge

DETAILS

Measuring transfer paths

The measurement setup can be configured with the help of the Measurement Point Library, the 3D model, and the clear model tree. For performing the structure-borne measurements, the hammer, the receivers, the force introduction points, and the positions of the sensors can be adjusted intuitively. Similarly, the microphones and volume source locations can also be specified and configured for performing the airborne transfer measurements.

Users maintain a full overview even with larger models because all presentation options are interconnected. If users click on a measuring point in the 3D model, for example, the model tree displays the corresponding locations. Individual adjustments can be made in one place and are automatically adapted.

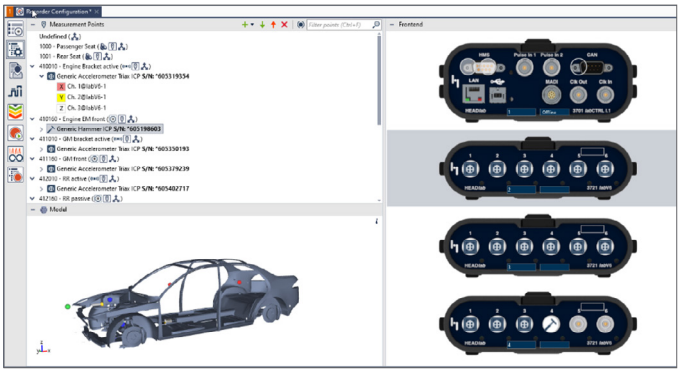
TPA Data Acquisition guides the user step by step through the process. In order to simplify the measuring process, different methods are available:

› Structure-borne measurements for performing measurements by an impact hammer or vibration shaker for structure-borne transfer paths.
The measured transfer functions can be used in the IFD (indirect force determination) model.

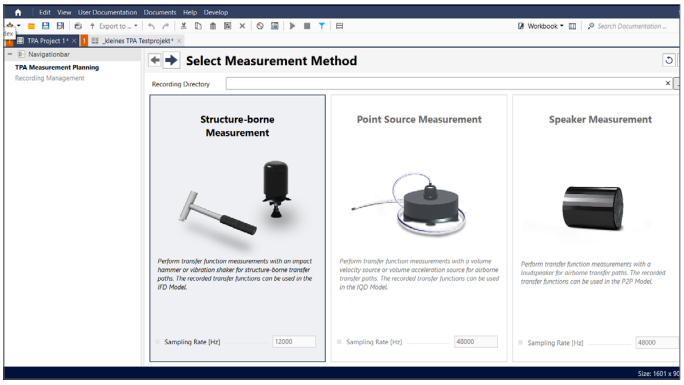
› Volume-source measurements for performing measurements by a volume velocity source or volume acceleration source for airborne transfer paths.
The measured transfer functions can be used in the IQD (indirect volume velocity determination) model.

› Speaker measurements for performing measurements by a loudspeaker for airborne transfer paths.
The measured transfer functions can be used in the P2P (airborne attenuation determination) model.

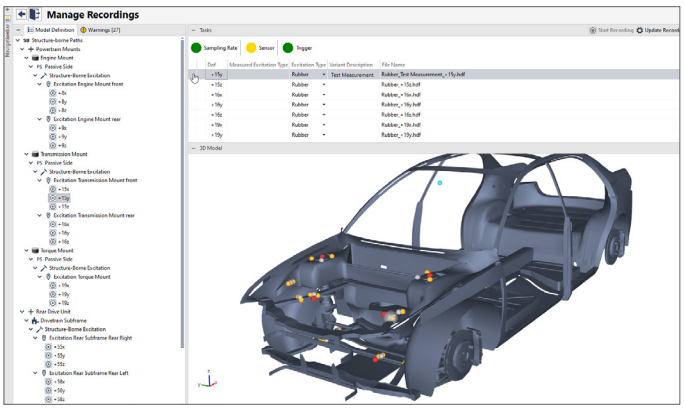
The Recorder performs all measurements seamlessly. Thanks to the 3D model, the Measurement Point Library, and the model tree, the used frontends from HEAD acoustics can be configured very quickly and easily. Missing or incorrectly attached sensors are immediately displayed to the user. In addition, the entire measurement setup can be visually checked in the 3D model, so that adjustments can be made at any time.



Measurement setup in combination with the Recorder

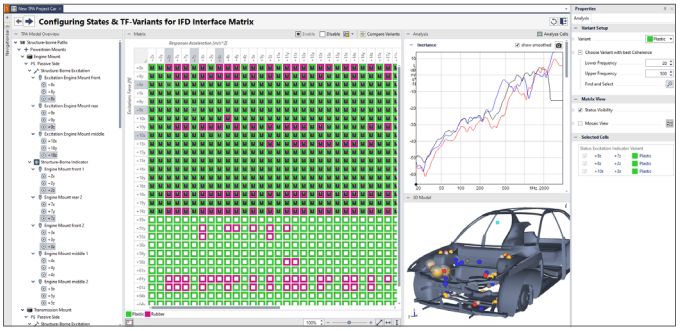


Measurement methods



Record management

Different hammer tips can be selected, and for or each measurement the hammer is displayed with its position and orientation in the 3D model and the model tree, so that the actual measurement can be performed quickly and safely. Successful transfer function measurements are automatically visualized in the tree structure. In addition, the diagrams of the transfer functions and coherences can be presented to verify the measurement. Completed measurements are clearly displayed with type and (optional) commentary in the model tree.



The measurements are processed directly by the TPA Project

Recommended frontends from HEAD acoustics

- HEAD*lab*
  Multi-channel frontend system
- *lab*COMPACT
  Compact module systems
- SQuadriga III
  Mobile 8-channel recording and playback system
- HMS V
  Artificial head measurement system
- HSU III.2
  Head-shoulder unit

Recommended hardware

- For structure-borne noise: an impact hammer or shaker together with the number of accelerometers required as well as at least one receiver.
- For airborne noise: a volume flow source or loudspeaker (HXL) together with the number of microphones required as well as at least one receiver.

Required software

- APR 040
  Recorder
- APR 620
  TPA Project

Recommended software

- PreSense
  Interactive simulator for NVH assessment
- Prognoise
  Binaural Transfer Path Synthesis (BTPS) software

Required: APR Framework (Code 50000)
APR 620 (Code 50620)
APR 040 (Code 50040)

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