ArtemiS SUITE
PRoject

Code 50110

# APR 110 Playback Filters

The Playback Filters of ArtemiS SUITE enable both interactive real-time filtering of time-domain signals during playback and mobile real-time filtering of binaural signals captured by SQuadriga III.

# OVERVIEW

## APR 110
## Playback Filters

### Code 50110

Playback Filters enable interactive filtering of time-domain signals during playback and are available, for example, with the HEAD Navigator, in the Player, in the Mark Analyzer, and in the Compact Analysis Project (APR 100 is required). Users can compile their own filter banks consisting of any number of customizable filters in serial or in parallel connection.

Playback Spot for frequency spectra plotted vs. time is an intuitive tool for selecting distinctive sound components.

Using real-time filtering, binaural signals captured by SQuadriga III can be analyzed online and interactively. APR 110 also includes Studio Control for the SQala jury testing software (APR 500 is required).
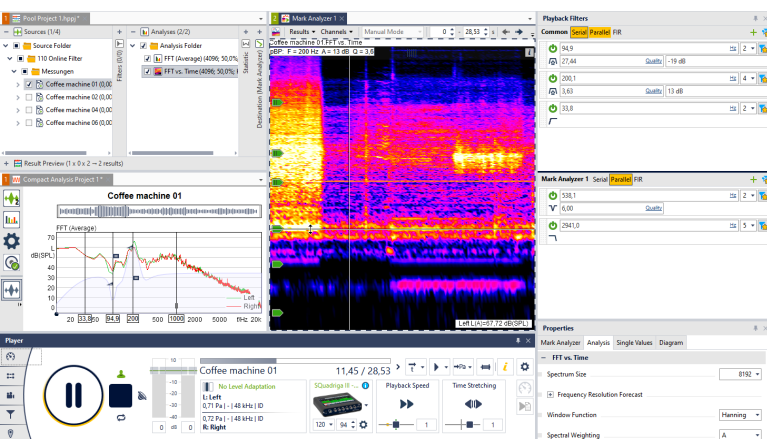
## KEY FEATURES

Easy and interactive real-time filtering of time-domain signals in the Player, the Mark Analyzer, the Compact Analysis Project, ...

Filter bank with real-time filters
› Any number of customized serial and parallel IIR filters as well as a serial FIR filter
  › Allpass, highpass, lowpass, ...
  › Tracking filters (order filters)
› Setting frequency, amplification, and bandwidth numerically or with the mouse
› Filter cursor in the Mark Analyzer for analyses with a frequency or order abscissa

Playback Spot provided by the Mark Analyzer (for frequency spectra plotted vs. time or vs. RPM)
› Easy creation of sample data from selected sound components

Real-time filtering based on SQuadriga III with four filter sets that can be independently configured for airborne and structure-borne signals

## APPLICATIONS

› Interactive adjustment of signals, e.g., airborne and structure-borne sound signals, for various sound design tasks
› Easy A/B comparisons
› Fast creation of modified files with different attenuations or absorptions, for example
› Efficient examination of sound phenomena
› Fast identification of disturbing sound phenomena by means of acoustic and visual support

# DETAILS

The playback filters enable easy and interactive filtering. The filters are displayed as cursors in the diagrams and can thus be positioned at the desired points using the mouse.

## Filter bank

When activated for the first time, a filter bank with three preconfigured, parametric band-pass filters appears which can be customized or supplemented with additional filters as required. For this purpose, the following filter types are available: allpass, lowpass, highpass, bandstop, bandpass, parametric bandpass, parametric lowpass, parametric highpass, and tracking filters.

The number of filters that can be used in real-time depends on the available computing power.

In addition, each Mark Analyzer provides an additional, individual filter bank. In this way, a comparison can be made between sounds that have been optimized using different filters, e.g., because the sounds contain different disturbing noises.
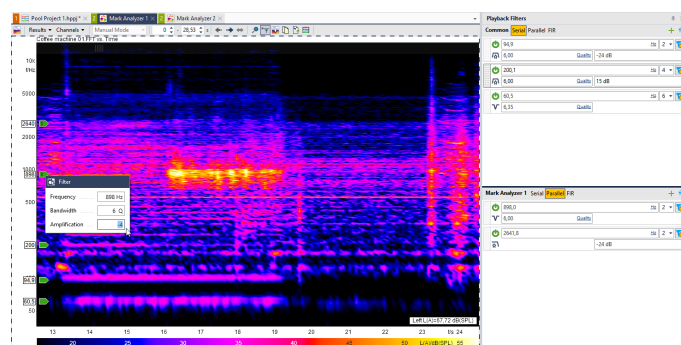
## Filter cursor

With analyses showing a frequency or order abscissa, each filter is visualized at the point of its center (or cutoff) frequency in the Mark Analyzer. Hovering the mouse over a filter displays a tooltip with all the information on the filter (filter type, center/ cutoff frequency, amplification, quality). The expected effects are optionally visualized in the diagram in real time using filter morphing. Furthermore, the transfer function of the filter bank is displayed in 2D diagrams.

## Playback Spot

Using the mouse, the beginning and the end of a mark as well as its lower and upper cutoff frequency can be defined for a targeted selection and playback of distinctive sound components.
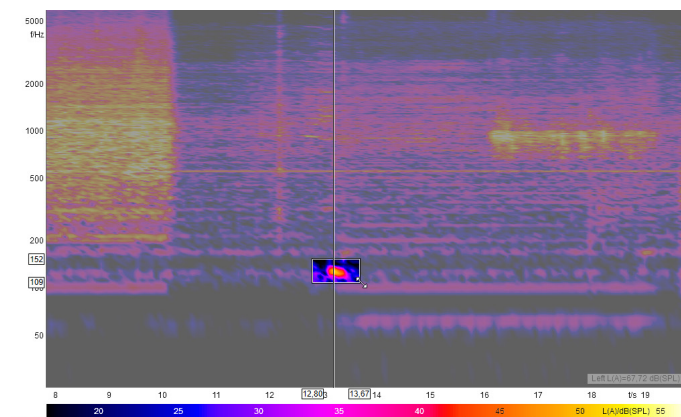
During playback, all components outside the selected area are hidden by means of corresponding Player mark limits and a highpass/lowpass filter combination (6th order Bessel filters).



*Filter bank with any number of modified filters*



*Filter cursor*



*Playback Spot*

## Real-time filtering

Low-latency real-time filtering enables online analysis of binaural signals with SQuadriga III. This system provides convenient and intuitive parametrization of filters that can be processed directly with SQuadriga III.

Another benefit is that real-time filtering can be performed in a mobile setup and thus in a real-life environment. This, combined with the option of modifying sound signals in real time, enables more authentic evaluation results and considerable time savings compared to a laboratory environment.

Required
› SQuadriga III (Code 3324) Mobile Measurement System

Recommended
› RC X.1 (Code 9850) Remote Control
› Headphones provided by HEAD acoustics
› HMS V (Code 1502) Artificial Head Measurement System
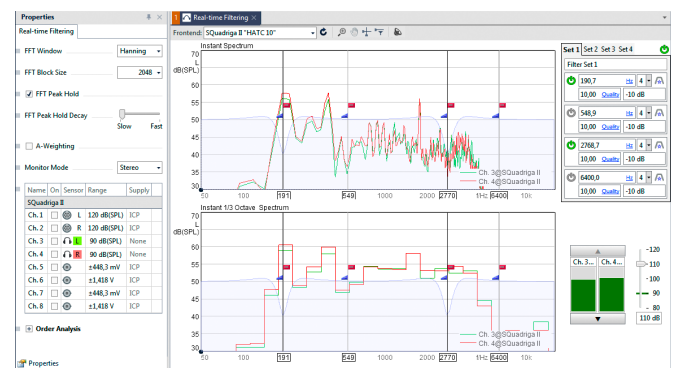
## Studio Control

Studio Control can be used to configure HEAD acoustics playback devices, e.g., in listening studios (when using the jury testing software SQala).



**RC X.1**

**HMS V**

**Headphones**

**Real-time filtering**

**SQuadriga III**



*Real-time filtering*

**Required: APR 000 Framework (Code 50000)**



## Contact

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