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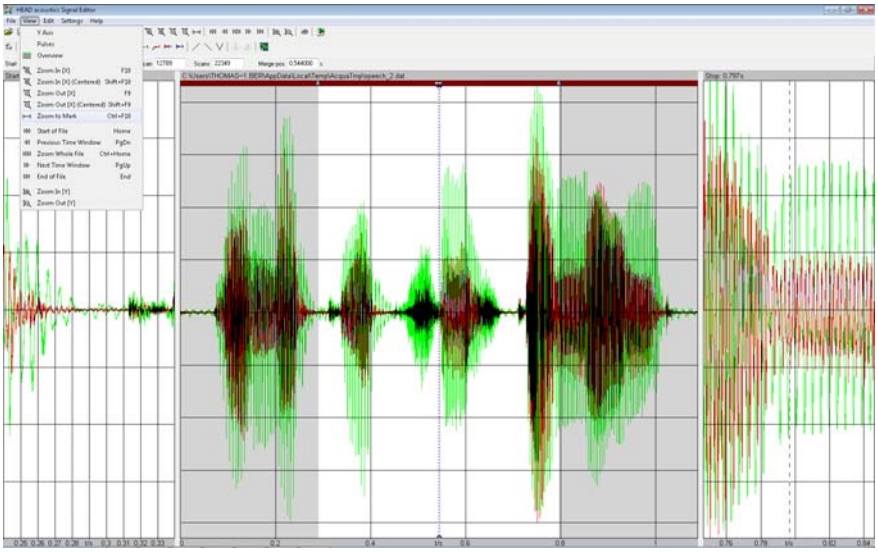
DATA SHEET

ACQUA

ACOPT 01 (Code 6811) Signal Generator & Editor



Screenshot Signal Editor

OVERVIEW

ACOPT 01 is a license option for the Advanced Communication Quality System ACQUA. It allows the generation of mathematically definable functions and the editing of signals.

The Signal Generator creates periodic and non periodic signals with definable parameters (e.g. frequency, amplitude, wave shape) and stores them in a file that can be presented, analyzed, modified as well as played back via ACQUA.

The Signal Editor offers numerous possibilities for the manipulation of existing signals (e.g. Insert / Delete, Level Adjustment, Fading, Offset Change, Channel Swapping etc.).

DESCRIPTION

ACOPT 01 consists of two separate program components: the Signal Generator and the Signal Editor. Both are file-based and operate with signals in 32 bit float format.

The Signal Generator can generate all fundamental signal shapes, such as sine, triangle, rectangle, random and pseudo noise as well as different kinds of sweeps. Furthermore, a Universal Function Generator is also included which can generate mathematically defined curve shapes (for details see reverse).

The Signal Generator automatically corrects invalid parameter values whenever it is possible, e.g. when the specified frequency is higher than the Nyquist frequency (half of the sampling rate).

Each new signal includes two digital channels which contain pulse information or which are empty in case of noise signals.

The Signal Editor allows to edit existing signals. For example, signal ranges can be marked and then be deleted or moved by cut and paste. The level can be adjusted and fadings can be applied.

It is also possible to insert other signal files or to insert pauses. The pulse channels can be set or deleted. The channels can be swapped or edited separately.

Furthermore the Signal Editor offers numerous possibilities for representation of the edited signal, e.g. "Zoom in/out" or "Zoom to mark". The signal can also be played back in order to be able to listen to the signal changes immediately.

KEY FEATURES

- Generator for numerous signal types:
  - Sine
  - Switched Sine
  - Sweep
  - Stepped Sweep
  - RPM Sweep
  - Rectangle
  - Triangle
  - Pseudo Noise
  - Random Noise
  - Am Fm
  - Fourier
  - Universal (mathematical formula)

- Editor with numerous possibilities for signal modification:
  - Insert, delete, remove, invert marked signal ranges
  - Insert pause
  - Insert from other signal files
  - Copy, swap, add, subtract channels 1 and 2
  - Set, delete pulse channels
  - Change Level
  - Change Offset
  - Fading (In, Out, Out-In, left-cut, right-cut)
  - Resampling

EXAMPLE: UNIVERSAL GENERATOR

This generator creates signals defined by a mathematical term. It is the only HEAD acoustics generator which can generate completely different signals for each channel.

Parameters:

Formula Field: Here you can enter the formula. The generator will prompt error messages, if the syntax is incorrect.

Current Channel: Defines the channel, for which the signal will be generated. Each channel can have a different function and different constants. However, it is also possible to select "All" in order to generate identical signals for all channels. Please note that a signal can only be generated for the selected channel if the basic parameter "Signal in Channel" is set to "All" or has the same number as the current channel.

Nbr of Constants: Here you can enter how many constants you need to generate the signal.

Constants (depend on global parameters, fields are therefore "grayed out"):

Fa: Same as Sampling Rate.

Ta: The reciprocal value of the Sampling Rate, this is the time between two samples.

dT: The duration of the signal.

L: Corresponds to Level. Please note that the level parameter only sets the value for the constant L. The actual level of the signal depends on the function.

These values can only be edited in the basic parameters fields (right side of the dialogue window).

Other Constants:

It is possible to define up to 29 additional constants per channel. Each constant is defined by an editable descriptor and a corresponding numerical value. Of course it also possible to enter numbers directly in the formula field, but using constants makes it much easier to modify values and helps to leave the formula concisely.

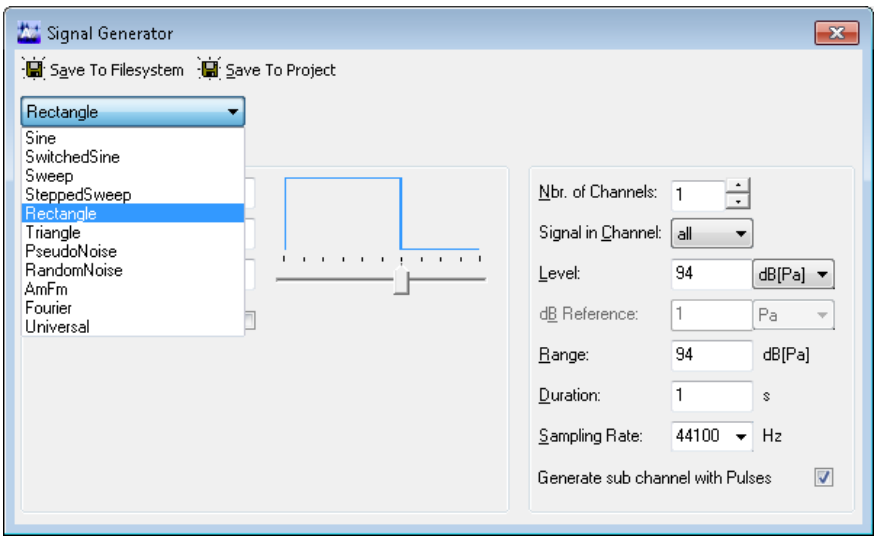
Variable t: The variable t (time) can be used in each function. t runs from 0 to dT.

Formula memory:

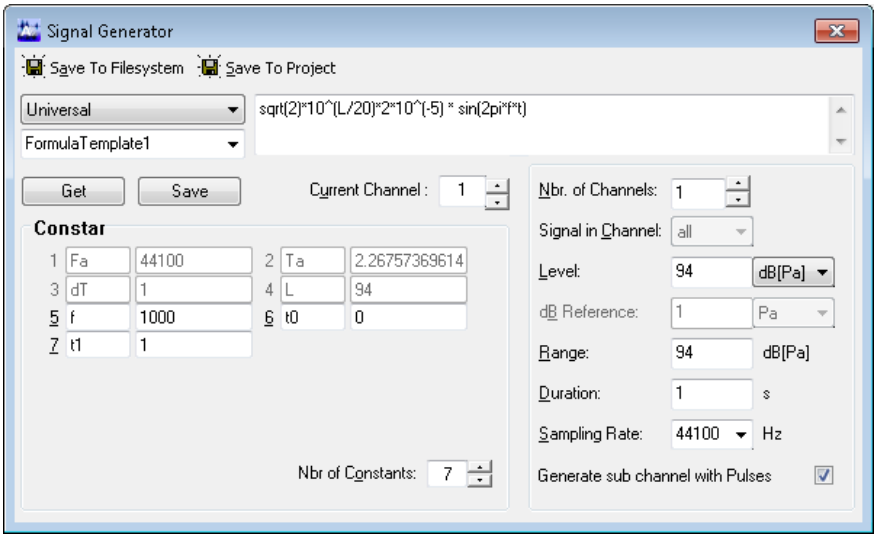
The formula memory can store up to 7 different formula templates, including the corresponding constants. The names of the formula templates can be modified in the combination box.

With "Get" the selected formula is copied from the memory to the formula field. The previous content of the formula field is overwritten. The constants are also modified corresponding to the copied formula.

"Save" overwrites the selected memory space with the content of the formula field and the current constants.



Signal Generator: Selection of signal types (left) and setting of parameters (right)



Signal Generator: Example formula and parameters for Universal Generator

SYSTEM REQUIREMENTS

ACOPT 01 requires the latest version of either ACQUA Full-License (Code 6810) or ACQUA Workplace (Code 6830).

Note: ACOPT 01 cannot be used with ACQUA Compact versions.

OPTIONS

ACOPT 01 is also available as network license:

Code 6811N: new network license

Code 6811UGN: network license upgrade for existing licenses

DELIVERY ITEMS

ACOPT 01 is delivered either on the HASP USB dongle delivered with ACQUA (for new customers) or as V2C file (for existing customers).

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