The module of subsystem "Data acquisition"<SoundCard>

Module:	SoundCard
Name:	Sound card
Type:	DAQ
Source:	daq_SoundCard.so
Version:	0.6.0
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Translated:	Maxim Lysenko
Description:	Provides an access to the sound card.
License:	GPL

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Introduction

This module is designed to provide data from the inputs of sound cards of the system. The module is based on the multi-platform library of work with sound PortAudio (http://www.portaudio.com). The feature of this library is the unified API, which allows you to easily adapt this module to work on different platforms and even different audio subsystems on a single platform.

Structure of the module is the reflection of the object "Controller" of subsystem "Data acquisition" on a separate audio input device available in the system. The object "Parameter" of the subsystem "Data acquisition" reflects a separate channel available from the sound input device to the attribute "val". The most functional is to use the attribute "val" in conjunction with the archive, or at least with its buffer. In the case of the archiving enabling data of the channel of audio input are placed in the buffer of the archive by the packages with the frequency of data fetch of input device that allows you to perform further operations on that data. In addition, the last package value is installed as the current value of the attribute. In the case of archive absence operation of the last package value placing as the current value of the attribute is performed only.

Also, the module implements the functions of the horizontal reservation, namely, working in conjunction with the remote station of the same level.

1. Controller of the data

To add an audio input device the controller is created and configured in the system OpenSCADA. Example of the configuration tab of the controller is depicted in Figure 1.
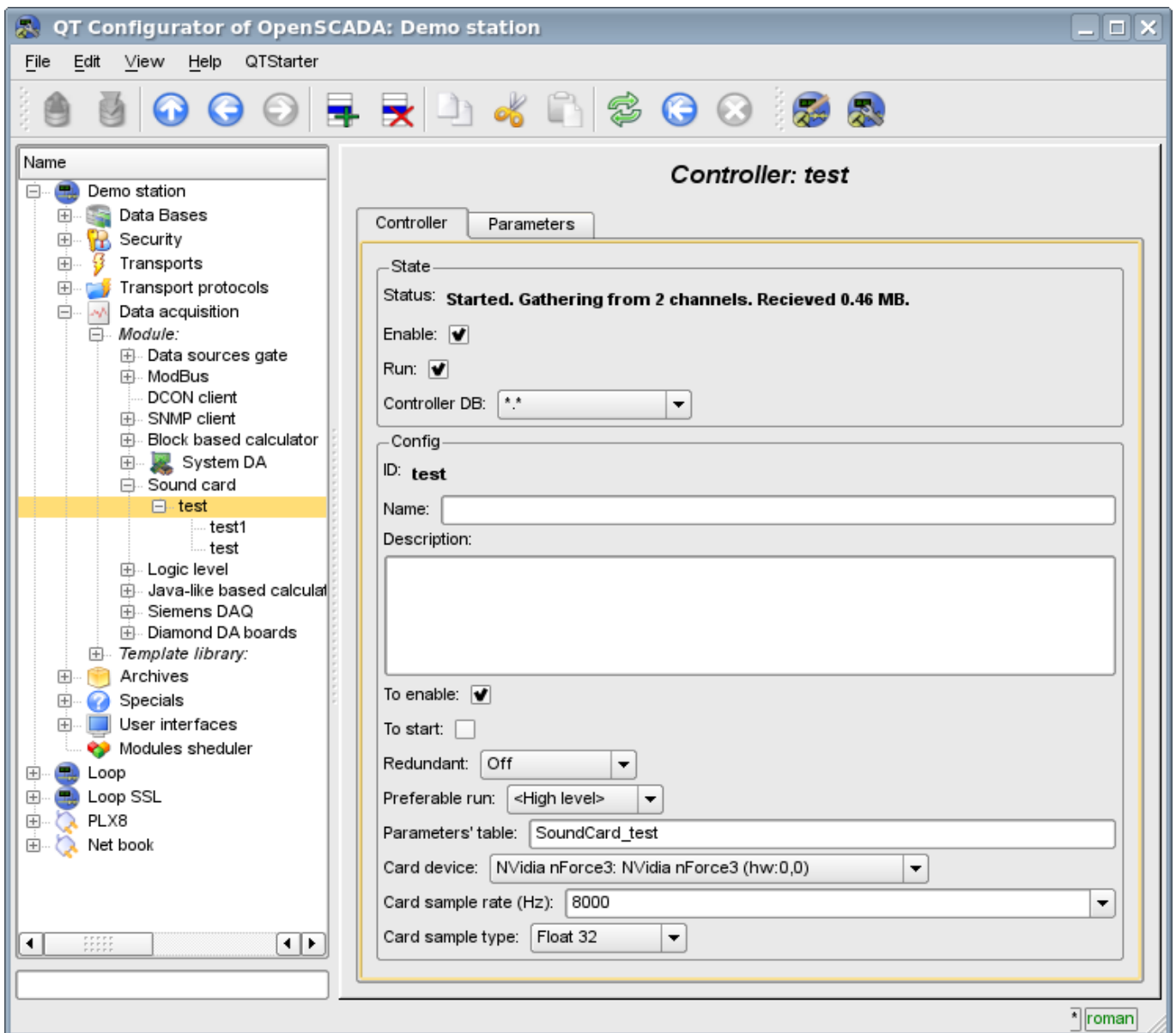

Fig.1. Configuration tab of the controller.

From this tab you can set:
- The state of the controller, as follows: Status, «Enable», «Run» and the name of the database containing the configuration.
- Id, name and description of the controller.
- The state, in which the controller must be translated at boot: «To enable» and «To start».
- Horizontal mode of redundancy and performance preference of the controller.
- Name of table to store the configuration of the parameters of the controller.
- Card device from the list of available ones.
- Frequency of the fetch of values of cards in hertz.
- Type of values of fetch from the list: Real 32, Integer 32 and Integer 16.

2. Parameters

To add a channel of input sound device the parameter of controller is created and configured in the system OpenSCADA. Example of the configuration tab of the parameter is depicted in Figure 2.
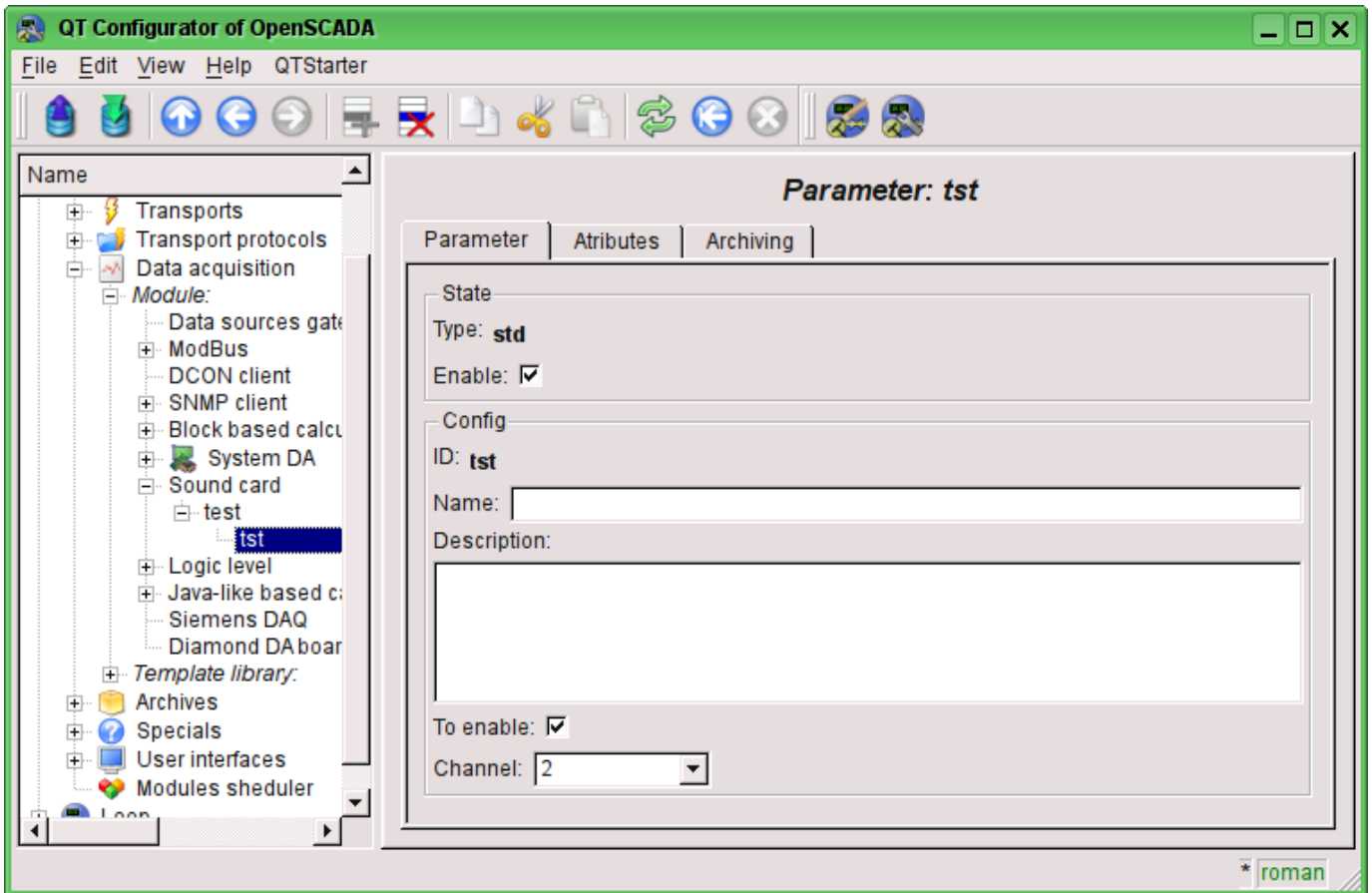

Fig.2. Configuration tab of the parameter.

From this tab you can set:
- Type of the parameter and indicate the status "Enable".
- Id, name and description of the parameter.
- The state, in which the parameter must be translated at boot: «To enable».
- Channel of the audio input device from the list of available channels.

Tab of attributes of the parameter has the form presented in Figure 3, the tab of the values of the attribute's archive "val" is presented in Fig.4.
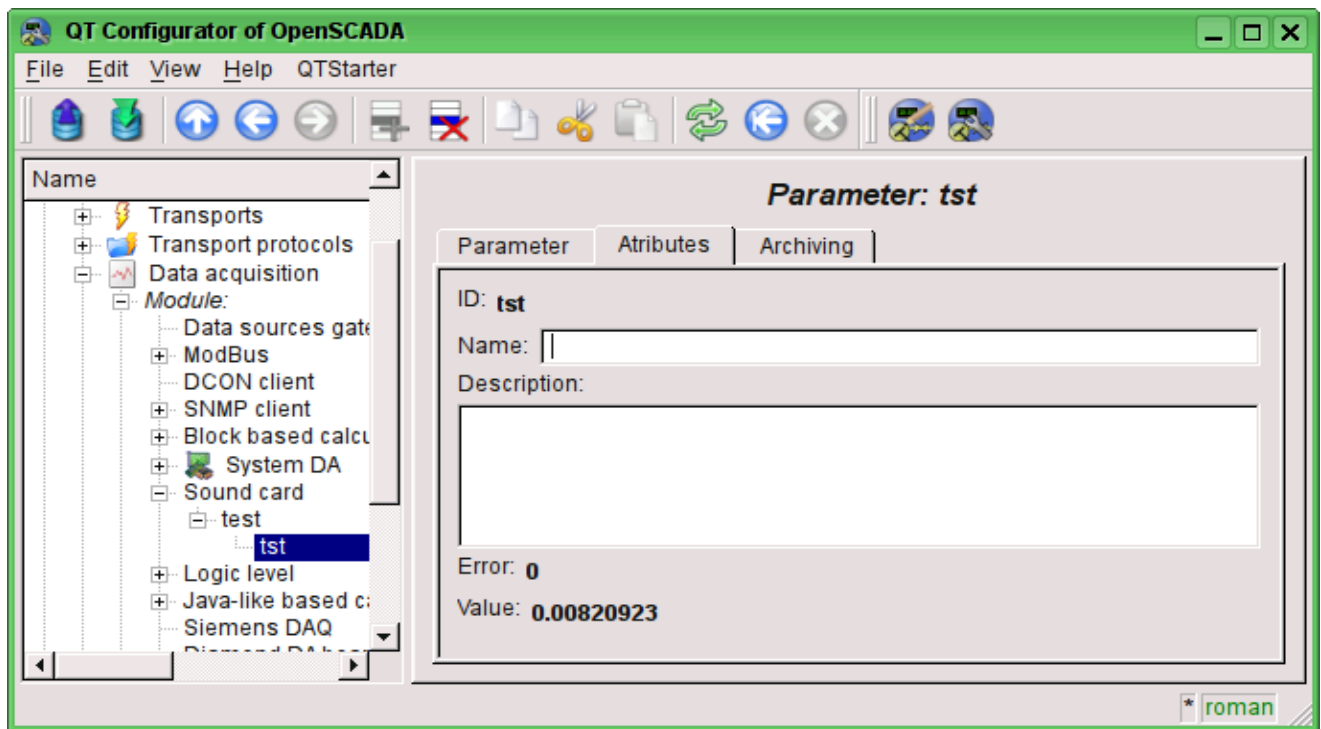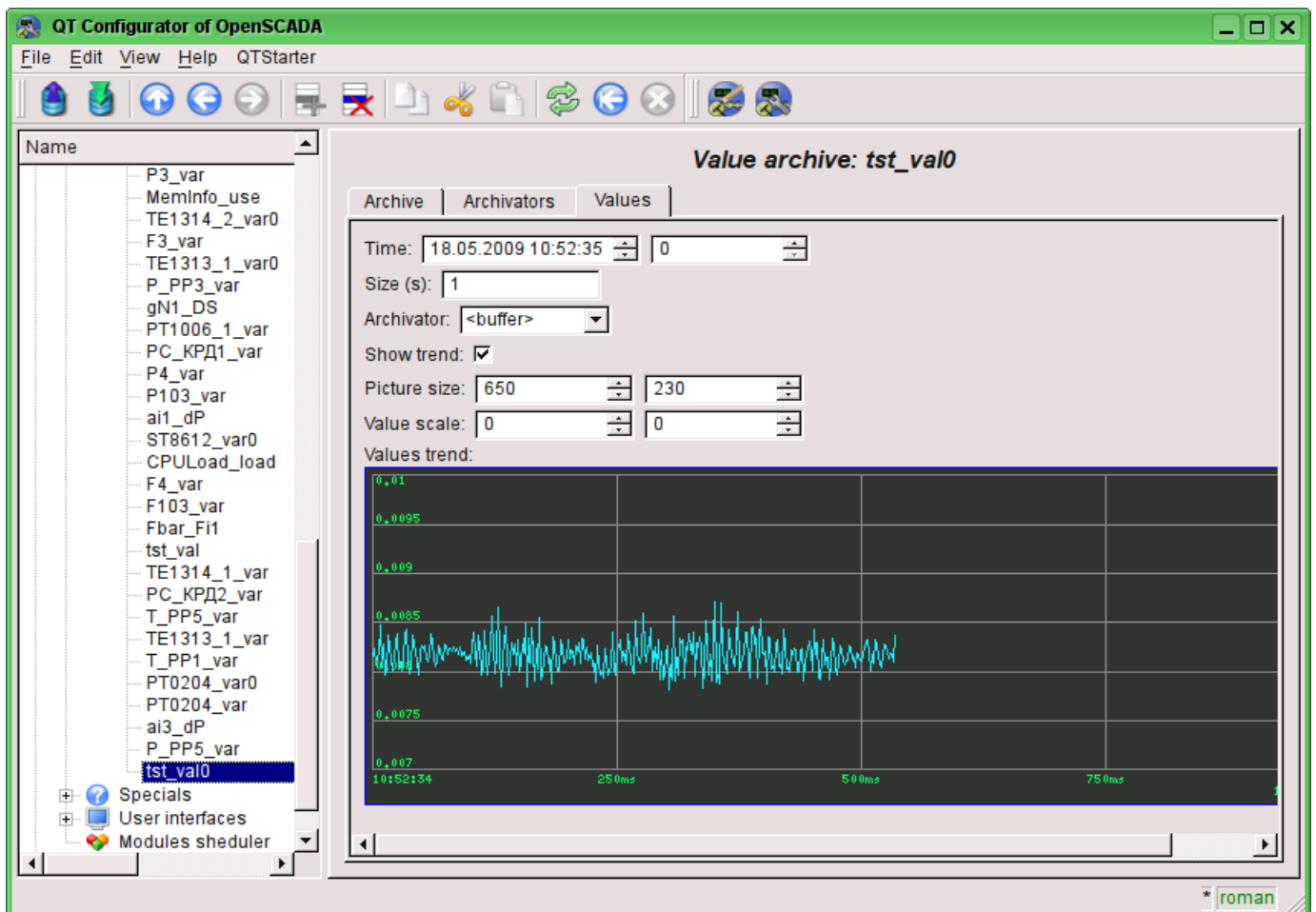

Fig.3. Tab of the attributes of the parameter.

Fig.4. Tab of the values of the archive of the attribute "val".