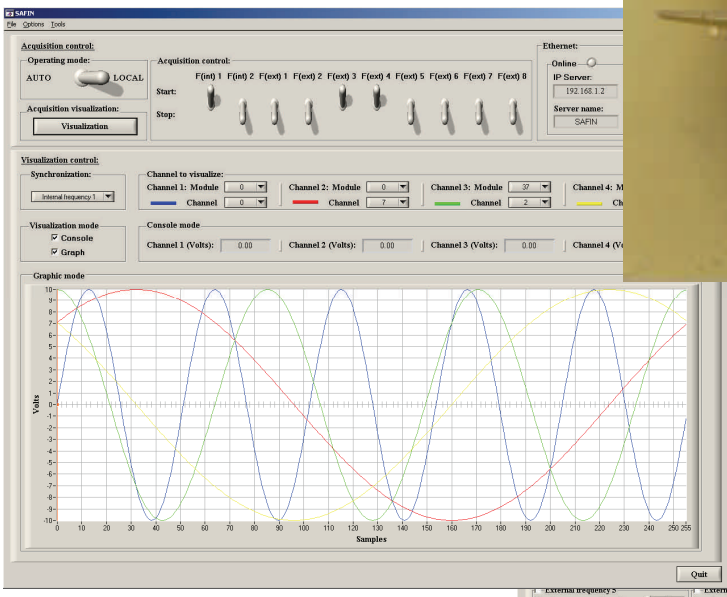
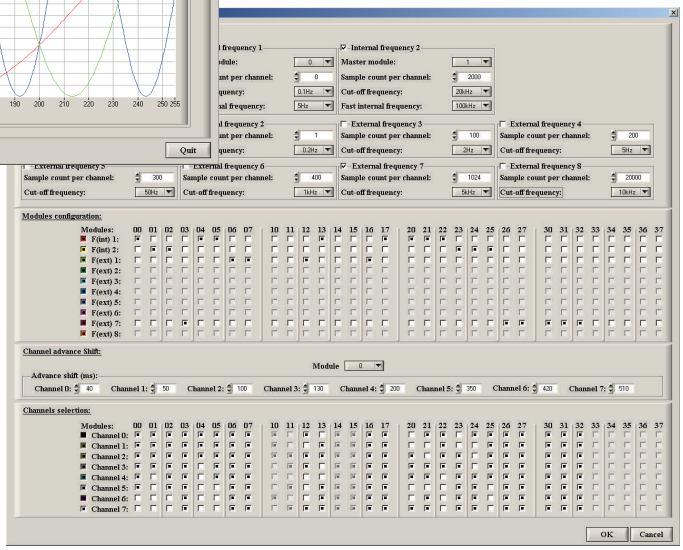
SFAM

Windtunnel Modular Acquisition System with digital filtering

Windtunnel (source: Wikipedia)





- Modular acquisition system with real time digital filtration.
- 16 channels module
- USB 2.0 Connection to host.
- Two custom cards per module of analog/digital conversion on eight channels (16 bits)

Windtunnel Modular Acquisition System with digital filtering

Product Description

The SFAM system (Silicom Filtered Acquisition Module) is most used in windtunnel, processing realtime acquisition and filtering of any acquired parameter. The system is piloted by a master computer through Ethernet link running pre-defined configurations.

SFAM acquisition system can also be delivered with a non-specific software permitting to configure separately each channel.

Functionalities

The SFAM system carries out the acquisition of analog signals to apply a digital filtration and send filtered data towards a computer via a USB 2.0 connection.

The acquisition frequency of the filtered signal is tuned by the user between 0.1 Hz and 100 KHz. However, for processing capacity and real time recording reasons, there is a limit of 5 racks configured in simultaneous and fast frequency.

The Blackman or Kaiser digital filtering can be configured by the user for cut frequencies between 0.1 Hz and 20 kHz. In the cut-off frequency zone, the attenuation is superior to -60dB when frequency increases about 1.6 times.

The system can be drove by remote control by an Ethernet connection. The resulting data can be in real time or in batch processing.

Acquisition mode

- DC Slow and accurate acquisition
- AC Fast acquisition

Racks synchronisation modes and acquisitions setting off :

- Internal synchronisation of the rack and internal acquisitions setting off,
- Internal synchronisation of the rack and external acquisitions setting off,
- External synchronisation of the rack and external acquisitions setting off.

The system allows carrying out ten kind of acquisition in simultaneous on different channels with different filtering parameters:

- Two in internal synchronisation mode,
- Eight in external synchronisation mode.

Individual indication of channels saturation.

Process of automatic calibration of all channels for a better precision on the acquisitions.

Individual channel test.

Power Supply

The system is supplied by the mains 200V/50Hz.

Consumption : 11W, 9mA by 16 channels rack

Front face

Two racks identification encoding wheels

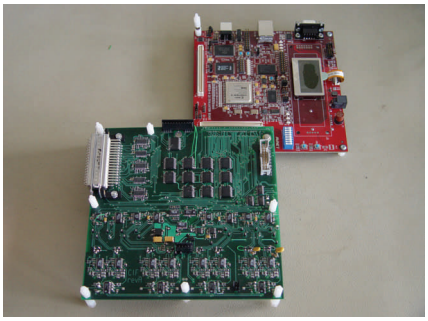
16 saturation LED

1 switch on LED

1 processing LED

Back face

USB 2.0 connection for the recovery of the acquisition on a computer



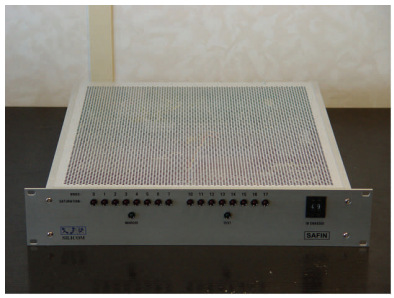
JAEGER connections for the measurement channels,

JAEGER connections for the internal and external synchronisation signal

JAEGER connections for the calibration system entry

Acquisition performances

Analog inputs with floating common point in comparison with the mechanical mass and the logical mass for an interferences protection and an optimal precision.



Analog dynamic input : ± 10 V, Maximal voltage allowed : ± 15 V

DC mode on 16 bits

- Digitizing frequency : 5 kHz
- Cut frequency: 0,1 Hz to 10 Hz.
- Acquisition frequency : 0,1 Hz to 500 Hz
- Continuous precision : < 1 mV
- Digital delay of the channels up to 511 ms by 1 ms steps

AC mode on 12 bits

- Digitizing frequency: 1 MHz
- Cut frequency: 10 Hz à 20 kHz.
- Acquisition frequency: 20 Hz à 100 kHz
- Continuous precision: < 10 mV

Typical application Fields

Wind tunnels (civil and military), Aeronautics, industry, etc.

ISO 9001

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