

Pegasus Application

SMT8041V1.1

SUNDANCE MULTIPROCESSOR TECHNOLOGY LTD.

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Revision Record

Revision	Date	Change	Initials
1	10\06\03	Original Document	E.A.
1.1	18\06\03	ADC-DAC connection, system diagram	P.V.

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1 Comments

This Pegasus Application is working on **Windows 2000**.

The SMT6300 from Sundance should be installed on the machine on which the application is going to run.

2 Pegasus Application: description

The following Pegasus application is implemented on one SMT365E. During the initialisation the SMT370 and the SMT398 are configured. Then a signal is sent to the SMT370 used as a pattern generator. The shape and the frequency of this signal are user defined.

On the SMT370 the DACs output the signal to the ADCs. Then the signal goes to the SMT398 via the SHB. The signal is processed in the FPGA and the resulting FFT is sent to the DSP (SMT365E).

The data received on the SMT365E are read continuously by the host.

This application displays in real time the input signal sent to the pattern generator and the processed signal.

Thanks to the user interface done with the Pegasus software the frequency and the shape of the input signal can be modified and the result is seen immediately on his PC screen.

The figure 1 represents the block diagram of this Pegasus Application.

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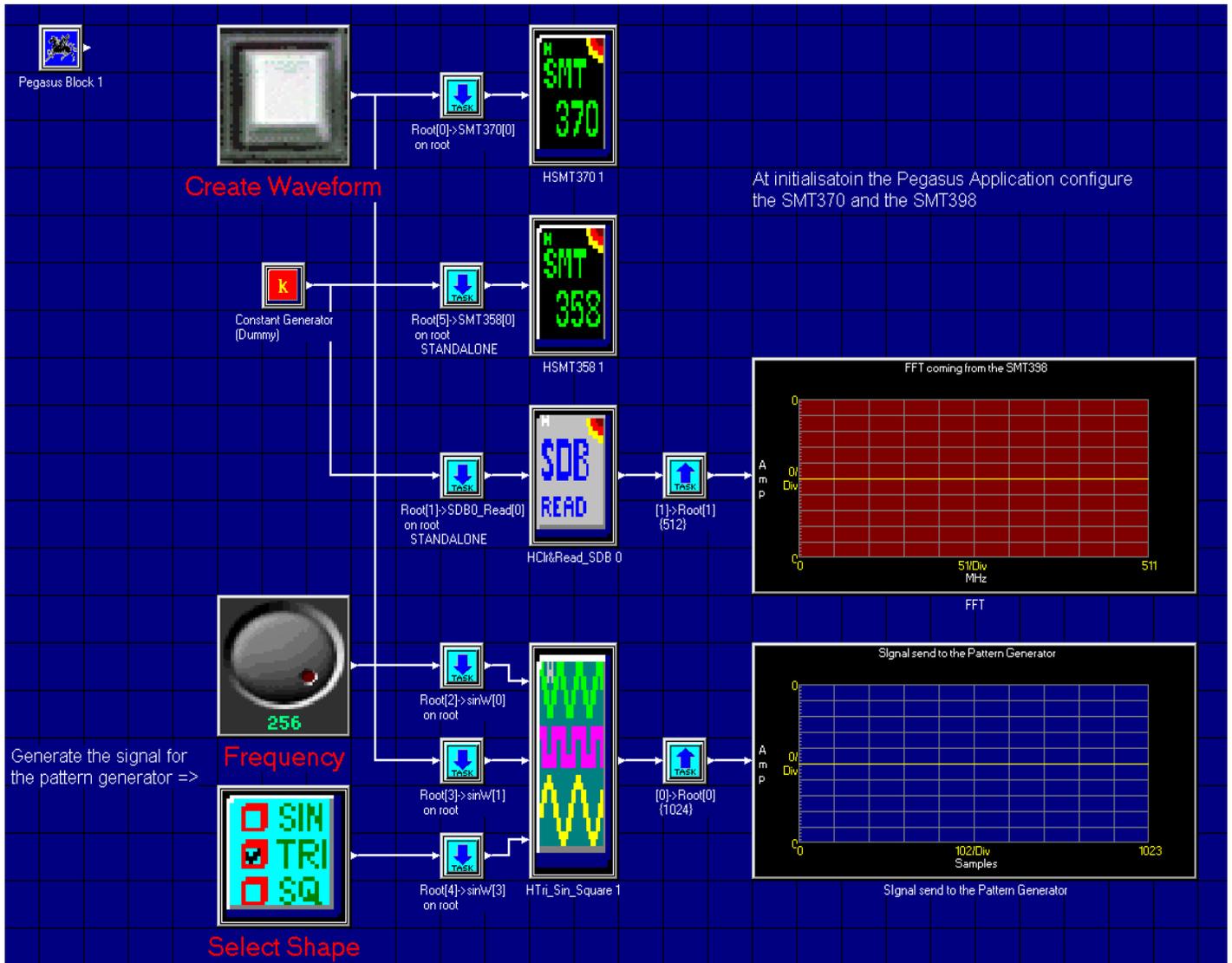


Figure 1: Block diagram of the Pegasus Application

3 Hardware Installation

The hardware configuration is the one for the SMT8041 system.

The comm-port connections are as follows:

T1C1<->T4C3

T1C0<->T3C3

DAC and ADC connection on the SMT370:

J13<->J9

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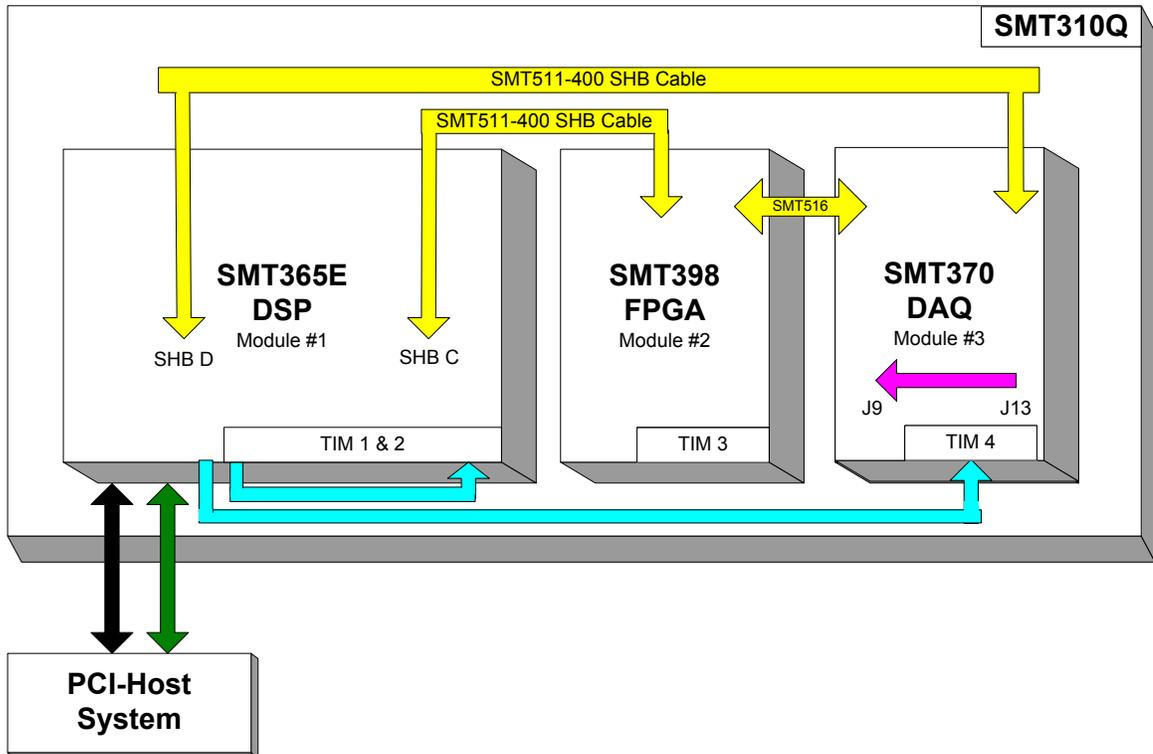


Figure 2 : Hardware set-up

4 Software Installation.

1. Unzip SMT8041V1_0.zip in a folder MyFolder (for example) in your drive directory.
2. Go in \\MyFolder and open **PegHost.exe**. A window named "Pegasus Host Server for C62x" should open
3. Go in **File** -> **open** and browse to \\MyFolder\SMT370System.PegasusC62xApp
Now several display windows should open.

Automatically you should have a nice layout of the application.

If it's not the case go to **View** -> **restore** and browse to \\MyFolder\SMT370System.PegView.

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5 Pegasus Application.

Once the Pegasus Application is launched something similar to the figure 3 should appear on your screen.

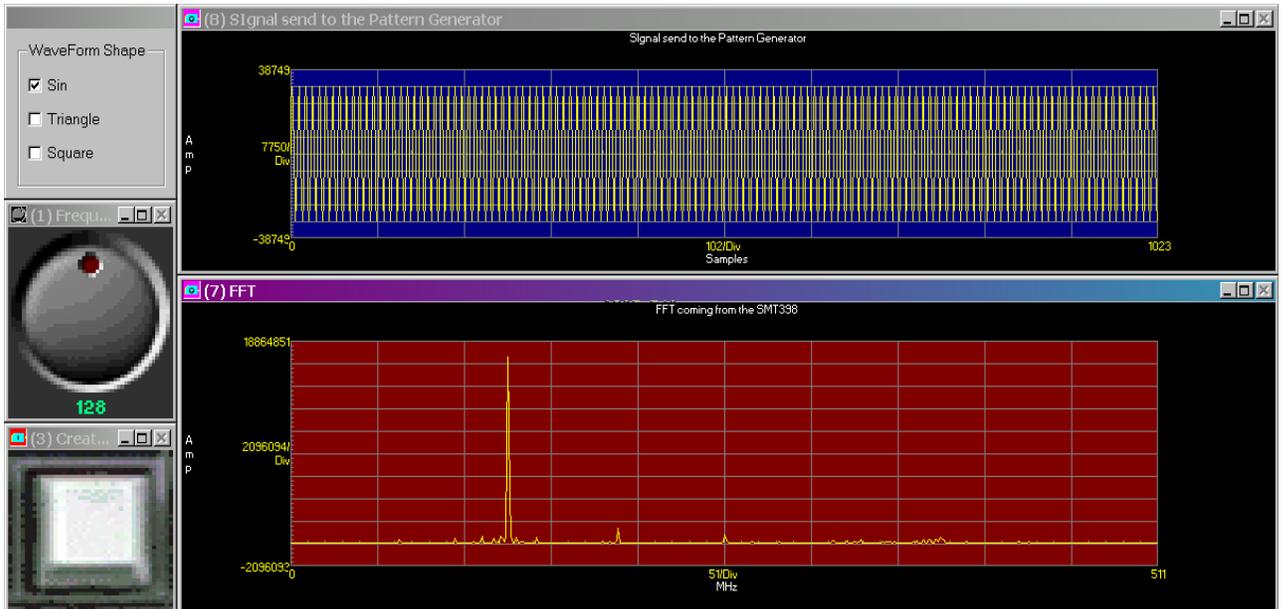


Figure 3: The Pegasus Application running.

The signal sent to the SMT370, used as a pattern generator, is user defined. The user control in the top left corner enables to select the shape of this signal. The signal can be a sin, a triangle or a square wave. The Knob on the left enables to change the frequency of this signal. By pressing the button below the knob the signal is sent to the pattern generator. This signal will have the shape and the frequency selected with the corresponding users controls. The resulting signal is displayed in the blue window.

Then the processed signal, which is a FFT, is displayed in the red window.

Comments:

Once the application is running you can double click on the display windows and change the settings. For example there are six possible modes within the Single Channel Display block:

Connected Mode:

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In this mode a data sample is plotted and then a line is drawn to the next data sample. If the shape option is specified, the chosen shape is drawn in the proper position and a line is drawn to the shape.

Digital mode:

In this mode, a single data point of the input frame of data is displayed in a digital format. The block's FrameOffset parameter allows you to select which data sample is displayed.

Discrete mode:

In this mode the data is plotted as with the Connected Mode, but additionally a vertical line is drawn to the X-axis. If shape option is specified, the chosen shape is drawn in the proper position and on the X-axis in the same horizontal position.

Spectrogram mode:

In this mode the data is plotted vertically, one pixel wide, and is assigned a display color based upon the amplitude of the signal.

Text Mode:

In this mode the data is displayed numerically in the specified text format. Only the data that fits in the specified region will be displayed. You can size the window as required.

Waterfall mode:

In this mode several frames of data are displayed on the same graph such that a time history of the data is recorded. An angle offset can be applied to the data to allow for optimal viewing.

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