Pegasus Application

SMT8047

SUNDANCE MULTIPROCESSOR TECHNOLOGY LTD.

Document Title	Pegasus App	Document ID	PegApp_SMT8047.doc		
Date	04/09/2003	Revision	1	Page	1 of 12

Revision Record

Revision	Date	Change	Initials
1	03/09/2003	Original Document	E.A.

Document Title	Pegasus App	Document ID	PegApp_SMT8047.doc		
Date	04/09/2003	Revision	1	Page	2 of 12

Table of contents

Table of figures

Document Title	Pegasus App	Document ID	PegApp_SMT8047.doc		
Date	04/09/2003	Revision	1	Page	3 of 12

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 a *SMT374*.
During the initialisation the *SMT364*, which is a 4-ADCs module, is configured.

The user has to feed the ADCs of the *SMT364* with the signals to process.
Once the analogue signals are converted to digital signals the data is sent to the *SMT374* via the SHBs.

The *SMT374* read the data continuously and process it. The DSP do a FFT of the data before sending it to the PC where the result is displayed in real time on the screen.

The *Figure 1* represents the block diagram of this Pegasus Application.

Document Title	Pegasus App	Document ID	PegApp_SMT8047.doc		
Date	04/09/2003	Revision	1	Page	4 of 12
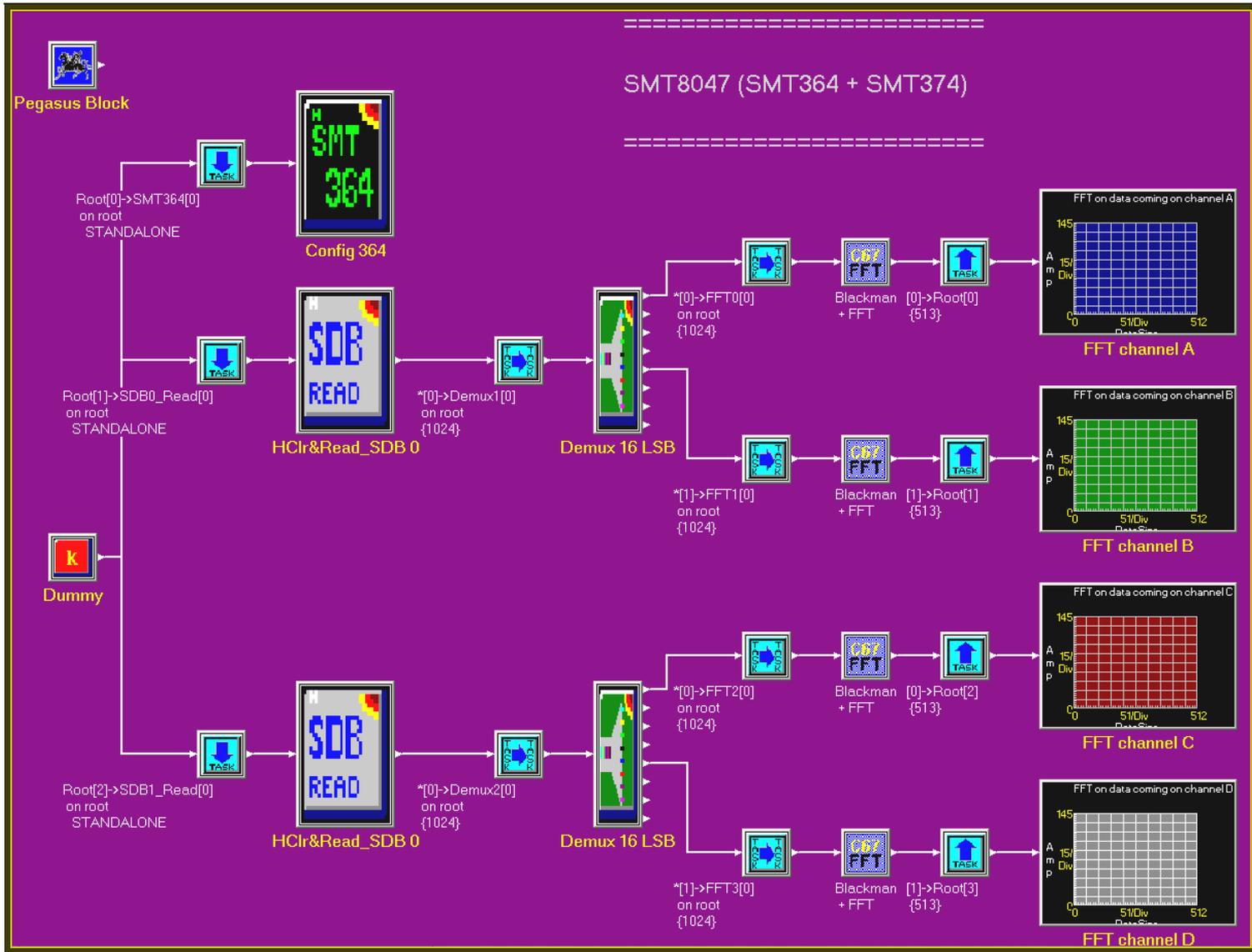
Figure 1: Block diagram of the Pegasus Application

3   Hardware Installation

The hardware configuration is the one for the SMT8047 system. For more information see the SMT8047 User Manual.

Document Title	Pegasus App	Document ID	PegApp_SMT8047.doc		
Date	04/09/2003	Revision	1	Page	5 of 12
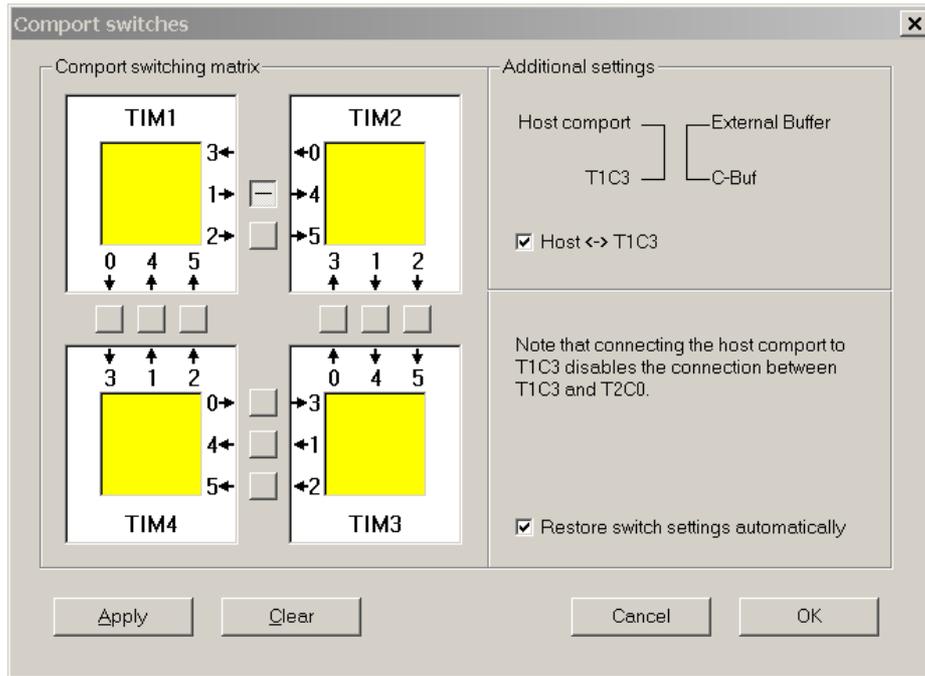
Figure 2: ComPort connection, T1C1<->T2C4 selected with the Comport switches tool of the BoardInfo program
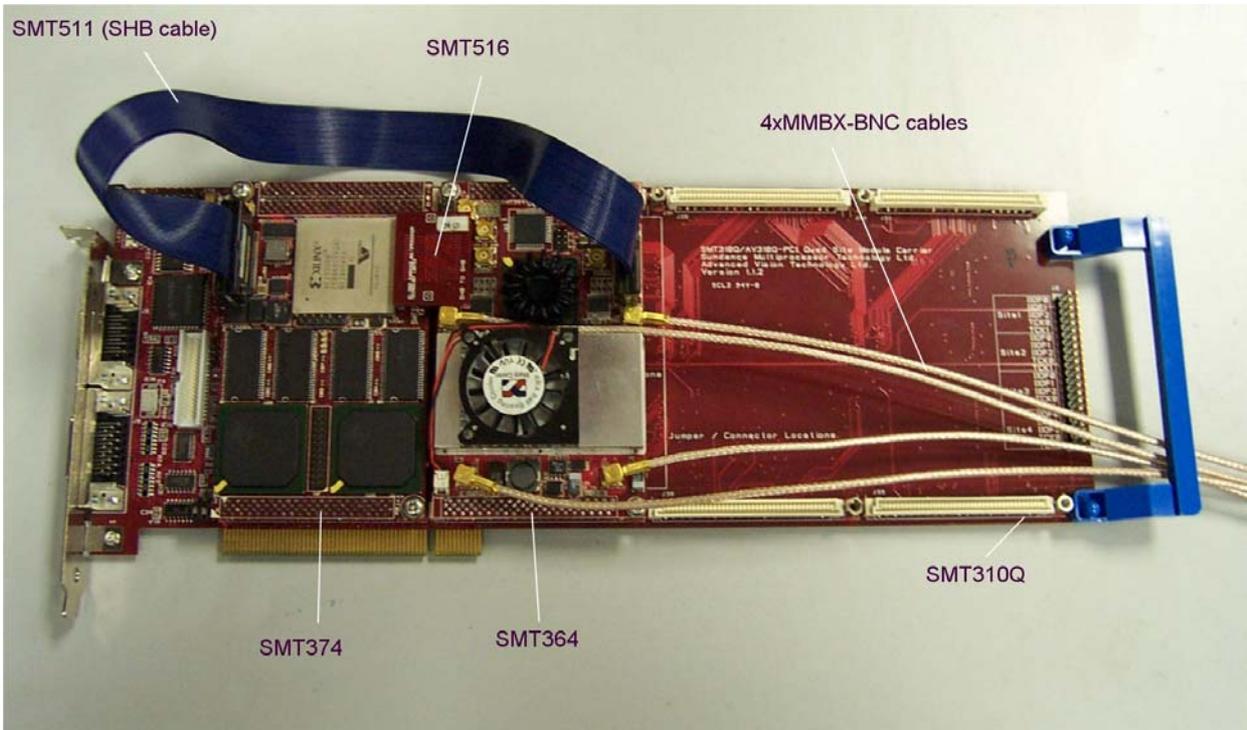
Figure 3:   *SHB connections:*   *SHBA (374) <-> SHBA (370)*
                                                        SHBB (374) <-> SHBB (370).

Document Title	Pegasus App	Document ID	PegApp_SMT8047.doc		
Date	04/09/2003	Revision	1	Page	6 of 12

Architecture

The following diagram shows the architecture of the *SMT8047* system:
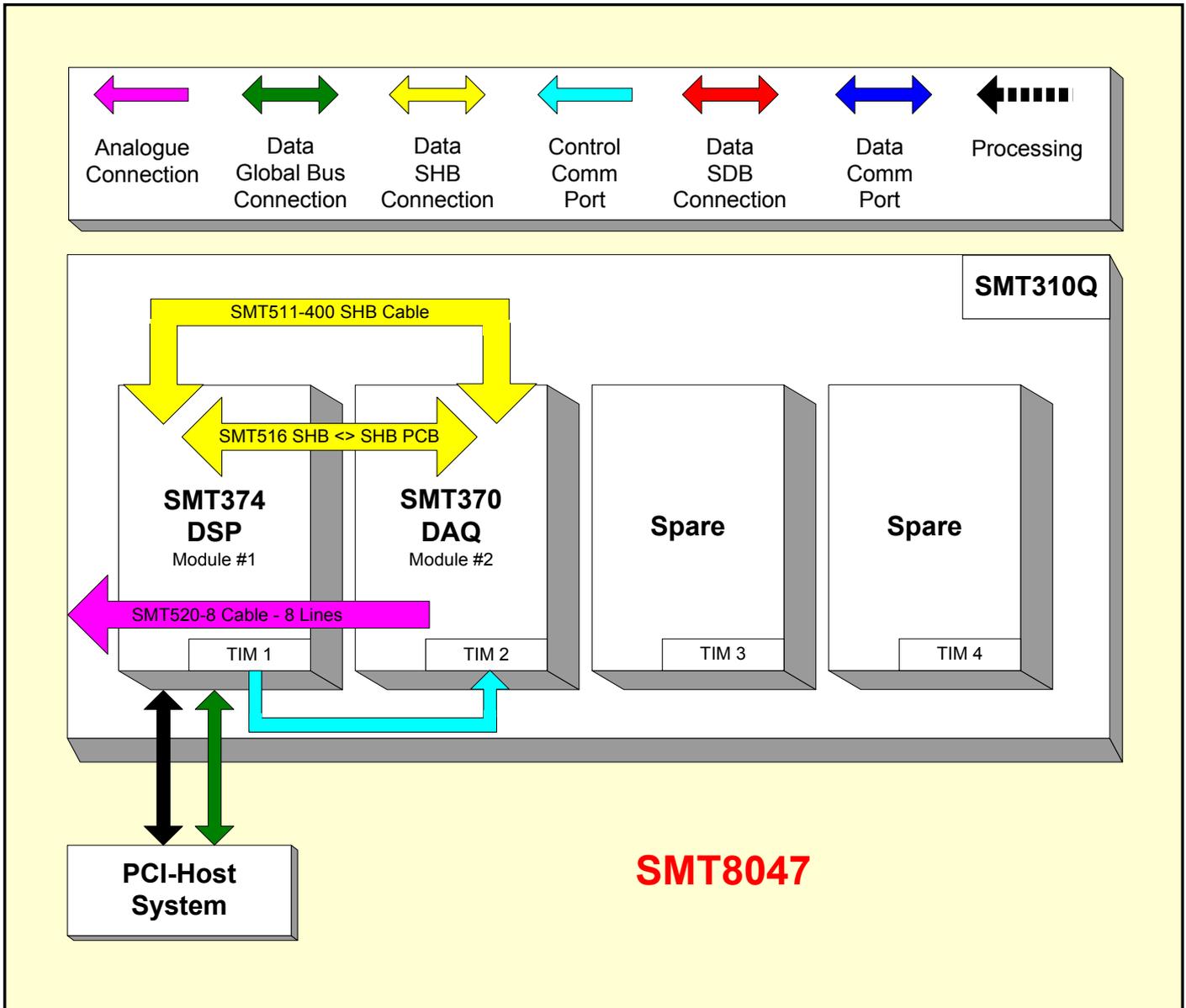
Document Title	Pegasus App	**Document ID**	PegApp_SMT8047.doc		
Date	04/09/2003	**Revision**	1	**Page**	7 of 12

© Sundance Multiprocessor Technology Ltd
Test Instructions QCF 41, 28/10/1999, Version 2

4 Software Installation.

1. Unzip SMT8047V1_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" should open
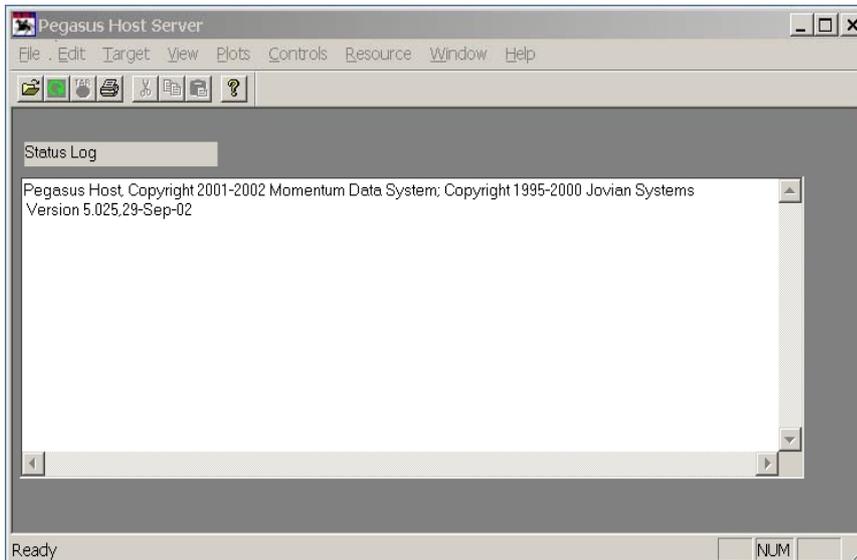
3. Go in **File** -> **open** and browse to \\MyFolder\SMT8047.PegasusC62xApp
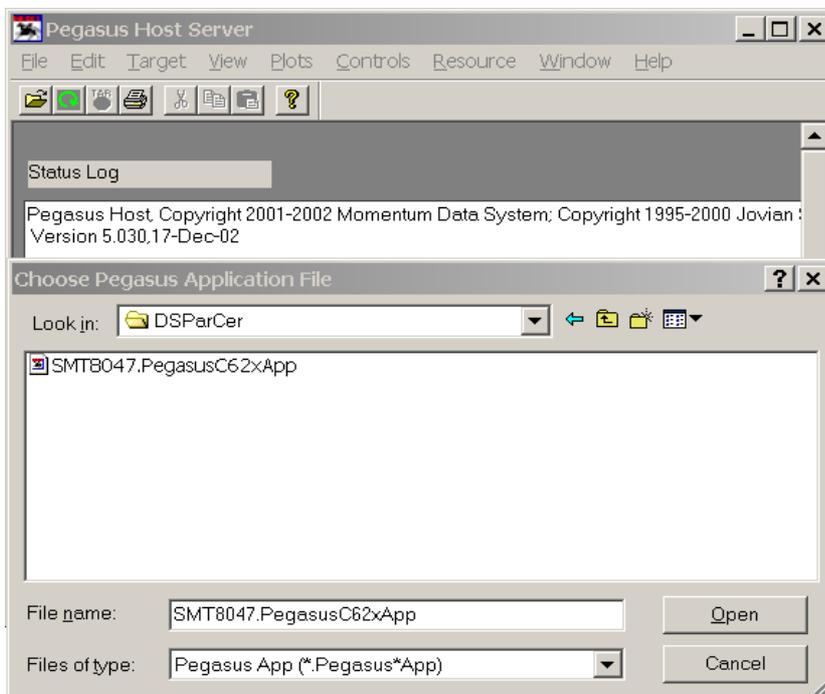
Now several display windows should open.
Automatically you should have a nice layout of the application.

Document Title	Pegasus App	Document ID	PegApp_SMT8047.doc		
Date	04/09/2003	Revision	1	Page	8 of 12

If it's not the case go to **View** -> **restore** and browse to \\MyFolder\SMT8047.PegView.

5   Pegasus Application.

Once the Pegasus Application is launched something similar to the *Figure 4* should appear on your screen.

blue window displays the FFT of the signal from channel A.
The input signal is at 6 MHz.

The green window displays the FFT of the signal from channel B.
The input signal is at 17 MHz.
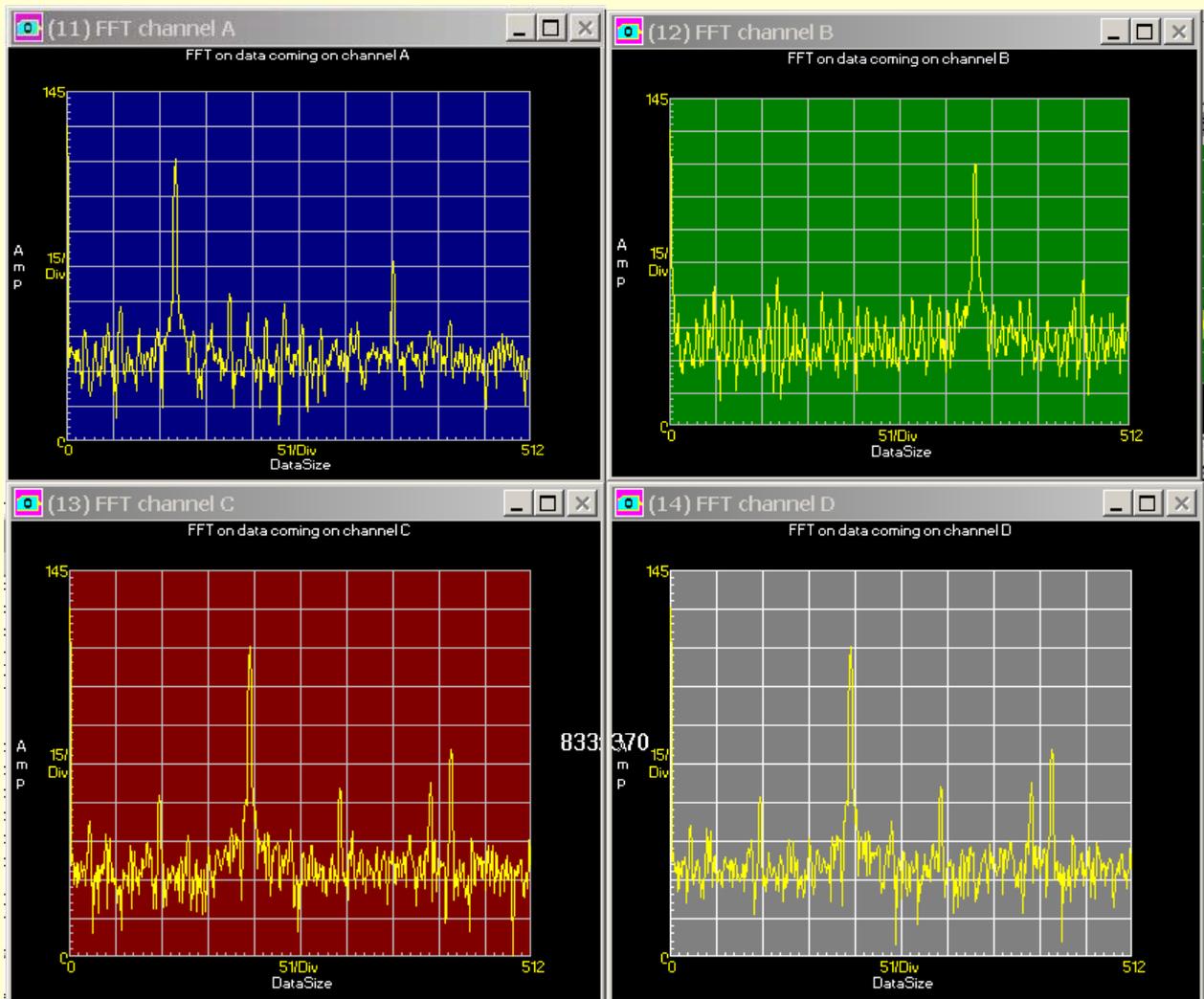
The red window displays the FFT of the signal from channel C.
The input signal is at 10 MHz.

The grey window displays the FFT of the signal from channel D.
The input signal is at 10 MHz.

Document Title	Pegasus App	Document ID	PegApp_SMT8047.doc		
Date	04/09/2003	Revision	1	Page	9 of 12

The **Status Log** area displays informational messages, mainly when the DSP application is loading. If an error occurs, the status log window may provide additional information about the nature of the problem.

The **program status indicator** displays the state that the program is in, which is generally 'Ready' (i.e., no DSP application running) or 'Host Running,' which is the state once an application is loaded and running with all host HIO resources loaded.

During the startup of tasks the **Diamond OS Windows Server console window** displays status and any failures related to memory allocation at run time.
Internal Diamond OS errors are also reported to the console window.

Figure 4: *The Pegasus Application running*

Document Title	Pegasus App	Document ID	PegApp_SMT8047.doc		
Date	04/09/2003	Revision	1	Page	10 of 12

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:

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.
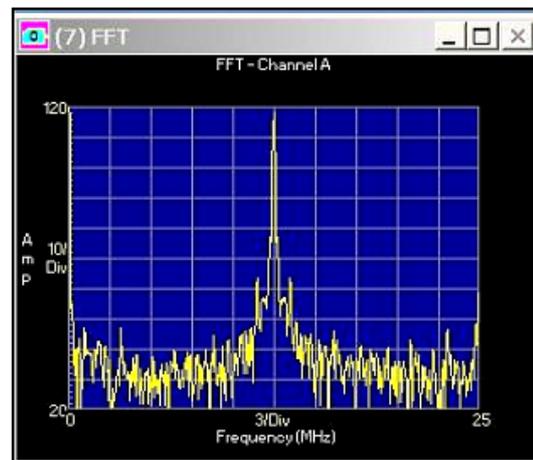
Digital mode:

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.
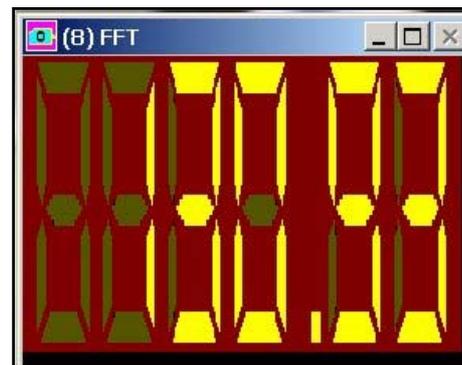
Discrete mode:

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.
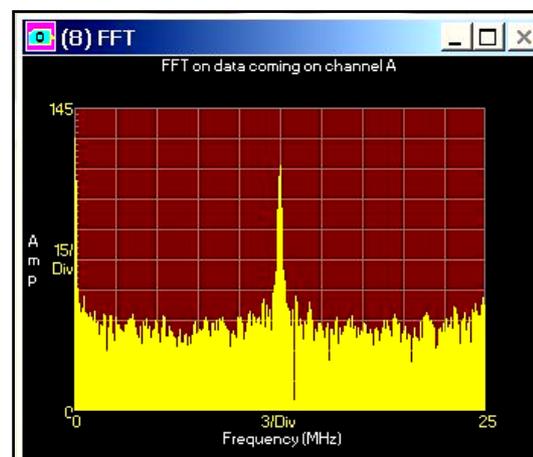
Document Title	Pegasus App	Document ID	PegApp_SMT8047.doc		
Date	04/09/2003	Revision	1	Page	11 of 12

 Sundance Multiprocessor Technology Ltd
Test Instructions QCF 41, 28/10/1999, Version 2

Spectrogram mode:

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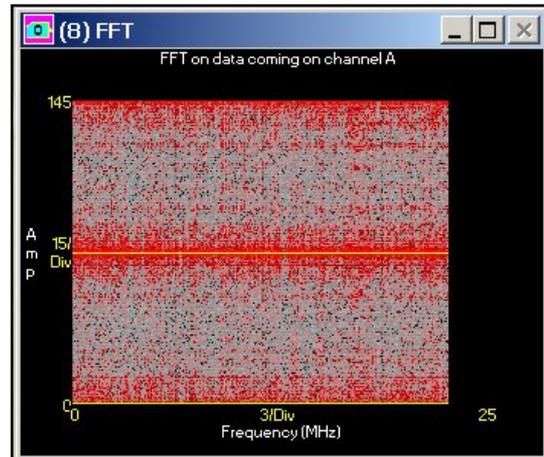
Text Mode:

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.
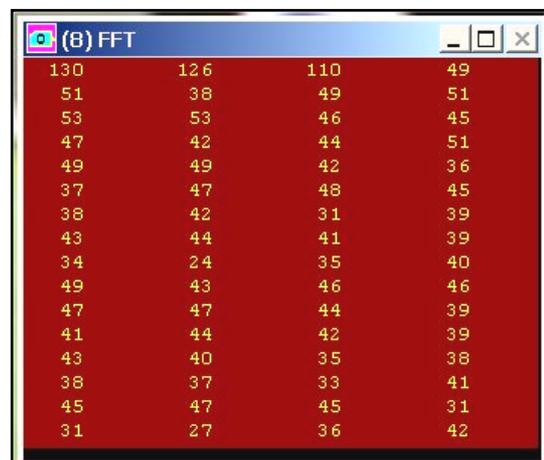
Waterfall mode:

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.

Document Title	Pegasus App	Document ID	PegApp_SMT8047.doc		
Date	04/09/2003	Revision	1	Page	12 of 12

© Sundance Multiprocessor Technology Ltd
Test Instructions QCF 41, 28/10/1999, Version 2