

PumaView
User Manual
ANSI / ITU version

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PumaView user manual version 2

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1 Introduction

The PumaView software allows a user to operate the range of hand held or rackmount Puma telecom/datacom analyser/testers using a PC and Microsoft Windows environments. PumaView operates with both RS232 and GPIB versions of the Puma. This document describes how to use PumaView Version 2

PumaView version 2.04 onwards supports both ITU and ANSI series Puma units.

The PumaView software has been designed to operate with the following Products:

Puma 4100E, 4200E, 4220E, 4300E, 4340E, 4400E and Puma 4100A, 4200A, 4300A, 4500A
The product will work with both handheld and Rackmount products.

1.1 System Requirements

In order to run PumaView software the following system requirements must be met as a minimum:

- Pentium 300MHz
- 64Mbyte RAM
- CD ROM Drive
- 35 Mbytes of free hard disk space
- Serial Port or National Instruments or compatible GPIB adapter.
- GPIB communication will require NI-488.2 Version 1.6 (or later) software installed to suit GPIB card and operating system
- Video graphics card SVGA 1024 x 768
- 256 Colours
- Mouse or other pointing device
- Operating System: Windows 2000 or Windows XP pro

2 Installation

2.1 Initial Installation

PumaView software is shipped on a CD and comes with this manual. Insert the Disk in the CD drive and use Explorer to run "set-up" on the CD drive. When the program runs follow the instructions on the screen. The PumaView program will run under Windows 2000 and XP.

2.2 Software-Upgrades

It is the policy of Consultronics Europe Limited to supply software upgrades free of charge. The latest version of PumaView software is available from our customer Service Department. Note that later versions of the software will be available from our Web Site, consultronics.com and consultronics.co.uk.

Our Service department will e-mail the latest version of the software upon request in zipped format.

To upgrade PumaView Software from a zipped file:

- 1) Un-zip file using WinZip Software. If you do not have this software then ask our service department to supply you with an Un-zipped larger file.
- 2) Run the setup.exe found in PumaView directory. This installs the PumaView application software.
- 3) When software has installed, restart the PC.
- 4) Run the PumaView application from the "Start Menu".

3 Operation

3.1 *Running PumaView*

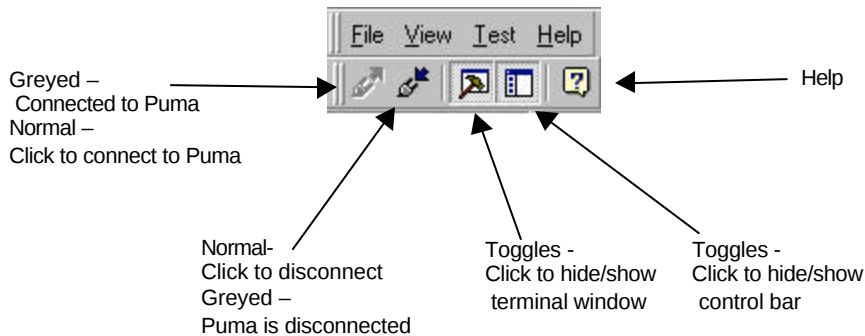
PumaView can be started from either the Start Menu or Explorer.

From the Start Menu

Select "Programs" followed by "PumaView" from the main program list then "Pumaview" from the sub-list.

4.1 The PumaView Screen

Top Menu Bar and Tools



File	<i>File options-</i>	
	Connect	<i>Initiate connection to Puma</i>
	Disconnect	<i>Disconnect from Puma</i>
	Autoconnect	<i>If enabled (ticked) Pumaview will attempt to automatically connect to Puma on starting.</i>
	Save As	<i>Previously collected results as a in 'csv' (comma separated variable) format. This option will display a filename/folder selection window. The option only appears accessible when results have been collected.</i>
	Print	<i>Print the currently collected results.</i>
	Print Preview	<i>Display a print preview of the currently collected results.</i>
	Exit	<i>Exit Pumaview and return to windows.</i>

View	<i>View options-</i>	
	Toolbar	<i>Display the toolbar on the screen if ticked.</i>
	Status Bar	<i>Display the lower status bar on the screen if ticked.</i>
	Terminal Window	<i>Display/remove the terminal window on the screen.</i>
	Control Bar	<i>Display/remove the control bar on the screen.</i>
Test	<i>Test options</i>	<i>Select the test mode (alternative to control bar)</i>
	Settings	
	Pulse Mask	
	Datacom BERT	
	Telecom BERT	
	Dual BERT	
	Voice Frequency	
	File Manager	
Help	<i>Help options-</i>	
	About PumaView	<i>Shows PumaView version information and support contact details.</i>
	Reset Defaults	<i>Resets Pumaview to default test conditions, on entering a test mode, the last used configuration is not loaded.</i>
Control Bar	<i>The Icons give quick one click access to the Pumaview test modes.</i>	
Test Window	<i>The user interface to the tests.</i>	
Terminal Window	<i>The commands sent to, and the responses back from Puma are displayed in this window.</i>	

4.2 Connecting to Puma

The PumaView PC can be connected to Puma via a null modem cable between the COM port on the PC and the RS232 port on the Puma, alternatively, a GPIB connection can be used.

Once the connection details have been set up in PumaView and the 'Autoconnect' is set, PumaView will connect automatically with the defined method when it loads and starts in the future.

4.3 Connecting for the First Time (Serial)

Click the mouse on the 'Connect' Icon –



The 'Establish Puma Connection' window will appear, click the 'details' box –

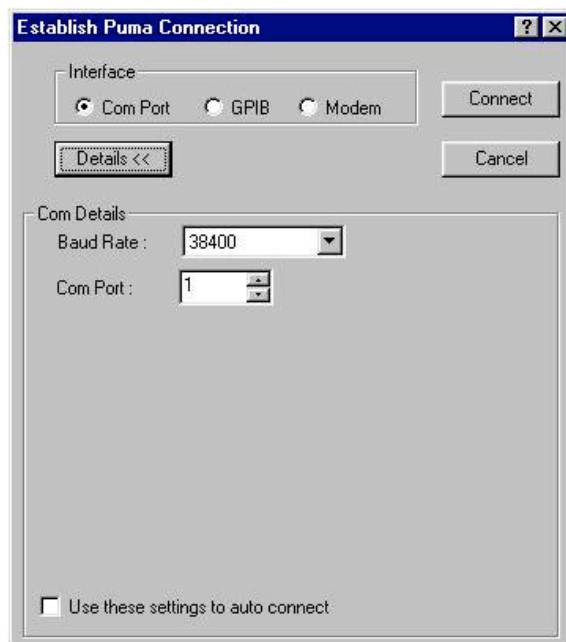


Figure 4.2 – The Connection Window – Serial Com Port

Click in Com Port, select the baud rate, select the Com port to be used and click on connect. If PumaView fails to connect an error message will appear. The 'Disconnect' tool on the top toolbar will change from grey to normal.

PumaView expects to operate – with 1 stop bit, 1 start bit, 8 data and no parity.

Rackmount Puma 4000 units operate at 38400 baud, Hand help Puma 4000 unit will need the connection details setting up in the unit's main menu option – System Settings.

4.4 Connecting for the First Time (GPIB)

Use the default settings on the 'Establish Puma Connection' window.

4.5 Connecting via a Modem

A connection to Puma can be made via dial up modem. However, both modems, at the PC end and at the remote Puma end must be of a Consultronics approved type. In the Connection Window, click the mouse against 'Modem', if the 'Details' option is opened, a connecting 'Time Out' value can be set and a remote dial up number can be entered.

4.6 After Connection

After successfully connecting a success window is displayed:



Figure 4.3 – Successful Connection Message

After click 'OK' to continue the details about the Puma which is connect are displayed on the Pumaview screen.

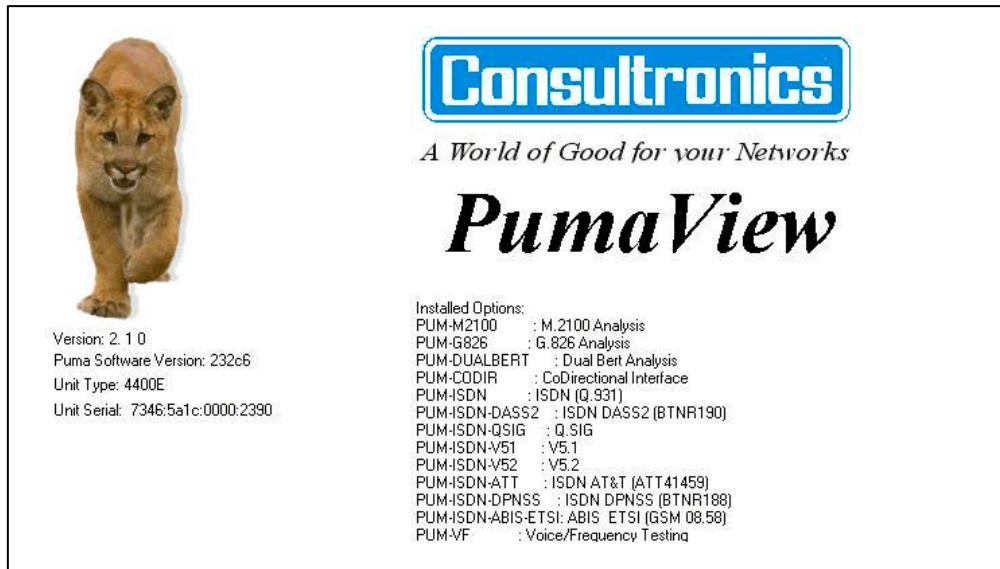


Figure 4.4 – The Puma Options Display

The version numbers of PumaView and the Puma software and the Puma type are displayed. PumaView also displays a list of all of the options available on the connected Puma.

5 The Pumaview Test Modes

Tests can be selected by clicking on the icon on the control bar or selecting the test from the top menu bar option: 'Test'

If a BERT mode test is selected and setup, an option 'Save Config' can be used to file the details. The next time that the same test mode is selected, the last saved 'config' will be loaded automatically, presetting the test setup and conditions.

6 Settings Screen

The settings screen options allow the user to change the date and time on the Puma and to load new software into the Puma if . The feature can be accessed by clicking on the Settings Icon, the screen is shown below –

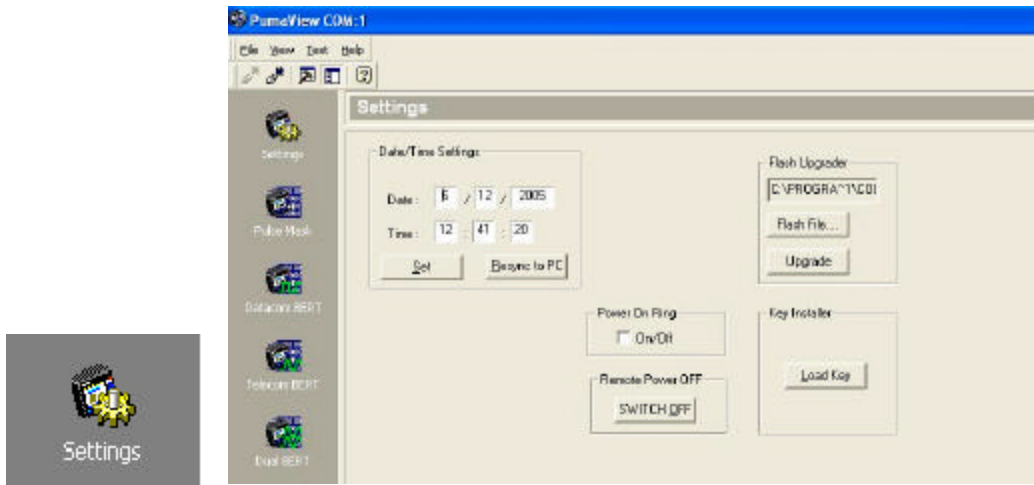


Figure 6.1 - The Settings ICON and Settings screen

The screen has two groups of command buttons – one for time and date setting and one for software loading.

Time and Date Setting

Set *Pumaview takes the time and date settings entered into the fields by the user and sends them to the Puma.*

Resync to PC *The PC's time and date are sent to the Puma.*

Puma Software Loading

This feature in Pumaview will update the software in the attached Puma.
The display field shows the path and file which will be loaded.

Flash file	<i>Pumaview displays a file selection window enabling the user to select an alternative folder/file.</i>
Upgrade	<i>Pumaview loads the selected file into the Pum.</i>

Notes.

1. This feature will only operate via a serial line connection to Puma.
2. The Puma unit must be running a version of Monitor software which is 1.3 or later.
3. The uploading process will take several minutes.

Puma Remote Power Control

This feature in Pumaview will allow the user to remotely turn off the power on a Puma unit and enable the Puma to power up when a Ring signal is detected on the RS232 serial port.

Power On Ring	<i>Tick the box to enable the Power On Ring feature.</i>
Remote Power OFF	<i>Click on the SWITCH Off button to turn off the power on the Puma.</i>

Key Installer

This feature in Pumaview will allow the user to install Option Keys into the attached Puma

Load Key	<i>Click on the LOAD KEY button, the user will be prompted for the folder where the key file is located</i>
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7 Telecom BERT Test

The Telecom BERT test is invoked by clicking on the test icon on the control bar. The test screen will appear as shown below.

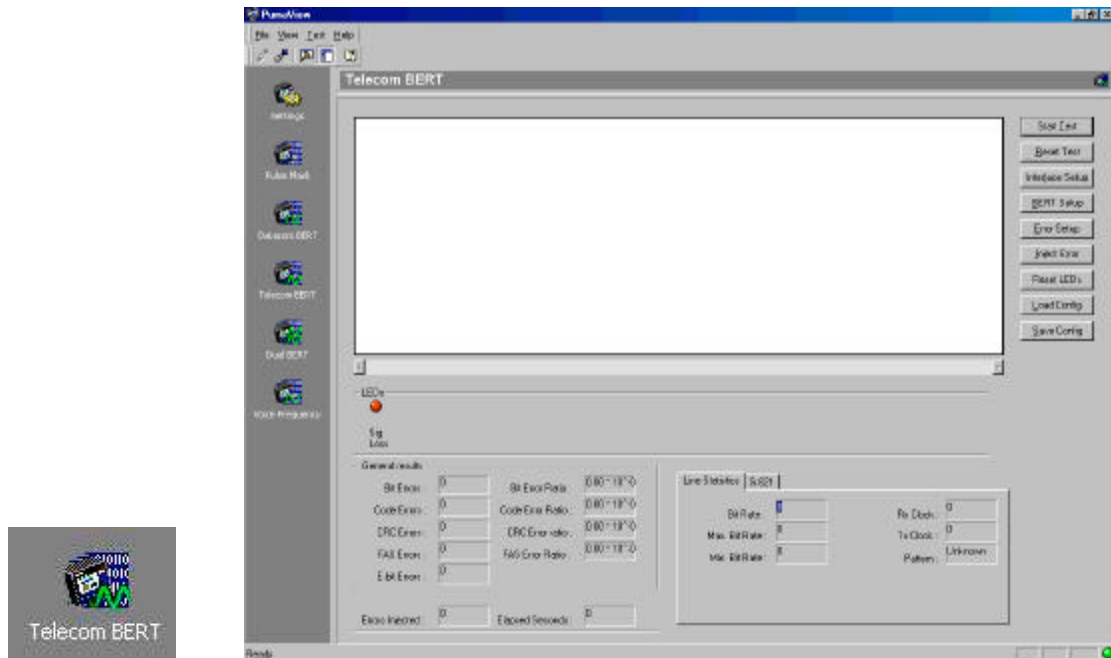


Figure 7.1 - The Telecom BERT ICON and Telecom BERT Test screen

The test screen shows the alarm/status LEDs, as would be seen on a hand held Puma, a general results window, tabbed windows for line statistics, G.821, etc., a window showing the number of errors injected and elapsed test seconds, the test setup and control buttons and a histogram display window.

The test can be set up, controlled and the results viewed with this screen. To set up and run a test, the first operation is to set up the test interface followed by configuration of the BERT test conditions. Following this the test can be started and the results will appear in the relevant windows on the screen. At any time while the test is running the error injection mechanism can be configured and errors injected.

When the test interface or BERT Setup buttons are clicked, set up windows appear on the screen, the user entry fields in the windows are preset to the settings of the last saved configuration.

The graphical histogram display is self scaling with error count on the vertical axis and elapsed time on the horizontal. The graph will show bit errors.

The horizontal time scale appearing on the histogram covers a period of 10 seconds and the histogram progresses from right to left, a slide bar below the histogram becomes active when the test is stopped. The slider on the bar can be used to move through the collected results for viewing.

7.1 Interface Set up

The interface set up window is configured according to the model of Puma which has been found at connection time, the window also adapts depending upon which options in the interface set up process are selected. For example, if the selected interface is chosen to operate unframed then no options for timeslot selection are presented, etc. The table below lists all of the possible settings and options with indication of which interface type it relates to.

The figure displays two side-by-side screenshots of the 'Interface Setup' dialog box. The left window is for Interface 'E1' and the right window is for Interface 'T1'. Both windows contain various configuration options for the selected interface.

Interface	Port	Termination	Line Coding	Framing	CRC	Tx Source	Tx Clock	Idle Pattern	CAS Bits	Termination	Line Coding	Framing	Tx Source	Tx Clock	Idle Pattern	Test Rate	LBO
E1	75 ohms	Hi-Z	HDB3	PCM30	☒	Pattern	Internal	00110010	1010								
T1										Term.	B8ZS	ESF	Pattern	Internal	00110010	Nx56k	0db

Figure 7.2 – The Interface set up window – 'E' and 'A' series Puma Units

The fields are set up as follows –

Interface	<i>Select the interface</i> E series: E1 A series: T1 4500A: T1, T3, DS1 in T3
Port	<i>Select the interface connection</i> E series: 75 ohms, 120 ohms
Termination	<i>Select the connection configuration</i> E series: HI-Z, Term, Monitor A series: HI-Z, Term, DSXMON 4500A (T3): Term, DSX3
Line Coding	<i>Select the line coding</i> E series: AMI, HDB3 A series: AMI, B8ZS 4500A (T3): AMI, B3ZS
Framing	<i>Select the framing</i> E series: Unframed, PCM30, PCM31 A series: Unframed, ESF, SF/D4, SLC96 4500A (T3): Unframed, M13, C-Bit
Note. A Puma 4500A configured for a DS1 in T3 test will require both the T3 framing to be set and the DS1 framing to be set.	
CRC	<i>Enable CRC4</i> E series: Click to toggle enable/disable
Tx Source	<i>Selects the transmitter source</i> E series: Pattern, Through A series: Pattern, Through
Tx Clock	<i>Select the transmit clock source</i> E series: Internal, External, CLK RxA, CLK RxB A series: Internal, External, CLK RxA, CLK RxB 4500A (T3): Internal, External, Recovered
DS1 in T3 Timeslot	<i>Select the DS1 Timeslot to be used for testing</i> 4500A (T3): Timeslot number

T3 Rx Timeslot	<i>Select the DS1 Timeslot to be used for Receive</i> 4500A (T3): Timeslot number
Other DS1's	<i>Select the setting for unused DS1 timeslots</i> 4500A (T3): Loopback, BLUE-AIS
Idle Pattern	<i>Select the pattern for idle time slots</i> E series: 8 bit binary value A series: 8 bit binary value
Test Rate	<i>Select the test rate to be used</i> A series: 1.544, Nx56k, Nx64k
LBO	<i>Select Line Build Out</i> A series: 0dB, -7.5dB, -15dB, -22.5dB, 266ft, 399ft, 533ft, 655ft 4500A (T3): Shorthaul, Longhaul
FEBE Alarm	<i>Select FEBE Alarm mode</i> 4500A (T3): Auto, Manual
CAS Bits	<i>Select the default CAS bit pattern</i> E series: 4 bit binary value

7.2 BERT Setup

Generally, the BERT setup window appears as shown below, if the testing is unframed then all timeslot selection boxes are 'greyed' out. If the testing is being conducted in framed mode on an 'A' series unit then only the first 24 timeslot boxes are available—

Figure 7.3 – BERT Setup Window for an E series Puma

The fields are set up as follows –

Pattern

Select the BERT test pattern

The groups of controls in the left of the window (Timeslots TxA and Timeslots RxA) enable the user to select the timeslots to be used for transmitting and receiving if a framed mode of testing is required. The timeslots can be clicked on individually or the buttons below the groups used to '**Select All**' or '**Deselect All**'. For the pattern of timeslots selected for receive or transmit, the '**Copy to . .**' button can be used for copying the selection to the other group.

Timeslot TxA

Select the timeslots for transmitting

This option is enabled only if a framing test mode is selected.

Timeslot RxA *Select the timeslots for receiving*
This option is enabled only if a framing test mode is selected.

Tx Polarity *Select the transmit polarity*
Normal
or **Inverted**

Note. Puma automatically identifies if whether the incoming data is Normal or inverted and sets itself accordingly.

Clock deviation *Set the transmit clock deviation ± 9999 ppm*

BERT Tx Mode *Set the BERT pattern insertion mode to:*
Distributed
or **Broadcast**

The test control in Pumaview allows the testing to be started at a specific time and date and/or run for a specific duration.

To schedule a test to commence at a specific time and date:

Schedule *Click this box to enable*

*Set the date and the time in the fields below. The down arrow on the date window will
Drop down a calendar to assist and in the time fields the up/down arrows can be used
to change the hours/minutes/seconds by increment or decrement if required.*

To specify a duration for the testing:

Timed Test *Click this box to enable*

Set the fields for test duration in Days, Hours and minutes.

Note, with scheduled and/or timed testing it is still necessary to click on **START** to commence the test.

OK For the details setup to be accepted click on OK

Cancel *For the previously selected details to be left unchanged
click Cancel.*

7.3 Start the Test

Clicking on the screen button **Start Test** will commence testing, the graph display will appear with an increasing scale of time, if bit errors are occurring they will appear on the graph and the vertical margin will self scale to accommodate the number of errors seen for the graphing interval. The Start Test button legend will change to **Stop Test**.

In the General Results Window any Bit, Code, CRC, FAS or E-bit occurrences will show in the counters and the error ratios will be displayed.

In the lower window the number of injected errors and elapsed test seconds will show. The tabbed windows below the graph on the right will show line statistics and G.821 result analysis.

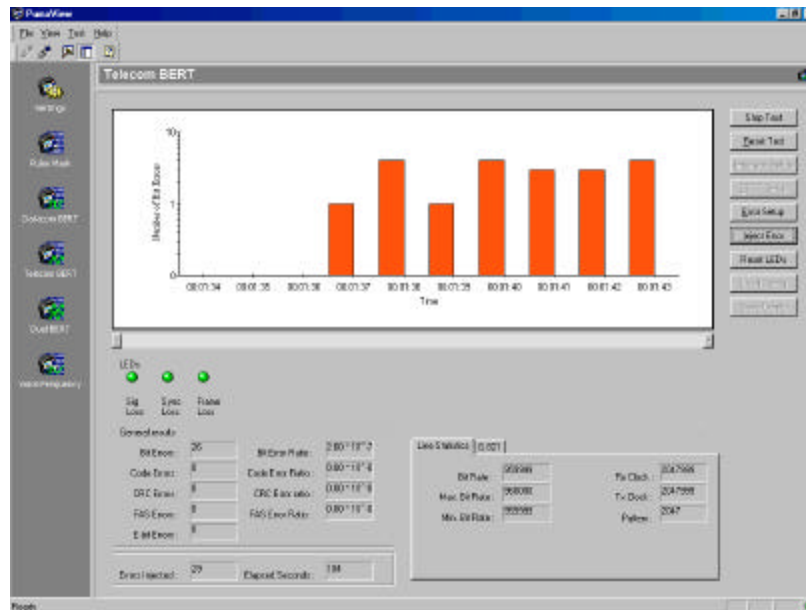


Figure 7.4 – Telecom BERT Screen Showing Results – E1

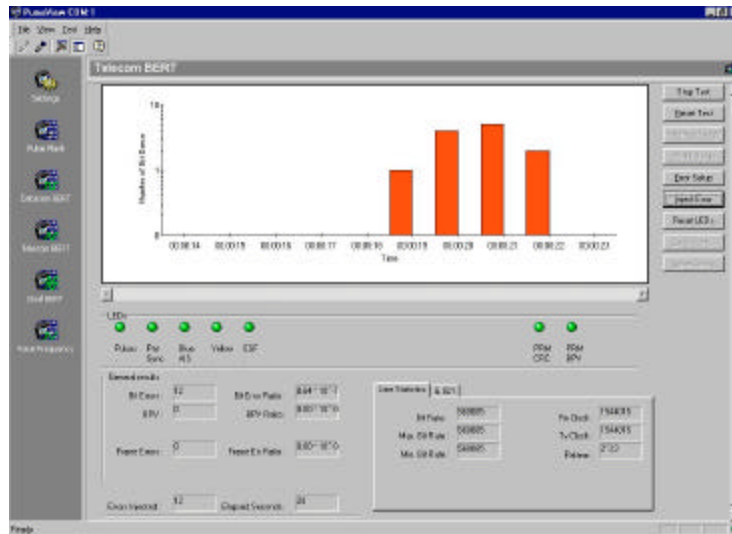


Figure 7.5 – Telecom BERT Screen Showing Results – T1

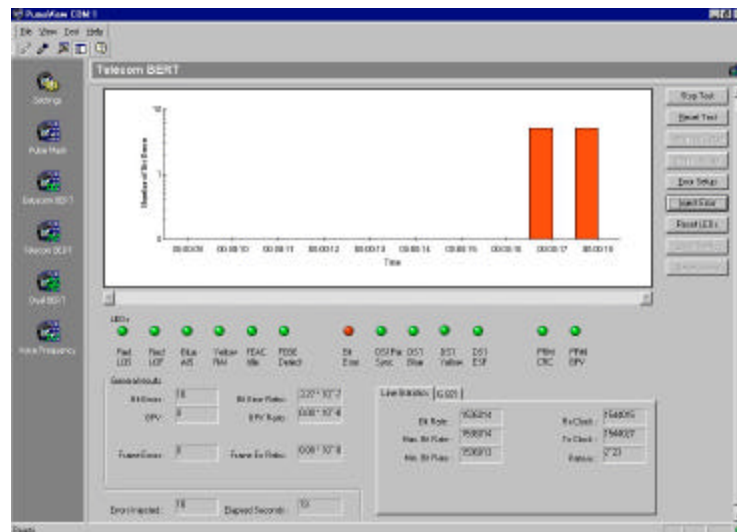


Figure 7.6 – Telecom BERT Screen Showing Results – DS1 in T3

When Pumaview is in 'Run' mode the live control buttons on the right of the graph screen are 'Stop Test', 'Reset Test', 'Error Setup', 'Inject Error' and 'Reset LEDs'.

7.3.1 Starting Time Scheduled Tests

If a scheduled start time has been set up for the test in the BERT setup the 'Start' button must still be clicked on enter the test run mode. Pumaview will wait until the scheduled date and time to occur at which point the test will commence running. During the waiting period a 'Waiting' window appears on the screen showing the time-to-go to starting the test.

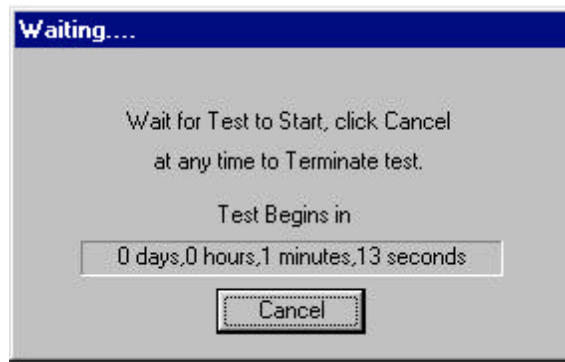


Figure 7.5 – The Test Waiting to Start Message

7.4 Saving Results

To save results, stop Pumaview testing by clicking on the 'Stop' button, click on the top menu bar 'File' option and select the 'Save as' option, a Windows folder / filename selection box appears, select the folder and enter a file name and click 'Save'

The file is stored in a CSV (Comma Separated Variable) format.

7.5 Printing Results

Two printing options are available in the top menu bar 'File' option. 'Print' and 'Print Preview'. Print Preview will show on the screen a picture of how the printed page will appear.

The 'Print' option will send the current results to the PC's default printer

7.6 Injecting Errors

The error injection procedure comprises two stages, setting the error type to be injected and injecting the errors. Click on the button **Error Setup** to select the error type and injection method.

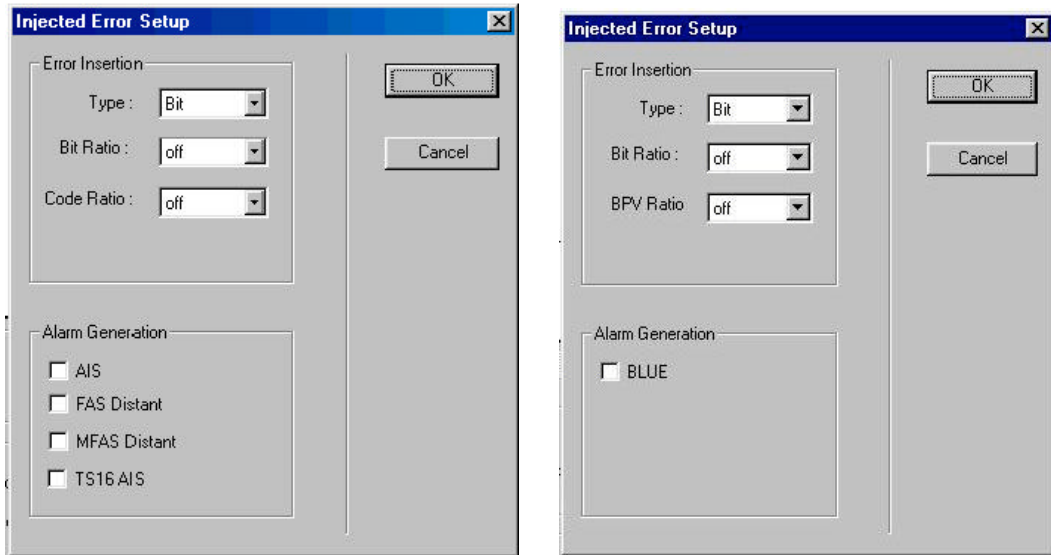


Figure 7.6 – The Error Setup Window – with E series and with A series Units

Select the error type – **Bit, Code, CRC, FAS, Ebit, NFAS or MFAS**. Each time the **Inject Error** button is clicked an error of the selected type will be injected.

Selecting a value in **Bit Ratio (1^{-1} to 1^{-7})**, **Code Ratio (1^{-1} to 1^{-7})** or **BPV Ratio (1^{-1} to 1^{-7} for A series units)** will inject errors of the chosen type at the selected ratio.

Clicking on an alarm in the **Alarm Generation** window will set the selected alarm type.

7.7 Reset Test

Clicking on the command button Reset Test will set to zero and clear all results accumulated for this test.

7.8 *Reset LEDs*

Clicking on the command button Reset LEDs will reset the alarm/status indicator LEDs. Puma will show that an error occurred but is now cleared by flashing the appropriate LED red, this reset will clear the condition back to green.

7.9 *Save Config*

The 'Save Config' option allows the user to save the test setup to allow a test with the same conditions to be run on another occasion. Clicking on the option brings up a Windows Folder/File name entry window, select a folder and enter a filename and click on 'Save'

7.10 *Load Config*

The 'Load Config' option allows the user to load a previously saved test setup. Clicking on the option brings up a Windows Folder/File name entry window, select a folder and select the Config file, click 'Open' to load the chosen configuration file. The test will be ready to start.

Note. Each test mode in Pumaview has a separate set of config files, each test mode actually uses a different filename extension for saving config files. When it is required to load a previously saved test configuration the user will only see config files saved for the presently selected test mode.

8 Datacom BERT Test

The Datacom BERT test is invoked by clicking on the test icon on the control bar. The test screen will appear as shown below.

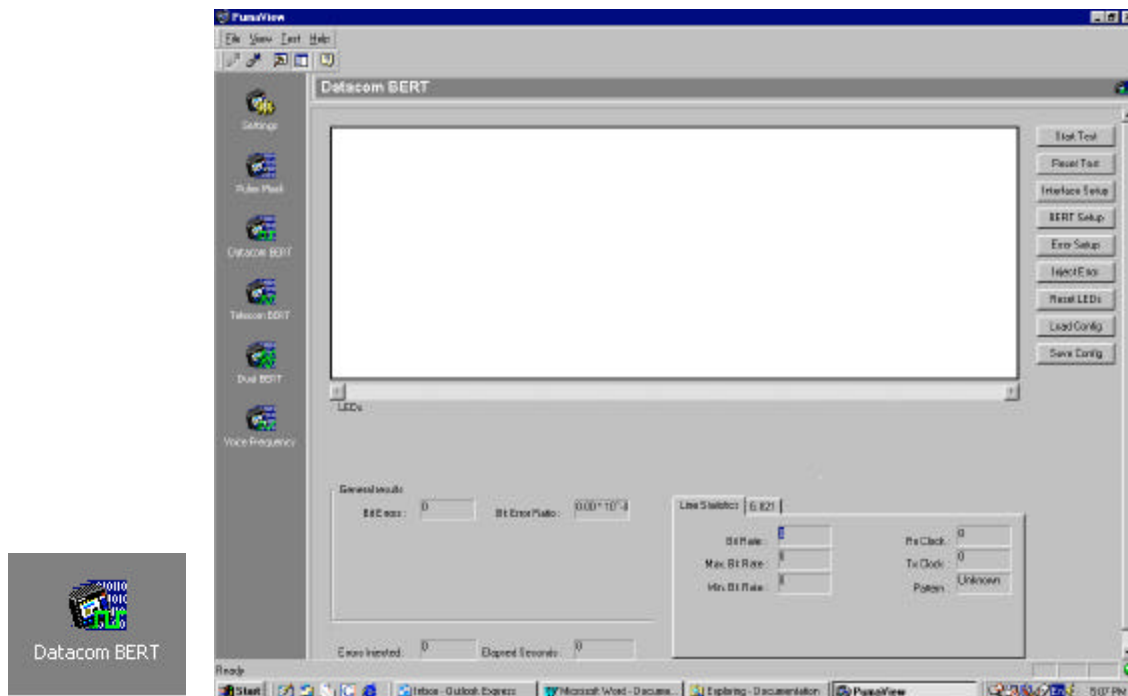


Figure 8.1 - The Datacom BERT ICON and Datacom BERT Test screen

The test screen shows the alarm/status LEDs, as would be seen on a hand held Puma, a general results window and line statistics, a window showing the number of errors injected and elapsed test seconds, the test setup and control buttons and a histogram display window.

The test can be set up, controlled and the results viewed with this screen. To set up and run a test, the first operation is to set up the test interface followed by configuration of the BERT test conditions. Following this the test can be started and the results will appear in the relevant windows on the screen. At any time while the test is running the error injection mechanism can be configured and errors injected.

When the test interface or BERT Setup buttons are clicked, set up windows appear on the screen, the user entry fields in the windows are preset to the settings of the last saved configuration.

The graphical histogram display is self scaling with error count on the vertical axis and elapsed time on the horizontal. The graph will show bit errors.

The horizontal time scale appearing on the histogram covers a period of 10 seconds and the histogram progresses from right to left, a slide bar below the histogram becomes active when the test is stopped. The slider on the bar can be used to move through the collected results for viewing.

8.1 Interface set up

The interface set up window appears as shown below, additional and alternative fields will appear depending upon interface settings. The examples below show the interface set up window for the V.35 interface in DTE mode and DCE mode.

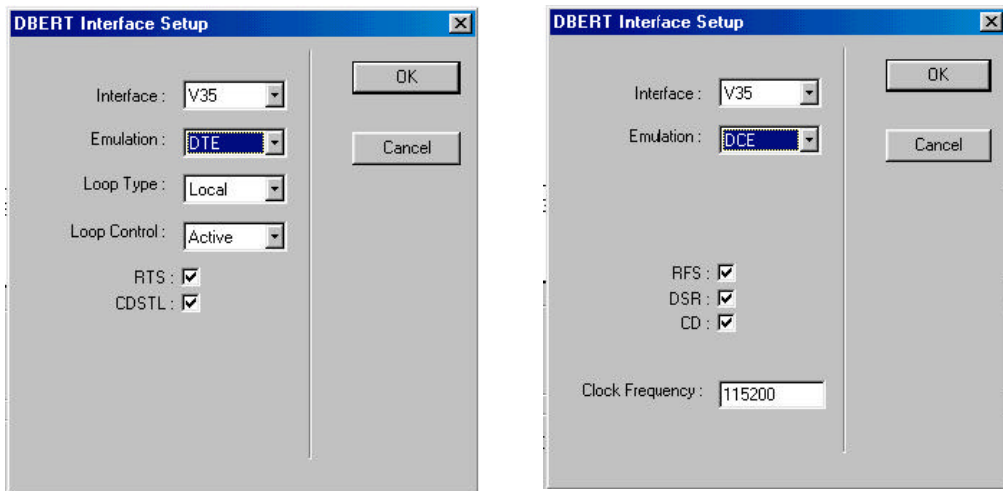


Figure 8.2 - V.35 DTE Interface Setup and DCE Interface Setup

Interface and emulation will appear on the setup window for all Datacom interfaces -

Interface	<i>Select the interface to be tested</i> V.35 V.24 X.21 RS449
Emulation	<i>Select datacom emulation for Puma</i> DTE DCE

The other interface setup options in the window are dependant upon DTE/DCE and the interface type selected.

For DTE interfaces which support loopback control-

Loop Type	<i>Select the loop type –</i> Local Remote
Loop Control	<i>Select the control function-</i> Active Inactive

For DCE interfaces the clock frequency option appears –

Clock Frequency	<i>Set the clock speed</i>
------------------------	----------------------------

Depending upon the interface type and mode selected, set the control line options as required.

8.2 BERT Setup

Click BERT setup and set up the BERT test conditions in the set up window which will appear – BERT Pattern, Transmit polarity. If the Datacom emulation is set up for DCE then it is also possible to set a clock deviation.

Scheduled and timed testing can be performed whilst in Datacom BERT test mode, see the description of the features for setting up in the Telecom BERT test mode description.
(paragraph 7.2)

8.3 Start the Test

Clicking on the screen button **Start Test** will commence testing, the graph display will appear with an increasing scale of time, if bit errors are occurring they will appear on the graph and the vertical margin will self scale to accommodate the number of errors seen for the graphing interval. The Start Test button legend will change to **Stop Test**.

In the General Results Window any Bit error occurrences will show in the counters and the error ratio will be displayed. In the lower window the number of injected errors and elapsed test seconds will show.

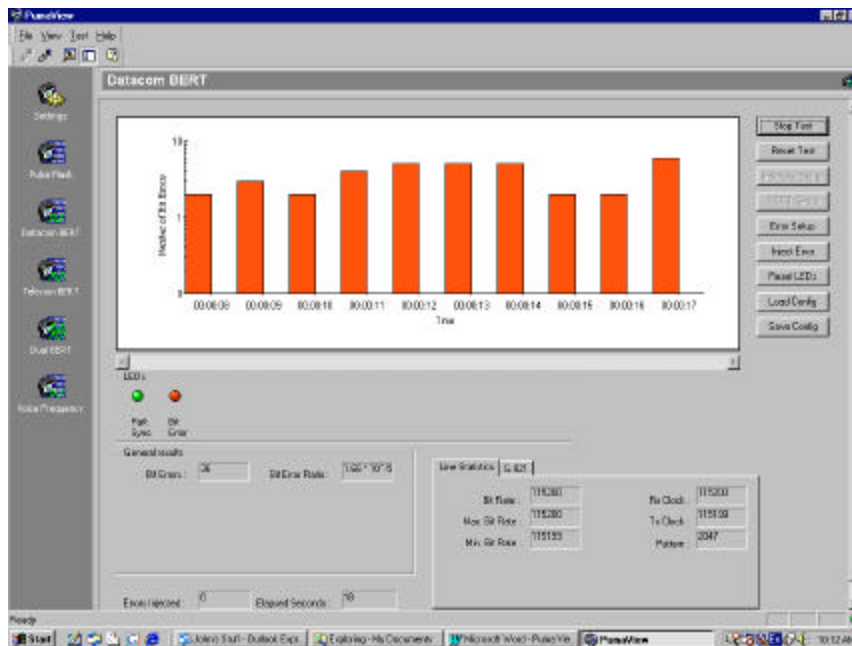


Figure 8.4 – Datacom BERT screen show results

When Pumaview is in 'Run' mode the valid control buttons on the right of the graph screen are 'Stop Test', 'Reset Test', 'Error Setup', 'Inject Error' and 'Reset LEDs'.

8.3.1 Starting Time Scheduled Tests

If a scheduled start time has been set up for the test in the BERT setup the 'Start' button must still be clicked on enter the test run mode. Pumaview will wait until the scheduled date and time to occur at which point the test will commence running. During the waiting period a 'Waiting' window appears on the screen showing the time-to-go to starting the test.

8.4 Saving Results

To save results, stop Pumaview testing by clicking on the 'Stop' button, click on the top menu bar 'File' option and select the 'Save as' option, a Windows folder / filename selection box appears, select the folder and enter a file name and click 'Save'

The file is stored in a CSV (Comma Separated Variable) format.

8.5 Printing Results

Two printing options are available in the top menu bar 'File' option. 'Print' and 'Print Preview'. Print Preview will show on the screen a picture of how the printed page will appear.

The 'Print' option will send the current results to the PC's default printer

8.6 Injecting Errors

The error injection procedure comprises two stages, setting the error type to be injected and injecting the errors. Click on the button **Error Setup** to select the error type and injection method.

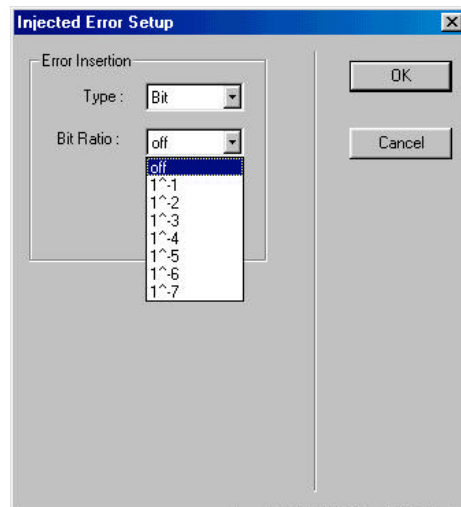


Figure 8.5 – The Error Setup Window

Select the error type – **Bit**. Each time the **Inject Error** button is clicked an error will be injected.

Selecting a value in **Bit Ratio (1⁻¹ to 1⁻⁷)** will inject errors at the selected ratio.

8.7 Reset Test

Clicking on the command button Reset Test will set to zero and clear all results accumulated for this test.

8.8 Reset LEDs

Clicking on the command button Reset LEDs will reset the alarm/status indicator LEDs. Puma will show that an error occurred but is now cleared by flashing the appropriate LED red, this reset will clear the condition back to green.

8.9 Save Config

The 'Save Config' option allows the user to save the test setup to allow a test with the same conditions to be run on another occasion. Clicking on the option brings up a Windows Folder/File name entry window, select a folder and enter a filename and click on 'Save'

8.10 Load Config

The 'Load Config' option allows the user to load a previously saved test setup. Clicking on the option brings up a Windows Folder/File name entry window, select a folder and select the Config file, click 'Open' to load the chosen configuration file. The test will be ready to start.

Note. Each test mode in Pumaview has a separate set of config files, each test mode actually uses a different filename extension for saving config files. When it is required to load a previously saved test configuration the user will only see config files saved for the presently selected test mode.

9 Pulse Mask Test

The Pulse Mask test is invoked by clicking on the test icon on the control bar. The test screen will appear as shown below, the example below shows the screen displaying a pulse capture.

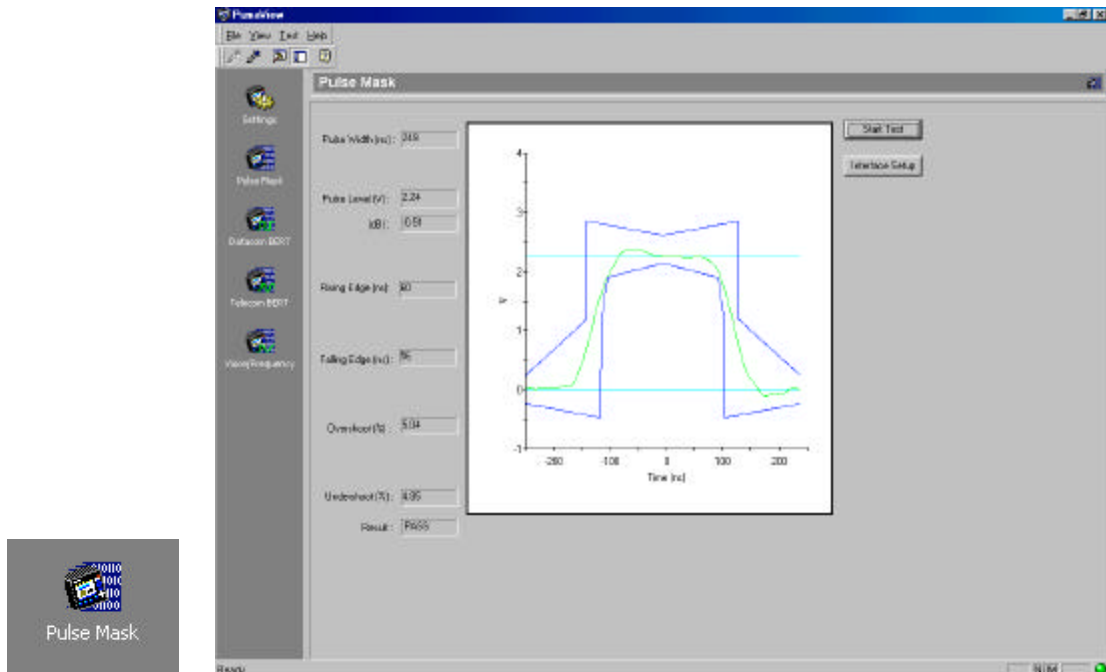


Figure 9.1 - The Pulse Mask Test ICON and Pulse Mask Test screen – E1 example

The test screen shows the captured pulse in a graphics window and the pulse characteristics tabulated. The ITU-T G.703 mask is shown superimposed on the graphics window, the ANSI T1.102 mask is used for T1.

Two buttons appear on the screen – **Start Test** and **Interface Setup**

Clicking on the Interface Setup button allows the Puma interface connection to be set up. The setup window appears as shown below.

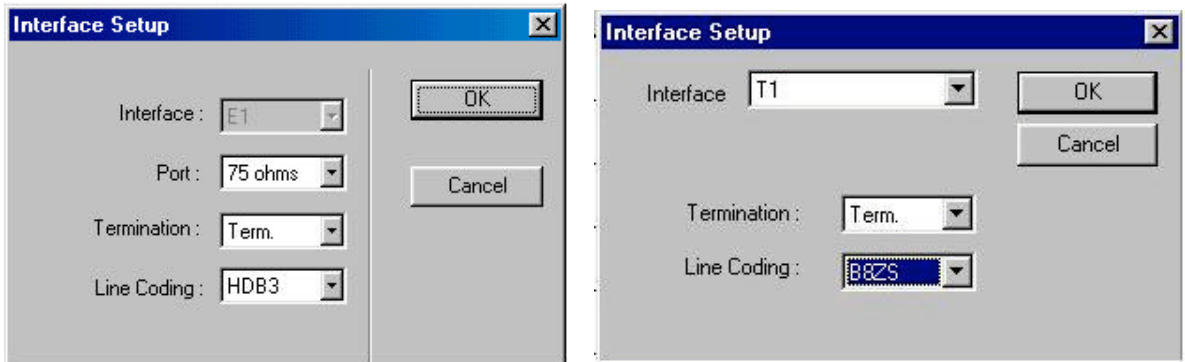


Figure 9.2 – The Pulse Mask - Interface Setup Windows – for E and A series

The fields are set up as follows –

Interface	Select the interface (E1)
Port	Select the interface connection E series: 75 ohms, 120 ohms
Termination	Select the connection configuration E series: Bridged, Term, Monitor A series: HI-Z, Term, DSXMON
Line Coding	Select the line coding E series: AMI, HDB3 A series: AMI, B8ZS

9.1 Start Test

The Start Test button initiates the pulse capture and processing at the completion of the procedure the graph appears with the tabulated values. This test can take several seconds to complete.

10 Voice Frequency (VF) Test

The VF test is invoked by clicking on the test icon on the control bar. The test screen will appear as shown below, the example below shows a test in progress.

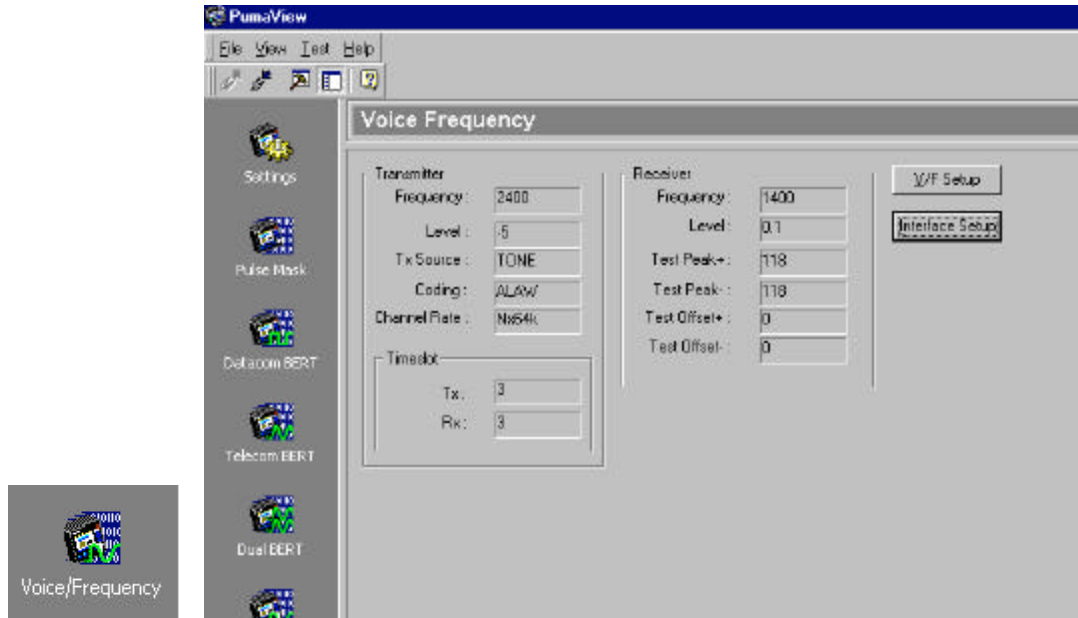


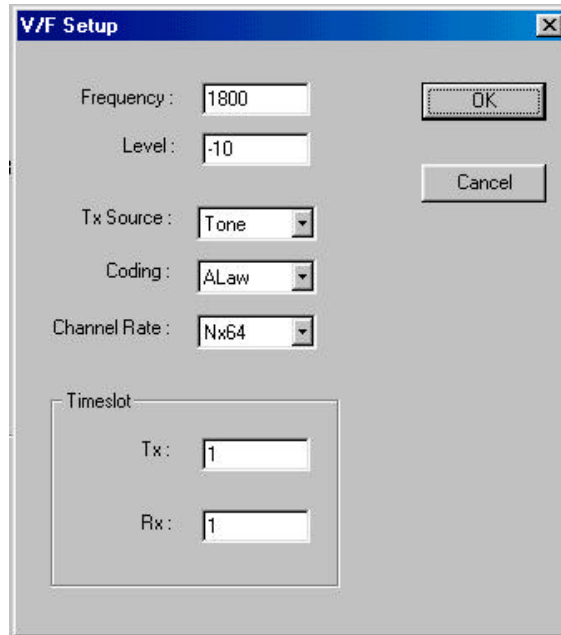
Figure 10.1 - The VF Test ICON and VF Test screen

The VF test screen shows the Transmitter set up window and the Receiver display window.

There are two buttons on the screen – **V/F Setup** and **Interface Setup**

Clicking on the Interface Setup button allows the Puma interface connection to be set up. See section 1.1 – Interface setup, Telecom BERT

Clicking on the **V/F Setup** allows the user to set up the VF transmitter characteristics, a window appears on the screen as shown below –



The image shows a 'V/F Setup' dialog box with a blue title bar and a close button. It contains several input fields and dropdown menus. The 'Frequency' field is set to '1800'. The 'Level' field is set to '-10'. The 'Tx Source' dropdown is set to 'Tone'. The 'Coding' dropdown is set to 'ALaw'. The 'Channel Rate' dropdown is set to 'Nx64'. There are 'OK' and 'Cancel' buttons on the right. A 'Timeslot' section is at the bottom, containing 'Tx' and 'Rx' fields, both set to '1'.

Field	Value
Frequency	1800
Level	-10
Tx Source	Tone
Coding	ALaw
Channel Rate	Nx64
Timeslot Tx	1
Timeslot Rx	1

Figure 10.2 – VF Set up Screen

- | | |
|------------------|--|
| Frequency | Select the VF transmitter frequency (1 to 3998Hz) for the tone generator. |
| Level | Select the VF transmitter signal level (-53dBm to +3dBm) for the tone generator. |
| Tx Source | Select the transmitter audio signal source
Tone
Mic.
Ext. In |

Coding	<i>Select the companding law</i> ?-law A-law
Channel Rate	<i>Select the channel rate</i> Nx64 Nx56 All 64k All 56k
Timeslot Tx	<i>Select a Tx timeslot if Nxmm</i>
Timeslot Rx	<i>Select a Rx timeslot if Nxmm</i>

The results from the VF receiver are displayed in the receiver window.

11 Dual BERT Test

The Dual BERT test is invoked by clicking on the test icon on the control bar. The test screen will appear as shown below. Note, this test mode is only available for dual telecom channel E series Puma units

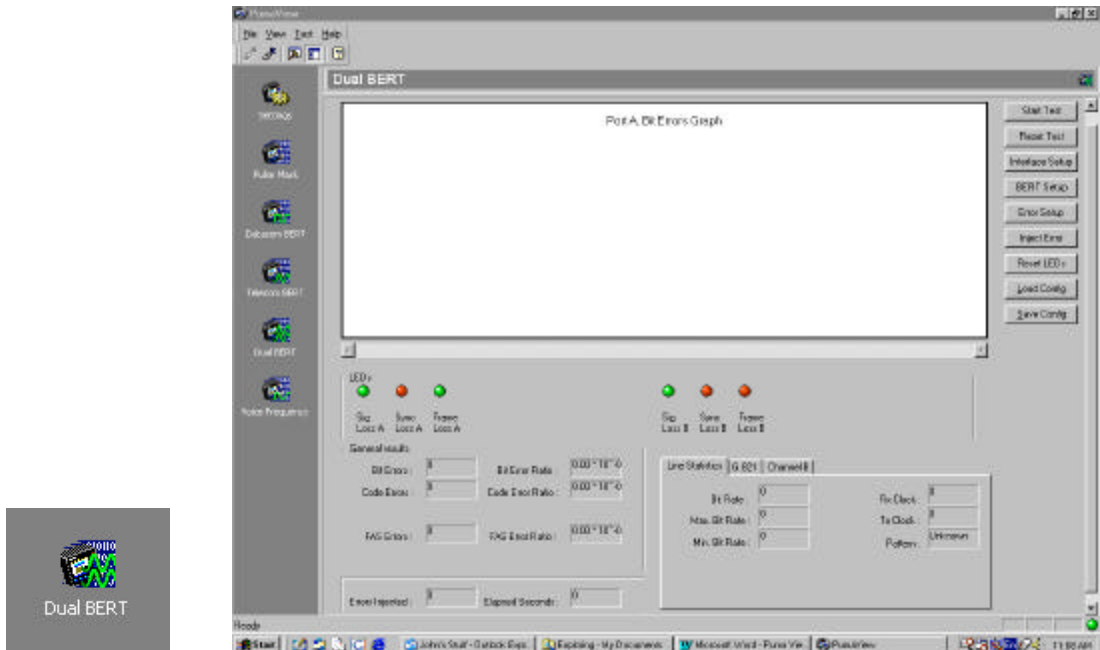


Figure 11.1 - The Dual BERT ICON and Dual BERT Test screen

The Dual BERT test performs two telecom BER Tests simultaneously one through channel 'A' on the Puma and the second through channel 'B'. The interface connection can be set for each channel but the framing and BER test characteristics have to be the same: timeslot maps, test pattern, etc.

The BERT test results on the graph are for channel 'A' and the channel 'B' results can be viewed by clicking on the 'Channel B' results tab. Two sets of LED's are shown, the left hand set for channel 'A' and the right hand for channel 'B'.

Error injection can be set up for manually inserting errors into channel 'A' or channel 'B' (Bit only on channel B) and also automatically inserted by ratio for both channels.

The other test mode features found on the Telecom BERT test: scheduled and timed testing, result saving and printing, and test configuration saving and loading are also available with the Dual BERT test.

Additional fields are available on the interface Setup and Error Setup windows for options on channel 'B'.

The test is set up, controlled and the results viewed with this screen.

To set up and run a Dual BERT test, set up the test interface followed by configuration of the BERT test conditions. Following this the test can be started and the results will appear in the relevant windows on the screen. At any time while the test is running the error injection mechanism can be configured and errors injected.

When the test mode is entered the interface setup, BERT setup and other test conditions will be preset to those last saved in a 'Save Config'

The graphical histogram display is self scaling with error count on the vertical axis and elapsed time on the horizontal. The graph will show bit errors for channel 'A'.

The horizontal time scale appearing on the histogram covers a period of 10 seconds and the histogram progresses from right to left, a slide bar below the histogram becomes active when the test is stopped. The slider on the bar can be used to move through the collected results for viewing.

11.1 Interface set up

The interface set up window appears as shown below, additional and alternative fields will appear depending upon interface settings. Note the two fields for connection port.

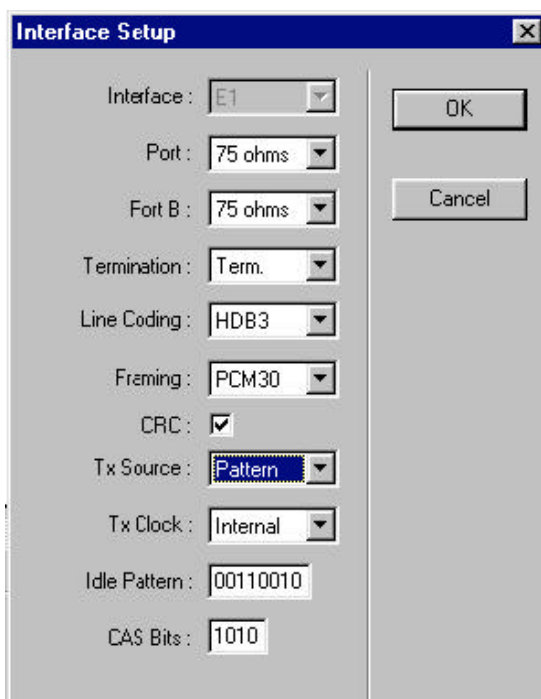


Figure 11.2 – The Interface set up window

The fields are set up as follows –

Interface	Select the interface (currently E1 only)
Port	Select the interface connection for port A E series: 75 ohms, 120 ohms
Port B	Select the interface connection for port B E series: 75 ohms, 120 ohms
Termination	Select the connection configuration E series: Bridged, Term, Monitor

Line Coding	<i>Select the line coding</i> E series: HDB3, AMI
Framing	<i>Select the framing</i> E series: Unframed, PCM30, PCM31
CRC	<i>Enable CRC4, click the mouse in the box</i>
Tx Source	<i>Selects the transmitter source</i> E series: Pattern, Through
Tx Clock	<i>Select the transmit clock source</i> E series: Internal, External, CLK RxA, CLK RxB
Idle Pattern	<i>Select the pattern for idle time slots</i> E series: 8 bit binary pattern
CAS Bits	<i>Select the general CAS bit pattern</i> E series: 4 bit binary pattern

11.2 BERT Setup

For BERT Setup see the description under Telecom BERT, paragraph 7.2

11.3 Start the Test

Clicking on the screen button **Start Test** will commence testing, the graph display will appear for channel 'A' with an increasing scale of time. If bit errors are occurring they will appear on the graph and the vertical margin will self-scale to accommodate the number of errors seen for the graphing interval. Results for channel 'B' can be seen by clicking on the 'Channel B' results tab. The Start Test button legend will change to **Stop Test**.

In the lower window the number of injected errors and elapsed test seconds will show.

The tabbed windows below the graph on the right will also show line statistics and G.821 result analysis for Channel 'A'.

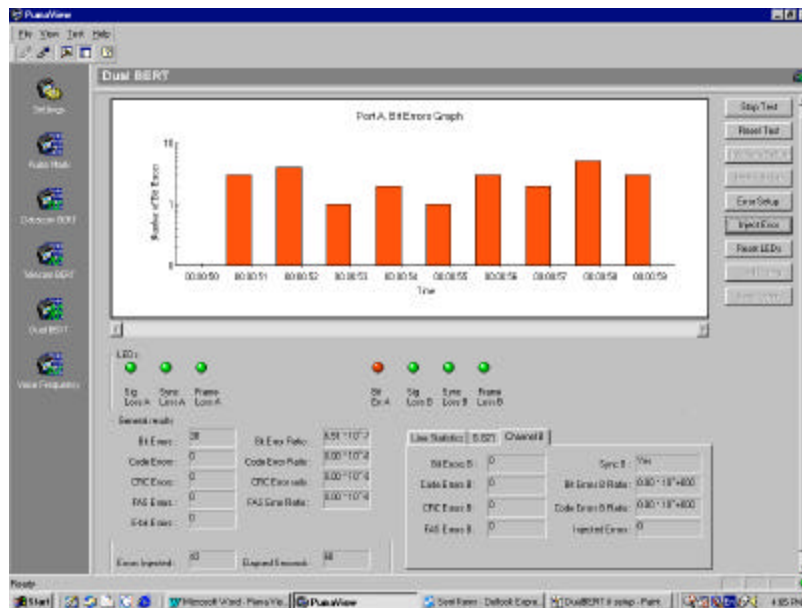


Figure 11.3 – Dual BERT Screen Showing Results

When Pumaview is in 'Run' mode the valid control buttons on the right of the graph screen are 'Stop Test', 'Reset Test', 'Error Setup', 'Inject Error' and 'Reset LEDs'.

11.3.1 Starting Time Scheduled Tests

If a scheduled start time has been set up for the test see the description in Telecom BERT paragraph 7.3.1

11.4 Saving Results

See Telecom BERT paragraph 7.4

11.5 Printing Results

Results can be printed see the Printing option description in Telecom BERT paragraph 7.5

11.6 Injecting Errors

The error injection procedure comprises two stages, setting the error type to be injected and injecting the errors. Click on the button **Error Setup** to select the error type and injection method. Additional options appear in these windows for channel 'B'.

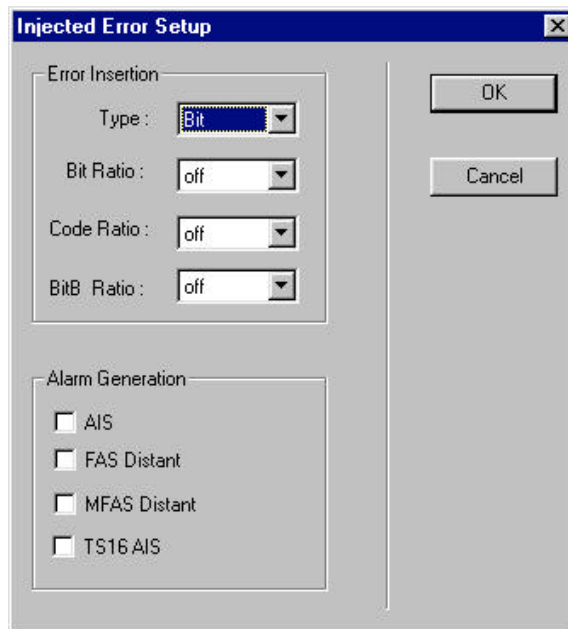


Figure 11.4 – The Error Setup Window

Select the error type – **Bit, BitB, Code, CRC, FAS, Ebit, NFAS or MFAS** . Each time the **Inject Error** button is clicked an error of the selected type will be injected.

Selecting a value in:

	Bit Ratio	(1⁻¹ to 1⁻⁷)
	Code Ratio	(1⁻¹ to 1⁻⁷)
or	BitB Ratio	(1⁻¹ to 1⁻⁷)

will inject errors of the chosen type at the selected ratio.

Clicking on an alarm in the **Alarm Generation** window will set the selected alarm type.

11.7 **Reset Test**

Clicking on the command button Reset Test will set to zero and clear all results accumulated for this test.

11.8 **Reset LEDs**

Clicking on the command button Reset LEDs will reset the alarm/status indicator LEDs. Puma will show that an error occurred but is now cleared by flashing the appropriate LED red, this reset will clear the condition back to green.

11.9 **Load / Save Config**

The 'Load Config' / 'Save Config' features operate as described in Telecom BERT see paragraphs: 7.9 and 7.10

12 File Manager

The File Manager feature provided with PumaView allows the user to download archived result files from Puma stored whilst the Puma is running in it's stand alone mode. The feature is intended to be used with the Puma BERT test modes.

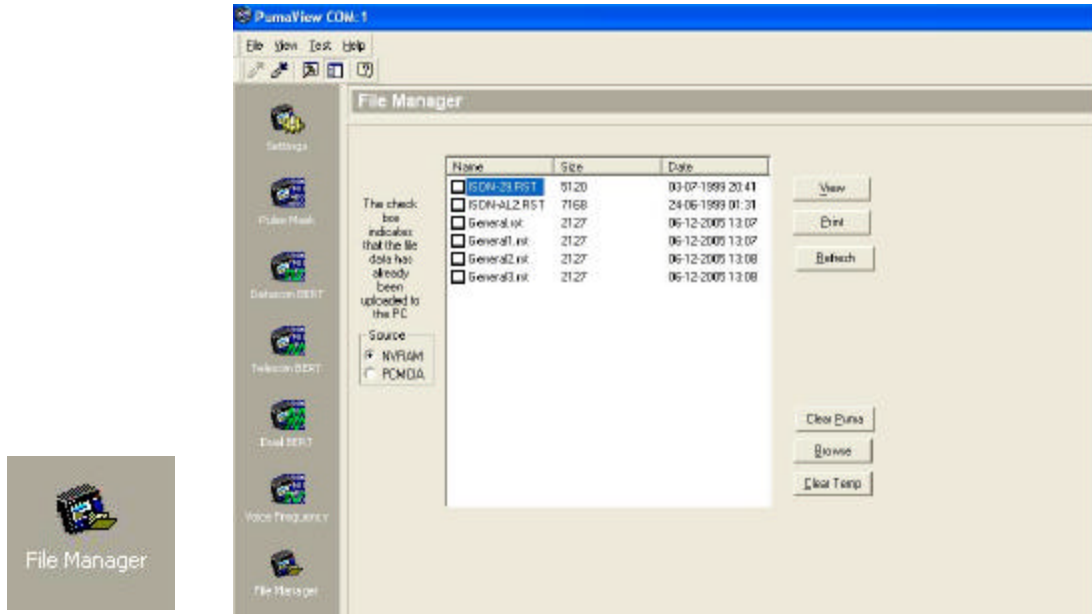


Figure 11.1 - The Dual BERT ICON and Dual BERT Test screen

The feature operates using a working temporary folder. When the File Manager feature is entered the central display window shows a list of all of the result files held on the attached Puma. If the 'PCMCIA' option is selected the list is for the result files held on the storage card.

To retrieve an archived result file, click on the file name and highlight it. Click on 'View' or 'Print'. The file is transferred from the Puma and placed in the temporary folder, it is printed if the print request was used. Files are selected and transferred one at a time. When a result file is present in the temporary folder a tick will appear in the tick box beside the file name.

Clicking on the 'Browse' button brings up a window displaying the names of the files in temporary folder. The files are stored in a Comma Separated Variable (CSV) text format importable into spreadsheet products for further processing.

12.1 View

Click on the name of a result file to highlight it, Click on the command button **View** to download the selected file, the file will be displayed on the screen and the 'tick' box beside the file name marked to show that the file is in the Temporary folder.

12.2 Print

Click on the name of a result file to highlight it, Click on the command button **PRINT** to download the selected file, the file will be displayed on the screen and the 'tick' box beside the file name marked to show that the file is in the Temporary folder the result file will be sent to the printer.

12.3 Refresh

Clicking on the **Refresh** command button causes PumaView to redisplay the result file list, files currently in the Temporary folder will be shown with ticks in the tick boxes.

12.4 Clear Puma

Clicking on the **Clear Puma** command button erases the result files in the Puma. A warning and confirmation box is displayed, click Yes to complete the operation.

12.5 Browse

Clicking on the **Browse** command button brings up a display window that shows the files in the Temporary folder.

12.6 Clear Temp

Clicking on the **Clear Temp** command button erases the Temporary folder.

13 Customer Support

If you have any enquiries with regards to this software please do not hesitate to contact you local Consultronics representative or Consultronics direct.

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14 Notes