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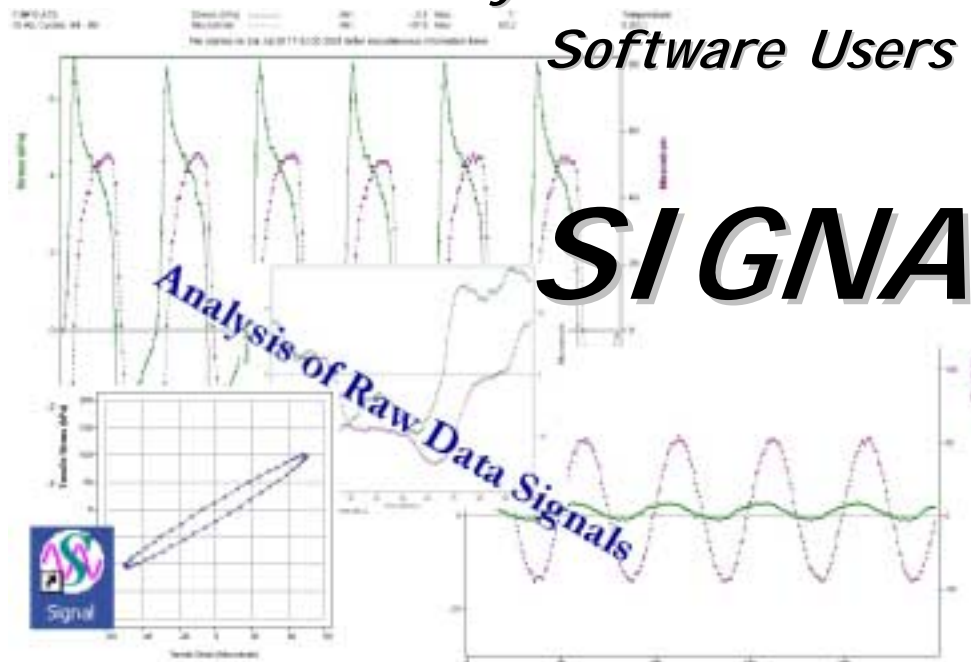
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*Analysis of Raw Data Signals  
Software Users Manual*



**SIGNAL™**



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## **Introduction**

Thank you for obtaining a copy of the **SIGNAL™** software. **SIGNAL™** is a user-friendly software to inspect raw data signals from test equipment when the data is stored in ASCII text files. Typically the data is used performing fatigue tests, frequency other miscellaneous applications.

*Due to the variability in data formats it is often necessary to have sample data files from the user to ensure that the software works in a satisfactory manner.*

SIGNAL™ is configured to be used with the shear test devices developed during the Strategic Highway Research Program (SHRP).



## **Agreement**

The software is sold subject to the stipulations as indicated below.

### ***Disclaimer***

The licensed software is sold “as is” and without any warranties, either expressed or implied, as to performance, accuracy, reliability or suitability for any purpose. The developers of this software may have made statements about this software, either in person or in print. Any such statements do not constitute warranties and shall not be relied on by the user in deciding if to acquire or use this program. Because of the diversity of conditions and hardware under which this program may be used, no warranty of fitness for a particular purpose is offered. The user is advised to become familiar with the underlying concepts, assumptions and limitations of this calculation procedure, and to test the program thoroughly to determine the extent to which it can be relied upon. The entire risk as to the applicability, results and performance of this software is assumed by the user. Any liability of the developers will be limited exclusively to product replacement or refund of the purchase price, excluding shipping and handling. The developers of this software shall not be liable for any direct, indirect, consequential, or incidental damages (including damages for loss of business information, and the like) arising out of any claim regarding the use of or inability to use the licensed software.

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## **Installing the Software**

The SIGNAL™ software will normally be downloaded from Abatech's web site as a ZIP file (Internet site <http://www.abatech.com>). The user should unzip the files to a temporary directory for install purposes.

The user then runs *setup.exe* located in the temporary directory. The setup program will ask a few simple questions relating to the location on the computer that you wish to install the files to. SIGNAL™ must be installed on a local drive rather than on a network drive.

*Note: Should the user wish to remove the program at a later date the user is strongly advised to use the Add/Remove Programs utility located in the Control Panel.*

Abatech updates the software by providing downloadable files on its web site - please ensure that you have checked the web site for the most up-to-date version of the software. Updates are provided as a patch file that should be unzipped to a temporary location. A readme.txt file will contain specific instructions to complete the update.

## **Software Security**

The SIGNAL™ software is copy protected using Rainbow Technologies protection systems with the use of a dongle. The dongle must be fixed to the parallel printer port of the machine before the software is started and must remain in place during software use. If you have downloaded this manual and software from our web location you can request the dongle from the technical support team when placing your order for the software.

## **Windows NT/2000 Users**

The software has been prepared to operate on Windows 95, Windows 98, Windows NT and Windows 2000. However, users with Windows NT and Windows 2000 will require a special file not located on the install disk to avoid receiving an "Error 12" message.

This file "NTDongleFix.zip" may be downloaded from <http://www.abatech.com> or can be obtained from our technical support team.

To install NT drivers for Rainbow SuperPro Dongle.

- 1) Login as Administrator
- 2) Extract files from zip to a floppy
- 3) Run the program setupx86.exe from floppy
- 4) Choose Install from menu.
- 5) When the program asks for path to driver type in A:\



6) Click OK.

If successfully installed, 'Error 12' message will not be displayed.

The same setup program can be used to remove the drivers if desired.

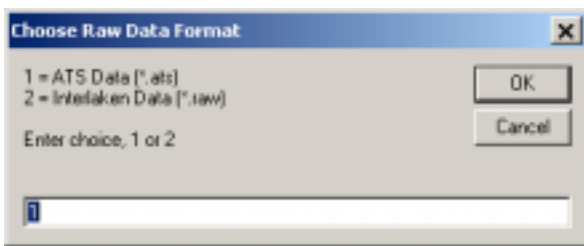


## Running the Software

Clicking on the file icon under the start menu runs the software. The user may choose to make a short cut elsewhere on the system using the conventional windows procedures.

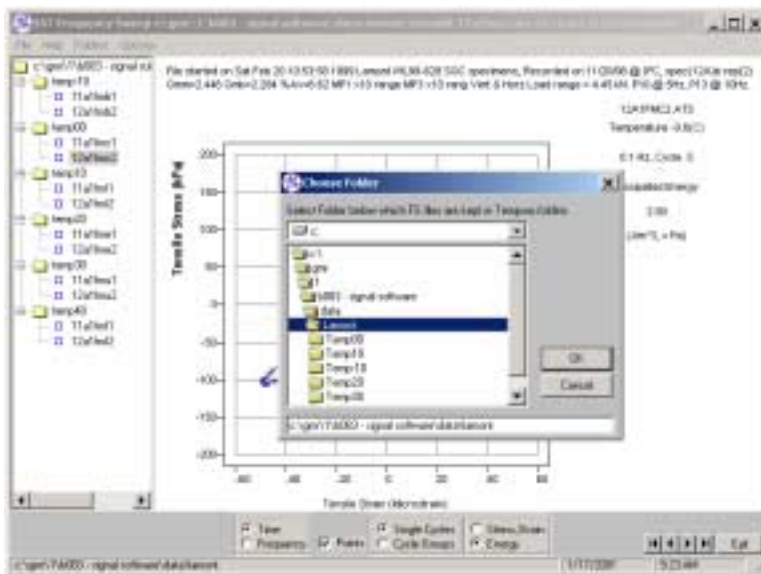
### File Types

Two options are currently provided for file type – those collected by the Interlaken and the Cox (ATS files) devices. The user should set the type of file before browsing the directories for the data files.



### Signal File System

The SIGNAL software uses a file system in which all data files are located in tempXXX directories under a project directory. Each of the tempXXX locations is indented for files tested at different temperatures. In the example below the project is “Lamont” for which data is present for various temperatures (-10, 0, 10, 20 and 30°C visible).

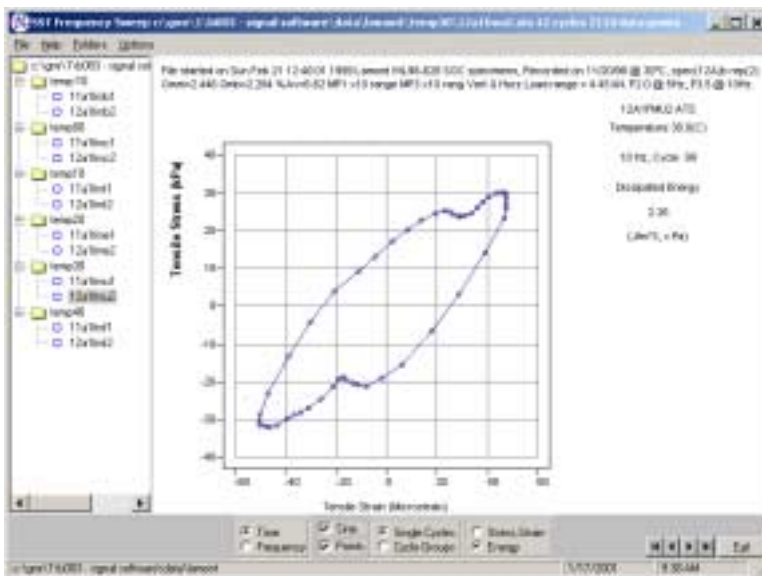
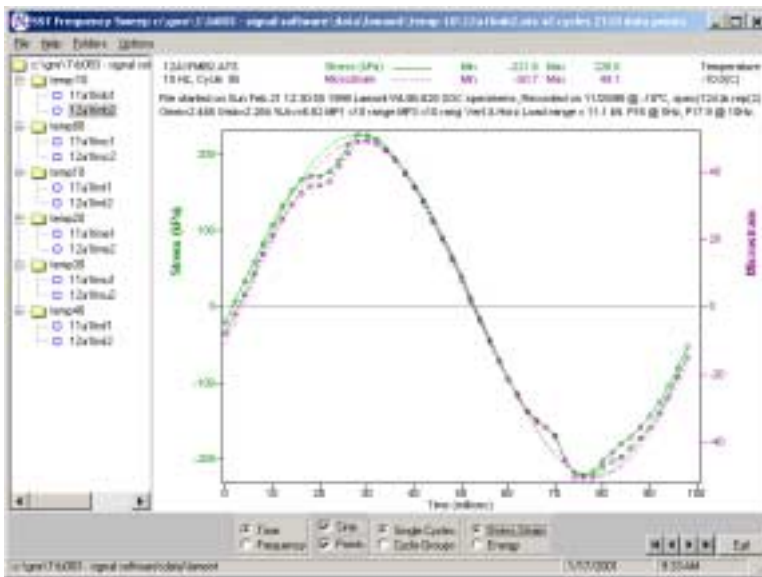




### Run Modes

#### Raw data signal

The data from a test can be inspected as sine waves or as stress versus strain (energy). Typical examples of these plots are given below. Data points can be turned on and off and, in addition, a smooth line conforming to a sine wave can be shown to give an indication of the signal quality.

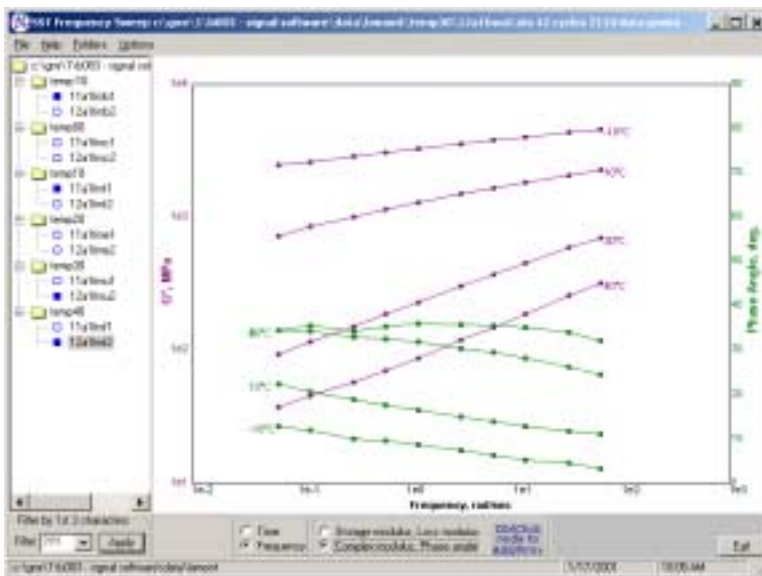
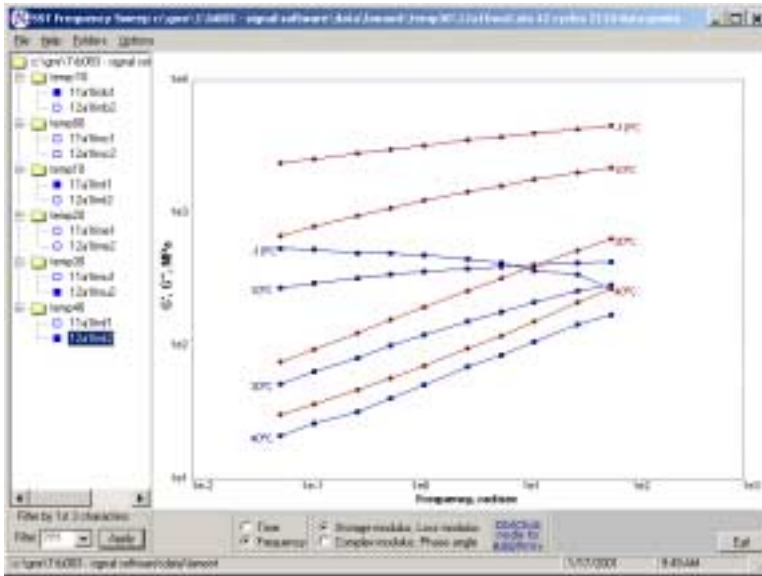






### Frequency Isotherm

The data can be shown as frequency isotherms by checking the Frequency radio button. To display the data for multiple files click on the blue circle adjacent to each file name. The results will be displayed, as the circle becomes fill. The data can be expressed in two formats,  $G'$  and  $G''$  or  $G^*$  and phase angle as illustrated below.





## **Getting Help**

Abatech is dedicated to providing you with sufficient support for your software problems. All problems experienced may not be resolved immediately. However, we will endeavor to respond to user needs in a timely manner. Our web page, [www.abatech.com](http://www.abatech.com), will contain necessary fixes and updates to programs and associated documentation as development of the product progresses. Also, you can contact us by e-mail, phone and fax at the following:

E-mail [info@abatech.com](mailto:info@abatech.com)

Fax (561) 679-2464

Phone (267) 880-1295

We ask that you adequately document any problem that you experience so that our development team has a complete understanding of the nature of the problem to assist with a quick resolution.